2025 International Healthcare Conference

Trends, Interdisciplinary Integration, and Applications of Robotics in Innovative Healthcare

2025國際健康照護研討會

機器人於創新健康照護：趨勢、跨域與應用



Date：NOV 27-28,2025
活動日期：2025年11月27-28日

Place：J401
活動地點：行政大樓國際會議廳

Advisory Organization
指導單位

Organizer
主辦單位

輔英科技大學護理學院
Fooyin University School of Nursing

輔英科技大學附設醫院
Fooyin University Hospital

Co-Organizers
協辦單位
高齡及長期照護事業系
Department of Gerontlogical and Long-Term Care Business

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2025 International Healthcare Conference

Trends, Interdisciplinary Integration, and Applications of Robotics in Innovative Healthcare

Nov 27, 2025 (Thursday) **PROGRAM-AT-A-GLANCE**
Place：J401

Taiwan Time	Topic	Moderator
Chia-Yun Fu Assistant Professor, School of Nursing Fooyin University		
08:30~09:00	**Registration**	
09:00~09:40	Opening Huey-Shyan Lin, PhD, Professor & President President of Fooyin University Yu-Hua Lin, RN, PhD Professor & Dean School of Nursing, Fooyin University Shaw-Yeu Jeng, M.D Ph.D. Superintendent of Fooyin University Hospital Taiwan Union of Nurses Association (TUNA) Kaohsiung Municipal Min-Sheng Hospital	
09:40~11:20	**Plenary Keynote 1** Robots That Look After Grandma – A Gerontechnology Point of View **Speaker:** Yeh-Liang Hsu Professor/Director, Gerontechnology Research Center, Department of Mechanical Engineering, Yuan Ze University.Taiwan	Hsiao-Ting Tung Assistant Professor School of Nursing, Fooyin University

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Nov 27, 2025 (Thursday) **PROGRAM-AT-A-GLANCE**
Place：J401

Taiwan Time	Topic	Moderator
11:20~11:50	**Break** **E-Poster Presentation I**	
11:50~13:00	**Lunch**	
Emcee： Yi-Hui Liao Associate Professor, School of Nursing, Fooyin University		
13:00~14:40	**Plenary Keynote 2** Cognitive Training to Promote Cognitive and Brain Health: From screening to intervention **Speaker:** Catherine Dong Assistant Professor/Alice Lee Centre for Nursing Studies Yong Loo Lin School of Medicine. Singapore	Yueh-Ying Yang Associate Professor School of Nursing, Fooyin University
14:40~15:00	**Break** **E-Poster Presentation II**	
15:00~16:30	**Panel discussion** Clinical Application of Intelligent Robots **Speaker: Dr. Sangseok You, Dr. Cindy Jones, Dr. Catherine Dong** Panelist： Professor Chen-Wei Yang	Chia-Lun Lo Associate Professor & Chair School of Nursing, Fooyin University
16:30~16:40	**Break**	
16:40~16:50 (J401)	**Award Ceremony** (Award Ceremony for Top Five Posters)	Yu-Hua Lin Professor & Dean School of Nursing, Fooyin University

2025 International Healthcare Conference

Trends, Interdisciplinary Integration, and Applications of Robotics in Innovative Healthcare

Nov 28, 2025 (Friday) **PROGRAM-AT-A-GLANCE**
Place：J401

Taiwan Time	Topic	Moderator
Emcee： Chia-Yun Fu Assistant Professor, School of Nursing, Fooyin University		
09:00~10:40	**Plenary Keynote 3** Transforming Gerontology Healthcare with Social Robots: Hype or Hope? Speaker: Cindy Jones Associate Professor,/Faculty of Health Sciences & Medicine, Bond University. Australia	Associate Professor & Secretary General Ling-hua Wang Fooyin University
10:40~10:50	**Break**	
10:50~12:30	**Plenary Keynote 4** Challenges and Opportunities in Working with Robots in Health Care Service **Speaker: Sangseok You** Professor , School of Business, Sung Kyun Kwan University. South Korea	Chia-Lun Lo Associate Professor & Chair School of Nursing, Fooyin University
12:30~13:40	**Lunch**	
Moderator: Chia-Yun Fu Assistant Professor School of Nursing Fooyin University		

2025 International Healthcare Conference

Trends, Interdisciplinary Integration, and Applications of Robotics in Innovative Healthcare

14:00~15:30 (J401) Concurrent session English Session	Moderator: Chia-Yun Fu Assistant Professor School of Nursing, Fooyin University				
	14:00~14:30 Session 01 Exploring the effects of acupressure on depression, sleep quality and quality of life in community elders Speaker: 孫鳳卿	15:30~15:00 Session 02 Cross-National Trends in Type 2 Diabetes Care Models and Outcomes (2015–2024): A Mixed-Methods Analysis in Seven Countries Speaker: 湯澤平	15:00~15:30 Session 03 Development and Implementation of Care Guidelines for Relocation Stress and Behavioral and Psychological Symptoms in Older Adults with Dementia Speaker: 顧雅利		
13:40~15:40 (J402) Concurrent session Chinese Session	Moderator: Ching-Feng Chang Assistant Professor School of Nursing, Fooyin University				
13:40~14:00 Session 01 Enhancing Nursing Students' Digital Skills through Industry–Academia Collaboration: An Example of Developing User-Friendly Health Counselling Materials Speaker: 莊麗玉	14:00~14:20 Session 02 Development and Implementation of Core Entrustable Professional Activities (EPAs) in Psychiatric Nursing Education for Pre-Graduate Vocational Students Speaker: 李盈慧	14:20~14:40 Session 03 A Study on Factors Influencing Self-Growth of Caregivers: Predictive Roles of Emotional Intelligence and Knowledge-Skills Speaker: 余貞賞	14:40~15:00 Session 04 Emotional Distress in Patients with Depressive Episodes of Bipolar Disorder: A Concept Analysis Speaker: 孫含恩	15:00~15:20 Session 05 A preliminary study on using marketing strategies to improve nursing students' employment intention Speaker: 趙家伶	15:20~15:40 Session 06 Protective Effects of Upper Airway Exercises on Endothelial Antioxidant Expression and Inflammatory Modulation in Obstructive Sleep Apnea Speaker: 林欣妤
15:40~15:50	**Break**				
15:50~16:00 (J401)	**Award Ceremony** (Award Ceremony for Top Five Posters / Oral Presentation Competition Awards)			Yu-Hua Lin Professor & Dean School of Nursing, Fooyin University	

Distinguished Guests



Huey-Shyan Lin, PhD
President
Fooyin University



Yu-Hua Lin, RN, PhD
Professor & Dean
School of Nursing, Fooyin University



Shao-Yu Jheng,
Superintendent
of Fooyin University Hospital

Keynote Speakers



Yeh-Liang Hsu
Professor, Director, Gerontechnology Research Center, Department of Mechanical Engineering, Yuan Ze University.Taiwan



Catherine Dong
Assistant Professor, Alice Lee Centre for Nursing Studies Yong Loo Lin School of Medicine. Singapore



Cindy Jones
Associate Professor, Faculty of Health Sciences & Medicine, Bond University. Australia



Sangseok You
Professor/ School of Business, Sung Kyun Kwan University. South Korea

Moderator



Hsiao-Ting Tung
Assistant Professor/School of Nursing Fooyin University



Yueh-Ying Yang
Associate Professor /School of Nursing Fooyin University



Chia-Lun Lo
Associate Professor/School of Nursing Fooyin University



Ling-hua Wang
Associate Professor & Secretary General of Fooyin University



Chia-Yun Fu
Assistant Professor/School of Nursing Fooyin University



Ching-Feng Chang
Assistant Professor/School of Nursing Fooyin University

Keynote Speakers



Yeh-Liang Hsu

Professor / Director, Gerontechnology Research Center, Department of Mechanical Engineering, Yuan Ze University. Taiwan

Experiences	International Knowledge Expert Committee, JAIN - Joint Artificial Intelligence Network, the Netherlands, 2024/01 - present 衛生福利部「高齡健康與長照研究策略規劃諮詢會」委員，Advisory Committee, "Research Strategy and Planning on Aging Health and Long-term Care," Ministry of Health and Welfare, Taiwan, 2021/03 - present Course Associate, GER 527 Technology in an Aging Society, Singapore University of Social Sciences, 2021/01 - present Yuan Ze Distinguished Professor, 2020/01 - present International Scientific Advisory Committee, Age-Well, Canada's Technology and Aging Network, 2019/06 - present Editor-in-Chief, Gerontechnology (official journal of International Society for Gerontechnology), 2016/09 - present President, International Society of Gerontechnology, Sinophone Chapter, 2014/06 - present Editor-in-Chief, Journal of Gerontechnology and Service Management (in Chinese), 2012/12 - present Co-Director, Italian Design Summer School, University of Bologna, 2010/02 - present Director, Gerontechnology Research Center, Yuan Ze University, 2003/01 - present Professor, Department of Mechanical Engineering, Yuan Ze University, 2001/02 - present
Specialties	Smart product design Gerontechnology



2025 IHC International Healthcare Conference

Social Robots in Innovative Healthcare: the Trends, Interdisciplinary Integration, and Applications

Robots that look after Grandma?

A gerontechnology point of view

Yeh-Liang Hsu, 徐業良

Distinguished Professor, Mechanical Engineering Department

Director, Gerontechnology Research Center, Yuan Ze University, Taiwan

Editor-in-Chief, *Gerontechnology*

Grand Master, International Society for Gerontechnology

2025/11/27

SEDA GTech Founder

3G's for the aged society: Gerontology, Geriatrics, Gerontechnology

- First International Congress on Gerontechnology, 1991
- International Society for Gerontechnology (ISG), 1997
- 老人「福祉」科技，「樂齡科技」，高齡科技

Gerontechnology is about designing for people

"Design technology and environment for independent living and social participation of older persons in good health, comfort and safety"

- Scope of *Gerontechnology*: Health, Housing, Mobility, Communication, Leisure, Work



ISG 2028 at Taiwan

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Aging boom, baby bust – How can technology help?

- Taiwan became an aged society in 2018 and is expected to become a super aged society by 2025 (Germany 1972~2008, Italy 1988~2008, Japan 1995~2006)
- Age 65+: 19.90% (4.64M) @2025/10

➔Implement existing technological products in daily applications **NOW**.

- Life expectancy at age 65: 20.41 @ 2024
- Disability-adjusted life year: 7.78 @ 2023

➔Use technology to enhance the physical and cognitive wellness of healthy older adults to prolong their independent, healthy life expectancy.

- Total fertility rate: 1.050 @2019, 0.990 @2020, 0.975 @2021, 0.870@2022, 0.865 @2023
- Negative natural population growth since 2020: -67,251, -0.29% @2024

➔Use technology to support caregivers, to reduce their care burden and improve quality of care, and to provide the economic drive to society and industry

The time is NOW: From evidence to practice

Creativity ➔Prototypes ➔Products ➔Sales

Wishes may come true only with **product-level solutions!**



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"Medical device" and "Assistive Technology" -- Definitions of by WHO

- A medical device can be any instrument, apparatus, implement, machine, appliance, implant, reagent for in vitro use, software, material or other similar or related article, intended by the manufacturer to be used, alone or in combination for a medical purpose.

Gerontechnology covers various aspects of older adults' daily lives.

Caregivers are often the primary users of gerontechnology.

- Assistive technology is an umbrella term for assistive products and their related systems and services.
- Assistive products help maintain or improve an individual's functioning related to cognition, communication, hearing, mobility, self-care and vision.
- Assistive technology is most needed by:
  - Older people
  - Children and adults with disabilities
  - People with long term health conditions such as diabetes, stroke and dementia.

「嚙指心痛」– "Finger biting causing heartache"



From the "24 stories of filial piety"
Zeng was a disciple of Confucius 2,500 years ago…

參嘗採薪山中，家有客至。母無措，望參不還，乃嚙其指。參忽心痛，負薪而歸，跪問其故。母曰：「有急客至，吾嚙指以悟汝爾。」

One day Zeng was out cutting wood among the mountains. There came a visitor to his house. After awaiting her son's return in vein, his mother bit her finger. Zeng felt heartache suddenly. He rushed back home with a burden of wood and knelt to ask his mother what happened. His mother replied, "Here is an urgent visitor. **I bit my finger to awake you."**

Is this "smart technology?"

The beginning of telehealth…

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Precision aged care: The SMART diaper project from the Netherlands (Nap H. H. et al., 2021)

- Data sensing and transmission: A sensors outside the diaper detects its temperature and humidity, transmitting the data wirelessly to the cloud.
- Data analysis and event prediction: The temperature and humidity data are analyzed to assess the diaper's saturation level.
- Data display and event alert: When a diaper change is required, a notification is sent to the caregiver's mobile App.
- Intervention action: change diaper



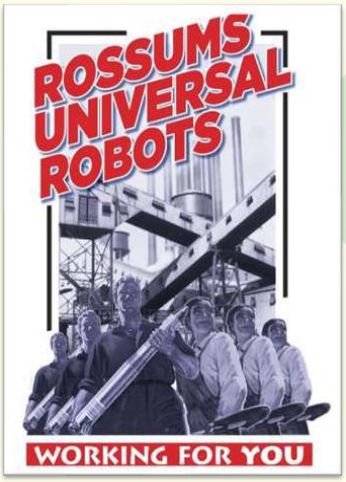
- Comfort and dignity of older adults.
- Nursing homes using the smart diaper experience a reduction in workload (hours) and consequently costs (Euros).

Who changes diaper? A robot?

Target the right interventions to the right older adults at the right time

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Robots: A long-standing human fantasy…





1961, the first robot Unimate installed in GM factory



I, Robot (2004)



1920, "artificial people produced to work as servants"
The biological robots eventually rise up against their creators…

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Will we have the “universal robot” at home in 10 years?

2025 World Humanoid Robot Games, Beijing, China

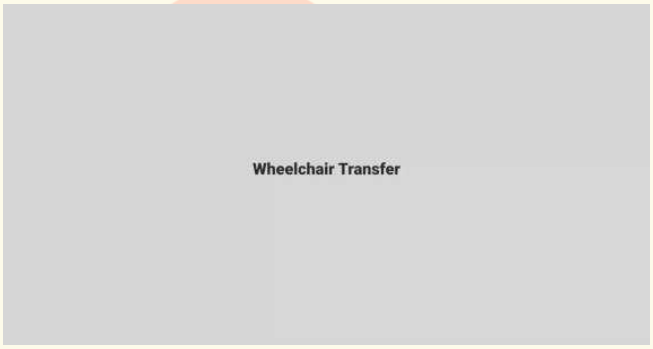
- The world’s first comprehensive sports event for humanoid robots



https://www.youtube.com/watch?v=jHD6pRM-rkc&t=924s

AIREC (Tokyo, Japan)

- Demonstrating caregiver-like assistance for wheelchair transfers.



https://www.youtube.com/watch?v=1OpLe5RuhCk

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Which robot would you want at home?



Boston Dynamics Atlas
https://www.youtube.com/watch?v=I44_zbEwz_w



Tesla Optimus
https://www.youtube.com/shorts/JDKIykjnBYI



Neo Gamma
https://www.youtube.com/shorts/EdIAA1zROiA



The only robot@home

What do people do in *Gerontechnology*?

- 185 papers published in the *Gerontechnology* journal between 2017 and June 2025 were classified into 6 categories.

Category	No. Papers	Avg. Downloads
1. Health Monitoring	31 (16.6%)	3,838 (0.97)
2. Daily Living Support	24 (12.8%)	2,737 (0.69)
3. Social Participation	29 (15.5%)	3,335 (0.85)
4. Physical & Cognitive Enhancement	31 (16.6%)	4,242 (1.08)
5. Robotics for Care	19 (10.2%)	4,184 (1.06)
6. General Non-technical Issues	51 (27.3%)	5,325 (1.35)
Total	185	3,943 (1.00)

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Classification of technical categories into application domains

Category	*Health*	*Housing*	*Mobility*	*Communication*	*Work & Leisure*
1. Health Monitoring	23	1	6	1	0
2. Daily Living Support	14	5	3	1	1
3. Social Participation	4	0	0	23	2
4. Physical & Cognitive Enhancement	16	0	6	1	8
5. Robotics for Care	16	0	0	2	1
Total	**73**	**6**	**15**	**28**	**12**
Average downloads	3,815 (0.97)	4,334 (1.10)	2,755 (0.70)	3,356 (0.85)	4,185 (1.06)

Communication

- Mood and behavioral effects of social robots in conversation situations between nursing home residents and caregivers
- Robotic utterance style to promote conversation with older people in Japan

Work and Leisure

- Preliminary study on the benefits of using the robot PALRO® in facilitating leisure programs for older adults with dementia

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Robot application in Health (1)

- A Robot Activity Support (RAS) system for persons with memory impairment: Comparing older and younger adults' perceptions of the system
- Do robots facilitate life review narratives of older adults? A preliminary study
- Dynamic interplay between general experience and robot-specific expertise at older adults' first encounter with a robot: Role for robot acceptance and implications for robot design
- Exploring potential of a socially assistive robot in facilitating daily activities for older adults
- Facial emotion recognition tool for teleoperated robot reminiscence group therapy for people with dementia
- Feasibility, acceptance, and impact of socially assistive robots in non-drug interventions with people with dementia: A scoping review
- Humanoid robot teleoperation reminiscence group therapy for older adults with dementia: A controlled trial study

Robot application in Health (2)

- Older Users' Acceptance of an Assistive Robot: Attitudinal Changes Following Brief Exposure
- Social robot-based depression screening in older adults: A pilot study
- The application of technologies in dementia diagnosis and intervention: A literature review
- The effects of MARIO, a social robot, on the resilience of people with dementia: A multiple case study
- The Talking Teddy Bear for social conversation: A pilot study
- Understanding healthcare providers' perceptions of a personal assistant robot
- Understanding older adults' initial perceptions of robot appearance and function: Implications for acceptance
- Understanding older adults' perceptions and attitudes towards a telehealth robot
- What contribution do robots make to the care of older people? A scoping review

dementia (7), social robot (5), perception (5),

acceptance (4), conversation (3), teleoperated (3)

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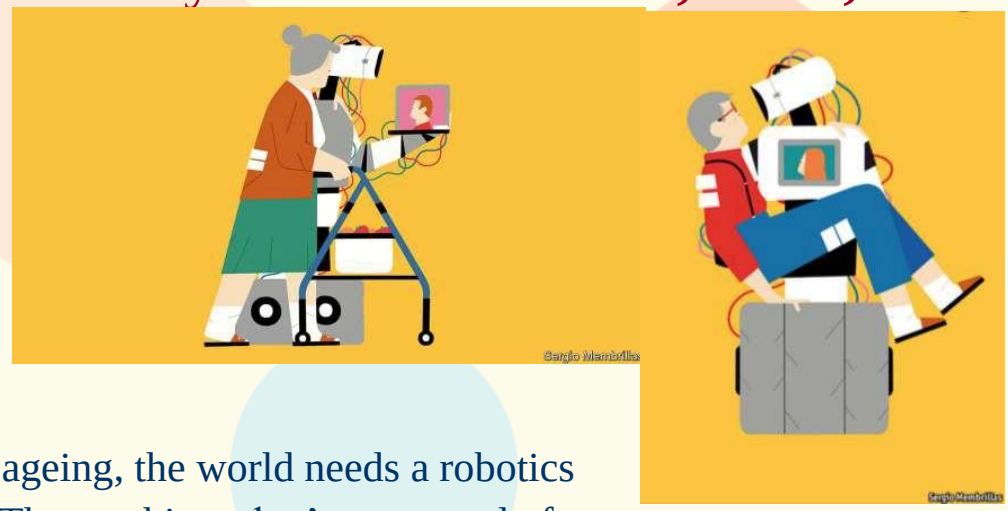
Industrial robot, service robot

Autonomous robot, teleoperated robot

Physical assistance robot, social robot

Physical robot, digital robot

A robot is a system that can **sense, think,** and **act**



Because of ageing, the world needs a robotics revolution. The machines don't seem ready for one…

Robots that look after grandma

The Economist, 2019/3

Ageing and robots are more closely related than you might think

- Daron Acemoglu of MIT reckons that ageing is the biggest single influence upon how many robots a country has.
- Ageing creates demand for automation in two ways. First, to prevent output falling as more people retire, … Second, once people have retired they create markets for new kinds of automation, …
- Industrial robots usually replace human activity, by contrast, service robots extend it.
- Robots will have to perform a dauntingly long list of things they cannot yet do... one robot can do only one thing, so multiple tasks would require your home to be stuffed with machines.
- … only rich people will buy them. That may limit their wider social acceptance.

Industrial robots replace human activity, service robots extend it

- Industrial robot
- Service robot

Physical assistance robot



Solomon Smart Disinfection Robot



RIKEN Robear



Wearable Walking Assistive Exoskeleton Robot from ITRI, Taiwan



Pudu Robotics BellaBot



TECO Miss Mos Burger



Science Mirai human washing machine



Daxin Automatic Toileting Device

Companion / social robot: PARO, an autonomous social robotic seal

- PARO is World's Most Therapeutic Robot certified by Guinness World Records in 2003.
- In 2009, the U.S. FDA certified PARO as a "neurological therapeutic medical device" in biofeedback devices (class II).
- Available for lease for USD200 per month, or can be bought outright for USD6,000

Technology acceptance?
… only rich people will buy them. That may limit their wider social acceptance.

- How my cat found that PARO is not real in 13 seconds…





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"Just like animals used in pet therapy,"

"Paro can help relieve depression and anxiety -- but it never needs to be fed and doesn't die."

Will Your Next Best Friend Be A Robot?

Popular Science, November, 2014













What do you see in these photos?





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Teleoperated robot – talk to the real person behind the robot

- RP-VITA remote presence robot was cleared by FDA in 2013 for active patient monitoring in acute care settings.



…one robot can do only one thing, so multiple tasks would require your home to be stuffed with machines.



RP-VITA (Dr. Robot)

- During COVID, telepoperated robots were used for remote visits and care.



The GiraffPlus robot Mr. Robin





Telenoid



Professor Ishiguro
Osaka University









The uncanny valley…

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Cloud based intelligent robots

- Natural Language Processing









Apple Siri (2011), Amazon Alexa, Google Home (2015)

- Companion: Conversation with robots…









CLOi (2018)



Elli-Q (2022)



Olly (2017)

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Usability test: Zenbo (750 USD) vs. Siri

- Conduct the same information based and function based tasks with Zenbo and Siri, wearing eye trackers
- System Usability Scale (SUS)

				Siri	Zenbo
Sex	Male	8	20%	69.69	62.50
	Female	33	80%	66.77	56.52
Age	56-60	7	17%	69.29	50.83
	61-65	17	41%	62.83	54.85
	66-75	17	41%	70.31	61.41
Education	College	14	35%	68.85	53.57
	High school	24	59%	66.05	59.07
	Primary school	3	6%	72.50	65.83
			Average	67.37	57.68



Why do we need to talk to a robot if Siri can do the same thing?
Mobile phone can be the best UI…

完胜





陪伴型機器人使用者經驗評估─以智慧居家機器人Zenbo為例，福祉科技與服務管理學刊，6(3)，2018

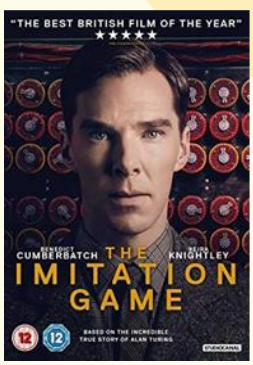
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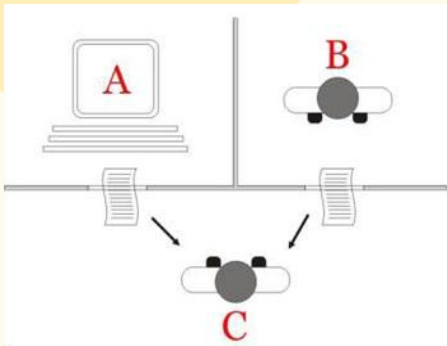
Generative AI: Possess world knowledge and natural language capabilities

- To generate complex yet well-structured content, such as text, images, and audio...
- Especially suitable for applications in aged care
  - Generating health monitoring reports, personalized exercise advice…
  - Chatbot for raising caregiving alerts, conducting companion-style conversations...
- Approachable, relatively low-cost, and can be easily integrated into existing caregiving workflows.

The Turing Test for AI (1950)

"A computer would deserve to be called intelligent if it could deceive a human into believing it was human."





The conversation is limited to a text-only channel

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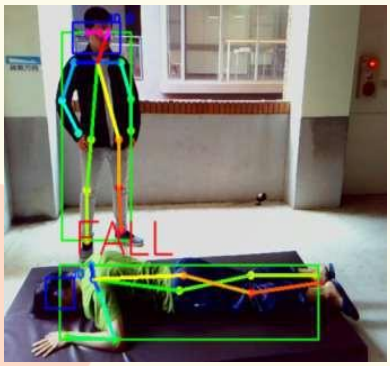
Somebody fall in this picture? (Fall detection)







- Yes, the image shows an elderly person on the floor, appearing to be in pain and reaching toward their shoulder. A walking cane is also seen lying on the ground nearby. This suggests that the person has likely fallen.
- No, no one appears to have fallen in this picture. The image shows an elderly person walking with the assistance of a walker. They are upright and moving forward, and there are no visible signs of a fall.
- No, the person in the picture has not fallen. They are standing outdoors, but appear to be experiencing back pain, as indicated by their posture and hand placement on the lower back.



Human-like reasoning
Transparency and explainability

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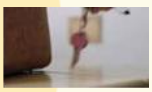
Social Robots and ChatGPT (2022/11/30) : Toward proactive conversation

- Integration of Pepper humanoid robot with ChatGPT, the first of its kind. (2023/02/10)



https://provenrobotics.ai/the-latest-from-the-world-of-proven-robotics-pepper-with-chatgpt-partnership-with-a-saudi-company/

- Robots and ChatGPT Can Help Tackle Loneliness (2023/09/06)
- ElliQ: USD249+60/month





https://www.robotics247.com/article/robots_chatgpt_could_help_tackle_loneliness_observes_investor

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Physical robot vs. digital robot

- Hyodol (Sunshine) is an AI companion robot from South Korea
- 1,600,000 KRW (1,150 USD)





https://www.rehahomecare.com/en/bio/exhi_listview.asp?idx=1315

- AI social worker (2026/01/27)



https://news.tvbs.com.tw/life/2763459



Which form is better for social robots?

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RUI for acceptance: Animal, human, or machine?

User's expectation towards different RUI



















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NVIDIA CEO Jensen Huang Keynote at COMPUTEX 2025



Humanoid robots

- The only form of robot that can fit into the world we created, it can do the tasks that we made for ourselves
- It is likely the only robot that could work.

Versatile robots

- Human demonstration through teleoperation. With AI, robot can generalize from a single human demonstration

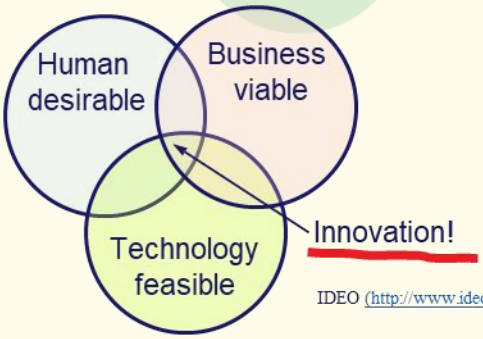
Mass-manufactured robots

- Technology needs scale

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The time is NOW

Design thinking…



IDEO (http://www.ideo.com) CEO Tim Brown



A GenAI-powered, personalized social robot, with a specific role, in digital or simple physical form

Robots that look after grandma?

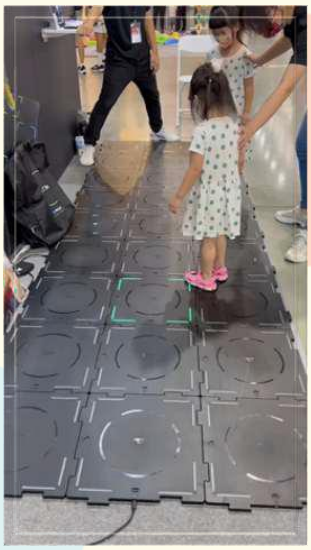
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WhizToys One Toy many games

- Exergame for older adults: Physical activity + cognitive training + social interaction







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Virtual Vic: From *Whiz*Toys App to *Whiz*Toys Chatbot

- Create a precision health promotion cycle for older adults



- The game facilitator is the key.



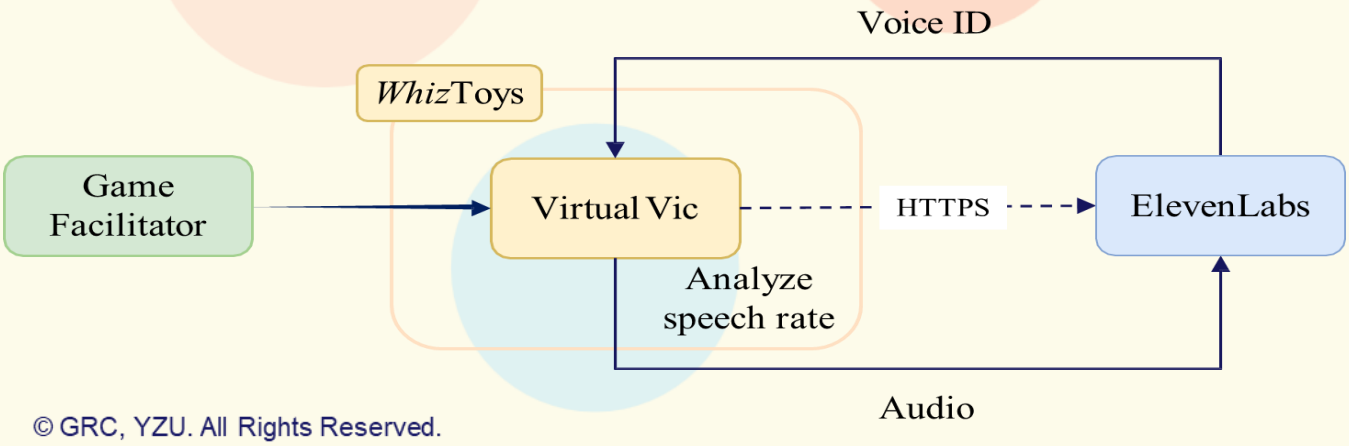


- *Whiz*Toys Chatbot provides older adults with game instructions, encouragement, and result explanations, enhancing motivation and enjoyment in physical activities.

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Create a personalized voice model

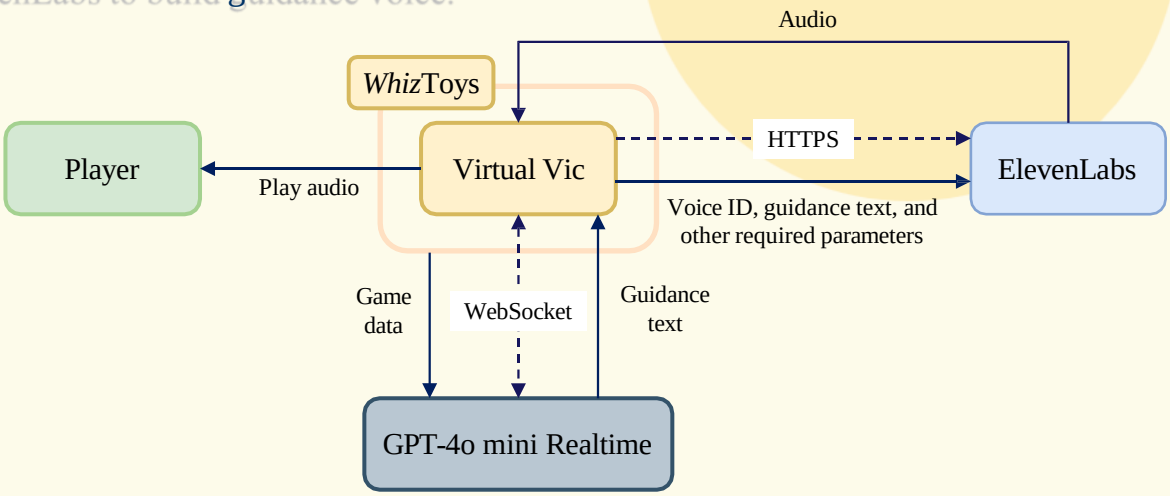
- The game facilitator records two 10s voice samples in two modes (soft and energetic). Speaking speed is analyzed.
- Voice samples are sent to ElevenLabs (text to speech service) to build a personalized voice model and return a voice ID.



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Generate voice guidance to facilitate the game

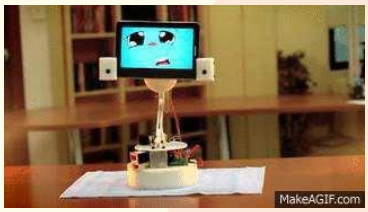
- *Whiz*Toys sends the current game data to GenAI.
- GenAI generates text and sends it to ElevenLabs to build guidance voice.
- *Whiz*Toys receives the guidance voice and plays it for the player.

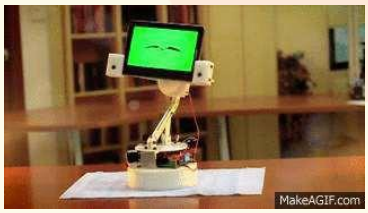


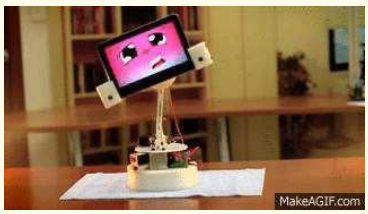
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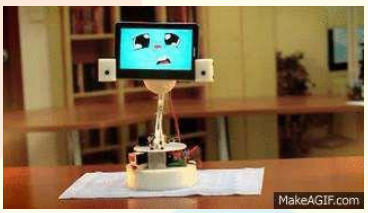
The mobile device is still the best user interface for home users?!

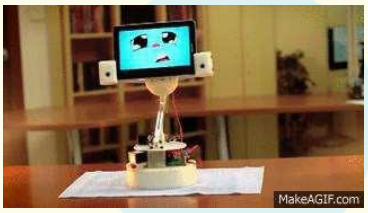
- How about robots?











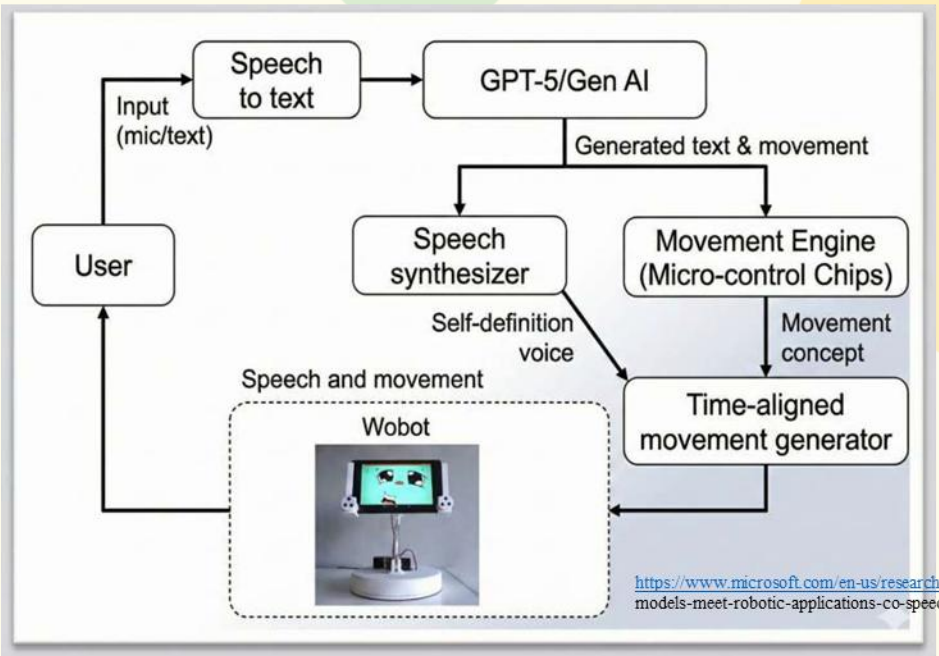
Wobot
Bring your Tablet to life




Developed and prototyped in 2012, I still think Wobot is the best form of social robot…

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Bringing Wobot back to life through ChatGPT



https://www.microsoft.com/en-us/research/group/applied-robotics-research/articles/gpt-models-meet-robotic-applications-co-speech-gesturing-chat-system/

Possible roles for Wobot

- Interactive story teller: voice + movement to engage the listener; respond to questions; change the story path.
- Personal biographer: help older adults record and recount their life stories through conversation.
- …….

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The Similarities and Differences Between Jensen Huang and Yeh-Liang Hsu

- Born in 1963
- 1992, MS EE at Stanford
- 1993, founded NVIDIA……



- Born in 1963
- 1992, PhD ME at Stanford
- 1992, joined Yuan Ze University…
- 2016, founded Seda GTech

Entrepreneurship is nothing romantic…





Thank you

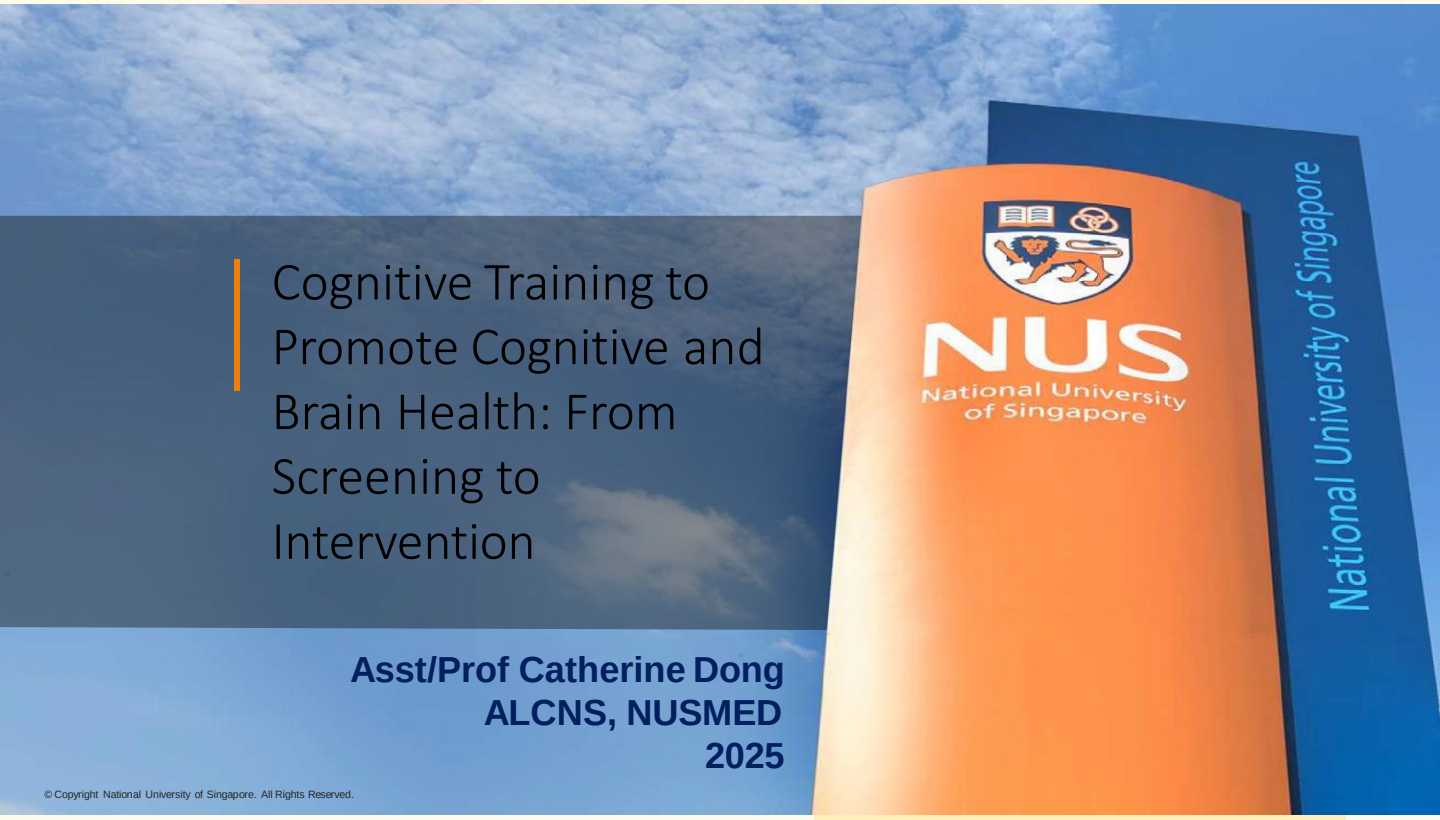
Yeh-Liang Hsu, mehsu@saturn.yzu.edu.tw



Catherine Dong

Assistant Professor, Alice Lee Centre for Nursing Studies Yong Loo Lin School of Medicine. National University of Singapore. Singapore

Experiences	2023 - 2025Heart-Brain Connection Translational Research Programme 2022 – 2023Developing a Digital Solution for Salutogenic Brain Health (DiSaB-BISI): A BISI pilot study 2017 – 2023Heart-Brain Connection: Cognitive Impairment in Heart Failure 2017 – 2022Independent Living and Future Care for Stroke Patients and Their Caregivers: An Innovative and Holistic Community Brain Health Program 2015 – 2017Prevalence and clinical correlates of cognitive impairment in Asian patients with heart failure 2014 - 2017Predictors, patterns and mechanisms of progression of cognitive decline in stroke/TIA patients: A longitudinal study of stroke survivors 2014Stroke-Cog: Cognitive Outcome After stroke in Australians and Singaporeans
Specialties	Healthy Ageing and Well-being Nursing Science and Management – Community Nursing in Singapore



Cognitive Training to Promote Cognitive and Brain Health: From Screening to Intervention

Asst/Prof Catherine Dong
ALCNS, NUSMED
2025

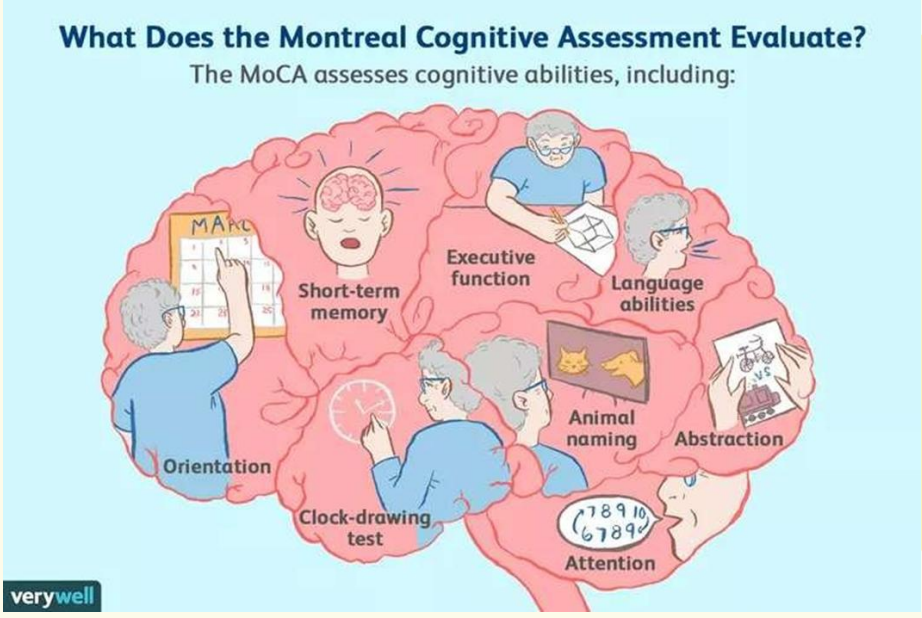
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Outline 概要

- Understand cognitive screening concepts
  理解认知筛查概念
- Discuss cognitive screening approaches
  讨论血管性认知筛查方法
- Clinical Innovation “Train Your Brain” Intervention for older adults with mild cognitive impairment
- Brain training cognitive intervention for stroke recovery and “3 Highs”

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Cognitive Screening



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Contents lists available at ScienceDirect

International Journal of Nursing Studies

journal homepage: www.elsevier.com/locate/ns

Editorial

Should cognition be the fifth vital sign in nursing?

In this editorial, we advocate for cognition to be recognised as the fifth vital sign in nursing, warranting routine assessment and monitoring. We aim to propose that current nursing curriculum can be supplemented with more focus on cognition while referencing studies published in the International Journal of Nursing Studies and other key sources.

1. Gap between evidence and practice

A significant challenge in delivering effective cognitive care is the inadequate preparation of nurses during nursing training. For instance, Graham et al. (2022) identified that 33.7 % of nurses lacked formal

2. Framework for transformative change

To address existing cognitive care gaps in nursing practice, we propose a transformative framework integrating education, standardised assessments, and systemic prioritisation of cognitive health. Firstly, neurocognition could be further emphasised in pre-licensure and continuing education. Simulation-based training could also provide nurses with hands-on experience in caring for individuals with cognitive decline. This integration will enable nurses to distinguish normative ageing and pathological decline, identify cognitive impairment in various patient populations, and manage behavioural manifestations of

CRediT authorship contribution statement

Sharmaine Pang: Writing – original draft with the assistance of Yanhong Dong. **Nicole Yun Ching Chen:** Writing – original draft, Writing – review & editing. **Yanhong Dong:** Conceptualization, Writing – original draft, Critical review & editing.

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General concept of cognition as the 5th vital sign in nursing
将认知作为护理的第五个生命体征

Nurses play a crucial role in frontline healthcare
护士在医疗前线发挥至关重要的作用

Cognition is routinely assessed by mental healthcare professionals but often overlooked by general nurses
认知筛查通常是由精神科专业人士完成的，常被普通护士忽视

Early detection and management of cognitive impairment will improve if cognition is treated as a vital sign
若将认知视作生命体征，将有助于早期识别和管理认知障碍

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Objective 目标

To advocate for cognition to be recognised as the 5th vital sign in nursing and for greater focus to be placed on cognition in nursing education

将认知立为护理的第五大生命体征，并在护理教育中加强对认知筛查的重视

Current gaps in nursing training and education

护理培训与教育的不足

Inadequate preparation of nurses during training leading to misinterpretation of behavioural changes in individuals experiencing cognitive decline

护理人员培训不足，导致其容易将认知障碍患者的行为表现误判他因

Lack of standard screening protocols

认知筛查标准不统一

More comprehensive tools integrating both cognitive and physical evaluations needed

需要更全面的工具提供整体护理

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Proposed framework to improve nursing training and education
如何改进护理培训与教育？

Neurocognition to be further emphasised in pre-licensure and continuing education

建议在执业前教育中进一步强化对认知的理解

Simulation-based training can be adopted to better identify cognitive impairment in various patient populations and manage behavioural manifestations

可采用模拟培训，以提升对不同患者群体认知障碍的识别能力及症状管理水平

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Proposed framework to improve nursing training and education
如何改进护理培训与教育？

Introduce brief cognitive screening

推行简单的认知筛查

Cognitive assessments like MoCA, MMSE and Vascog Screen to enable monitoring of patient's cognitive status (will be covered in detail later)

建议采用蒙特利尔认知评估 (MoCA)、简易精神状态检查 (MMSE) 及血管性认知障碍速查工具 (Vascog Screen) 以便识出患者认知功能状态 (稍后具体阐述)

Feasible and efficient

可行及高效

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Proposed framework to improve nursing training and education
如何改进护理培训与教育？

Integrate cognitive assessments into electronic health records as routine metrics
将认知评估作为常规指标整合至电子健康档案系统

Nursing history-taking should assess subjective cognitive impairment which has been found to precede objective cognitive impairment
护理病史采集应纳入主观认知障碍评估，现有研究表明主观认知障碍常先于客观认知损伤出现

Risk scores can help triage cognitive status (Patients with TRS≥3 should be further assessed by brief cognitive tests to customise suitable clinical management)
对TRS ≥3的病人进行认知筛查测试，是个预测认知障碍的有效方法

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Why Cognitive Screening?
为什么进行认知筛查?

Cognitive impairment is a barrier for patients' optimal functioning and self-care

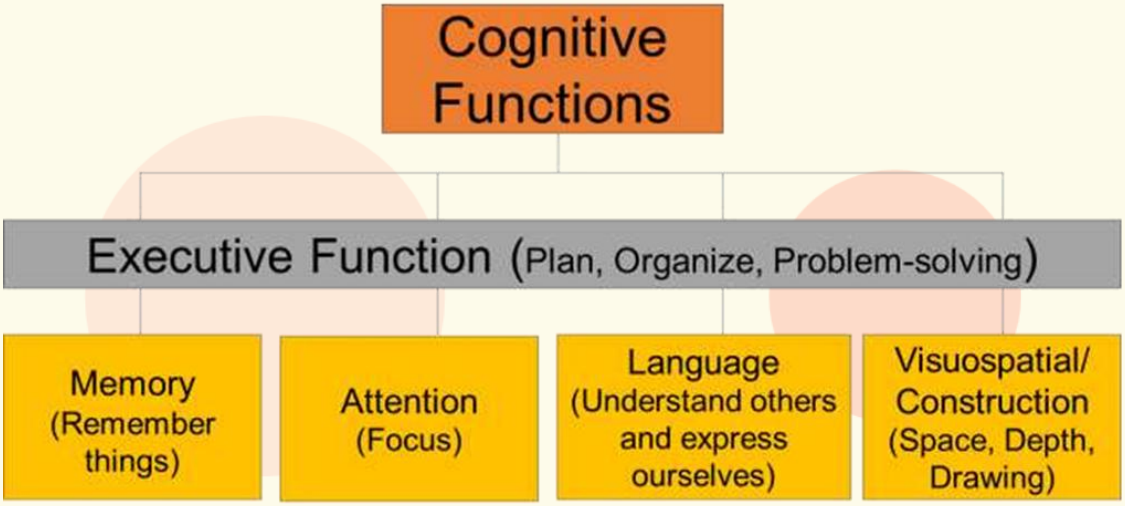
认知障碍阻碍患者的最佳功能和自我照顾

When your patient has memory loss, he/she may have
当你的病人有记忆减退，他/她可能有

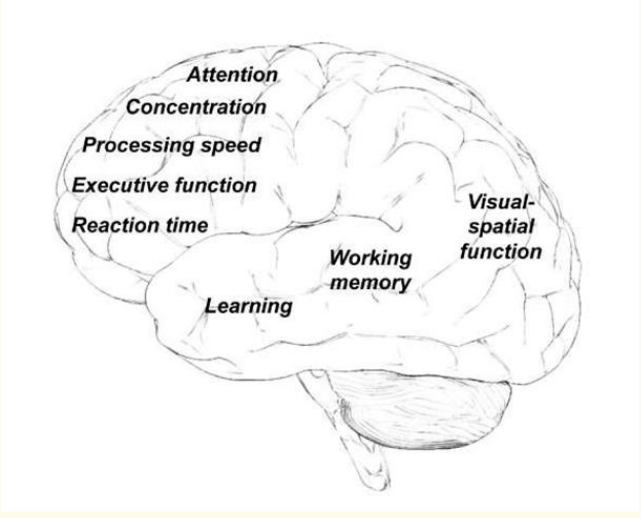
- Difficulty in travelling independently or locate clinic during follow-up visits
难以单独出行或在随访期间找到诊所
- Difficulty to follow medication regime/ instructions, increasing risk for readmission
难以遵循用药方案/说明，增加再入院风险
- Difficulty in recalling information, resulting in miscommunication
难以回忆信息，导致沟通不畅

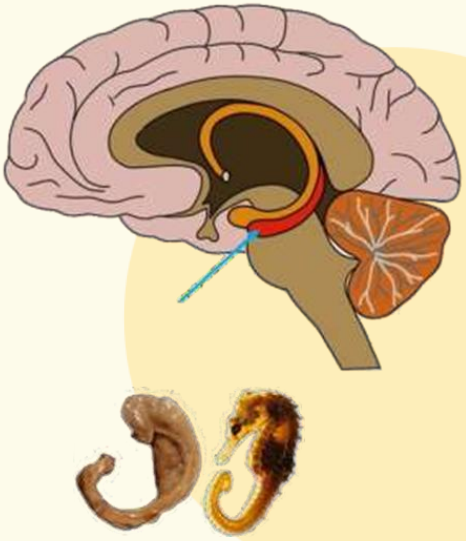
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Overview of Cognitive Function
认知功能概述



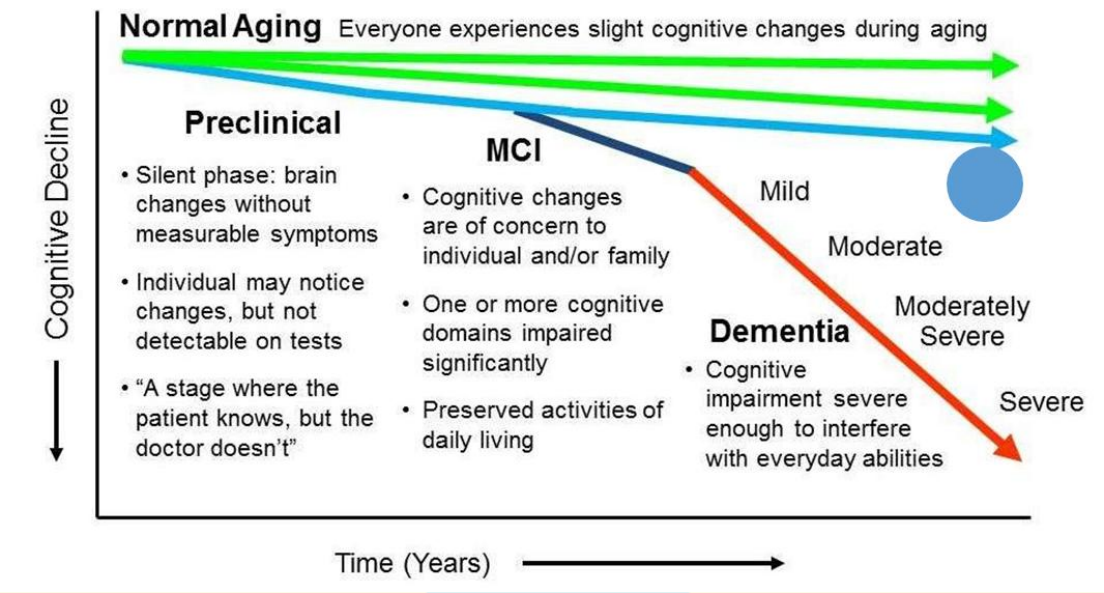
Anatomical Structure of Cognitive Function 认知功能的解剖结构





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Mild Cognitive Impairment (MCI)
轻度认知障碍



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Cognitive Screening Tests
认知筛查测试

Usually brief (e.g., <30 minutes)通常很短（例如<30分钟）

Objective performance tests: MMSE, MoCA
客观行为测试： MMSE, MoCA

Informant-based report: AD8
基于知情者的报告： AD8

Risk score: demographic and risk factors
风险评分：人口统计学和风险因素

Used to screen for normal versus impaired cognitive functioning
用于筛查认知功能正常和受损

Preliminary impressions on cognitive status
对认知状态的初步印象

Cannot be used as a standalone diagnostic assessment
不能用作独立的诊断评估

Helps determine the comprehensive assessment
帮助确定综合评估

Ideal Cognitive Screening Tool
理想的认知筛查工具

Quick to administer 快速进行

Acceptable to patients 患者可接受

Easy to score 容易打分

Free of cultural, language and education bias
没有文化、语言和教育偏见

Good reliability and validity 良好的信度和效度

❖Is there one such tool? 是否有这样的工具？

Objective Cognitive Screening Tests
客观认知筛查测试

For whom? 为谁？

Older patients at risk of dementia， e.g., vascular diseases
有痴呆风险的老年患者，如心脑血管疾病

Subjective complaint of progressive forgetfulness
进行性健忘的主观症状

Informant history of cognitive or functional decline
知情者有认知或功能衰退史

Pre-testing Consideration
测试前的考虑

It is important to get best possible performance you can from the patient. To achieve this, consider the following:
重要的是获得患者最好的表现

Administer cognitive test when the patient is alert and focussed
在患者专注时进行认知测试

- If the patient is sleepy, ask she/he to stand up and stretch, or take a short walk so that they more alert before testing
若患者困了，让她/他站起来伸展一下身体，或散步，让他们在测试前更清醒
- Assess level of fatigue, if a patient is tired, let she/he have a short break to rest
评估患者疲劳程度，如果感到疲劳，略微修息
- Request for patient's attention for 10-15 minutes in completing the test if they are busy or preoccupied
若患者很忙或心事重重，要求患者集中注意力10-15分钟完成筛查测试

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Pre-testing Consideration
测试前的考虑

- Other factors: patients experience pain or other discomfort

其他因素：患者感到疼痛或其他不适

- MAKE SURE THE PATIENT HAS THEIR GLASSES OR HEARING AIDS IF NEEDED

如有需要，确保患者戴眼镜或助听器

- Sometimes patients may need a magnifying glass

有时候患者可能需要放大镜

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Pre-testing Consideration
测试前的考虑

Environment环境

- Quiet physical environment if possible to minimize noise and distraction安静的物理环境，尽可能减少噪音和分心
- Make sure you have all your equipment to hand, such as pencil, test forms, administration/scoring instructions, clip board, stop watch 确保你手头所有的设备，如铅笔，考试表格，测试/评分说明，夹板，秒表

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- If patients start to get agitated about the testing, give them a break before starting the memory task
如果患者开始时对测试感到不安，在开始记忆任务前让他们休息一下
- If the patient seems to have difficulty understanding, try to instruct patient with simpler and shorter sentences and try again. If difficulty persists, consider language problems
如果患者看起来理解有困难，试着用更简单、更短的句子指导病人，然后再试一次，如果困难依然存在，考虑语言问题

Mini-Mental State Examination
简易精神状态检查 (MMSE)

Originally designed to differentiate the mental status in psychiatric patients (Folstein et al., 1975)
最初设计用于区分精神病患者的精神状态

Now widely used for screening and tracking the progression of cognitive impairment
现在广泛用于筛查和追踪认知障碍的进度

Average 10 minutes for administration, score 0-30
测试平均时间10分钟，评分0-30

Age and education adjusted cut-offs
年龄和教育调整临界值

Montreal Cognitive Assessment
蒙特利尔认知评估 (MoCA)

Rapid screening instrument for mild cognitive dysfunction
轻度认知功能障碍快速筛查仪

Assesses attention and concentration, executive functions, memory, language, visuo-constructional skills, conceptual thinking, calculations, and orientation

评估注意力和专注力，执行功能，记忆力，语言，视觉建构能力，概念性思维，计算和定位

Total possible score is 30 points
总分为30分

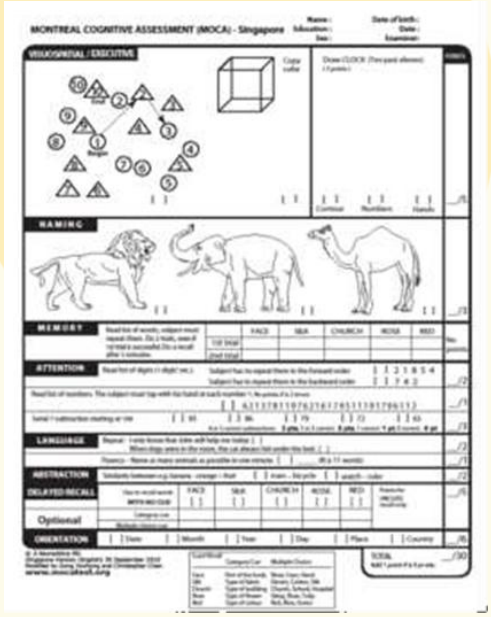
Average administration time: 10-15 minutes
平均测评时间：10-15分钟

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MoCA

30-point scale consists of 8 cognitive subtests:
由8个认知分测验组成的30分的量表

- Visuospatial /executive视觉空间/执行
- Naming 命名
- Memory 记忆
- Attention 注意
- Language 语言
- Abstraction 抽象
- Delayed recall 延迟回忆
- Orientation 定向



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MoCA



Rapid Cognitive Screen for Vascular Diseases
血管性认知障碍速查工具:
VasCog Screen



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Aim

Vascular cognitive impairment is commonly found in patients who had a stroke and with heart failure,
ranging from mild cognitive impairment to dementia.

Existing cognitive screening tools have limitations in terms of sensitivity, administration time, and the lack of assessing processing speed which is commonly impacted in vascular cognitive impairment.

This study aimed to develop the VasCog Screen test, a screening tool to better detect cognitive impairment in patients who had a stroke and with heart failure.

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Method

This study included adult patients who had a stroke (n=327) and patients with heart failure (n=100).

Patients were assessed using cognitive measures:

1. Mini-Mental State Examination (MMSE)
2. Montreal Cognitive Assessment (MoCA); Singapore version
3. Formal neuropsychological battery locally validated for Singaporeans

- Translation and back-translation of cognitive tests were undertaken by bilingual research psychologists and three versions (English, Chinese, and Malay) of these cognitive tests were established.
- All cognitive testing was conducted in patients' language of choice to ensure test fairness

The discriminatory ability of different tests for CI was compared, establishing optimal cut-off points. Variants of short-MoCA including the SDMT were also evaluated.

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Statistical Analysis

The full sample of patients (n=427) was used to derive the short- MoCA

For the derivation of a short- MoCA, a Graded Response Model (GRM) was performed using the statistical package Stata V.14.0

Item Response Theory approach

A receiver operating characteristic (ROC) curve analysis

Area under the curve (AUC) was used to compare the discriminatory ability of the MMSE, MoCA, short- MoCA, SDMT and VasCog Screen for CI.

Development of Short-MoCA

For the derivation of a short-MoCA, a Graded Response Model (GRM) was performed using Stata. Items in the MoCA are scored dichotomously, with the exception of 3 items: clock drawing (3 points), serial subtraction (3 points) and delayed recall (5 points).

Items which had a discrimination index of ≥1.4 were selected for the short-MoCA.

10 items were selected, which added up to a total score of 12:

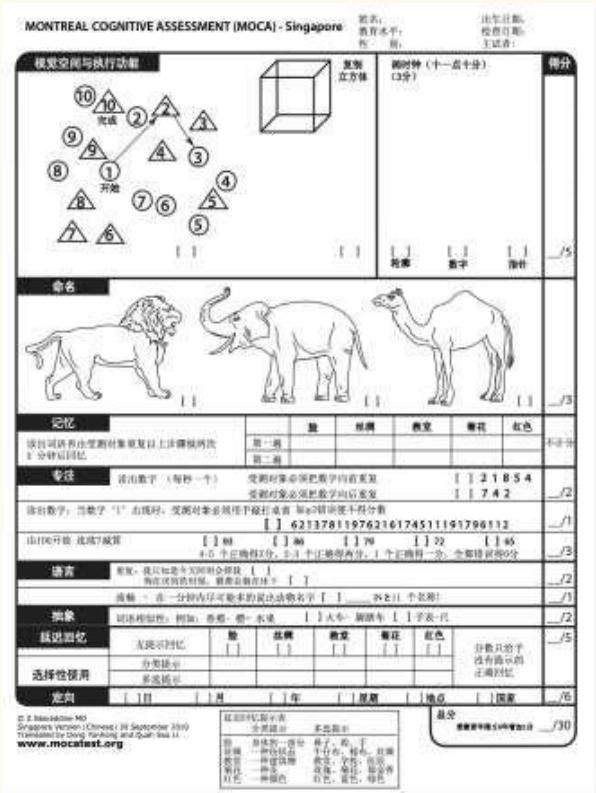
- 3 orientation items (country, year, place; 3 points)
- 2 visual/executive function items (trail making and cube copy; 2 points)
- 2 abstraction items (train-bicycle, watch-ruler; 2 points)
- 1 attention item (serial subtraction; 3 points)
- 1 language item (verbal fluency; 1 point)
- 1 naming item (elephant; 1 point).

Table 1 Item selection for short-MoCA

MoCA items	Domain	Full sample	
		Discrimination	Short form
Orientation (country)	Orientation	7.37	X
Trail making	Visual/executive	2.20	X
Abstraction (watch)	Abstraction	2.13	X
Orientation (year)	Orientation	2.12	X
Serial subtraction*	Attention	1.95	X
Cube copy	Visual/executive	1.69	X
Orientation (place)	Orientation	1.62	X
Abstraction (train)	Abstraction	1.58	X
Animal fluency	Language	1.51	X
Naming (elephant)	Naming	1.41	X
Attention (digit 1)	Attention	1.36	–
Naming (lion)	Naming	1.30	–
Clock drawing*	Visual/executive	1.30	–
Naming (camel)	Naming	1.22	–
Delayed recall*	Memory	1.18	–
Digit span backwards	Attention	1.16	–
Orientation (day)	Orientation	1.06	–
Orientation (month)	Orientation	1.04	–
Orientation (date)	Orientation	1.04	–
Digit span forward	Attention	0.94	–
Language (John)	Language	0.72	–
Language (dog)	Language	0.18	–

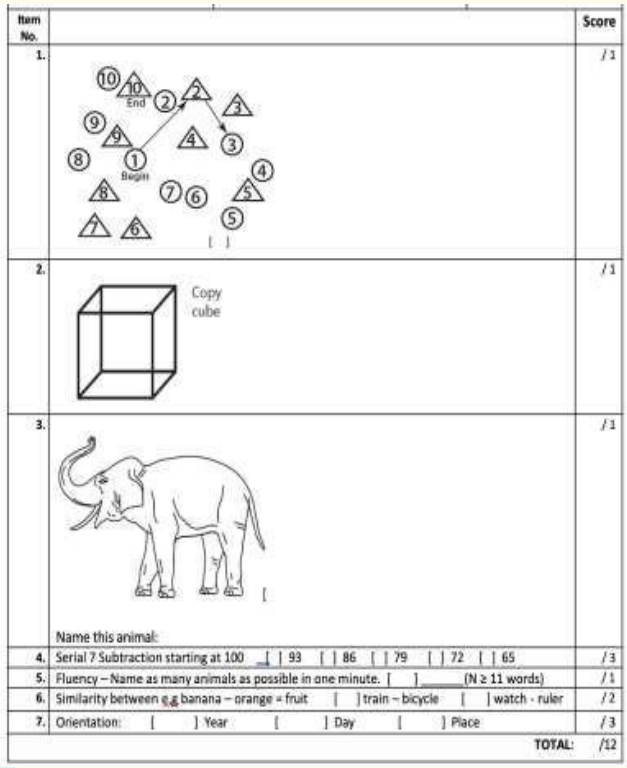
Full sample includes both stroke and heart sample population (total n=428; stroke n=327; HF n=100).
*Polytomous items.

MoCA-Singapore


MONTREAL COGNITIVE ASSESSMENT (MOCA) - Singapore

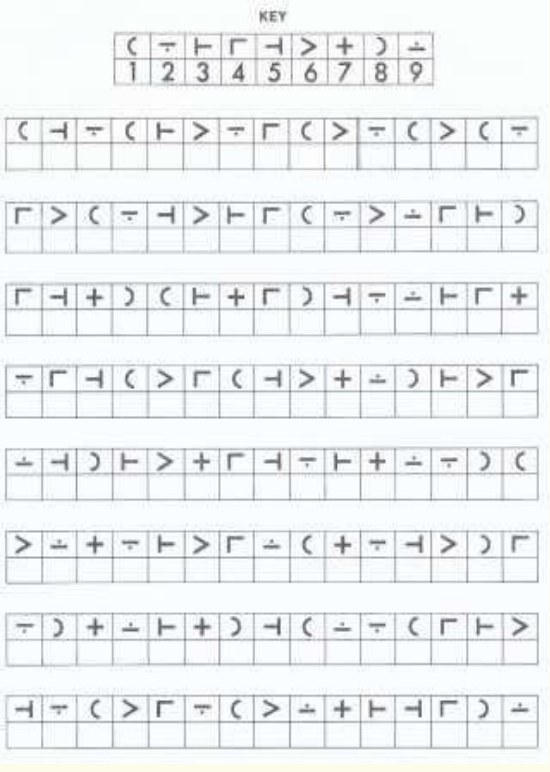
www.mocatest.org

Short-MoCA (Singapore)



Item No.		Score
1.		/1
2.	Copy cube	/1
3.	Name this animal:	/1
4.	Serial 7 Subtraction starting at 100 [ ] 93 [ ] 86 [ ] 79 [ ] 72 [ ] 65	/3
5.	Fluency – Name as many animals as possible in one minute. [ ] _____ (N ≥ 11 words)	/1
6.	Similarity between e.g banana – orange = fruit [ ] train – bicycle [ ] watch - ruler	/2
7.	Orientation: [ ] Year [ ] Day [ ] Place	/3
	TOTAL:	/12

Symbol Digit Modalities Test (Original)



Symbol Digit Modalities Test (Modified for VasCog)

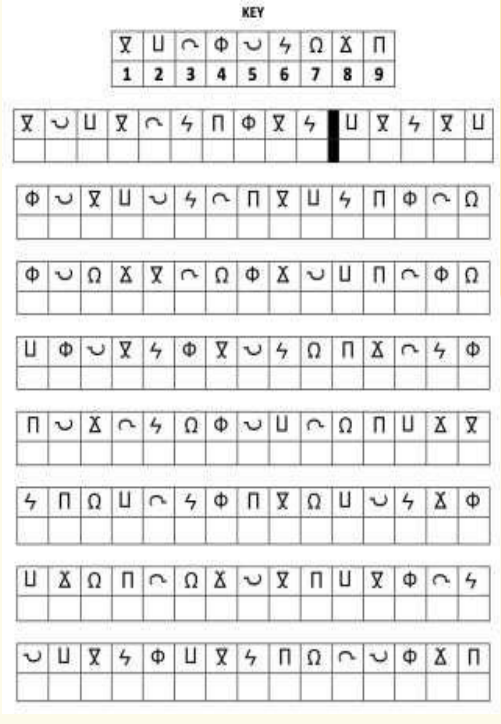


Table 2 Discriminant indices of the MMSE, MoCA, short-MoCA, SDMT and VasCog Screen

Test	AUC (95% CI)	SEN	SPEC	PPV	NPV	Classification accuracy (%)
MMSE <27/30	0.74 (0.69 to 0.79)***	0.69	0.79	0.79	0.68	73.5
MoCA <23/30	0.76 (0.71 to 0.81)*	0.66	0.86	0.84	0.68	75.1
short-MoCA <9/12	0.76 (0.71 to 0.80)***	0.66	0.85	0.84	0.68	74.9
SDMT†	0.78 (0.73 to 0.82)	0.62	0.93	0.91	0.68	76.3
VasCog Screen	0.82 (0.78 to 0.86)	0.85	0.80	0.83	0.82	82.4

*P<0.05 when AUC was compared with the VasCog Screen; ***p<0.001 when AUC was compared with the VasCog Screen.
†According to local norms, impairment in SDMT is defined as <14 and <33 for subjects with primary (≤6) and secondary/tertiary (≥7) years of education, respectively.
AUC, area under the curve; CI, cognitive impairment; MMSE, Mini-Mental State Examination; MoCA, Montreal Cognitive Assessment; NPV, negative predictive value; PPV, positive predictive value; SDMT, Symbol Digit Modalities Test; SEN, sensitivity; SPEC, specificity.

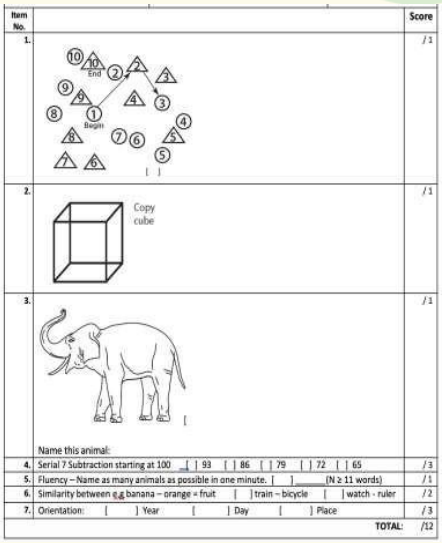
ROC curve analysis with AUC was used to compare the discriminatory ability of the MMSE, MoCA, short- MoCA, SDMT, and VasCog Screen for cognitive impairment. Optimal cut-off points for discrimination were established based on the largest Youden index criterion (calculated by sensitivity + specificity –1).

The optimal cut-off score for the short-MoCA was found to be <9.

VasCog Screen was found to be superior to the MMSE (AUC: 0.82 vs 0.74, p <.001), MoCA (AUC: 0.82 vs 0.76, p = .02), and short-MoCA (AUC: 0.82 vs 0.76, p < .001) in detecting cognitive impairment.

VasCog Screen

The short-MoCA was combined with Symbol Digit Modalities Test to create the VasCog Screen





WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Existing cognitive screening tools have limitations in terms of sensitivity, administration time and the lack of assessing processing speed which is commonly impacted in vascular cognitive impairment. A sensitive screening tool which includes the assessment of processing speed needs to be developed for use in this population.

WHAT THIS STUDY ADDS

⇒ This study shows that the VasCog Screen test outperformed existing cognitive screening tools in detecting cognitive impairment in patients who had a stroke and with heart failure. The test has shown good sensitivity, specificity and classification accuracy, making it suitable for early detection of cognitive impairment and facilitating timely interventions.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ The study findings support the use of the VasCog Screen test as an effective screening tool for cognitive impairment in patients who had a stroke and with heart failure, which addresses the limitations of using existing screening tests in this population.

Results

- Cognitive impairment was defined by the local formal neuropsychological test.
- More than half of the patients were found to have cognitive impairment. Patients with cognitive impairment were older and had fewer years of education.
- Similar prevalence rates of cognitive impairment were found in stroke (57.2%) and heart failure (44%) cohorts. The most prevalent neuropsychological impairment was visuomotor speed, followed by visual memory and visuoconstruction.
- The inclusion of a measure of processing speed resulted in increased sensitivity, specificity, and diagnostic accuracy.
- The VasCog Screen exhibited good sensitivity and specificity for mild cognitive impairment.
- The VasCog Screen outperformed MMSE, MoCA and short-MoCA variants in detecting cognitive impairment.

Limitations

1. This study excluded patients with significant aphasia or dysarthria. However, this may result in the sample not being fully representative of stroke survivors as these are common stroke-related deficits. In the future, it is recommended **to further develop alternate versions of the VasCog Screen, which will be inclusive toward individuals with verbal, visual, or physical limitations.**
2. The VasCog screen was not administered as an independent test, hence the total administration time has not yet been determined. **Further studies need to be conducted to establish the official administration time.**
3. It would have been preferred to divide the sample into a train and test sample given the large sample and to run the GRM on the train to see how well it fits on the test sample. However, our study comprised of two datasets, hence it would be limiting to split the datasets further. **Future studies are needed to further validate the VasCog Screen.**

Conclusion

- The VasCog Screen test offers a cognitive screening tool, which is sensitive to cognitive deficits characteristically found in patients who had a stroke and with heart failure.
- It addresses the gap in the current literature on cognitive screening by incorporating a processing speed measure while paring down the most sensitive items of the MoCA, improving the detection of cognitive impairment in vascular diseases.
- It is suitable and easy to administer in busy clinics, enabling early detection of cognitive impairment and facilitating appropriate interventions.

Informant AD8 知情者AD8

Originally an informant-based interview, completed by a spouse, adult child, friend who knew the patient well

完成

Help discriminate between signs of normal aging and mild dementia
帮助区分正常老化和轻度痴呆的迹象

Contains 8 items that test for memory, orientation, judgment, and function
包括8个项目，测试记忆力，方向性，判断力和功能

Average <3 minutes in administration
测评时间平均<3分钟

Assesses intra-individual change compared to previous levels of function and is sensitive to early signs of dementia
评估个体内的变化并与以前的功能水平相比，并对痴呆的早期迹象敏感

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AD8 Dementia Screening Interview

Patient ID#:_____
CS ID#:_____
Date:_____

Remember, "Yes, a change" indicates that there has been a change in the last several years caused by cognitive (thinking and memory) problems.	YES, A change	NO, No change	N/A, Don't know
1. Problems with judgment (e.g., problems making decisions, bad financial decisions, problems with thinking)			
2. Less interest in hobbies/activities			
3. Repeats the same things over and over (questions, stories, or statements)			
4. Trouble learning how to use a tool, appliance, or gadget (e.g., VCR, computer, microwave, remote control)			
5. Forgets correct month or year			
6. Trouble handling complicated financial affairs (e.g., balancing checkbook, income taxes, paying bills)			
7. Trouble remembering appointments			
8. **Daily** problems with thinking and/or memory			
TOTAL AD8 SCORE			

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Informant AD8

For patients age ≥60 years old, informant AD8 at cutoff point ≥3 has excellent dementia case finding capability and was superior to the MMSE <21 and equivalent to the MoCA <17

对于年龄大于60岁的患者，informant AD8 在临界点≥3的患者具有良好的痴呆病例发现能力，优于MMSE <21 ，和MoCA <17 相同

AD8 test and administration AD8测试和管理

https://www.alz.org/media/Documents/ad8-dementia-screening.pdf

Chan et al. 2015

Risk Score Predicting Cognitive Impairment (CI)
预测认知障碍的风险评分

Risk Factors	Score
Age >70 years old	3
Diabetes	2
Stroke	1
Female	1
Cognitive Complaint on **Change** in daily problems in thinking or memory by informant/patient	1
Total Risk Score (TRS)	

- TRS ≥3 predict individuals at risk of CI　TRS ≥3有认知障碍的风险
- Administer MoCA to patients with TRS ≥3, is a useful approach to predict CI 对TRS ≥3的病人进行MoCA测试，是个预测认知障碍的有用的方法

Shaik, et al. 2015

Benefits and Drawbacks of Cognitive Screening认知筛查的益处和缺点

Benefits益处

- Early detection for early intervention早发现早干预
- 1st step in educating the community-dwelling patients on Healthy Ageing and Brain Health 对社区居民进行健康老龄化和脑健康教育的第一步

Drawback缺点

- Potential psychological, social and ethical impact in screened positive persons but not meeting criteria for dementia after formal evaluation对筛选出的阳性患者的潜在心理、社会和伦理影响，但在正式评估和不符合痴呆标准
- Potential issues of depression and anxiety, labelling effects in screened positive patients抑郁症和焦虑症的潜在问题，筛选阳性患者的标记效应
- Time and cost of screening筛查的时间和费用

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Summary 小结

Understand cognitive screening concepts
理解认知筛查概念

- Cognitive function, commonly used screening tests
  认知功能，普遍应用于筛查测试

Discuss cognitive screening approaches
讨论认知筛查方法

- Performance-based (e.g., MMSE, MoCA, VasCog Screen), informant report (AD8), risk score (Total Risk Score)

General rule for cognitive screening认知筛查的普遍规则

- Use validated cognitive screening tests with awareness of benefits and drawbacks
- 使用经过验证的认知筛查测试，了解其优点和缺点

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Shaik AM, Chan QL, Xu J, Xu X, Hui RJY, Chong SST, Chen CLH, Dong Y*. (2015) Risk factors of cognitive impairment and brief cognitive tests to predict cognitive performance determined by a formal neuropsychological evaluation of primary healthcare patients. JAMDA. 17(4):343-7.

Outline 概要

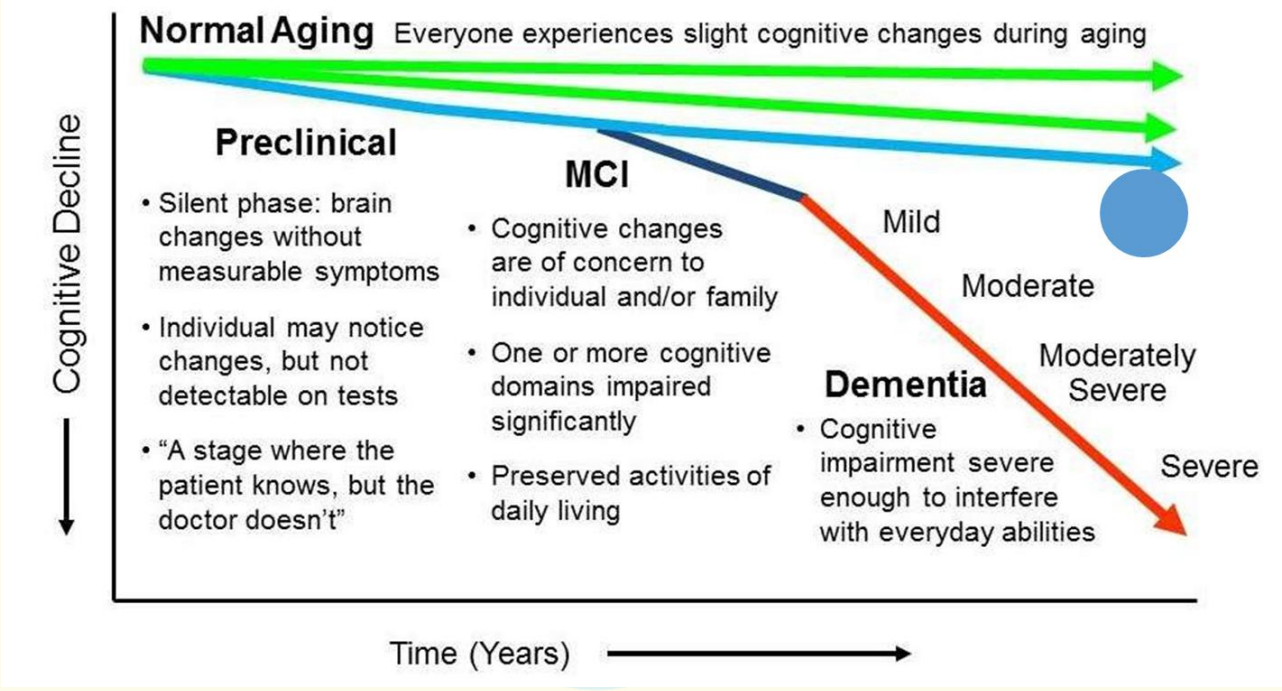
- Understand cognitive screening concepts
  理解认知筛查概念
- Discuss cognitive screening approaches
  讨论血管性认知筛查方法
- Clinical Innovation “Train Your Brain” Intervention for older adults with mild cognitive impairment
- Brain training cognitive intervention for stroke recovery and “3 Highs”

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Cognitive Screening



Mild Cognitive Impairment (MCI)
轻度认知障碍



Clinical Innovation Award – "Train Your Brain"
临床创新奖-训练你的大脑（记忆门诊）



- TYB-HF will be based on our pilot study on Memory Clinic Cognitive Training Program for MCI 训练你的大脑-基于轻度认知障碍的记忆临床认知训练项目试点研究
- 19 MCI patients 19位轻度认知障碍病人
- >80% attendance >80% 参与率
- Significant improvement on global cognition (MoCA), executive function, and psychological wellbeing (e.g., stress reduction) 整体认知 (MoCA), 执行功能和心理健康（例如，压力减少）得到明显改善
- The memory clinic cognitive training program won a Clinical Innovation Award from Australasia Society for the Study of Brain Impairment in June 2017本记忆临床认知训练项目赢得了澳大利亚脑损伤研究学会临床创新奖



"Train Your Brain" Cognitive Intervention
"训练你的大脑"认知干预

Original Research Article

Journal of Geriatric Psychiatry and Neurology
1-8
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"Train Your Brain" Cognitive Intervention Group Program for Singaporean Older Adult Patients With Mild Cognitive Impairment: A Pilot Feasibility Study

Kim A. Granland, DPsych(Clin)[1], Claire L. Thompson, PhD[2], and Yanhong Dong, PhD[3]

"Train Your Brain" Program Outline
"训练你的大脑"项目概述

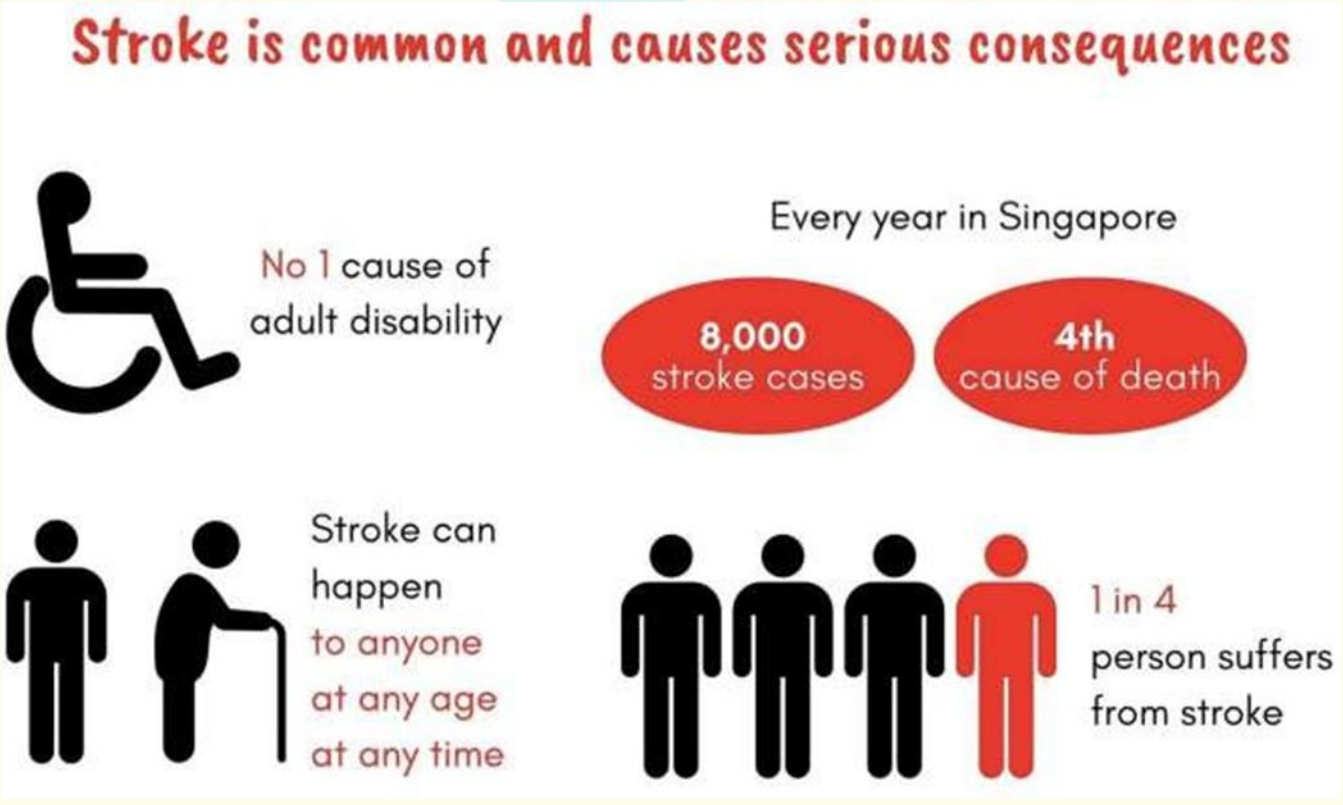
Table 1. TYB Program Outline With Session Content, Activities, and Homework.

Session	Session Focus	Content/Activities	Homework
1	Aging, memory processes, and coping	• Ground rules of the group program; expectations of participants for TYB program • Overview of cognitive aging, memory processes, cultural factors and stigma • Coping strategies for memory problems, e.g. face-name association	• Practice face-name strategy • Set specific memory goals • Review notes
2	Health, lifestyle, and memory	• Introduction to dementia and other brain diseases • Risk reduction, behavioral change to improve cognitive health	• Set goals for lifestyle change, e.g. diet, sleep or physical exercise
3	Mood and memory	• Effect of mood on memory and cognition • Mood management strategies (e.g., cognitive behavioral therapy inspired strategies such as cognitive restructuring, relaxation practice such as mindfulness)	• Mindfulness practice • Set goals for mood management

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"Train Your Brain" Program Outline
"训练你的大脑"项目概述

4	Attention and memory	• Types of attention and its impact on memory • Tips, strategies and practice to improve attention	• Set goals for attention strategy practice
5	Planning, organization and memory	• Introduction to cognitive skills (e.g. mental flexibility, reflection, SMART goal setting, planning, organizing and prioritization) • Organization strategies	• SMART goal setting exercise • Form a new organizational habit with daily practice
6	Program review, mental stimulation activity	• Review key points from previous sessions • Discuss compensatory strategies and memory aids • Introduction to mental stimulation activities: computerized brain training and memory games	• Identify 3 goals that involve making behavioral changes to increase mental stimulation activities
Boosters 1-3	Fortnightly review sessions	• Review practice and progress • Social support to sustain the practice of strategies and lifestyle change • Final booster session including a program graduation ceremony	• Group members create a plan to continue to improve cognitive health and to maintain contact for ongoing social support

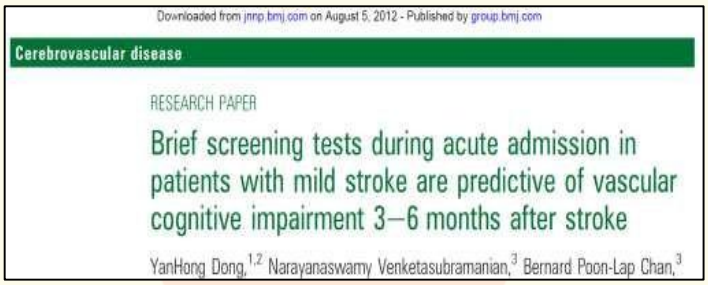


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Singapore Heart Foundation (2022)

Why Train Your Brain for Stroke Recovery?

Based on our published stroke research (400 stroke patients)

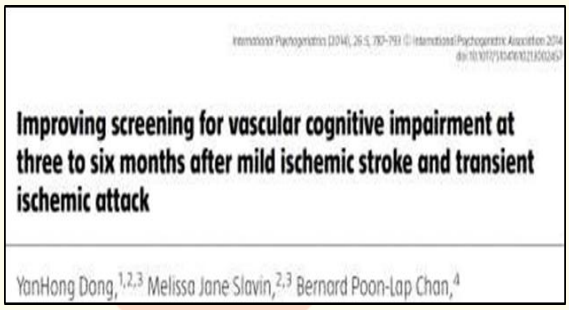

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Cerebrovascular disease

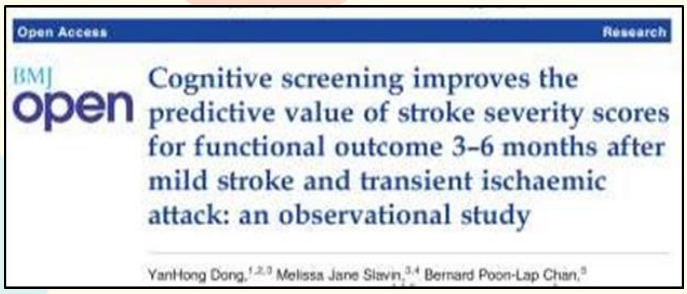
RESEARCH PAPER

Brief screening tests during acute admission in patients with mild stroke are predictive of vascular cognitive impairment 3–6 months after stroke

YanHong Dong,[1,2] Narayanaswamy Venketasubramanian,[3] Bernard Poon-Lap Chan,[3]


Improving screening for vascular cognitive impairment at three to six months after mild ischemic stroke and transient ischemic attack

YanHong Dong,[1,2,3] Melissa Jane Slavin,[2,3] Bernard Poon-Lap Chan,[4]

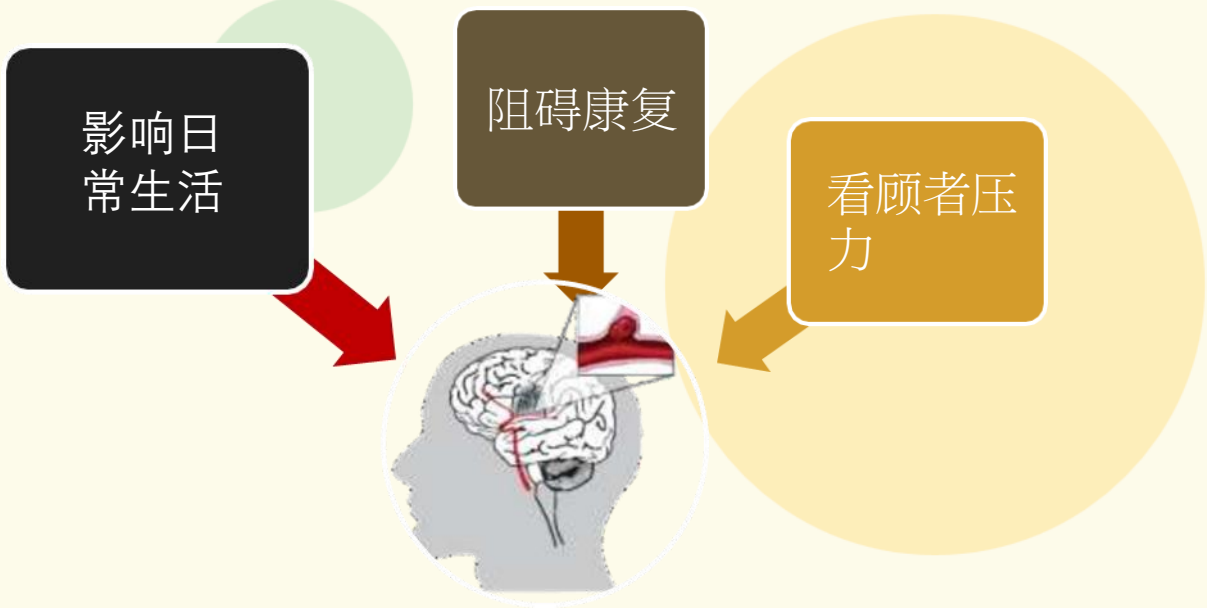

Open Access Research

BMJ open

Cognitive screening improves the predictive value of stroke severity scores for functional outcome 3–6 months after mild stroke and transient ischaemic attack: an observational study

YanHong Dong,[1,2,3] Melissa Jane Slavin,[3,4] Bernard Poon-Lap Chan,[5]

中风可引发的记忆与思考（认知）困难: > 50%



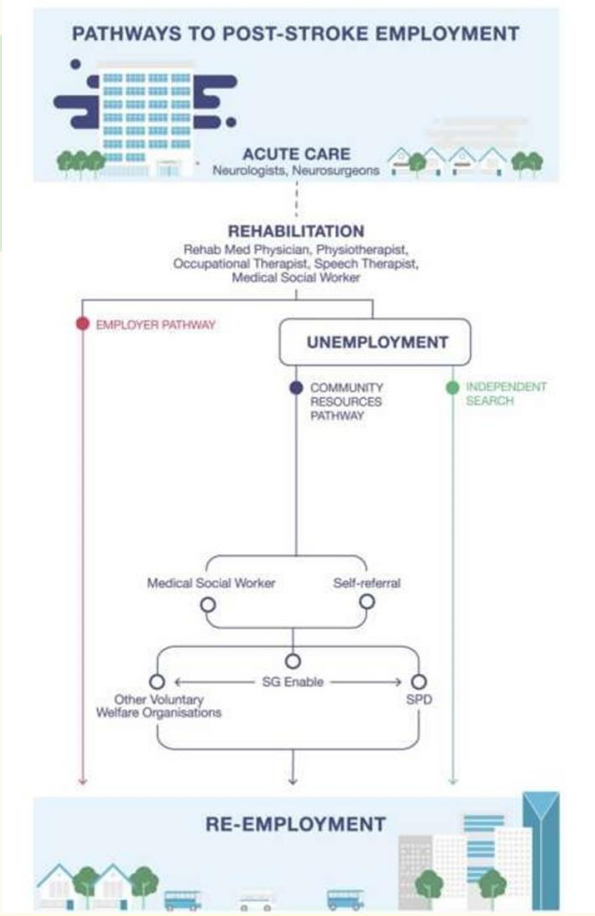
引起再次中风，记忆与思考困难，甚至死亡

Return to Work after Stroke



- Stroke incidence has been increasing in young adults.
- Return to work is an important outcome and rehabilitation goal for many working aged stroke survivors.
- Global post-stroke employment rates have been documented to range between 35% and 75% (Busch et al., 2009; Hackett et al., 2012; Chang et al., 2016; Lim et al., 2019).
- A systematic review of post-stroke employment research conducted in Singapore revealed post-stroke employment rates ranging from 38% to 55%, reflecting difficulties in the RTW process after stroke (Chan, 2008; Lim et al., 2019).
- Stroke services in Singapore typically target physical outcomes, with **little focus on cognitive, psychological, and vocational functioning**.

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(Lim et al., 2019)

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Development of an Intervention for Return to Work after Stroke

UK Medical Research Council Framework

ADAPT Guidance Framework

Process Evaluation Framework (Medical Research Council UK)

Train-Your-Brain intervention after stroke: Pilot studies

Systematic review on return-to-work interventions after stroke

Intervention development through needs assessment and co-design

Train-Your-Brain intervention for return-to-work after stroke:
Mixed-methods randomized controlled trial

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Train-Your-Brain Intervention Programme
针对中风患者社区性大脑健康及认知康复训练

New programme for stroke survivors targets brain health

It aims to plug gaps in existing services which tend to focus on physical needs

Joyce Teo



Dr Catherine Dong (far left), who designed the Stroke Support Station's brain health and memory training programme, with stroke survivors Denise Hu, 32, and Liew Teck Chye, 64, at the Enabling Village in Lengkok Bahru. ST PHOTO: ALPHONSUS CHERN

People who suffer a stroke may end up with physical problems like difficulty in moving one side of their body, but what is less heeded are memory and thinking issues.

To plug this gap, a brain health and memory training programme is being rolled out today by charity organisation Stroke Support Station (S3). It will be the first such programme in Singapore that is launched in the community.

Said S3 chairman Chew Poh Yim: "We do not want to duplicate the services (that are already available). It must meet the unmet needs of stroke survivors and their caregivers."

So far, about 20 stroke survivors have been put on the brain health programme at the Enabling Village in Lengkok Bahru.

It is conducted by Dr Catherine Dong, a visiting neuropsychologist at the National University Hospital Memory Clinic, who also designed the programme.

Participants also attend health education classes with caregivers to learn about post-stroke cognitive changes and advance care planning options. If needed, they will go through once-a-week sessions to train their brain to optimise stroke recovery or even to return to work.

They will be taught various strategies to help improve their memory, reduce their stress or cope with post-stroke fatigue.

Each three-hour session costs $30, but those with the Community Health Assist Scheme card pay just $6 for each session.

Stroke is the top cause of long-term disability in Singapore.

It is helpful to have a community-based programme as some survivors' mental-related problems surface after they are discharged from hospital, said Dr Dong.

About 50 per cent of patients develop memory and thinking problems within the first year of their stroke, she noted.

However, stroke rehabilitation programmes that are available here tend to focus on the physical and functional needs of patients, rather than cognitive function, she said.

"Cognitive impairment may be neglected because the motor impairment is a lot more obvious," said Associate Professor Deidre Ann De Silva, a senior consultant for neurology at the National Neuroscience Institute.

S3, which was started in 2015 to help ease stroke survivors back to normal life, will also introduce the brain health programme at Heartbeat@Bedok early next year.

joyceteo@sph.com.sg

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目标

通过以转译临床研究为基础，
以家庭为中心的社区认知康复疗法



为中风患者和家属提供大脑健康教育



提高中风患者的认知能力

大脑健康，认知康复训练

大脑健康教育：促进中风康复

大脑训练：优化中风康复

重返职场大脑训练

1.Health Education to Empower Stroke Survivors' Recovery

Equip the stroke survivors and caregivers with knowledge and coping skills for daily living

Increase understanding and knowledge for stroke recovery

Reduce incidence of recurrent stroke and memory decline

2. Train Your Brain to Optimize Stroke Recovery

Understand cognitive difficulties
Lifestyle changes
Manage negative mood
Improve attention and memory
Better planning and organizational skills

3. Train Your Brain to Return to Work

When to return to work

Adapting to work life

Managing fatigue and stress

Improving memory and thinking strategies

frontiers | Frontiers in Neurology

TYPE Original Research
PUBLISHED 10 August 2023
DOI 10.3389/fneur.2023.1163094

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Train-your-brain program to reduce depression, anxiety, and stress in stroke survivors: a pilot community-based cognitive intervention study

Xiang Cong Tham[1], Vanessa Jing Xin Phua[1], Evelyn Kit Yee Ho[1], Tingting Yan[2], Nicole Yun Ching Chen[3], Lijun Zuo[4], Claire L. Thompson[5] and Yanhong Dong[1]*

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Train-Your-Brain Intervention: Long-term Outcomes in Mood & Cognitive Functioning

- Mixed-methods evaluation of Train-Your-Brain intervention
- Participants: 31 (20 stroke survivors, 11 caregivers)
- Follow-up period: 10 months

Key findings:

- Mood: Stroke survivors' stress levels and caregivers' anxiety levels increased significantly at follow-up.
- Cognition: Stroke survivors' memory scores declined significantly at follow-up
- Participants benefitted from mood management techniques, mutual support and group connection, and experienced a sense of empowerment by being educated with practical information about stroke.

Conclusion:

- While the intervention supported short-term mood and cognitive improvements, these gains were not fully sustained at 10-month follow-up. Results highlight the need for ongoing emotional and cognitive support for stroke survivors and caregivers.

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frontiers | Frontiers in Neurology

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Addressing mood and fatigue in return-to-work programmes after stroke: a systematic review

Nicole Yun Ching Chen[1,2], YanHong Dong[2,3]* and Zaylea Zhong Jie Kua[1,2]

[1]Changi General Hospital, Singapore, Singapore, [2]Department of Medicine, Yong Loo Lin School of Medicine, National University of Singapore, Singapore, Singapore, [3]Alice Lee Centre for Nursing Studies, Yong Loo Lin School of Medicine, National University of Singapore, Singapore, Singapore

- 5 eligible RCTs involving 626 participants.
- 3 studies integrated mood and fatigue management into intervention, of which 2 studies found higher return-to-work rates in the intervention groups. The other 2 studies lacking mood and fatigue components did not show significant differences.
- Overall findings - **inadequate attention to mood and fatigue** in stroke rehabilitation programs targeting return-to-work.



Taylor & Francis

Disability and Rehabilitation

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/idre20

Perceived benefits and challenges of a work skills training workshop after stroke: a qualitative study with stroke survivors and caregivers

Nicole Yun Ching Chen, Andrea Chee & Yanhong Dong

To cite this article: Nicole Yun Ching Chen, Andrea Chee & Yanhong Dong (16 Sep 2024): Perceived benefits and challenges of a work skills training workshop after stroke: a qualitative study with stroke survivors and caregivers, Disability and Rehabilitation, DOI: 10.1080/09638288.2024.2402507

Thrive Beyond Stroke: Work Skills Training Workshop

13 participants (7 stroke survivors, 6 caregivers) completed the work skills training workshop and were evaluated.

Run by an external training vendor, Blended Concept Pte Ltd

Workshop content included personal values, goal setting, communication tools, conflict resolution, and work-life balance

4 sessions over 4 weeks, 2.5 hours each session

Experienced neuropsychologists provided consultation into tailoring the workshop content for stroke survivors

Singapore SkillsFuture-funded course; accredited by Singapore Workforce Skills Qualifications (WSQ)

Results – Themes & Subthemes

Theme 1
Perceived benefits
- Communication tools
- Platform for sharing and support
- Reflections and shifts in mindset
- Goal setting and values exploration

Communication
"[The workshop] helped to remind us that we need to be watchful in our communication…different tones and ways of communication can affect our interaction with others."

Goal setting and values exploration
"I benefitted from exploring our values. It's about resetting your mindset and finding a way to turn challenges into opportunities that you can work towards…"

Reflections and shifts in mindset
"I think it has encouraged me to…turn my stroke into a strength instead of a weakness."

Platform for sharing and support
"Before, I'm like a loner. I didn't know there were so many people sharing the same experience."

Theme 2
Perceived challenges & drawbacks
- Difficulties understanding workshop content
- Technical difficulties
- Duration of workshop sessions

Difficulties understanding workshop content
"I struggled to understand the lesson at first, but gradually as it went on, it became clearer. But towards the end, I was trying to figure out how this lesson applied to my life."

Technical difficulties
"I think logging attendance was a waste of time. I understand the need because of payment reasons, but maybe there could be a simpler method. It's quite troublesome."

Duration of workshop sessions
"The session is too long, so reducing the duration might help us focus better."

Theme 3
Suggestions for improvement & future recommendations
- Assessing capacity and readiness to work
- Customizing workshop content

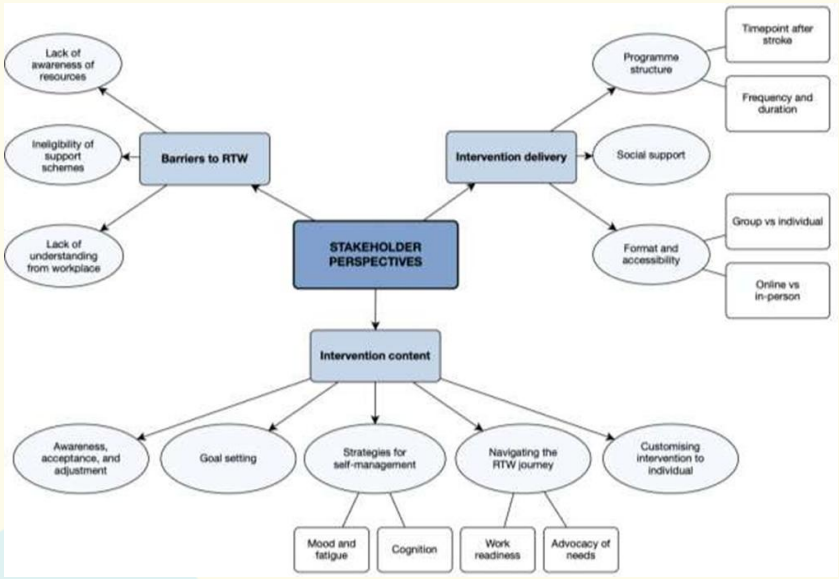
Assessing capacity and readiness to work
"[Stroke survivors] need to know what type of jobs they're looking for…what kind of work is suitable for them…what are they comfortable with."

Customizing workshop content
"In the future runs, sessions should be more segregated so that patients like me, a retiree, can relate better. Even though I used to work before, my focus in life has changed. So, retirees should have their own group."

Intervention development through needs assessment and co-design

Stakeholder Perspectives on a Return-to-Work Cognitive Intervention After Stroke

- The study aimed to obtain stakeholder perspectives on an intervention programme for return-to-work after stroke.
- Participants (n = 20) included 7 stroke survivors, 4 caregivers, 5 healthcare professionals, and 4 employers.
- Semi-structured interviews were conducted with stakeholders.



Chen, Chee, Dong (Unpublished data)

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Intervention development: Train-Your-Brain intervention for return-to-work after stroke

Needs Assessment Phase

- Cognition
- Mood and fatigue
- Work readiness and job analysis
- Individualised needs assessment provided in handout booklet

Intervention Phase

- 8-session programme
- Intervention slides
- Facilitator intervention manual
- Community resource list

Maintenance Phase

- Referral to community services for continued vocational support
- Monthly telephone support

Upcoming research

Pilot mixed-methods randomized controlled trial for return-to-work after stroke

This project will evaluate the feasibility and potential effectiveness of the intervention programme in a pilot mixed-methods randomized controlled trial.

Participants: **70 community dwelling stroke survivors** (≥21 to <65 years old) at least 3 months after stroke, **30 caregivers**

Inclusion & Exclusion Criteria:

- Participants who undergone any brain training programmes less than one month ago will be excluded from the study
- Participants with significant physical, hearing, visual, or language impairment that may impede cognitive assessment will be excluded.

Outcome Measures:

Return to work	- Rate of engaging in work activities and coping at work
Cognition	- Brief cognitive tests - Formal neuropsychological battery
Intervention-related neuroplasticity	- Blood will be collected for the biomarker (e.g., BDNF) - Neuroimaging findings (fNIRS)
Psychosocial health	- Mood questionnaires and quality of life measure (e.g. DASS, EQ- 5D-5L)
Fatigue	- Fatigue measure (e.g. Fatigue Assessment Scale)
Self-care/ Management measure	- Medication compliance (e.g. Voils DOSE-Nonadherence Measurement) - Vascular risk factors (e.g. blood pressure)

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ARTIFICIAL INTELLIGENCE IN MEDICINE COLLABORATIVE GRANT (MAY 2024)



Digital Cognitive Training Intervention for High-Risk Adults with 3 Highs: Implementation and Early Insights

- Middle-aged adults with chronic conditions or "3 Highs", i.e., hypertension, hyperlipidemia and Type 2 diabetes, are at a higher risk for cognitive decline
- While multidomain interventions show efficacy for older adults, evidence in "Future Seniors" populations (age 40-64) is scarce
- Despite high chronic disease prevalence in Singapore, cognitive prevention for this group, especially amongst future seniors, is underemphasized
- With the global shift towards digital healthcare, a digital intervention to address brain health problems amongst "3 Highs" is needed

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Digital Cognitive Training Intervention for 3 Highs

- Aims to investigate clinical efficacy and implementation outcome (barriers and facilitators) of an adapted digital TYB program
  - ➢ Delivered in the primary care for high-risk "future seniors" adults with "3 Highs"
- Methods
- Type-I hybrid effectiveness-implementation design with a sequential multiple-assignment randomized trial
- Reach, Effectiveness, Adoption, Implementation, Maintenance (RE-AIM) framework and the Capability, Opportunity, Motivation and Behaviour (COM-B) model have been used to evaluate clinical effectiveness and implementation strategies

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Methods


Open access Protocol

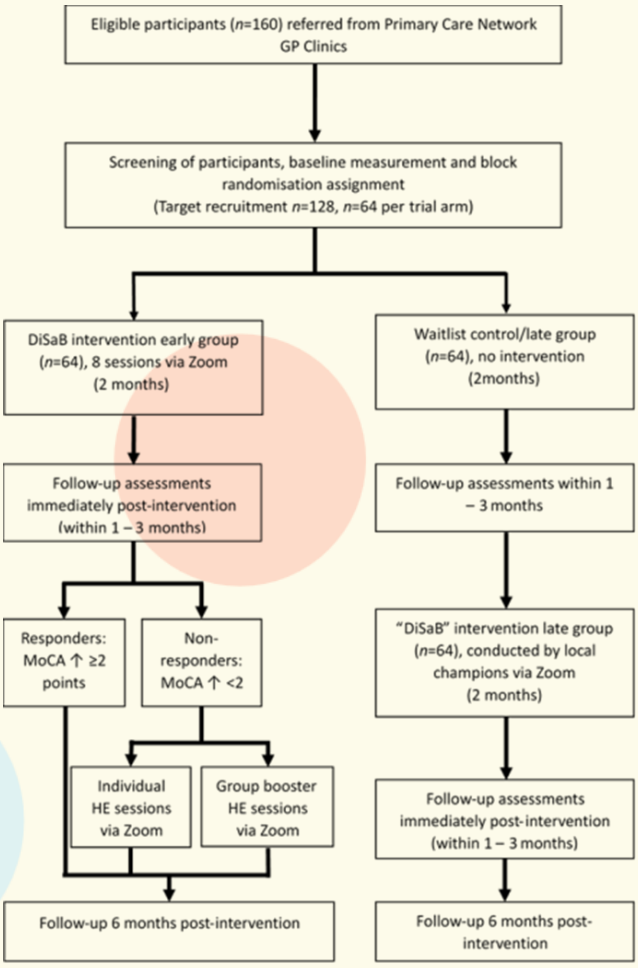
BMJ Open Digital solution for salutogenic brain health: a pilot sequential multiple assignment randomised trial (SMART) protocol for clinical implementation

Claire See Ying Chang [1], Vanessa Phua [2], Xiang Cong Tham [1], Yuanxi Jia [1], Nicole Yun Ching Chen [1], Wentao Zhou [1], Wei Fong Liau [3], Jing Xu [4,5], Bibhas Chakraborty [5,6,7], Nicholas Graves [5], Nick Sevdalis [8], Yanhong Dong [1]

100 adults aged 40-64 years old with >=1 of "3 Highs" were recruited from 3 National University Polyclinics. Excluded dementia, major psychiatric illness or physical impairment

Primary Outcome
Cognition (e.g., MoCA, SDMT)
Clinical measures (e.g., BP, lipids, HbA1c)
Psychosocial health (QoL, self-care, mood)

Secondary Outcome
Implementation surveys based on RE-AIM and COM-B



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Risk Score Predicting Cognitive Impairment (CI)

Risk Factors	Score
Age >70 years old	3
Diabetes	2
Stroke	1
Female	1
Cognitive Complaint on **Change** in daily problems in thinking or memory by informant/patient	1
Total Risk Score (TRS)	

- TRS ≥3 predict individuals at risk of CI
- Administer MoCA to patients with TRS ≥3, is a useful approach to predict CI

* Shaik et al. 2016

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Train-Your-Brain for Chronic Conditions

Session	Content
1	Health education for improved cognition
2	Impact of lifestyle on cognitive decline
3	Understanding mood and cognition
4	Managing mood and fatigue
5	Attention and memory
6	Planning and organisational skills
7	Application of cognitive strategies
8	Review & Recap

Note: Weekly one-hour group-based Zoom session over 8 weeks

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Preliminary Baseline Results (n=100)

		Counts	% of Total
Sex	Female	69	69.0%
	Male	31	31.0%
Ethnicity	Chinese	80	77.7%
	Indian	11	10.7%
	Malay	2	1.9%
	Others	7	6.8%
Diagnosed with Hyperlipidemia	Yes	82	79.6%
	No	18	17.5%
Diagnosed with Hypertension	Yes	61	59.2%
	No	39	37.9%
Diagnosed with Type-II Diabetes	Yes	45	43.7%
	No	55	53.4%

	Mean (SD)
Age (in years)	57.2 (4.90)
No. of education (years)	14.6 (3.31)
MoCA score	26.5 (2.26)
SDMT score	51.0 (9.16)^

Despite mean baseline cognitive scores indicating normal cognition, significant risk factors were prevalent

Risk factors	Prevalence (in %)
Total Risk Score (≥ 3)	36
Reports of subjective cognitive complaints	47
AD8 ≥ 4	29

Shaik et al. 2016

Unpublished Data

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Preliminary Baseline Results (Intervention vs. Control)

		Total (%)	Intervention (%)	Control (%)	Chi-square
Sex (Female)		69.0	72.0	66.0	0.421
Ethnicity	Chinese	80.0	40.0	40.0	6.39
	Malay	2.0	2.0	0.0	
	Indian	11.0	7.0	4.0	
	Others	7.0	1.0	6.0	
Diagnosed with Hyperlipidemia		82.0	83.0	74.5	2.44
Diagnosed with Hypertension		61.0	58.5	58.8	0.04*
Diagnosed with Type-II Diabetes		45.0	43.4	43.1	0.04*

		Mean (SD)	*p*-value
Age (in years)	Intervention	57.9 (4.38)	.160
	Control	56.5 (5.32)	
No. of education (years)	Intervention	13.8 (3.44)	.015*
	Control	15.5 (3.00)	
MoCA score	Intervention	26.5 (2.43)	.939
	Control	26.6 (2.06)	
SDMT score	Intervention	50.9 (8.80)	.887
	Control	51.2 (9.42)	

Unpublished Data

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Preliminary Results – Programme Satisfaction

Satisfaction survey was given at the end of each session
Promising feedbacks, with >90% overall satisfaction and enjoyment (over 8 sessions)
Post-intervention data collection - ongoing

	% of Total
Overall satisfied with session	94.4%
Learnt something new from the session	94.4%
Enjoyed the session	90.9%
Felt that the session duration is "Just right"	95.8%

Unpublished Data

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Conclusion

Key Findings

- Almost half of participants had cognitive complaints and >1/3 are at a higher risk for developing cognitive impairment
- Digital TYB intervention for chronic conditions is feasible with promising preliminary results (>90% satisfaction)

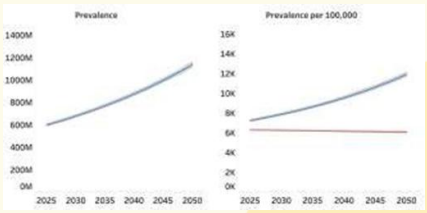
Impact and Innovation

- Novel digital cognitive intervention to empower future seniors in managing their conditions, promoting brain and cognitive health
- A value-added service in primary care for nurses to better manage at-risk patients with cognitive complaints
- Scalable nation-wide through findings of barriers and facilitators for implementation

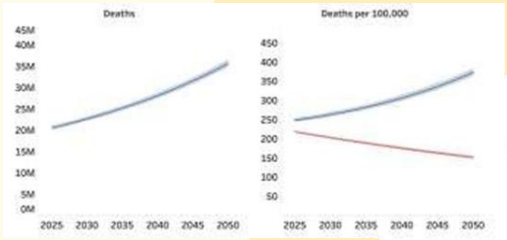
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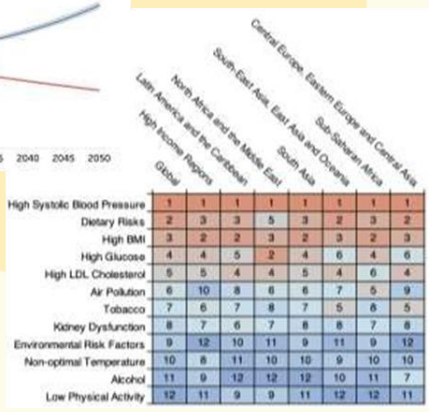
Incorporating cognitive interventions in cardiovascular healthcare

- Cardiovascular diseases (e.g. stroke, heart failure) increase the risk of mild cognitive impairment (MCI) and dementia



- Between 2025 – 2050, a 90.0% increase in cardiovascular prevalence and 73.4% increase in crude mortality are projected.



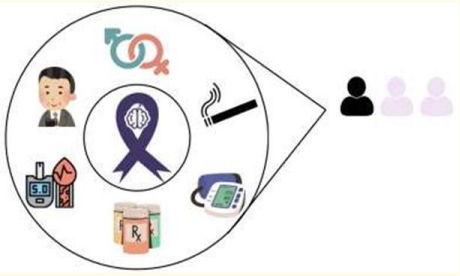


B. Chong et al., "Global burden of cardiovascular diseases: projections from 2025 to 2050," Eur J Prev Cardiol, vol. 32, no. 11, pp. 1001–1015, Aug. 2025, doi: 10.1093/eurjpc/zwae281.



B. Chong et al., "Global burden of cardiovascular diseases: projections from 2025 to 2050," Eur J Prev Cardiol, vol. 32, no. 11, pp. 1001–1015, Aug. 2025, doi: 10.1093/eurjpc/zwae281.

Risk factors of CI



- 40% of dementia cases are attributed to modifiable risk factors
- Framingham Cardiovascular Risk Profile →
  - cardiovascular diseases
  - pathological brain ageing
  - cognitive decline in healthy individuals
  - progression of MCI to AD
  - Framingham Stroke Risk Profile, Framingham Coronary Heart Disease Risk Score, and Cardiovascular Risk Factors Ageing and Dementia risk score directly correlate to cognitive decline and impairment
- Risk factors interfere with neuronal communication, reduce brain volume, alter blood vessels' structure and function in the brain and increase neuroinflammation
- Between 50% and 80% of individuals with cardiac diseases who also have comorbid cognitive impairment are **not** diagnosed by healthcare professionals

A. C. van Nieuwkerk et al., "Cognitive Impairment in Patients With Cardiac Disease: Implications for Clinical Practice," Stroke, vol. 54, no. 8, pp. 2181–2191, Aug. 2023, doi: 10.1161/STROKEAHA.123.040499.
G. Livingston et al., "Dementia prevention, intervention, and care: 2020 report of the Lancet Commission," The Lancet, vol. 396, no. 10248, pp. 413–446, Aug. 2020, doi: 10.1016/S0140-6736(20)30367-6.
L. Glodzik et al., "Framingham Cardiovascular Risk Profile Correlates with Impaired Hippocampal and Cortical Vasoreactivity to Hypercapnia," J Cereb Blood Flow Metab, vol. 31, no. 2, pp. 671–679, Feb. 2011, doi: 10.1038/jcbfm.2010.145.
O. Beauchet et al., "Blood pressure levels and brain volume reduction: a systematic review and meta-analysis," J Hypertens, vol. 31, no. 8, pp. 1502–1516, Aug. 2013, doi: 10.1097/HJH.0b013e3283618 4b5.

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Stroke and CI

Stroke increases the risk of cognitive impairment and AD

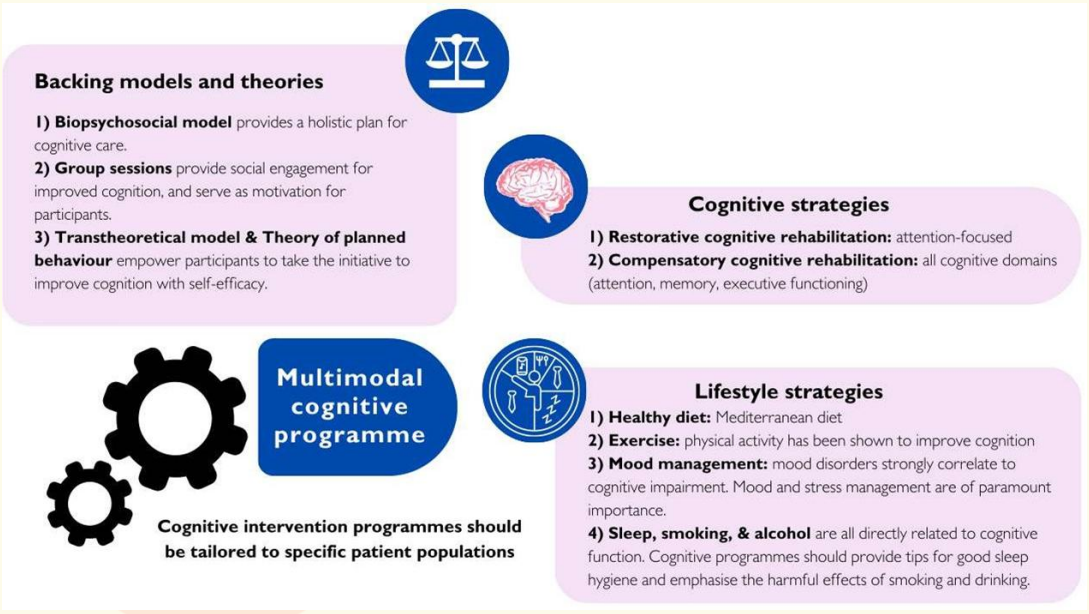
Table 3. Relative Risk of Alzheimer Disease Related to Stroke and Other Risk Factors*

		Alzheimer Disease				
	No. of Individuals	No. of Individuals	Stroke at Baseline	Stroke Before Dementia Diagnosis	Stroke Before or at Dementia Diagnosis	Stroke Ever
HTN						
Neither HTN nor stroke	673	72	1.00	1.00	1.00	1.00
HTN only	905	86	1.04 (0.75-1.43)	1.03 (0.75-1.43)	1.03 (0.73-1.44)	1.09 (0.77-1.54)
Stroke only	55	5	0.95 (0.38-2.35)	1.40 (0.67-2.92)	2.11 (1.20-3.71)	1.86 (1.11-3.13)
Both HTN and stroke	133	18	1.97 (1.18-3.29)	2.28 (1.42-3.64)	3.00 (1.95-4.64)	2.14 (1.40-3.27)
DM						
Neither DM nor stroke	1379	132	1.00	1.00	1.00	1.00
DM only	198	26	1.59 (1.04-2.42)	1.55 (1.00-2.41)	1.41 (0.88-2.27)	1.38 (0.84-2.28)
Stroke only	149	17	1.39 (0.85-2.28)	1.73 (1.11-2.67)	2.27 (1.55-3.31)	1.71 (1.19-2.45)
Both DM and stroke	39	6	4.24 (1.85-9.74)	4.59 (2.23-9.46)	6.48 (3.53-11.9)	4.12 (2.35-7.23)
HD						
Neither HD nor stroke	1098	104	1.00	1.00	1.00	1.00
HD only	480	54	1.03 (0.74-1.42)	1.03 (0.74-1.44)	1.00 (0.70-1.42)	1.05 (0.73-1.51)
Stroke only	90	9	1.39 (0.71-2.76)	1.95 (1.11-3.43)	2.62 (1.65-4.15)	2.19 (1.41-3.40)
Both HD and stroke	98	14	1.73 (1.01-2.98)	1.95 (1.18-3.23)	2.59 (1.65-4.07)	1.81 (1.18-2.77)

- 10% of stroke survivors developed dementia after their first stroke, and more than 1/3 did so after a second stroke
- There is a "black-box" in the reporting of cognitive interventions and patient outcomes for stroke survivors
- There is a severe lack of cognitive rehabilitation services in clinical settings for cardiovascular patients, especially cardiac patients

R. Small, P. H. Wilson, D. Wong, and J. M. Rogers, "Who, what, when, where, why, and how: A systematic review of the quality of post-stroke cognitive rehabilitation protocols," Annals of Physical and Rehabilitation Medicine, vol. 65, no. 5, p. 101623, Sept. 2022, doi: 10.1016/j.rehab.2021.101623.
S. T. Pendlebury and P. M. Rothwell, "Prevalence, incidence, and factors associated with pre-stroke and post-stroke dementia: a systematic review and meta-analysis," The Lancet Neurology, vol. 8, no. 11, pp. 1006–1018, Nov. 2009, doi: 10.1016/S1474-4422(09)70236-4

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Cognitive rehabilitation strategies

Restorative strategies

- Retrain lost abilities
- Attention training (e.g. Attention Process Training)

Compensatory strategies

- Adopt alternative methods to improve functioning
- Internal vs external

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Cognitive rehabilitation strategies

Attention

- Take breaks
- Remove distractions



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Cognitive rehabilitation strategies

- Memory
  - Chunking (234 – 420)
  - Mnemonics (Train-Your-Brain – TYB)
  - Visualisation
- Executive function
  - Use calendars, post-it notes, alarms
  - Set goals





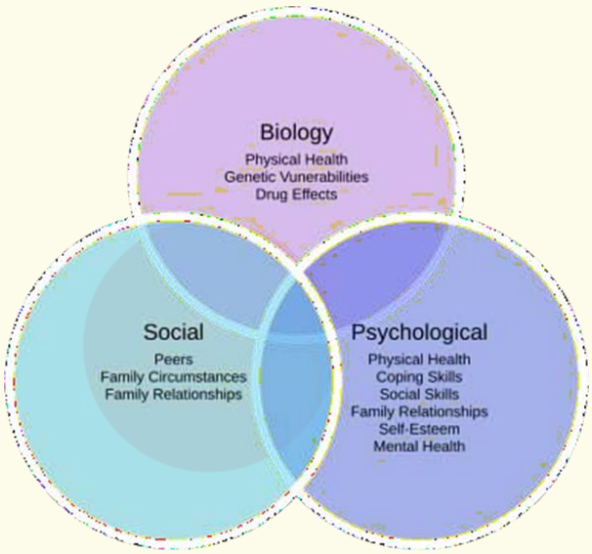
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Foundational theories

H. Kusnanto, D. Agustian, and D. Hilmanto, "Biopsychosocial model of illnesses in primary care: A hermeneutic literature review," Journal of Family Medicine and Primary Care, vol. 7, no. 3, p. 497, June 2018, doi: 10.4103/jfmpc.jfmpc_145_17. Wikipedia. (n.d.) Accessed 21 Nov 2025: https://en.wikipedia.org/wiki/Biopsychosocial_model

Biopsychosocial model

- Holistic disease management plan
- Mood disorders, coping strategies, resilience, a sense of purpose, and support from social networks
- Psychoeducation + practical strategies



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Foundational theories

B. W. Tuckman, "DEVELOPMENTAL SEQUENCE IN SMALL GROUPS," Psychol Bull, vol. 63, pp. 384–399, June 1965, doi: 10.1037/h0022100.
C. Lauber and W. Rössler, "Stigma towards people with mental illness in developing countries in Asia," International Review of Psychiatry, vol. 19, no. 2, pp. 157–178, Jan. 2007, doi: 10.1080/09540260701278903.
Wageningen University & Research. (n.d.) *Tuckman, (forming, norming, storming, performing).* https://mspguide.org/2022/03/18/tuckman-forming-norming-storming-performing/

Group format

- Provides a valuable social network
- Reduce stigma and reservations regarding combating cognitive decline and preserving mental health
- Increase awareness and metacognition



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Foundational theories

Transtheoretical Model (TTM)

Stage of Change	Description
Precontemplation	Patients have no intention to change behavior in the foreseeable future Many individuals in this stage are unaware or underaware of their problems
Contemplation	Patients are aware that a problem exists and are seriously thinking about overcoming it but have not yet made a commitment to take action
Preparation	Patients intend to take action in the next month
Action	Patients modify their behavior
Maintenance	Patients maintain their behavior and work to prevent relapse

Cognitive interventions should….

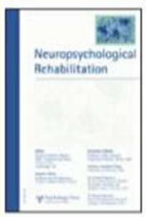
1) Empower participants to recognise consequences and acknowledge benefits of change
2) Encourage setting of SMART goals

J. O. Prochaska, C. C. DiClemente, and J. C. Norcross, "In search of how people change. Applications to addictive behaviors," *Am Psychol*, vol. 47, no. 9, pp. 1102–1114, doi: 10.1037//0003-066x.47.9.1102.
Nesseem, A. (2024). *The Transtheoretical Model of Health Behavior Change*. https://www.linkedin.com/pulse/transtheoretical-model-health-behavior-change-ayman-19f5e/

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Foundational theories

Motivational Interviewing



Neuropsychological Rehabilitation: An International Journal

Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/pnrh20

Motivational Interviewing to promote self-awareness and engagement in rehabilitation following acquired brain injury: A conceptual review

Andrew R. Medley [a] & Theresa Powell [a]
[a] School of Psychology , University of Birmingham , Edgbaston, Birmingham , UK
Published online: 23 Feb 2010.


Stroke

ORIGINAL CONTRIBUTIONS

Motivational Interviewing Early After Acute Stroke

A Randomized, Controlled Trial

Caroline L. Watkins, PhD, Malcolm F. Auton, MSc, Carol F. Deans, MClinPsy, Hazel A. Dickinson, MSc, Cathy I A. Jack, FRCP, C. Elizabeth Lightbody, MPhil, Christopher J. Sutton, PhD, Martin D. van den Broek, PhD, and Michael J. Leathley, PhD

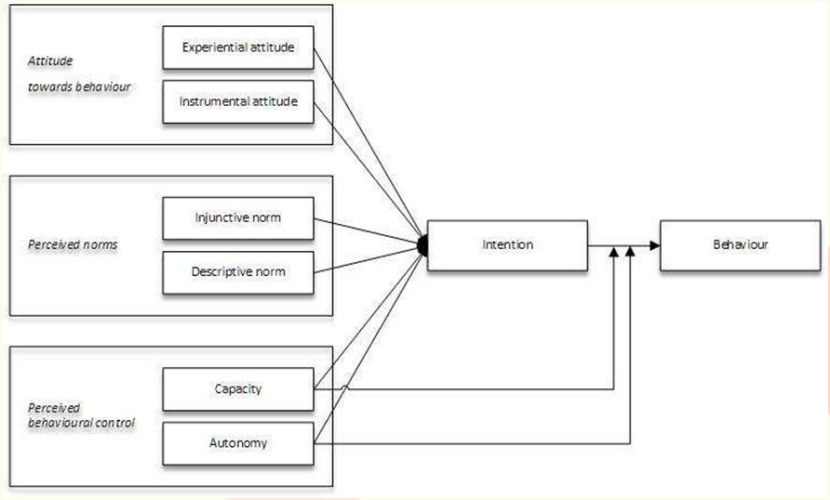
ABSTRACT: ***Background and Purpose***— The purpose of this study was to determine whether motivational interviewing, a patient-centered counseling technique, can benefit patients' mood 3 months after stroke.***Methods***— A single-center, open, randomized, controlled trial was conducted at a single hospital with a stroke unit. Subjects consisted of 411 consecutive patients on the stroke register who were over 18 years of age and who did not have severe cognitive and communication problems that would prevent them from taking part in an interview; were not known to be moving out of the area after discharge; and were not already receiving psychiatric or clinical psychology intervention. All patients received usual stroke care. Patients in the intervention group received 4 individual, weekly sessions of motivational interviewing with a trained therapist in addition to usual stroke care. The primary outcome was the proportion of patients with normal mood at 3 months poststroke measured by the 28-item General Health Questionnaire (normal, <5; low ≥5) using a mailed questionnaire.***Results***— Eighty-one of 207 (39.1%) patients in the control group and 100 of 204 (49.0%) patients in the intervention group had normal mood at follow up. A significant benefit of motivational interviewing over usual stroke care (OR: 1.60, 95% CI: 1.04 to 2.46, P=0.03) was found.***Conclusion***— Our results suggest motivational interviewing leads to an improvement in patients' mood 3 months after stroke.



https://med.stanford.edu/visit/the-clinical-encounter/treatment-options/motivationalinterviewing.html

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Foundational theories



Theory of Planned Behaviour (TPB)

- Education (theory)
- Group format
- Strategies

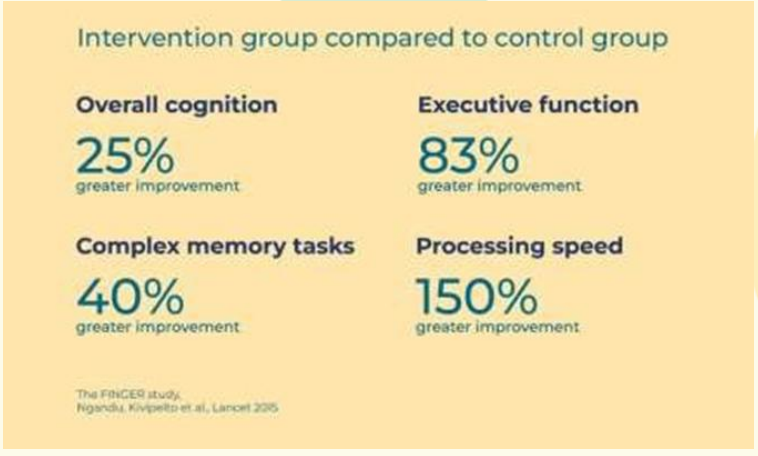
Ajzen, J. Kuhl, and J. Beckmann, "Action control: From cognition to behavior," *From intentions to actions: A theory of planned behavior*, pp. 11–39, 1985.
https://open.ncl.ac.uk/theories/18/theory-of-planned-behaviour/

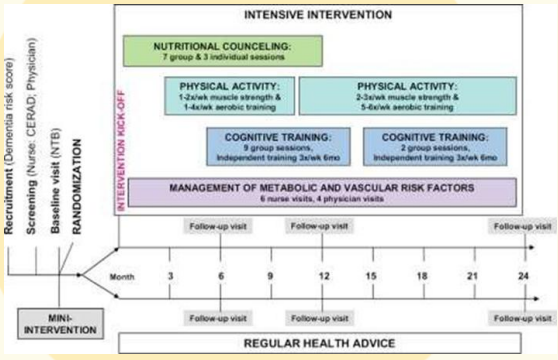
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Foundational theories

https://alz-journals.onlinelibrary.wiley.com/doi/10.1016/j.jalz.2012.09.012

Multidomain interventions





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Foundational theories

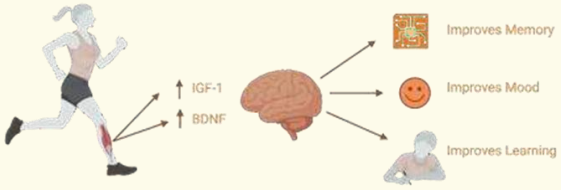
Multidomain interventions

https://www.activesgcircle.gov.sg/campaigns/spag









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Practical considerations

- Multiple regular sessions allow revision of content
- Digital or hybrid sessions tackle resource scarcity
- Co-design for improved receptiveness and adherence

Our suggestion:

Implement a **group-based multidomain cognitive intervention** which incorporates **education of theory and strategies** for cardiovascular patients held by **trained facilitators**, that may be offered in a **hybrid format**.

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Conclusion总结

“训练你的大脑”认知干预

- >80% attendance >80% 参与率

- Significant improvement on global cognition (MoCA), executive function, and psychological wellbeing (e.g., stress reduction) 整体认知(MoCA), 执行功能和心理健康（例如，压力减少）得到明显改善

- “训练你的大脑”促进社区型的卒中认知康复，提高心理健康（例如，改善情绪，减少压力），呈现提高认知的趋向， 可优化应用于有认知障碍风险的三高病人

展望

- 卒中后重返职场认知干预
- 人工智能词曲创作激发神经可塑性地认知训练
- 实施科学推广数码式神经认知大脑训练干预促进三高具风险的未来长者认知健康及长寿

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Cindy Jones

Associate Professor, Faculty of Health Sciences & Medicine, Bond University.
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Experiences	Associate Professor, Behavioural Science, **Faculty of Health Sciences & Medicine**, Bond University, Australia. Actively involved in **higher degree research (HDR) supervision**, including PhD candidates. Recipient of teaching excellence recognition, including the **Griffith University DVC Academic Commendation for Excellent Teaching**. Holds a **PhD** and postgraduate qualifications in higher education, psychology, and human resource management, reflecting a strong interdisciplinary academic foundation in behavioural science and health research. Served as **Associate Investigator and Lead Data Analyst** on a large-scale **NHMRC-funded research project (2014–2017)** examining the impact of interactive therapeutic robots on emotional wellbeing, engagement, and medication use among people living with dementia. Contributed to an **NHMRC collaborative project led by Curtin University**, focusing on post-discharge support models for older adults and their caregivers, addressing patient, caregiver, and health system outcomes. Led the development of the **Engagement of a Person with Dementia Scale**, a validated tool used to assess behavioural and emotional engagement in people with dementia during social and therapeutic activities. Research projects consistently integrate **evidence-based care, psychosocial interventions, and innovative health technologies** to improve quality of life for people with dementia and their caregivers.
Specialties	Health services and systems

Transforming Gerontology Healthcare with Social Robots: *Hype or Hope?*

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CARLY HUDSON & TALIAH SWART (SLIDE ASSISTANCE)



OVERVIEW

- **Introduction:** What are & why social robots in gerontology?
- **Current landscape** of technology and adoption
- **The "Hope":** Benefits and opportunities
- **The "Hype":** Challenges and limitations
- **Ethical and social considerations**
- **Evidence** from research
- **Future directions** for social robots in aged care
- **Conclusion:** Hype or Hope?

WHAT ARE SOCIAL ROBOTS?[1,2]

- Physical robots which are **built to communicate and interact socially with people** – not just build to complete tasks
- They are able to,
  - Use **social cues** – e.g., voice, gaze, gestures
  - Aim to **build relationships, engagement, companionship**, or motivate health behaviours
  - **Operate autonomously** or semi-autonomously with humans
- Not just a tablet or mobile phone app – **require a physical presence** and human-like social behaviours



SOCIAL ROBOTS vs ASSISTIVE/MEDICAL ROBOTS

	Social Robots	Assistive/Medical Robots
Goal	• Relational support[1] • E.g. companionship, engagement	• Task or clinical procedure[4,6] • E.g. rehab, mobility, dispensing, delivery, surgery
Interaction	• Bidirectional conversation using social cues[1] • E.g. voice, gaze, gestures, affect	• Command or utility[5,7] • Performance and safety centric[5]
Examples	• Therapeutic pets[1,3] • Humanoid companions[1] • Social telepresence robots[1]	• Medication dispensing/delivery robots[4,6,7] • Patient lifting or transfer[4,6,7] • Robotic-assisted surgical systems[4,6,7]
Evidence Focus	• Wellbeing[3] • Engagement[3] • Loneliness[3] • Mood[3] • Agitation[3]	• Safety[4,5,7] • Clinical effectiveness[4,5,7]

WHY USE SOCIAL ROBOTS IN AGED CARE?



Global ageing	More people are living longer with multimorbidity and fragility[8,9]
Rising demands	Greater need for at-home and residential long term care[9,10]
Caregiver shortages	Staff shortages, turnover, and burnout impact service provision[10,11]
Social isolation and mental health risks	Loneliness, depression, and cognitive decline[12]
Equity and access	Potential to extend support to underserved or remote populations[13]







Are social robots the next real shift in aged care — or just hype?

CURRENT LANDSCAPE OF SOCIAL ROBOTS IN GERONTOLOGY

- Appearing across **multiple care settings**
  - e.g., residential aged care, community/day programs, home use[14,15,17]
- Focus is mainly on **psychosocial support** – not clinical tasks[14,16,17]
- Evidence is strongest for **engagement, mood, and loneliness** (short term)[14,16]
- Most devices are still at the **pilot stage**[14,15,17]



CURRENT ROBOT EXAMPLES

Paro[18]

- Robotic seal
- Used for dementia/aged care
- Uses tactile, auditory, and visual sensors to respond to voice/stroking



You Tube Video on PARO robotic seal

Pepper[19,20]

- Humanoid robot
- Used for conversation, group activities and delivering information

You Tube Video on the Pepper Robot



ElliQ[21]

- AI-based companion robot
- Can provide prompts, check-ins and social contact
- Design to proactively initiate contact, not wait to be asked

You Tube Video on ElliQ



Jibo[22]

- AI-based companion robot
- Can provide prompts, check-ins and social contact



You Tube Video on Jibo



CURRENT ROBOT EXAMPLES

Nao[23,24]

- Small humanoid robot
- Often used for rehabilitation
- Good for structured exercise, social stories and cognitive games

You Tube Video on Nao



Lio[25]

- Mobile assistive robot for care staff support
- Delivers items, sanitisation, supporting communication



You Tube Video on Lio



CURRENT ROBOT EXAMPLES

Buddy

- Companion and safety support robot
- Functions in supporting wellness, companionship and providing safety alerts

You Tube Video on Buddy



Zenbo[26]

- Small home assistance and social interaction robot
- Ideal for home care and early aging support (medication reminders, fall detection)

You Tube Video on Zenbo



CURRENT ROBOT EXAMPLES

PECOLA

- Personal Companion for Older People Living Alone
- Monitoring and social interaction to help older adults live alone

You Tube Video on PECOLA



Nadine[27]

- Humanoid social robot
- Supports interaction and cognitive engagement
- Remembers users and can support reminiscence

You Tube Video on Nadine



SUMMARY TABLE & CONSIDERATIONS

Robot Platform	Primary Use Case / Function	Best Settings	Key Benefits	Key Challenges / Limitations
Paro (therapeutic seal)	Emotional / therapeutic companion for dementia care	Nursing homes, dementia wards	Calms agitation, encourages interaction, proven emotional benefits	Limited functional assistance; ethical debate about replacing human contact
Pepper (SoftBank Robotics)	Humanoid social robot for engagement, games, reminders	Assisted living, day centres	Emotion recognition, conversational ability, cognitive stimulation	High cost; requires staff training; can seem overly "robotic"
ElliQ (Intuition Robotics)	AI tabletop companion for ageing in place	Home / community-dwelling older adults	Reduces loneliness, provides reminders, connects with family/caregivers	Needs Wi-Fi and digital literacy; less suited for high-dependency residents
Buddy (Blue Frog Robotics)	Companion and safety support robot	Home or assisted living	Designed for seniors; supports wellness, safety alerts, companionship	Limited long-term clinical evidence; still commercial rollout stage
Zenbo (ASUS)	Home assistant & social interaction robot	Home care / early ageing support	Medication reminders, fall detection, video calls	Not aged-care specific; limited emotional interaction depth
PECOLA (ITRI, Taiwan)	Monitoring + social interaction for older adults living alone	Independent-living homes	Tracks wellness; fall detection; conversation	Privacy & data consent concerns; needs smart-home integration
Nadine (Nanyang Technological Univ.)	Humanoid social robot for interaction & cognitive engagement	Dementia care, therapy groups	Expressive, remembers users, supports reminiscence	Costly, complex maintenance; "uncanny valley" discomfort
Lio (F&P Robotics)	Mobile assistive robot for care staff support	Nursing homes, hospitals	Delivers items, sanitisation, supports communication	More functional than social; high technical training required
Jibo (MIT spinoff)	Conversational social companion	Home / assisted living	Warm, expressive, empathetic voice & movement; enhances mood	No mobility; company instability; limited clinical deployment
Nao (SoftBank / Aldebaran)	Humanoid robot for cognitive & motor stimulation	Dementia care, therapy sessions	Interactive (speech, movement); boosts engagement & enjoyment	Needs trained operator; battery & volume limitations

APPLICATIONS IN AGED CARE



Companionship and engagement 28,29



Cognitive and emotional support 28,29



Support health behaviours 21,30



Coordination of care [29,31]



Mobility/rehabilitation support [23,24,29]

ADOPTION TRENDS

AUSTRALIA/UK/US A32-35



ASIA34

- Often tied to **university/health service research**
- Mostly **pilots** in residential aged care or day programs
- Successful implementation **requires acceptance and integration into daily activities** by the staff

- **More common** use of social robots in aged care
- **Driven by workforce shortages** and ageing population **exceeding service capacity**
- **Government/insurer incentives** and a **tech-positive policy culture** help facilities trial and keep robots
- Framed as **worker support, not worker replacement**

THE HOPE – POTENTIAL BENEFITS



Reduce loneliness, depression and agitation [36,37]



Support memory, attention, and stimulation [37,38]



Support caregivers by reducing workload [38,39]



Support and scale healthcare systems [38]



Increase dignity, independence, social engagement [37,38,40]

THE HYPE – LIMITATIONS AND CHALLENGES

Technical reliability, usability and maintenance[36-43]

Lack of large-scale long-term studies providing evidence[41-42]

Affordability for individuals & facilities [41,43,45]

Stigma, resistance, cultural differences[41-43]

Risk of overpromising[40,44,45]

Replacing rather than supplementing human care[40,44,45]

ETHICAL AND SOCIAL CONSIDERATIONS

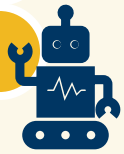
AUTONOMY VS INDEPENDENCE: Do robots empower or infantilise?[40,46,49]

PRIVACY: Sensitivity around collection of health-related data[47,48]

CONSENT: Particularly for patients with dementia or cognitive decline[47-49]

EMOTIONAL DECEPTION: Should robots stimulate empathy or friendship?[40,47]

EQUITY: Will only wealthier individuals/facilities benefit?[48,50]



CURRENT RESEARCH EVIDENCE

Key Findings from Systematic Reviews

- Social robots (mainly PARO) **significantly reduce depression and loneliness** in long-term care residents.[36,51]
- For people with dementia, social robots **can reduce BPSD, improve mood, and increase engagement**[52]
- Show promise for **cognitive stimulation and group interaction**[53]
- Can **support patient well-being** and augment care[54]



CURRENT RESEARCH EVIDENCE – *a few examples*

PARO[55]

- *N* = **415 patients with a dementia** diagnosis from 28 long-term care facilities in Australia
- Compared PARO, standard plush toy, and usual care
- **PARO demonstrated increased verbal and visual engagement** compared to a standard plush toy
- **PARO improved mood and agitation** compared to usual care



JAMDA

journal homepage: www.jamda.com

Original Study

Use of a Robotic Seal as a Therapeutic Tool to Improve Dementia Symptoms: A Cluster-Randomized Controlled Trial

Wendy Moyle PhD, Cindy J. Jones PhD, Jenny E. Murfield BSc(Hons), Lukman Thalib PhD, Elizabeth R.A. Beattie PhD, David K.H. Shum PhD, Siobhan T. O'Dwyer PhD, M. Cindy Mervin PhD, Brian M. Draper MD

ABSTRACT

Objectives: To test the effects of individual, nonfacilitated sessions with PARO (version 9), when compared against a look-alike plush toy and usual care, on the emotional and behavioral symptoms of dementia for people living in long-term care facilities.

Design: Parallel, 3-group, cluster-randomized controlled trial conducted between June 14, 2014, and May 16, 2015.

Setting: Twenty-eight long-term care facilities operated by 20 care organizations located in South-East Queensland, Australia.

Participants: Four hundred fifteen participants aged ≥60 years, with a documented diagnosis of dementia.

Intervention: Stratified by private/not-for-profit status and randomized using a computer-generated sequence, 9 facilities were randomized to the PARO group (individual, nonfacilitated, 15-minute sessions 3 times per week for 10 weeks); 10 to plush toy (same, but given PARO with robotic features disabled); and 9 to usual care. Treatment allocation was masked to assessors.

Measurements: Primary outcomes were changes in levels of engagement, mood states, and agitation after a 10-week intervention, assessed by coded video observations (baseline, weeks 1, 5, 10, and 15) and Cohen-Mansfield Agitation Inventory–Short Form (baseline, weeks 10 and 15). Analyses followed intention-to-treat, using repeated measures mixed effects models. Australian New Zealand Clinical Trials Registry (ACTRN12614000508673).

Results: Video data showed that participants in the PARO group were more verbally [3.03, 95% confidence interval (CI): 0.40–0.81, $P = .011$] and visually engaged [13.06, 95% CI: 17.05–9.06, $P < .0001$] than participants in plush toy. Both PARO [−3.09, 95% CI: −0.45 to −5.72, $P = .022$] and plush toy [−3.58, 95% CI: −1.26 to −5.91, $P = .002$] had significantly greater reduced neutral affect compared with usual care, whilst PARO was more effective than usual care in improving pleasure [1.12, 95% CI: 1.94–0.29, $P = .008$]. Videos showed that PARO was more effective than usual care in improving agitation [3.33, 95% CI: 5.79 −0.86, $P = .008$]. When measured using the CMAI-SF, there was no difference between groups.

Conclusions: Although more effective than usual care in improving mood states and agitation, PARO was only more effective than a plush toy in encouraging engagement.

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1525-8610/© 2017 AMDA – The Society for Post-Acute and Long-Term Care Medicine.

CURRENT RESEARCH EVIDENCE – *a few examples*

Humanoid Robot Clinical Trial[57]

- Introduced **conversation robots** into the homes of older adults with cognitive decline
- Results showed **improved communication, engagement and emotional responses**
- Participants continued to integrate the humanoid robot, RoBoHon (Sharp Corporation) into their home life



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Social robot for older adults with cognitive decline: a preliminary trial

David Figueroa[1]*, Ryuji Yamazaki[2]*, Shuichi Nishio[2], Elie Maalouly[1], Yuma Nagata[2], Yuto Satake[2], Miyae Yamakawa[4], Maki Suzuki[1], Hideki Kanemoto[3], Manabu Ikeda[1] and Hiroshi Ishiguro[1,2]

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The number of older adults living alone is rapidly increasing. Loneliness in older adults not only degrade their quality of life but also causes troubles such as heavy burden on the medical staff, especially when cognitive decline is present. Social robots could be used in several ways to reduce such problems. As a first step towards this goal, we introduced conversation robots into the homes of older adults with cognitive decline to evaluate the robot's availability and acceptance during several months. The study involved two steps, one for evaluating the robustness of the proposed robotic system, and the second one to examine the long-term acceptance of social robots by older adults with cognitive decline living alone. Our data shows that after several weeks of human–robot interaction, the participants continued to use the robot and successfully integrated them into their lives. These results open the possibility of further research involving how sustained interaction can be achieved, as well as which factors contributed to the acceptance of the robot.

KEYWORDS
social robot, robot acceptance, conversation robot, social assistive robot, human–robot interaction

1 Introduction

By the end of the century, the population in Japan will decrease by more than half, declining from its 2017 population peak of 128 million to 53 million (Vollset et al., 2020). Currently, Japan has the largest percentage of older adults in the world, reaching 27.7% of its population in 2017. Consequently, life expectancy in Japan is of 84.2 years, the highest on Earth (Cabinet Office of Japan, 2018; World Health Organization, 2016). Therefore, the number of households exclusively formed by older adults living alone is projected to reach about 9 million by 2040 (National Institute of Population and Social Security Research, 2019). These facts indicate that individuals in the Japanese society have a long life span, and hint that it will extend more in future generations. Older adults tend to have insecure and avoidant attachment styles, which have been associated with detachment from society, potentially leading them to adverse health and psychosocial conditions such as poor cardiovascular function, impaired immunity, loss of

RESEARCH GAPS & LIMITATIONS

LONG-TERM IMPACT
36,52,53

- Most trials are **short with small sample sizes**
- Focus on immediate mood or engagement with **little or no follow**

CROSS-CULTURAL GENERALISABILITY
36,52,53

- **Lack of reporting on cultural or ethnic backgrounds** for participants
- Difficult to **know how social robots are received between different cultures**

WORKFORCE IMPACT
36,52,53

- Evidence **focuses mainly on resident outcomes** and acceptability
- Limited data on **how social robots affect caregivers' workload, stress, and working conditions**

FUTURE DIRECTIONS

Smarter robots with AI
30,56

Human–robot partnerships
32,33,56

Policy & ethics
40,46-50,56

Stronger evidence
30,58

Value for money
59,60

Cross-disciplinary co-design
40,46-50,56

CONCLUSION – *HOPE OR HYPE?* [1,2,16]

HOPE

Social robots offer **real opportunities** to **enhance engagement**, **reduce isolation**, and **support caregivers**

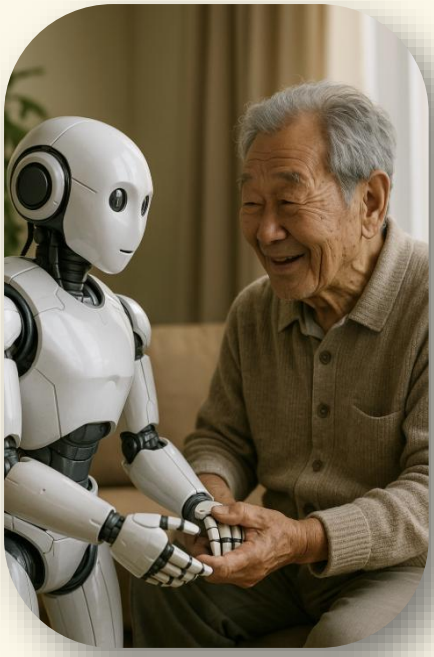
HYPE

Current evidence is still limited; many **systems are prototypes** or demos, not yet transformative tools

FUTURE DIRECTIONS

Robots as **adjuncts** to, **not replacements** for, human care

Genuine transformation depends on **strong evidence**, **ethics, affordability** and **integration into human-centred care models**





DISCUSSION

Where do you see the ***biggest promise*** *or the* ***biggest risk*** *of* ***social robots in aged care****?*

Thank you.

Any questions?

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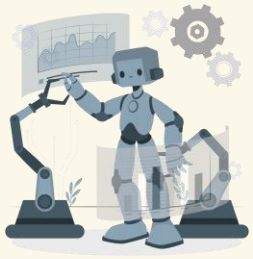
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Sangseok You

Professor , School of Business, Sung Kyun Kwan University. South Korea

Experiences	Assistant Professor, Sungkyunkwan University (SKKU) Assistant Professor, HEC Paris Post-doctoral Research Fellow, Syracuse University Education Ph.D., University of Michigan, USA MSc., Sungkyunkwan University (SKKU), South Korea B.A., Sungkyunkwan University (SKKU), South Korea Publications (2024) 경영 정보 시스템: 경험적 접근 방법 (Information Systems for Business: An Experiential Approach). 한빛아카데미. Co-author Honors / Awards JAIS Best Paper Award (2018) Emotional Attachment, Performance, and Viability in Teams Collaborating with Embodied Physical Action (EPA) Robots
Specialties	Human-Machine Collaboration Human-Robot Interaction Artificial Intelligence (AI) and Algorithmic Decision-making Open and virtual collaboration Enterprise Social Media (ESM)



2025 IHC International Healthcare Conference

Challenges and Opportunities in Working with Robots in Health Care

Sangseok You, Ph.D.

sangyou@skku.edu

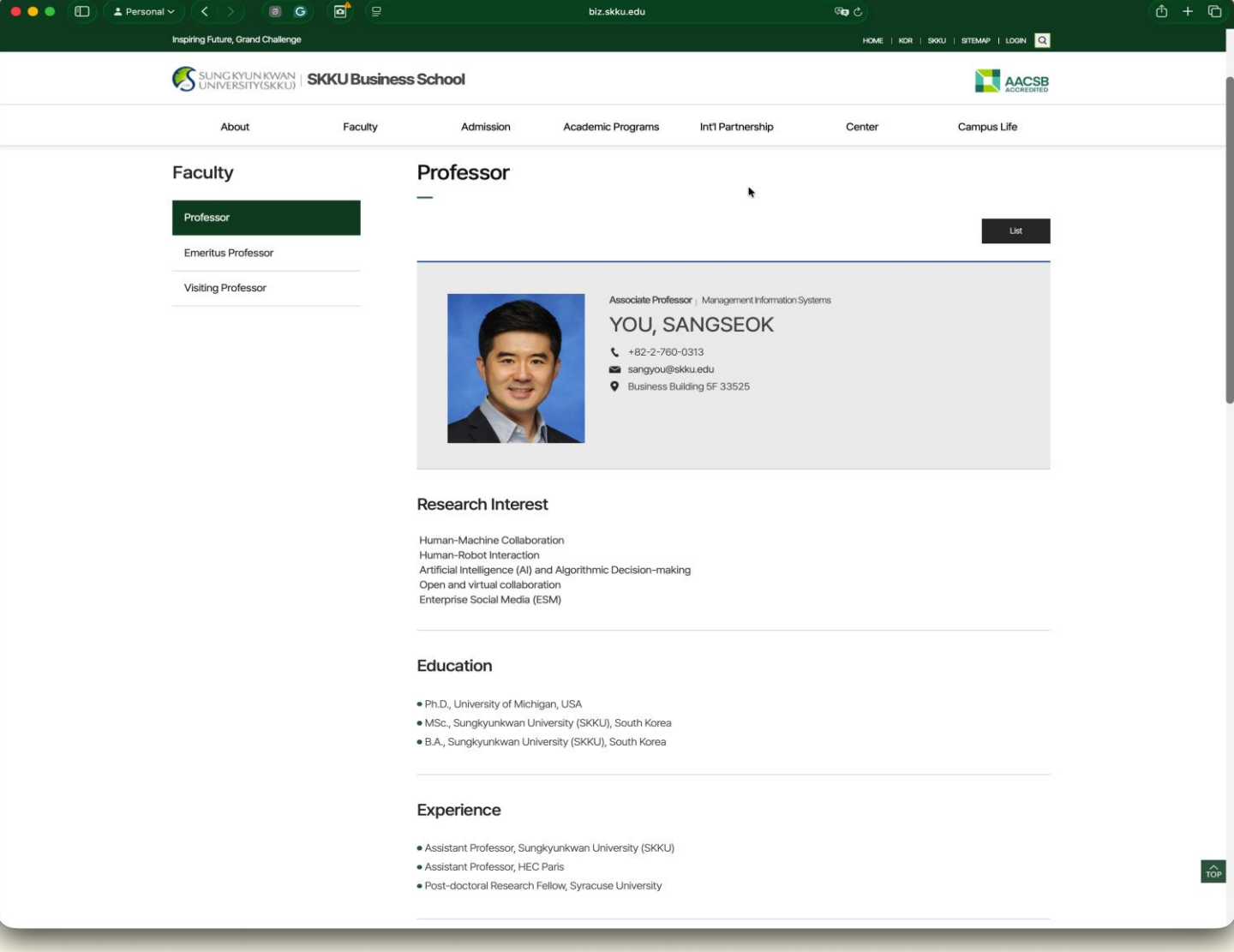
Associate Professor of Information Systems

School of Business

Sungkyunkwan University (SKKU)

SUNG KYUN KWAN UNIVERSITY

Fooyin University



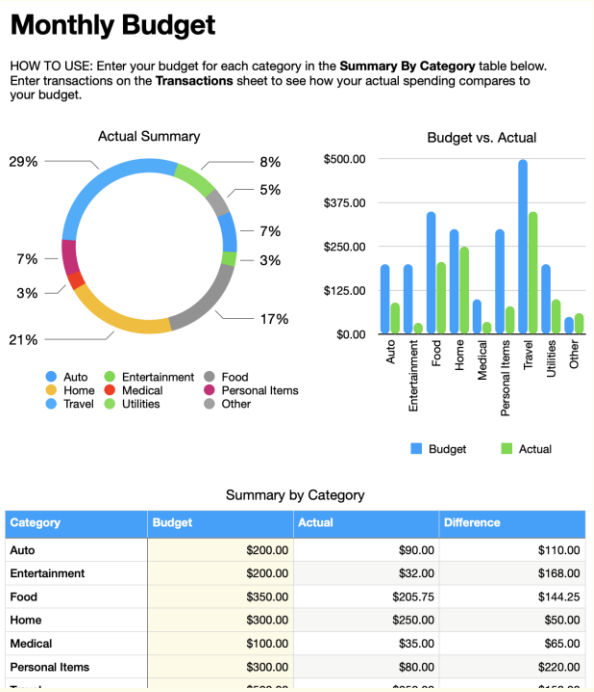
Why is everyone talking about robots?

What Makes Robots Different?

What Makes Robots Different (from computers)?

Computers as tools

- **Information Exchange**
- **Efficiency and accuracy of Information**
- **Making your work easier and faster**
- **BUT…**



Monthly Budget

HOW TO USE: Enter your budget for each category in the **Summary By Category** table below. Enter transactions on the **Transactions** sheet to see how your actual spending compares to your budget.

Actual Summary

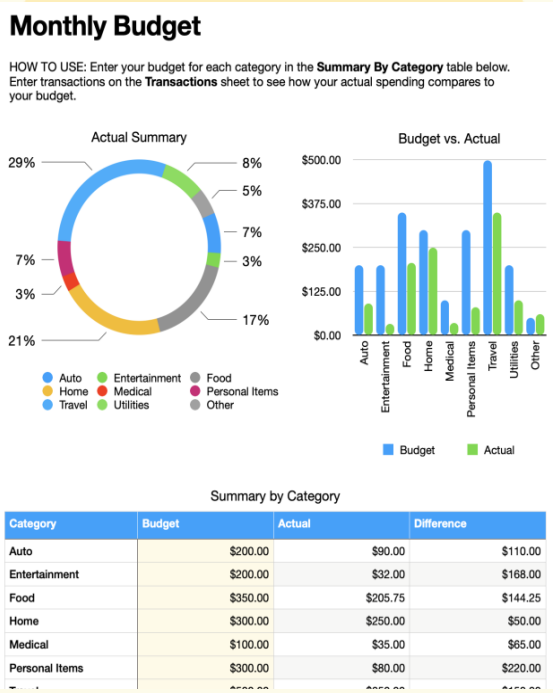
Budget vs. Actual

Summary by Category

Category	Budget	Actual	Difference
Auto	$200.00	$90.00	$110.00
Entertainment	$200.00	$32.00	$168.00
Food	$350.00	$205.75	$144.25
Home	$300.00	$250.00	$50.00
Medical	$100.00	$35.00	$65.00
Personal Items	$300.00	$80.00	$220.00

Computers as tools

- **Information Exchange**
- **Efficiency and accuracy of Information**
- **Making your work easier and faster**
- **BUT…**
- **You still have to do THE work**



Monthly Budget

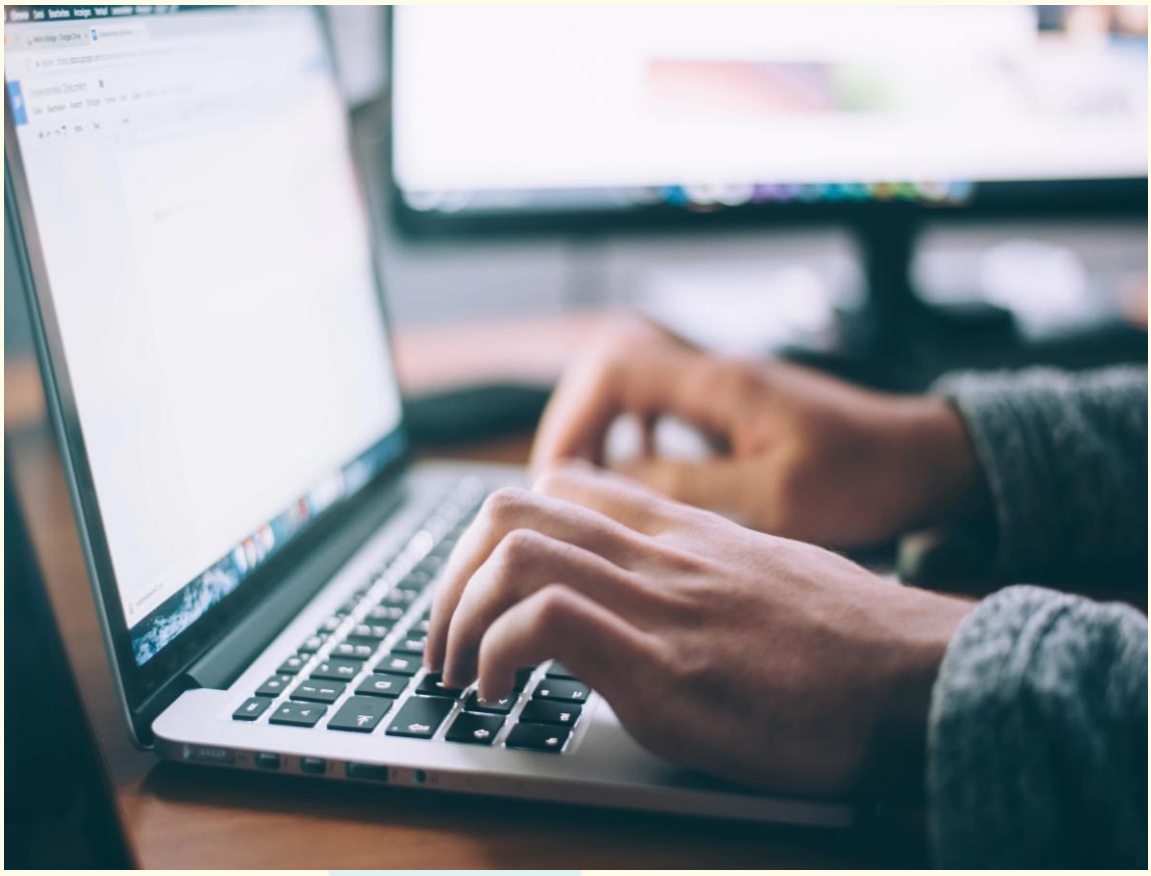
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Actual Summary

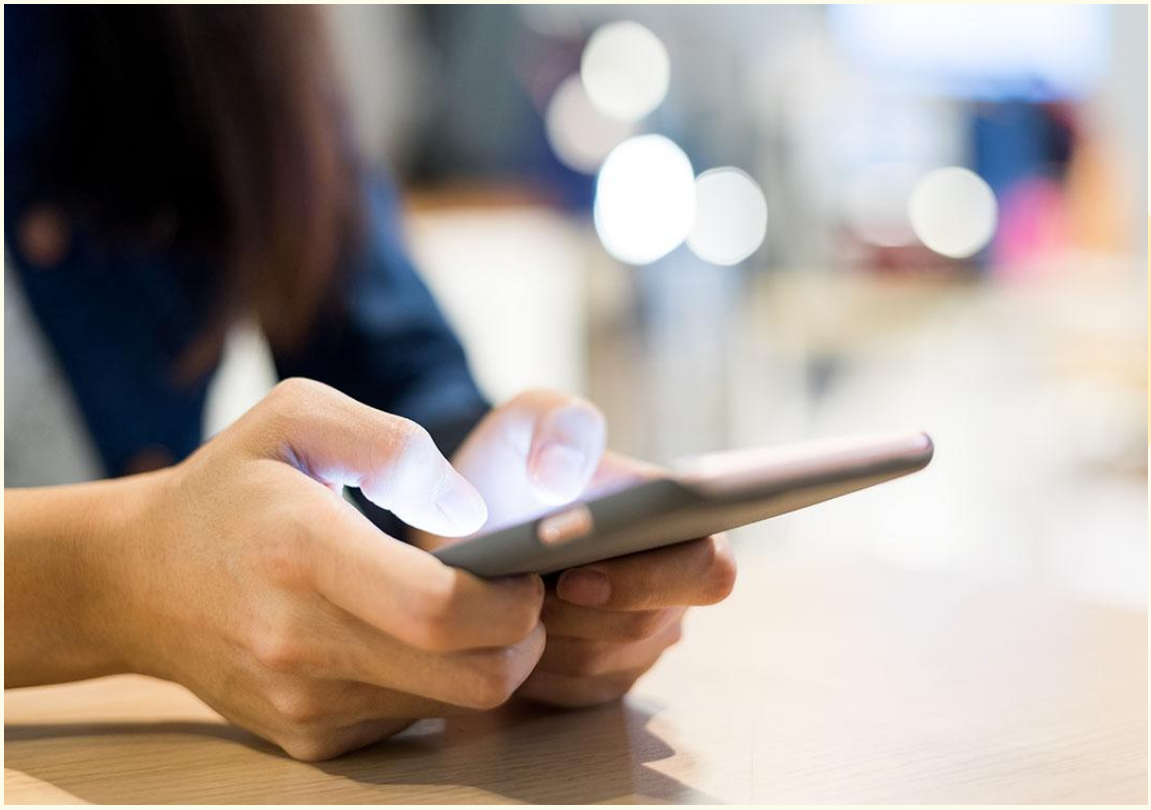
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Personal Items	$300.00	$80.00	$220.00



How we use computers…?



Or smartphones?

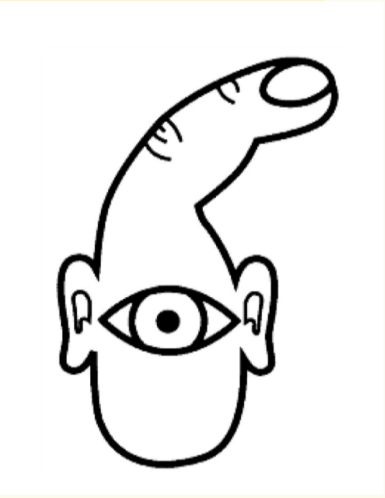
How we typically interact with computers

- **Common motor skills…**
  - Typing (bimanual, multifinger, complex)
  - Pointing (moving a cursor; moving a finger)
  - Clicking (pushing a button)
  - Dragging (pushing a button while pointing)
  - Drawing (with a mouse, with a pen)
  - Writing (with a mouse?, with a pen)
  - Marginal: tilting, pinching, multifinger gestures, pushing (e.g., joystick), waving Wiimote, dancing, doing yoga

How computers see us

Built-in assumption about how people will use them

Do these assumptions still hold for robots?




Oh,
...you're hungry.





EMBODIED PHYSICAL ACTION (EPA) ROBOTS

- "technologies with physical embodied actions"
  - Most distinctive characteristic of robotic technologies
  - Perceived to have identities and personalities
  - Physical embodiment make emotional responses to them more central to understanding their impacts.







Challenge 1

People hold biases/preconceptions towards robots

Robots in the Wild

- Intelligent Robots are becoming commonplace.



Still needs human employees behind the operation of the intelligent robots.

- But people typically hold dual expectations — high and low

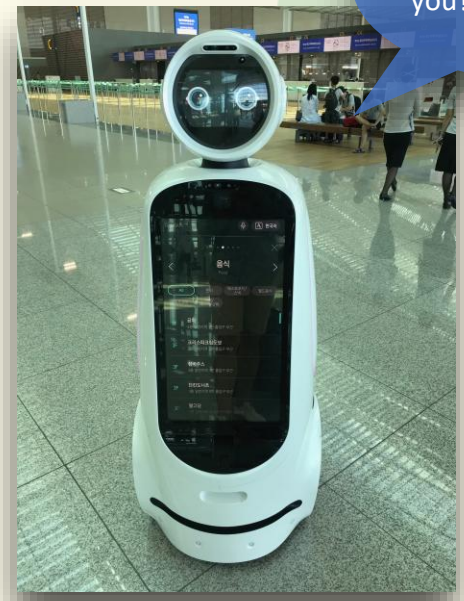
TOO MUCH EXPECTATION WILL KILL YOU

Intelligent Robots are becoming commonplace.
Still needs human employees behind the operation of the intelligent robots.
But people typically hold dual expectations — high and low





Judging by its cover



- Natural Language
- Mobility
- Visual Recognition
- Information Retrieval
- Multi-user adaptation
- …

Biases in AI and Robots

From Designer or From Customer/User
Attention bias
Presentation of display
Trust bias
automation reliability
overtrust or undertrust
Understanding users and stakeholders is vital!!

Steretypes and Social biases

Because robots have bodies…
Gender stereotypes are being replicated and amplified…
Personal assistant voices
Housework robots
Market preferences or opportunity to overcome?

Opportunity 1

- We know how people interact
- with robots (kind of…)

Mind Perception

- (Some) Robots are perceived to have minds.
- Experience – emotion and memories
  Agency – intelligence and intention

Sangseok You

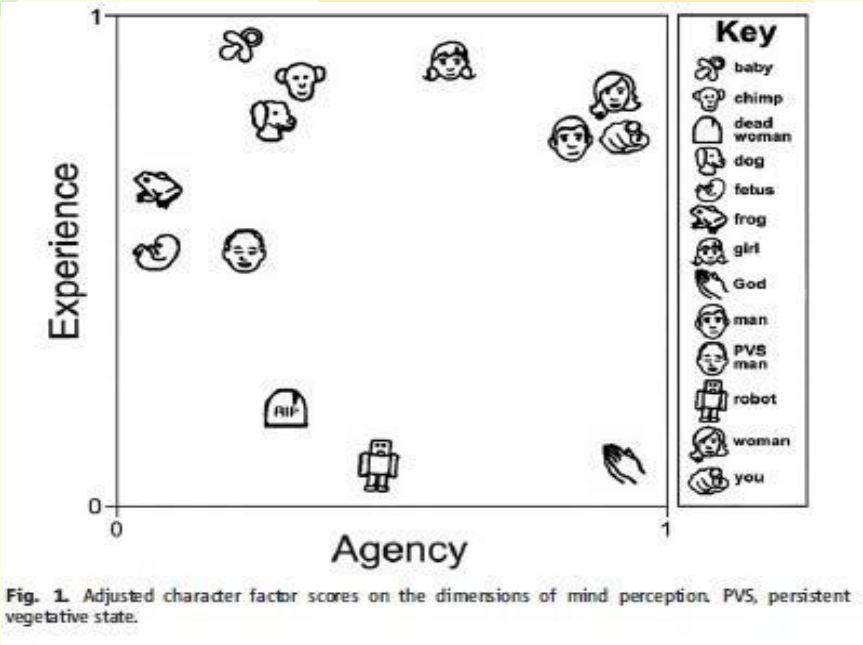
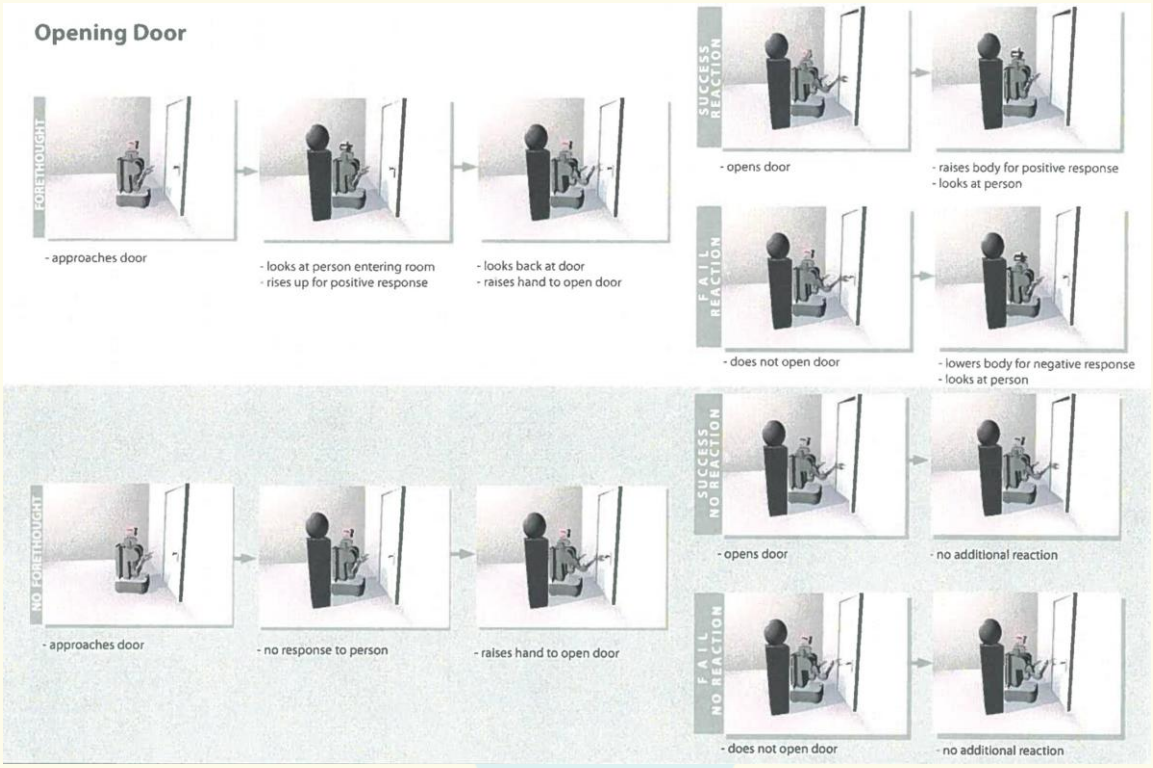


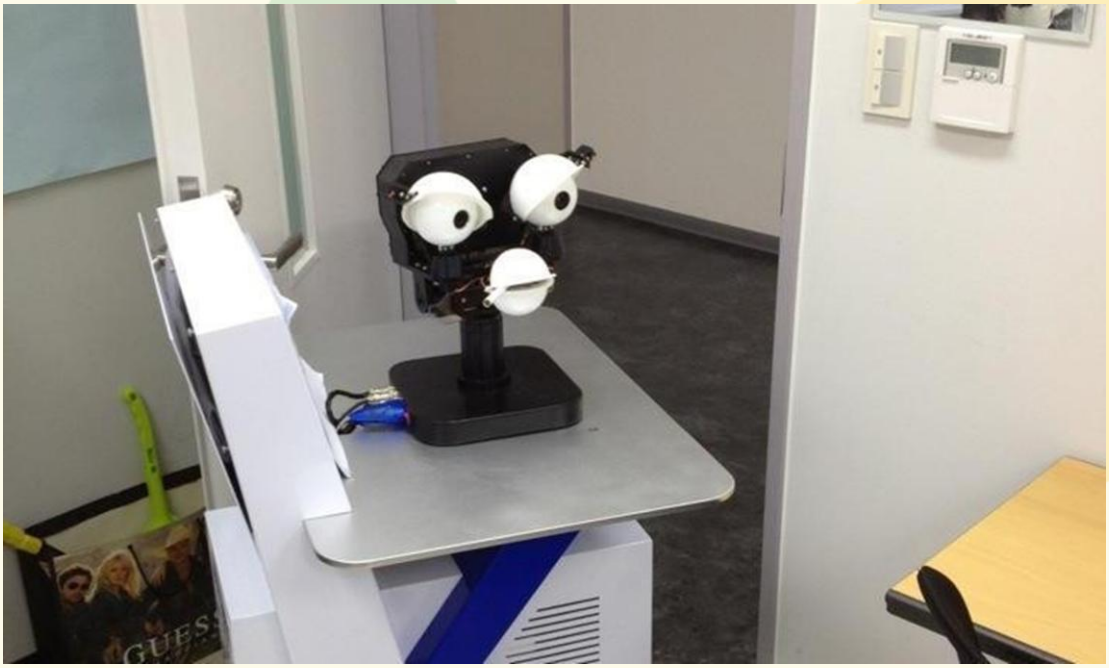
Fig. 1. Adjusted character factor scores on the dimensions of mind perception. PVS, persistent vegetative state.


PIXAR
ANIMATION STUDIOS

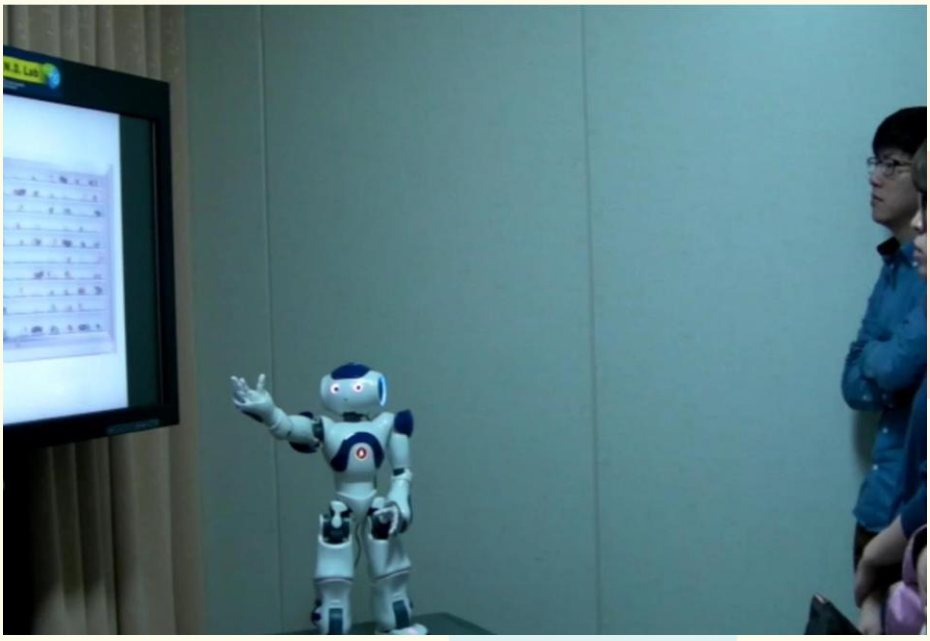
People tend to perceive intention.



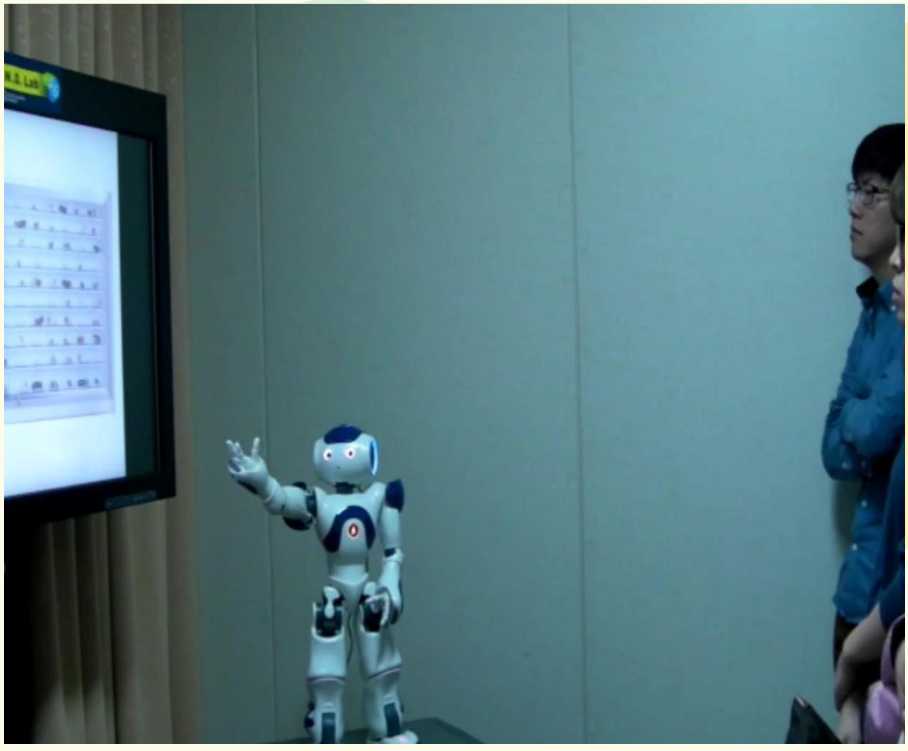
And personalities and emotions



And intelligence when it shows actions of explanation

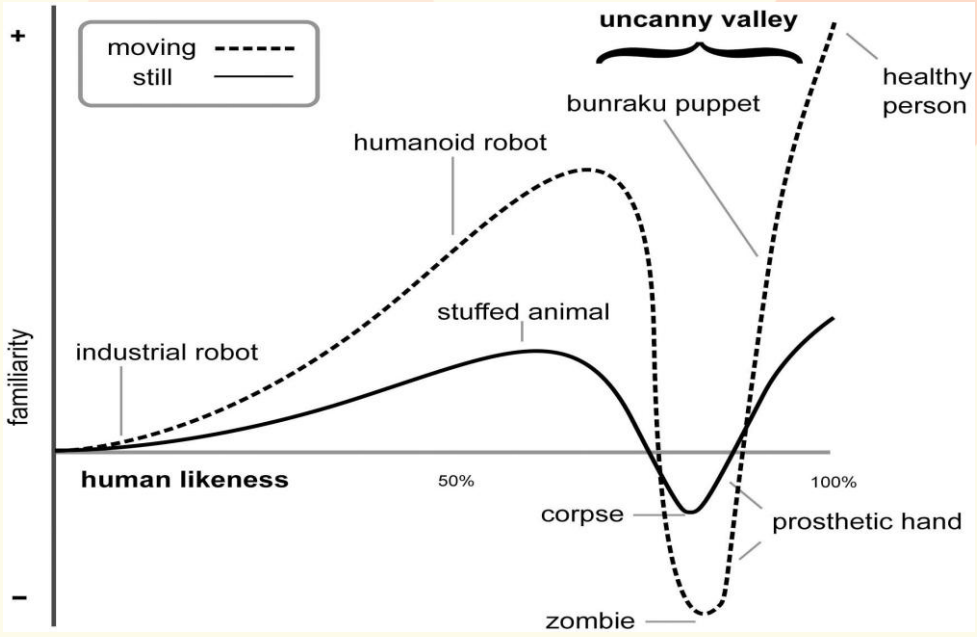


And intelligence when it shows actions of explanation.
Even when robots are not actually intelligent



Uncanny Valley

People feel a sense of eeriness when a robot looks too much like a human.
Animacy is key.
Liveliness is key.



Too much humanlikeness will kill you



Humanoids: OK



Androids: Not-OK

People like cute robots.



But perceive less intelligence





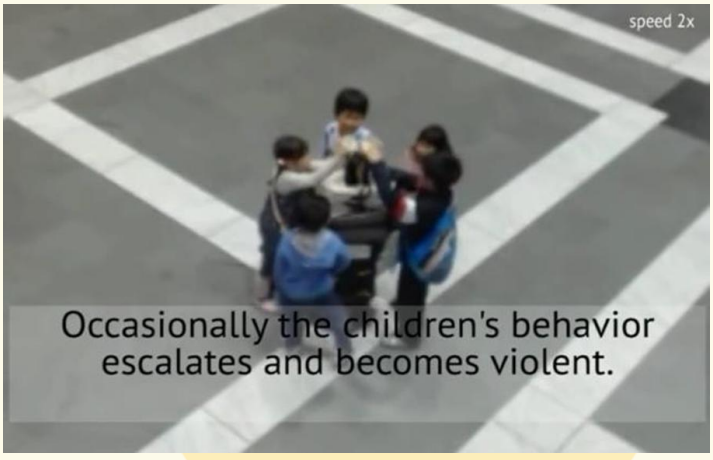
But perceive less intelligence

So, finding a Goldilocks zone between the form and the intelligence is one challenge.



Malicious behaviors

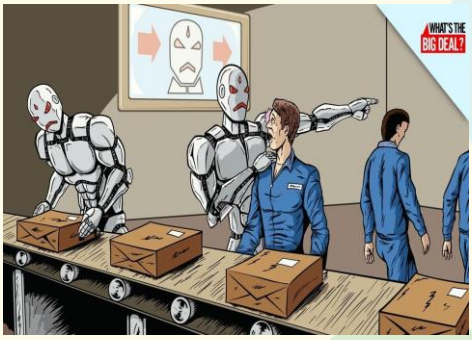
- Children abuse robots in public
- Anyone can do this
- Protection of robots as an organizational property
- Maintenance, monitoring, and training are essential before having people interact with robots.

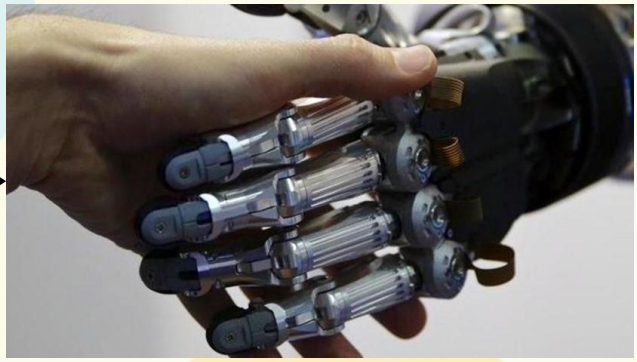


Challenge 2

People have fears of working with robots

Fear among Human Workers





Such negative attitudes toward working with robots are detrimental both for individual workers and organizations. Poor mental well-being, low task performance, and consequently high turnover rate, etc.



1
2
1

Kwu Tung North Multi-welfare Service Complex

Feb 7th 2024 4.45 p.m. - 5.15 p.m.



44,000 ㎡
Eight-storeyed building
1,750 Elderly Hostel

G floor
Day activity centre cum hostel for severely mentally handicapped persons and a care and attention home for severely disabled

1 floor
Day care units for the elderly

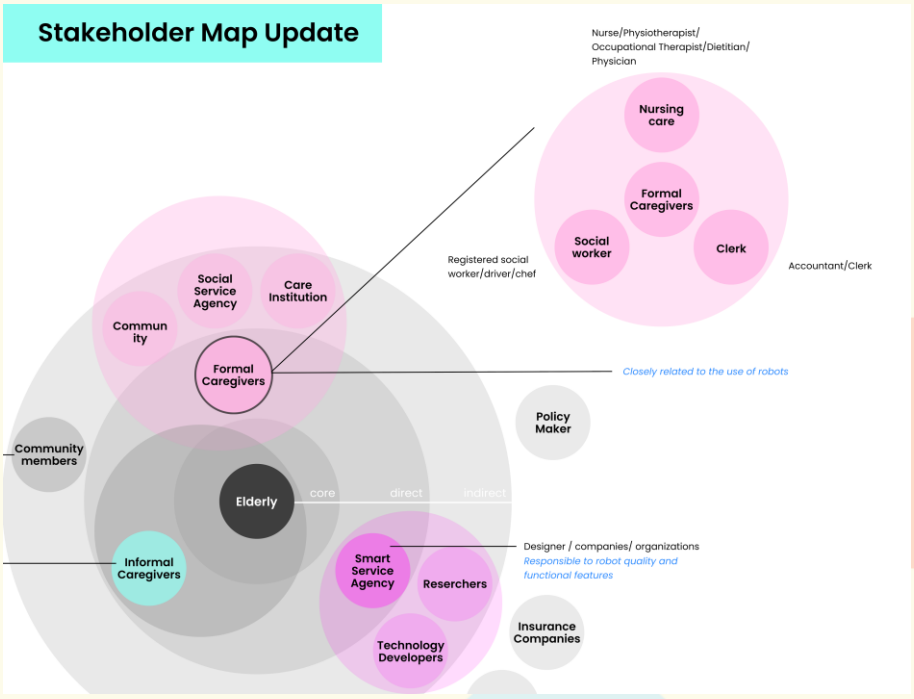
2-7 floor
Operated and managed by different non-governmental agencies or service operators

Rooftop garden

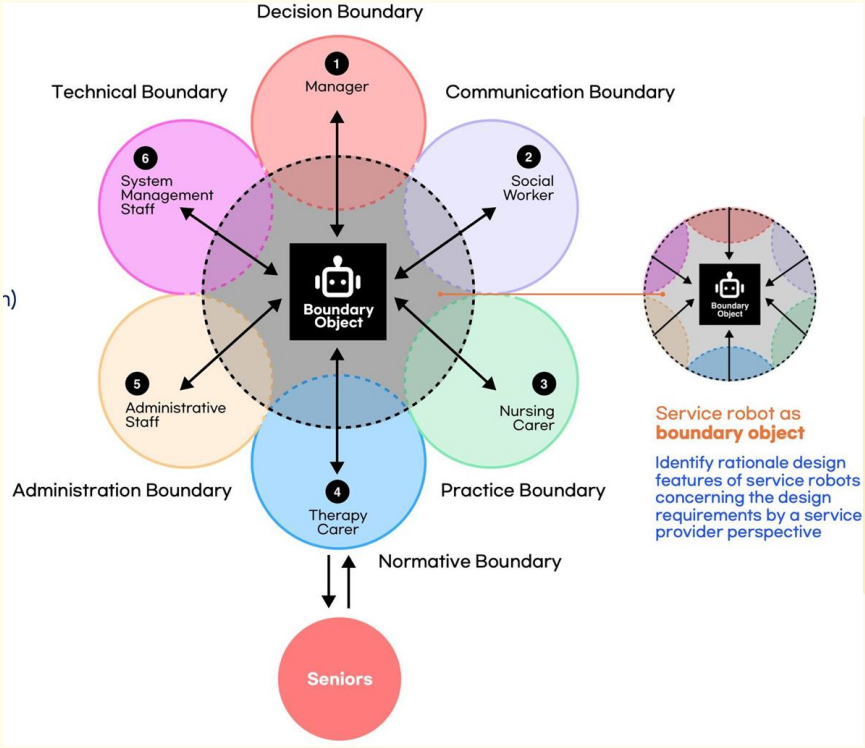
Natural & comfortable environment
Creative Architecture
Intelligent Retirement Care

Digital Management and Monitoring System
Intelligent Health Monitoring
Smart Home and Living Assistance
Online Social Networking and Entertainment

[1] https://www.devb.gov.hk/tc/home/my_blog/index_id_1497.html
[2] https://mic.cic.hk/tc/ProjectsInHongKong/9
[3] https://www.hk01.com/18%E5%8D%80%E6%96%B0%E8%81%9E/922334/%E6%9D%B1%E6%96%B9%E8%AD%B7%E8%80%8F%E9%99%A2%E9%80%B2%E9%A7%90%E5%8F%A4%E6%B4%9E%E5%8C%97%E7%A6%8F%E5%88%A9%E6%9C%8D%E5%5B%99%E5%4A%A7%E6%A8%93-1700%E5%AE%BF%E4%BD%8D%E5%85%AB%E6%95%88%E5%AE%89%E7%BD%AE%E7%9F%B3%E4%B8%94%E5%B6%BA%E1%99%A2%E5%8F%B8
[4] https://ol.mingpao.com/ldy/cultureleisure/culture/20221030/1667066694323/%E6%9C%AA%E4%BE%86%E5%9F%8E%E5%88%82-%E5%8F%A4%E6%B4%9E%E5%8C%97%E1%95%B7%E8%80%85%E5%AE%BF%E4%BD%8D-%E3%80%8C%E9%8A%80%E9%AB%AE%E1%82%A8%E3%80%8D%E5%8C%97%E7%A7%B8%E5%8F%83%E8%80%83
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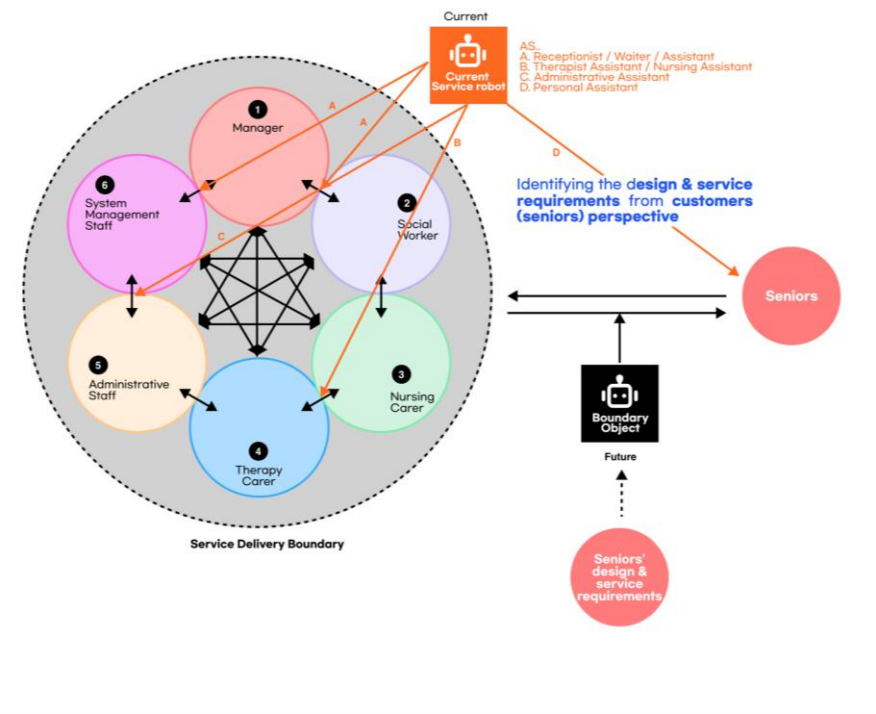


Robot as a Boundary Object



In col. w/ J. Park

Robot as a Care Technology



Opportunity 2

Building a Cohesive Workforce is not impossible.

In col. w/ J. Park

Designing Robot Coworkers

- Human-Robot Interaction (Robots, AI-agents, and Chatbots)
- Emotional attachment to machines as colleagues
- Sense of belonging and team identification
- Similarity and diversity perceptions with robots and AI
- User behaviors and outcome perceptions based on AI-interface, information presentation, and interactions

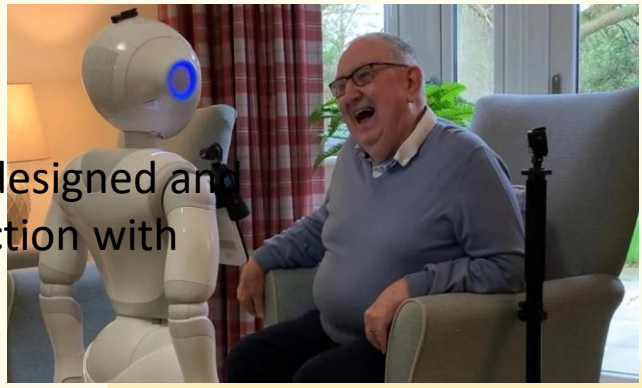
Sangseok You



Surface-level similarity (e.g., gender, appearance)
Deep-level similarity (e.g., values, preferences, culture)



Overcoming helplessness in middle age and old age

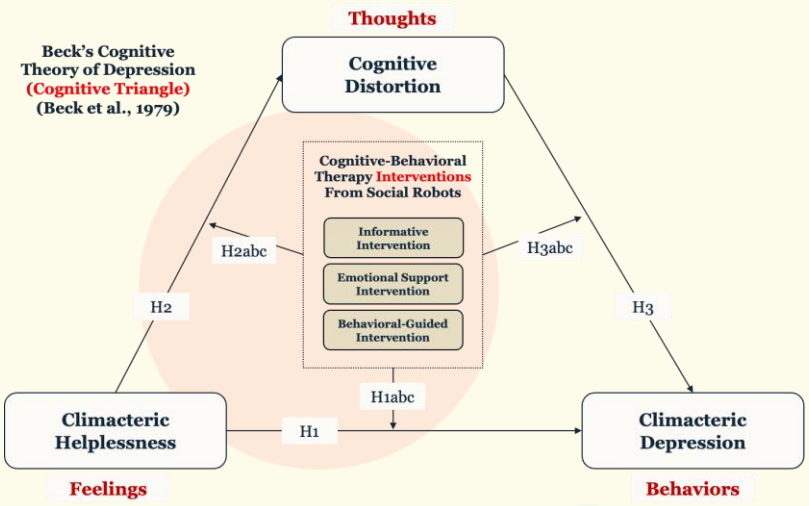


An artificial intelligence robot designed and manufactured for social interaction with humans.
With the development of AI, personalized interactions are possible.

It provides emotional support to users, promoting psychological stability and a sense of social connection.
Its effectiveness has already been proven in various studies related to depression and psychological therapy (Chen et al. 2018; Huber et al. 2014).



Robot-assisted CBT for Elderly People



Consequences of attachment

- Sony Aibo for senior citizens as a social companion and pet
  - For loneliness
  - For long-term interaction
- Sony discontinued the robot production
- Funerals for deceased robot pets
  - Depression
  - Loneliness


This article is more than **7 years old**

Japan: robot dogs get solemn Buddhist send-off at funerals

At a memorial for 114 'deceased' robot pets, incense wafted through the air as priests chanted and prayed for their souls

Democratizing Robot Development



- Moxi, a cloud-based robot for children
- The company shut down, service discontinued.

Democratizing Robot Development



README MIT license

OpenMoxie

Welcome! You may be here looking for a solution to run your Embodied Moxie Robot should their cloud infrastructure shut down. If so, you are in the right place! Some of you may already be concerned this is going to be complicated, and for those who are looking to just install and run something, we'll cover that first.

What is OpenMoxie

A local network hub that Moxie can connect with and a local network service that provides the critical messaging and services to make Moxie function to the extent it can using the internal software of the robot. Much of the Moxie content is supported like Daily Missions, Reading, and Wild Workout; but some of the newer modules like Ocean Explorer, Animal Faces, and Story Maker are missing. On the plus side, you will be able to control the schedule, exclude modules your child dislikes, and write your own simple conversations to have with Moxie.

There's no parent app, all configuration is done through the web interface to OpenMoxie.

Moxie, a cloud-based robot for children

The company shut down, service discontinued.

OpenMoxie Project
To revive Moxie without proprietary cloud
Open Source
Available to anyone via GitHub

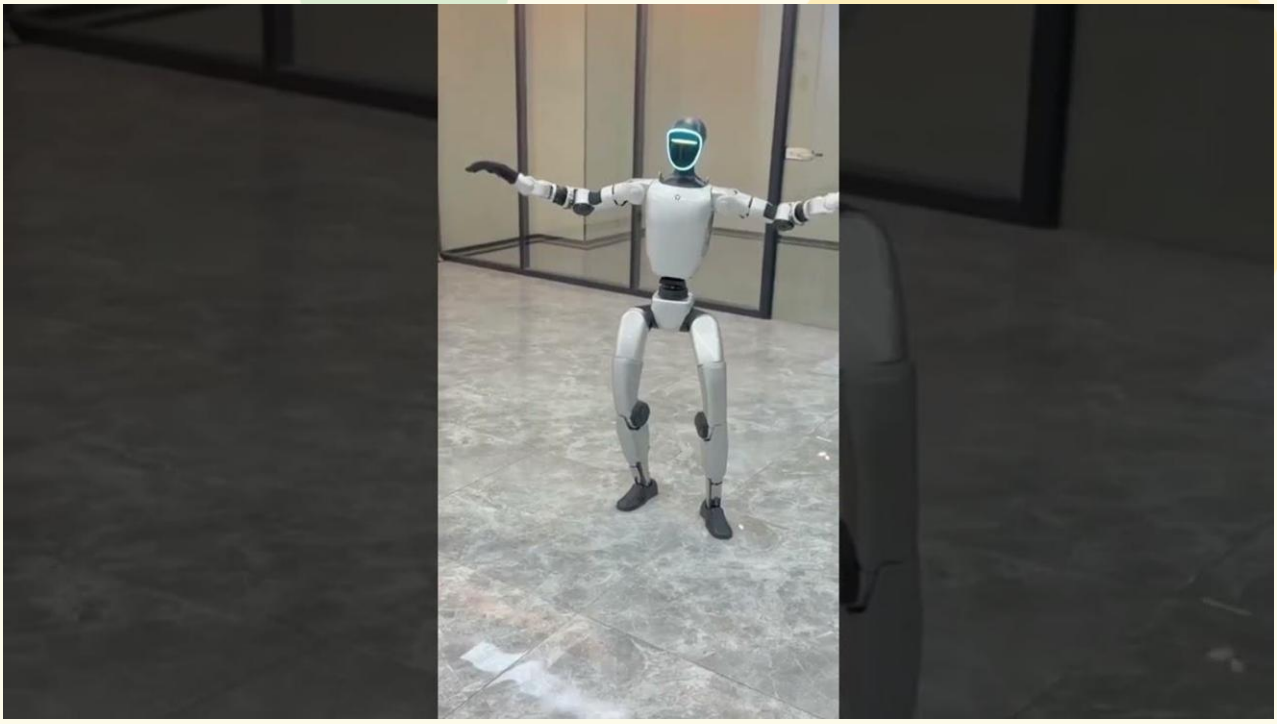
Democratizing Robot Development

Dependable Robot for…
Social support
Emotional support
Mobility and activity supports
The cost and difficulty of building a robot prototype keep decreasing.
Easier maintenance, updatability, and fixability, and being free from vendor lock-in are essential.



Challenge 3

Robots are not (yet) good enough.

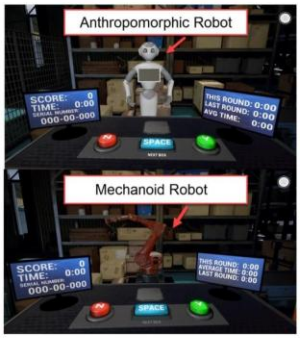


How can robots make up for their mistakes? Can they recover trust?

Robot Empathy

2. Literature Trust Repair Strategy – Verbal expression for making up for mistake





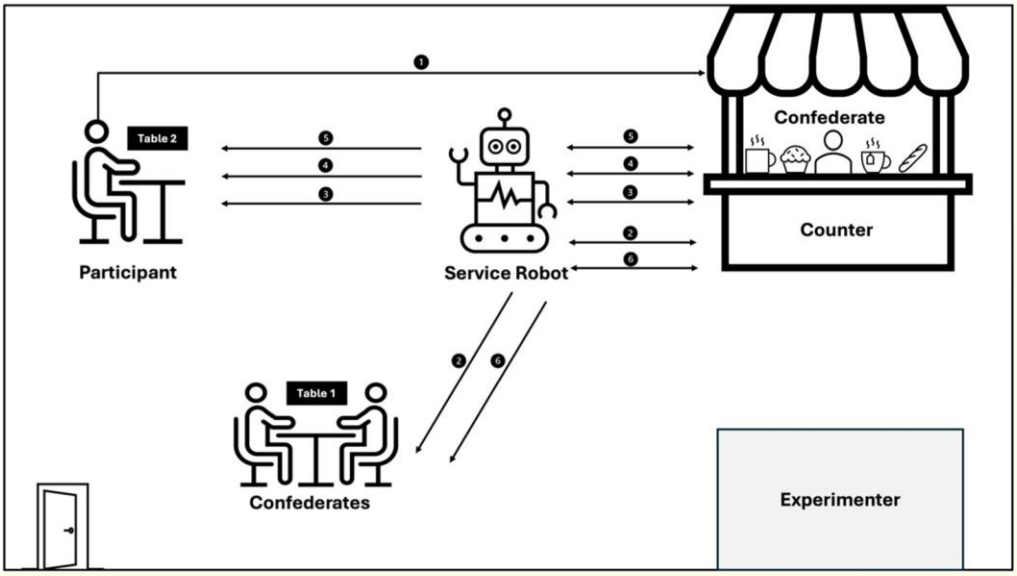
occurrence: "Oops. I think I made a mistake". Then, depending on the manipulation, the robot either makes a promise to improve future performance (*"I will make sure to do better next time."*) or explains why the error occurred (*"My vision system sometimes has problems identifying same color food items."*).

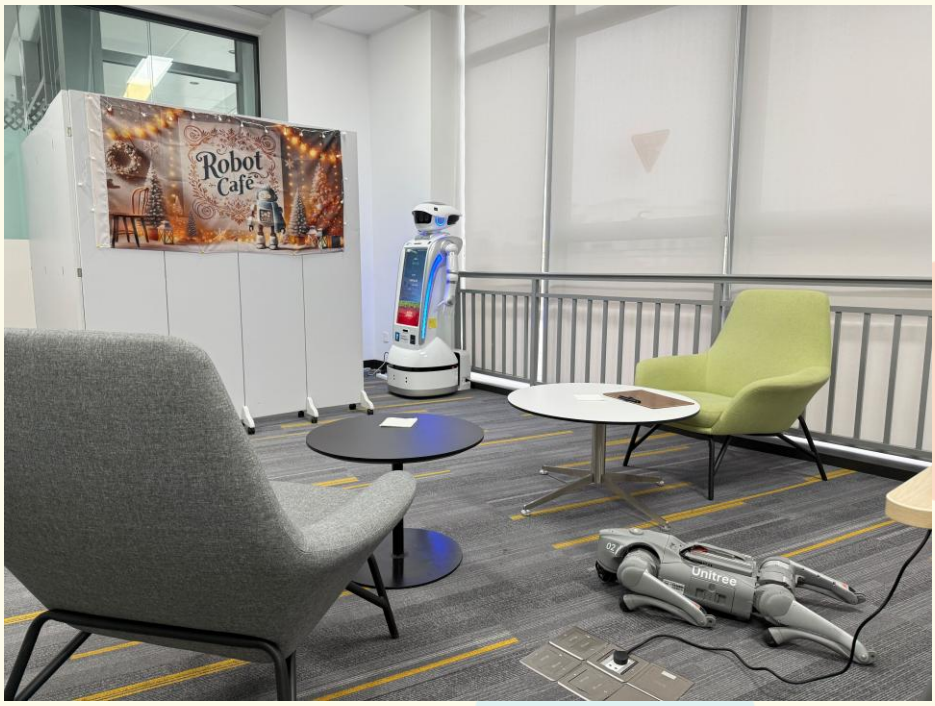
Trust Repair Strategy

Apology | Denial | Explanation | Promise

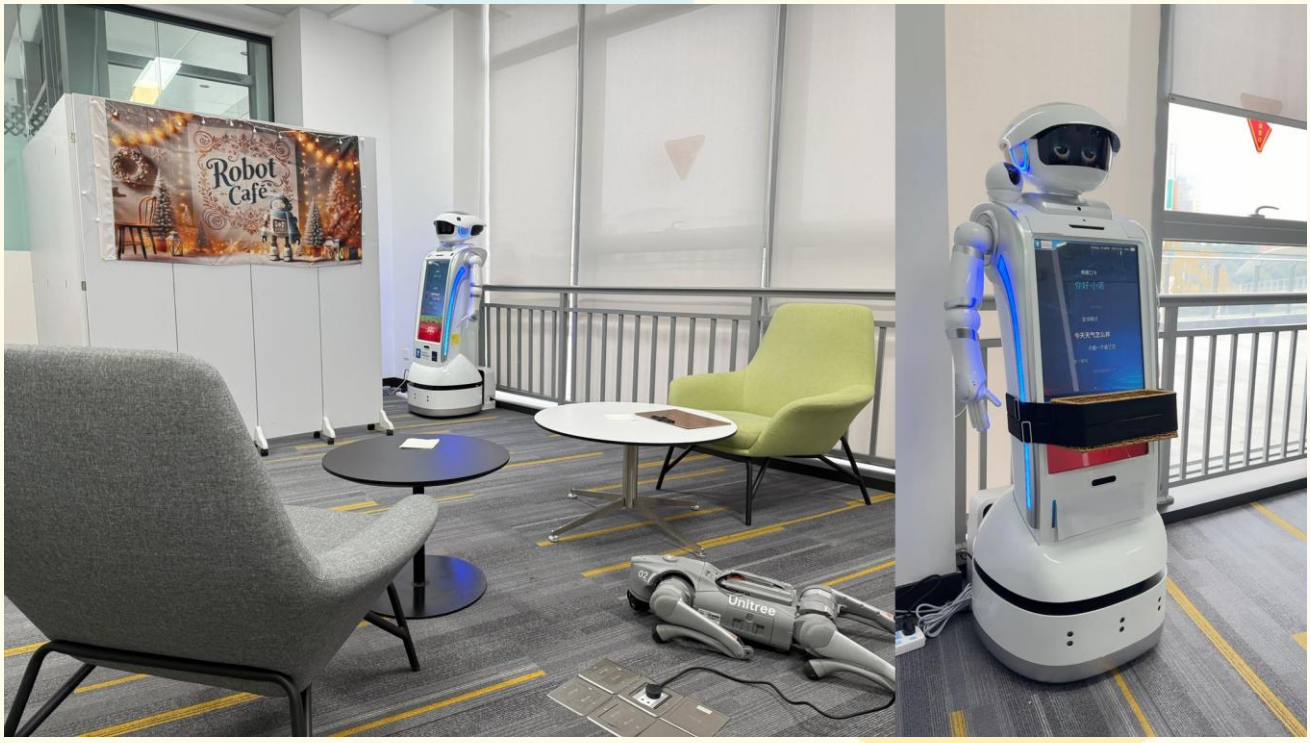
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2
9

Experimental Scenario









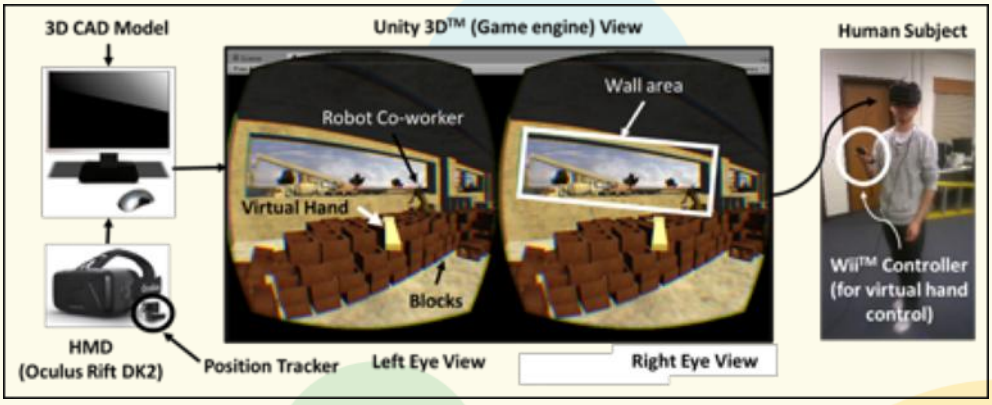
A very costly experiment!!

You need…participants, experimenters, developers, expensive robots, rooms, stimuli, time, effort, labor, risk of design failure

Opportunity 3

Alternative methods to test failing robots are available.

CONSTRUCTION TASKS







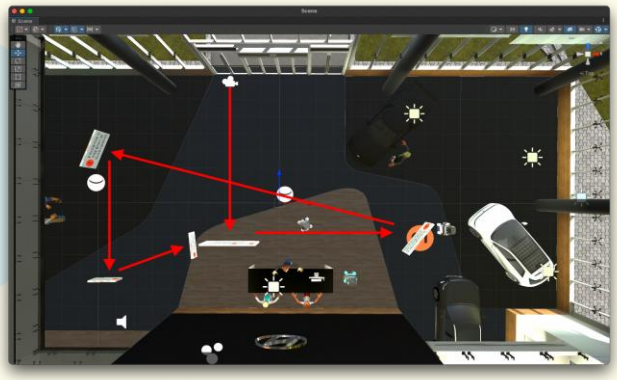
Testing Interactive Service Scenarios using Unity

1. Challenges in multi-robot scenarios: Complexity makes direct testing difficult.

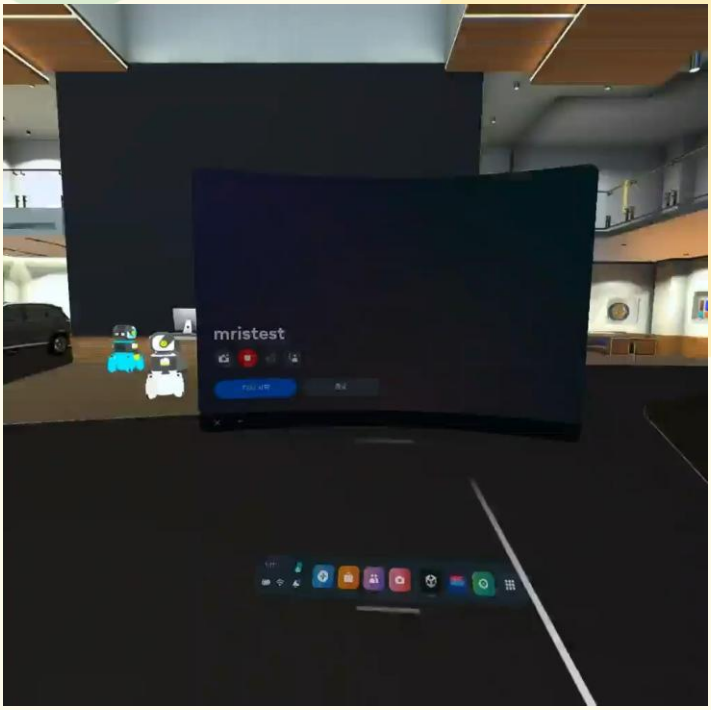
2. Saving time and costs with virtual environments reduces reliance on physical robots.

3. Boosting engagement: 3D virtual environments lower barriers, and realistic, immersive settings predict real responses.





Virtual Reality is Cheaper, Safer, and Faster



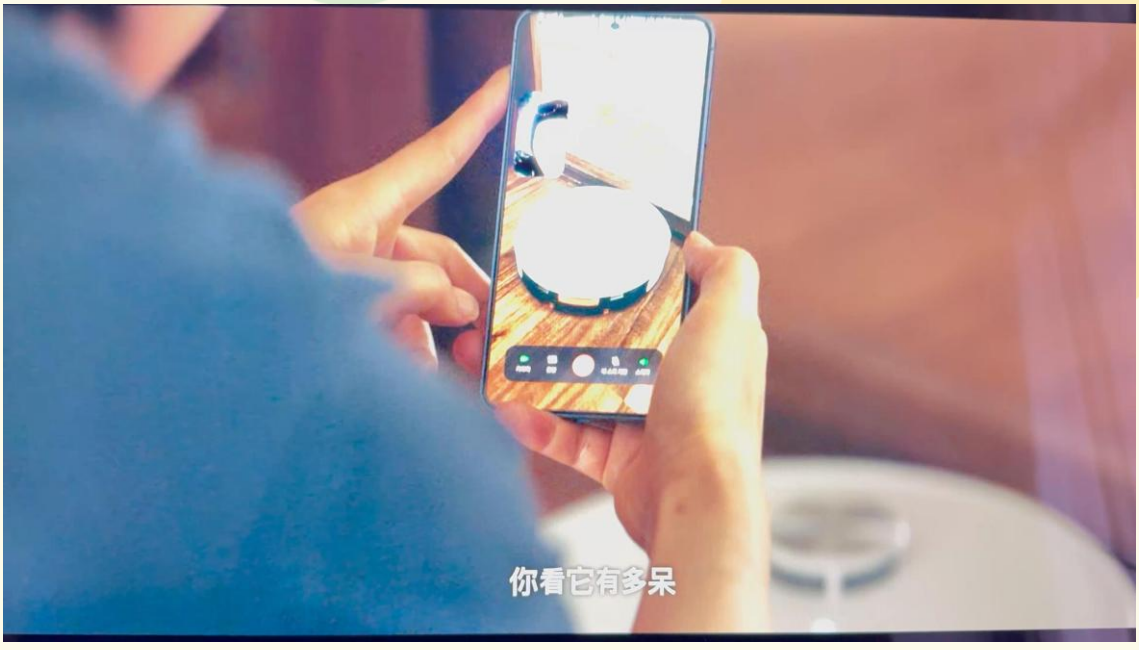
Democratizing Robot Development

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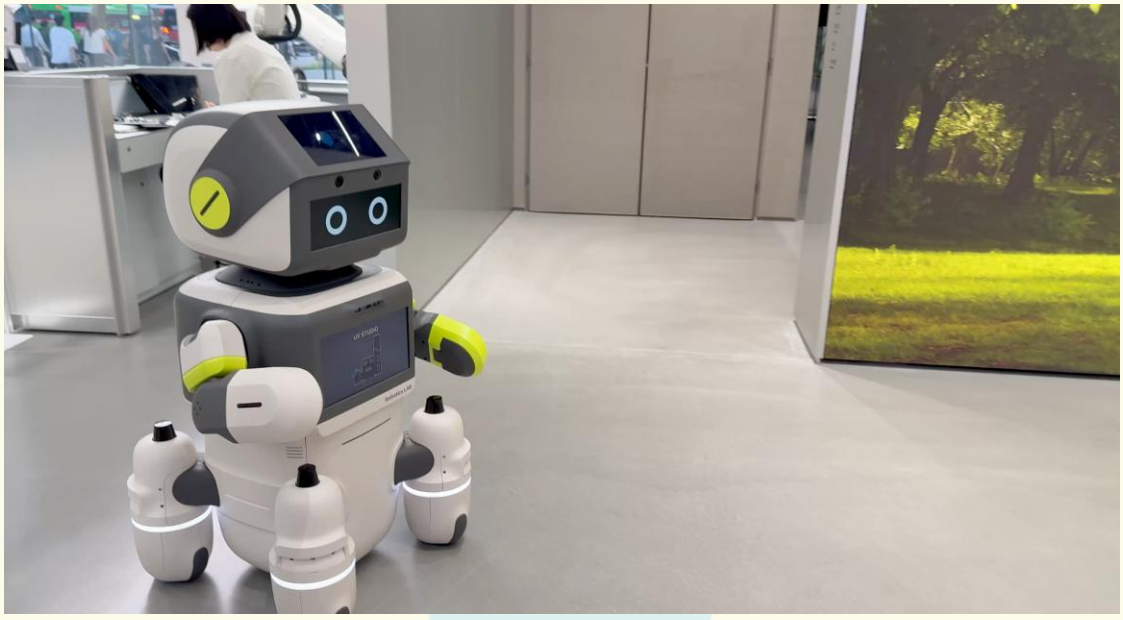


Challenge 4

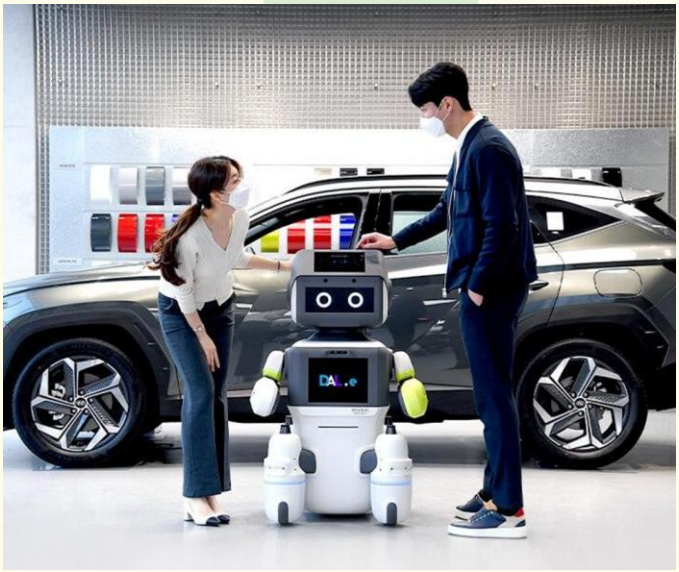
Work is not designed to live with robots.



Robot-friendly environment is expensive and takes time to build.



Jobs Robots Do in Service



Providing information to visitors

Playing songs and dancing

Being cute (?)

Jobs People Do for Robots



- Checking its charge status
- Introducing Robots to Customers
- Clearing its paths
- Moving it to the station
- Reporting a malfunction to the IT Dept.
- … like babysitting
- … additional work

Opportunity 4

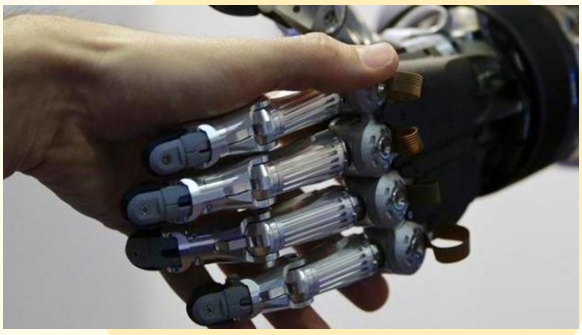
Work itself should change.

FROM TOOLS TO CO-WORKERS



ROBOTS AS TOOLS (AUTOMATION APPROACH)

INDUSTRIAL ROBOTS AND CARS
UFACTURING AND MOBILITY AUGMENTATION



ROBOTS AT WORK (COLLABORATION APPROACH)

CO-WORKER AND SERVICE
TEAM AND ORGANIZATIONAL INTEGRATIO



2025 IHC International Healthcare Conference

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School of Business

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Fooyin University

Oral Presentation List

2025 International Healthcare Conference

Oral Presentation

NOV 28,2025

Concurrent session English Session(J401)

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1	●	Feng-Ching Sun	Exploring the effects of acupressure on depression, sleep quality and quality of life in community elders
2		Tse-Ping Tang	Cross-National Trends in Type 2 Diabetes Care Models and Outcomes (2015–2024): A Mixed-Methods Analysis in Seven Countries
3		Ya-Lie Ku	Development and Implementation of Care Guidelines for Relocation Stress and

2025 International Healthcare Conference

Oral Presentation

NOV 28,2025

Concurrent session Chinese Session I (J402)

No.	發表	Presenter	Title
1	●	Li-Yu Chuang	Enhancing Nursing Students' Digital Skills through Industry–Academia Collaboration: An Example of Developing User-Friendly Health Counselling Materials
2		Ying-Hui Lee	Development and Implementation of Core Entrustable Professional Activities (EPAs) in Psychiatric Nursing Education for Pre-Graduate Vocational Students
3	●	Chen-Shang Yu	A Study on Factors Influencing Self-Growth of Caregivers: Predictive Roles of Emotional Intelligence and Knowledge-Skills
4	●	Han-En Sun	Emotional Distress in Patients with Depressive Episodes of Bipolar Disorder: A Concept Analysis
5	●	Chia-Ling Chao	A preliminary study on using marketing strategies to improve nursing students' employment intention
6		Hsin-Yu Lin	Protective Effects of Upper Airway Exercises on Endothelial Antioxidant Expression and Inflammatory Modulation in Obstructive Sleep Apnea

Exploring the effects of acupressure on depression, sleep quality and quality of life in community elders

SUN FENG-CHING[1] , Hui-Chi Li[2] , Ling -Ya Huang[3] , Shu-Nu Chen[4]
Assistant Professor Fooyin University, Kaohsiung[1] , Assistant Professor , Asia University[2] , administrative staff , Kaohsiung Municipal United Hospital[3] , Nursing Director , Kaohsiung Municipal United Hospital[4]

Abstract

Background: As the average life expectancy increases, Taiwan has become an aged society in 2018. The development of healthcare policies and services for the elders is an important issue for every country. The Taiwan's Ministry of Health and Welfare has also begun to emphasize the promotion of subhealth for the elders in the community.Sleep disturbance is a common problem for the elderly. It brings adverse effects on their cognition and mood. Furthermore, long-term insomnia not only reduces self-care ability, but also increases the risk of injuries, physical weakness, and disability, as well as affecting the quality of life. Acupressure is shown to be a gentle and convenient method of health care in traditional Chinese medicine. Empirical research shows that acupressure can effectively reduce anxiety, depression, and pain, as well as improving the quality of life and sleep.

Purpose: Thepurpose of this study is to explore the effects of acupressure on depression,sleep quality, and quality of life in community elders

Methods: The research adopted a quasi-experimental design. 222 community-dwelling elders over 65 years from a purposive sampling were assigned to an intervention group(n = 114) and a comparison group (n = 108). The intervention group received acupressure three times a week,targeting the following eight acupoints: "Baihui(GV20), Yifeng (SJ17), Fengchi (GB20), Shenmen (HT7), Neiguan (PC6), Hegu(LI4), Sanyinjiao (SP6), and Taichong (LR3)", 24 minutes per session. During the 12weeks-intervention, the comparison group only maintained regular daily activities. Effects of acupressure were measured by

Results: Though no statistical differences in ICOPE, and the overall sleep quality (PSQI) were found between the intervention group and the control group ($p > .05$), the intervention group showed a significant within-group improvement in sleepquality ($p < .001$). Comparing to the control group, the intervention group demonstrated significant improvements in GDS-SF scores ($p < .005$) , and the physical function, role limitations, vitality, and mental health subscales of the SF-36 ($p < .01$).

Conclusion/Implementations for practice: Acupressure is beneficial on reducing depression, and improving quality of life and sleep in community elders. Results of this study support that incorporating acupressure into community activities can promote the physical and mental health of older adults. The intervention designed in this study also provides a reference for the design of health promotion activities for the elderly in the community.

Keyword: Key words: Acupressure, depression, sleep quality, quality of life, community elders.

Enhancing Nursing Students' Digital Skills through Industry–Academia Collaboration: An Example of Developing User-Friendly Health Counselling Materials

Li Yu Chuang[1] , Chia-Yun Fu[2] , Chia-Chun Tsai[3] , Ya-Ping Yang [4]
Assistant Professor Fooyin University, Taiwan[1] , Assistant Professor , Fooyin University, Taiwan[2] , Assistant Professor , Fooyin University, Taiwan[3] , Associate Professor , National Tainan Junior College of Nursing[4]

Abstract

Background:

In the original course *Principles and Methods in Teaching*, students were trained to conduct face-to-face health counselling,typically using PowerPoint presentations as their instructional tool. As smart phones and digital technologies became wide spread, the course introduced new objectives to strengthen students'digital skills in health communication. Students were trained to use tools such as Canva, QR codes, and AI(Artificial Intelligence) to develop interactive health counselling materials.

Purpose:

This study aimed to examine whether integrating technology skills could enhance students' ability to create digital counselling materials.

Methods:

This study applied mixed-methods design. Participants were second-year students in apart-time two-year nursing program at a university of science and technology insouthern Taiwan. We used a self-developed instrument—the *Digital HealthEducation Material Competency Questionnaire*—for data collection, consistingof 24 items across three dimensions: knowledge, attitude, and skills. Content validity was established through expert review. An independent samples t-testcompared the pretest scores of the experimental and control groups, while apaired samples t-test assessed the effectiveness of the teaching intervention.Qualitative data from students' learning reflections were analyzed to further illustrate the impact of the intervention.

Results:

The study involved 89 studentsin the experimental group and 39 in the control group. No statistically significant differences were found between the two groups in the total scoresfor knowledge and attitude. However, the skills dimension demonstrated asignificant improvement in the experimental group ($t = 13.151$; $p < 0.001$),with a large post-test effect size (Cohen's $d = 1.60$). Qualitative feedback also indicated positive responses, with students reporting that the software tools facilitated the development of user-friendly and interactive digital counselling materials, thereby supporting continuing education.

Conclusion/Implementations for practice:

This study offers insights into nursing students' current application of digital skills and provides valuable guidance for future curriculum development innursing education, particularly regarding instruction in digital health counselling materials.

Keyword:AI (Artificial Intelligence), digital skills, user-friendly health education materials, industry–academia collaborative teaching

A Study on Factors Influencing Self-Growth of Caregivers: Predictive Roles of Emotional Intelligence and Knowledge-Skills

Chen-Shang Yu[1]
In-service Master's Program National Chung Hsing University, Master's Program in State Affairs[1]

Abstract

A Study on Factors Influencing Self-Growth of Caregivers: Predictive Roles of Emotional Intelligence and Knowledge-Skills

【Abstract】

Background and Purpose:

Helping caregivers is the author's interest andmission. The author has been engaged in social work, care services and hospicecare for a long time, and published the book "Long-term Care Psychology:Doing Long-term Care, Doing Psychology, Starting from the Heart" in 2020,hoping to help caregivers face the challenges and pressures in the care processfrom a psychological perspective. This study explores the key factorsinfluencing caregivers' self-growth from a psychological perspective, as areference for cultivating and supporting caregivers.

Background and purpose of the study:

Supporting caregivers is both my interest and my mission. With a professional background in social work, care services, and palliative care, Ipublished the book “Psychology of Long-Term Care: Doing Care, Doing Psychology, Starting from the Heart” in 2020 to assist care attendants in coping withcaregiving challenges from a psychological perspective. This study aims to identify key factors affecting self-growth among care attendants and toestablish a theoretical model for understanding this growth.

Methods:

This study uses a quantitative questionnaire survey and convenient sampling to collect data from 139 caregivers. Three researchhypotheses are first established: (1) Emotional intelligence is positivelycorrelated with self-growth, (2) Knowledge-skills are positively correlated with self-growth,and (3) Emotional intelligence and knowledge-skills can jointly predict self-growth. Pearsonproduct moment correlation and multiple regression are then used for hypothesis testing..

Results:

The results showed that emotional intelligence was significantly positively correlated with self-growth ($r = .723$, $p < .001$),and knowledge-skills were also positively

correlated with self-growth ($r = .823$, $p < .001$). Multiple regression analysis indicated that emotional intelligence and knowledge-skills explained 72.2% of the variance in self-growth ($R^2 = .722$, $F(2,136) = 176.652$, $p < .001$). Comparing the explanatory power of the two independent variables, knowledge-skills had a higher predictive power than emotional intelligence.

Conclusion:

This study confirms that knowledge-skills, compared with emotional intelligence, have a key influence on self-growth. It also suggests that the construction of professional knowledge and the development of emotional competence are important pathways to enhancing caregivers'self-efficacy and growth momentum. Future research suggests that training programs and support system design can strengthen caregivers' learning willingness and psychological well-being to promote long-term career stability and fulfillment. Future research directions: Beyond the two independent variables of emotional intelligence and knowledge-skills, add other influencing factors and introduce the concept of mediating variables to enhance the explanatory power of the variance in self-growth.

Keywords: caregiver, self-growth, emotional intelligence, knowledge-skills, multiple regression

Keyword: Keywords: caregivers, self-growth, emotional intelligence, knowledge-skills, multiple regression

Emotional Distress in Patients with Depressive Episodes of Bipolar Disorder: A Concept Analysis

Han-En Sun[1] , Chen, Ching-Hsiu[2]
Kai-Syuan Psychiatric Hospital[1] , Associate Professor , Department of Nursing, Fooyin University[2]

Abstract

Background:

Bipolar disorder (BD) is a chronic and recurrent affective disorder characterized by alternating episodes of mania and depression. Depressive episodes occur more frequently and are commonly associated with affective instability, cognitive impairment, and an increased risk of suicide—factors that present significant challenges for clinical management.

Purpose:

This study aimed to elucidate the concept of emotional distress as experienced by individuals during depressive episodes of bipolar disorder.

Methods:

Walker and Avant's (2019) concept analysis method was employed. Definitions from dictionaries and psychiatric literature were reviewed to identify the antecedents, consequences, and defining attributes of emotional distress in individuals experiencing depressive episodes of bipolar disorder.

Results:

The defining attributes of emotional distress in individuals experiencing depressive episodes of bipolar disorder are as follows: (1) a history of manic episodes; (2) the presence of at least five depressive symptoms persisting for two weeks or longer; (3) subjective experiences of intense and fluctuating negative emotions, such as depression, hopelessness, and identity loss; (4)significant physiological dysfunction, including memory impairment and marked changes in weight; and (5) impaired social functioning, exemplified by interpersonal conflict and occupational decline. Antecedents identified include neurotransmitter imbalances, traumatic experiences, diminished self-worth, and inadequate social support. Consequences of emotional distress involve clinical deterioration, increased suicide risk, reduced quality of life, and elevated caregiver burden.

Conclusion/Implementations for practice:

Earlyidentification and intervention for emotional distress are essential tofacilitating recovery during depressive episodes. Nurses play a pivotal role inassessing emotional distress and delivering timely, patient-centeredinterventions. Interdisciplinary collaboration, particularly among nurses,psychiatrists, psychologists, and social workers, is recommended to optimizecare quality and enhance patients' adaptive functioning.

Keyword: Bipolar disorder; depressive episodes; emotional distress; concept analysis

A preliminary study on using marketing strategies to improve nursing students' employment intention

Chia-Ling Chao[1] , Xing-e Chen[2]
Commissioner E-Da Hospital[1] , 護理部部長/Minister of Nursing , E-Da Hospital[2]

Abstract

Background:
With the rapid changes in the global healthcare environment, nurses haveincreasingly become a vital part of the healthcare system. However, under thepersistent shortage of nursing manpower, the nursing profession and the qualityof care are facing multiple challenges. It has therefore become an importantissue to explore how to effectively apply marketing strategies within nursingeducation institutions to enhance students' recognition of the nursingprofession and encourage their commitment to entering the workforce.

Purpose:
This study aims to explore the effectiveness of applying marketing strategieson nursing students' career intentions. The objectives are:

1. To analyze the impact ofmarketing strategies on enhancing the professional image and recognition ofnursing.

2. To examine the effectiveness ofmarketing strategies in attracting and retaining talented nursing personnel.

3. To identify how the use ofmarketing strategies can promote interdepartmental collaboration and resourceintegration.

Methods:
From 2021 to 2023, nursing administrators at a regional hospital in southernTaiwan conducted the following:

1. LiteratureReview: A comprehensive search and analysis ofrelevant literature were carried out to establish the theoretical foundationsand practical cases of marketing strategies in nursing.

2. FocusGroup Interviews: Discussions were held amongadministrators, nursing staff, and human resource personnel to reach aconsensus on applicable marketing strategies.

3. Developmentof Marketing Strategies: Initiatives includedpromoting organizational benefits through social media platforms, providingcare for students during their studies, offering generous scholarships andincentives for nursing talent cultivation, and implementing anacademia-industry cooperation program. Dedicated marketing personnel were alsoappointed.

4. MarketingActivities: Activities included hospitaladministrators visiting nursing schools to distribute promotional materials andgifts, campus presentations on financial aid programs, and dissemination ofinformation related to collaboration between academia and the healthcareinstitution.

5. DataAnalysis: Statistical data such as the numberof inquiries, resume submissions, and scholarship program participants werecollected and analyzed to evaluate the effectiveness of the marketingstrategies.

Results:

1.NursingImage and Recognition: Survey results fromcampus questionnaires indicated a significant improvement in the professionalimage of nursing within the healthcare system, along with increased recognitionof nursing as a career choice.

2. HumanResources: Improvements in benefits and salarystructures, combined with marketing strategies and campus engagement, haveincreased students' willingness to pursue nursing careers. Additionally,internal announcements of salary adjustments have enhanced current staff'sintention to stay.

3. MarketingStrategy Outcomes: Collaboration betweenhospitals and nursing schools led to integrated resource utilization. In 2023,145 students participated in the nursing scholarship program, a fivefoldincrease from the previous year’s 29 participants. This growth not onlystrengthened the hospital's nursing workforce but also improved jobsatisfaction among current staff.

Conclusion/Implementations for practice:
This study represents an initial exploration into the application of marketingstrategies to influence nursing students' employment intentions. By deployingmarketing personnel to engage directly with campuses, students were motivatedto consider a career in nursing and better navigate the transition fromeducation to employment. In an era marked by a severe shortage of nursingprofessionals, many new graduates are cautiously evaluating job offers and workplacebenefits before making career decisions. It is therefore recommended thatnursing administrators move beyond the traditional passive approach of waitingfor applicants and instead adopt marketing-oriented thinking to enhanceworkplace environments. Continuous research is needed to further explore thebest practices for nursing marketing strategies under various conditions,thereby providing stronger support for the development of the nursingprofession.
Keyword:marketing strategy; nursing students; marketing specialist; scholarships and bursaries

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P033	Yu-Chu Lin	Nursing Experience of a Myasthenia Gravis Patient with Respiratory Failure Successfully Weaned from Mechanical Ventilation	●
P034	Ya-Lin wang	Nursing Experience of Caring for a Lesbian with Breast Cancer Complicated by Malignant Fungating Wound	
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P037	Cheng-Huang Hsu	Improving Activities of Daily Living Outcomes in Stroke Patients	
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P063	Yan-Chiou Lin	Enhancing Problem-Solving Abilities in Nursing Students through Simulation-Based Teaching	●
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Improving the effectiveness of sleep quality enhancement in patients with traumatic brain stroke.

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Abstract

Background:

Patients with traumatic brain injury (TBI) have a higher likelihood of experiencing sleep disorders compared to the general population. These sleep disturbances are closely interconnected with the patient's cognitive function, emotional state, and behavior. Over time, persistent sleep problems can hinder cognitive recovery, diminish quality of life, and lead to psychological issues such as anxiety. Clinically, nursing staff often observe that TBI patients tend to sleep during the day and suffer from sleep disruptions at night. Caregivers, in turn, experience fatigue, anxiety, and concerns about their own health due to the patient's reversed sleep schedule and nighttime sleep issues. These challenges sparked the motivation for this improvement project, with the goal of enhancing sleep quality in TBI patients. By doing so, it aims to reduce anxiety among caregivers and nursing staff and ultimately improve the overall quality of care.

Purpose:

The effectiveness of improving sleep quality in TBI patients reached a score of 974, while the level of fatigue was reduced to 3.3 points.

Methods:

By establishing a standardized sleep care protocol for TBI patients and creating a variety of educational tools—such as QR codes linking to educational videos, posters, and pamphlets—patients' awareness of sleep disorders was enhanced. Additionally, the "Let's Walk Around" interactive game, combined with a matching reward system, was used to help improve patients' sleep disturbances. In-service education sessions were also conducted to enhance nurses' understanding of sleep disorders in TBI patients.

Results:

The sleep quality score of TBI patients improved from 711.5 to 976.5, and their level of fatigue decreased from 4.39 to 3.05. This project was also extended to other units, where it received consistently positive feedback.

Conclusion/Implementations for practice:

One of the major challenges at the beginning of this project was resistance from some caregivers, who believed that since patients did not rest well at night and were physically uncomfortable, they should be allowed to sleep whenever they wanted. This led to a worsening of reversed sleep-wake cycles and sleep disturbances. With the involvement of the medical team, and by incorporating games and offering rewards, the interventions became more engaging and appealing.

Some patients had a habitual reliance on sleeping pills, which could not be used during the acute phase of TBI, often resulting in increased sleep problems and anxiety, causing additional stress for nursing staff. After discussions with physicians, in addition to

nurses implementing interventions, doctors also explained the reasons to patients and assessed the appropriateness of prescribing sleep medication to help improve their sleep quality.

It is recommended that the sleep quality assessment scale be applied in clinical evaluations. Furthermore, TBI case managers can continue monitoring patients' sleep status through follow-up phone calls after discharge, ensuring long-term improvement in sleep quality and promoting better quality of life for both patients and their caregivers.

Keyword: Traumatic brain injury. Sleep quality. Fatigue

Nursing Care for a Preschool Child with Kawasaki Disease: A Case Report

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Abstract

Background:

Kawasaki disease is an acute systemic vasculitis that primarily affects children under five years old and is the leading cause of acquired heart disease in children. Hospitalized children with Kawasaki disease often suffer from persistent fever, oral mucosal lesions, and fear triggered by unfamiliar medical environments, which may hinder cooperation with treatment.

Purpose:

This case report aims to share a pediatric nursing experience caring for a preschool child with Kawasaki disease, focusing on the application of therapeutic play and family-centered care to reduce fear and enhance treatment compliance.

Methods:

Gordon's 11 functional health patterns were used for nursing assessment. Identified problems included hyperthermia, impaired oral mucosa, fear, and caregiver role strain. Interventions included using a familiar cartoon character (Peppa Pig) in therapeutic play, providing multimedia educational tools, involving caregivers in symptom management, and using interactive activities to reduce anxiety.

Results:

The child showed increased willingness to cooperate with medical procedures and demonstrated improved emotional stability. The caregiver exhibited reduced anxiety and was able to implement appropriate care strategies. Oral condition and fever improved significantly, with overall enhancement in care quality.

Conclusion/Implementations for practice:

Integrating therapeutic play, multimedia education, and family participation proved effective in reducing hospitalization-related fear and improving pediatric care outcomes. These strategies may be applied in pediatric settings to foster child-friendly and holistic nursing care.

Keyword: Kawasaki disease, Therapeutic Play,Fear

Exploring the Transformation of Nursing Work Models in Operating Rooms through Smart Healthcare Implementation: A Journey from Paper-Based Records to a Paperless Integrated Platform

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Abstract

Background:
Operating rooms are core areas of healthcare institutions characterized by highinformation density and high-risk procedures, where nurses are required to manageextensive records alongside clinical operations. The traditional paper-basedrecording approach often leads to data omissions, handwriting errors, andreduced efficiency. With the advancement of smart healthcare, the adoption ofpaperless integrated platforms has become a vital tool for improving workflowin operating rooms, significantly impacting nursing work models.

Objective:
This study aims to explore the transformation of nursing work models inoperating rooms through the implementation of smart healthcare, specificallyanalyzing the transition process from paper-based records to a paperlessintegrated platform. It examines the challenges, transformation experiences,and changes in work efficiency experienced during this transition.

Methods:
This study employed a qualitative research design, conducted in a regionalteaching hospital in northern Taiwan. In-depth interviews were conducted with15 operating room nurses of varying seniority who had experienced theimplementation of a paperless surgical recording system. Data were analyzedusing thematic analysis, focusing on the changes in workflow, role perception,and information utilization before and after system implementation.

Results:
The findings revealed that in the early stage of system implementation, mostnurses experienced learning pressure and difficulty adapting to the newworkflow. However, as they became more familiar with the system, mostrespondents reported improved recording efficiency, real-time informationaccessibility, and enhanced communication across teams. Nevertheless, someparticipants highlighted issues related to system malfunctions oruser-unfriendly designs, which continued to affect clinical operations,indicating the need for ongoing optimization and training.

Conclusion and Practical Implications:
The introduction of smart healthcare has transformed the work model ofoperating room nurses, shifting from cumbersome handwriting to real-timeelectronic operations, thereby optimizing workflow and enhancing informationintegration and patient safety. However, system design and educational supportremain critical to successful implementation. Continuous user feedbackcollection is recommended to facilitate system function optimization andlong-term benefit development.

Keyword: Smart Healthcare, Paperless System, Operating Room Nursing, Work ModelTransformation, Integrated Information Platform

Effect of Therapeutic Play Intervention on Pediatric Anxiety and Compliance with Steam Therapy: An Evidence-Based Study

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Abstract

Background:

Despite limited staffing,therapeutic play, including picture book interventions, shows potential inpediatric care. Strategies such as caregiver training and reducednurse-to-patient ratios are recommended to improve implementation and patientoutcomes.

Purpose:

Aim: To evaluate iftherapeutic play interventions, specifically picture book-based activities,reduce anxiety and enhance compliance with steam therapy in hospitalizedchildren.

Methods:

A systematic literature search was conducted using Cochrane,PubMed, CINAHL, Embase, and Airiti (2020–2025), with keywords: "therapeutic play,""anxiety," and "children." Four studies met inclusioncriteria (hospitalized children, therapeutic play interventions, measurableanxiety outcomes). Based on this evidence, we implemented a one-timetherapeutic play intervention using picture books and related activities withfour hospitalized children. The intervention included guided picture bookreading (10 minutes), a custom-made medical-themed storybook session (15 minutes),and guided drawing activities (15–20 minutes), totaling approximately 40–45minutes. Treatment compliance was monitored daily until discharge.

Results:

Literature confirmed that therapeuticplay, including story-based interventions, significantly decreased anxiety andimproved therapy adherence. Our intervention significantly reduced anxietyscores (Spence Children's Anxiety Scale; pre: 72.75, post: 68.00, p=0.0003).

Conclusion/Implementations for practice:

Picture book-basedtherapeutic play effectively reduced anxiety and increased compliance,supporting its clinical relevance.

Keyword: Therapeutic Play、anxiety、children

Factors Associated with Mortality Risk in COVID-19 Patients in Taiwan: A Retrospective Study in A Medical Center

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Abstract

Background:

Between 2019 and 2023, the COVID-19 pandemic caused a large number ofinfections worldwide with a mortality rate of approximately 2.09%. Statisticsfrom Taiwan's Ministry of Health and Welfare in 2022 show that COVID-19 is thethird leading cause of death among Taiwanese people, and Taiwan's cumulativemortality rate as of July 2, 2023 was 0.17%.

Purpose:

This study explored thetreatment methods and risk-related factors of death in COVID-19 patients in amedical center and provided a reference for clinical care.

Methods:

This study was a retrospective cross-sectional design. The data werecollected from January 1, 2022 to April 31, 2023, and SPSS/Windows 22.0software was used for analysis. Basic data were presented as mean, standarddeviation and percentage. Treatment was analyzed by Chi-square analysis.Continuous data were analyzed by t test. Cox proportional hazard regression andKaplan-Meier survival analysis were used to compare influencing factors.

Results:

The study analyzed 2,448 COVID-19 patients, with more males thanfemales and an average age of 66.96 years. 57.8% required oxygen therapy and68.8% used steroids and antiviral drugs. There was a significant differencebetween the survival group and the death group in patients using steroids($p<0.001$). There was a difference in the results between the survival groupand the death group using Veklury inj 100mg antiviral injection ($p=0.004$). Theproportion of males with two comorbidities was 29%, which was higher than thatof females. The proportion of the survival group using various oxygen therapieswas greater than that of the death group, and the difference was significant($p<0.001$). The survival rate of those without comorbidities was 87.5%, whichwas higher than that of those with comorbidities. The longer the hospital stay,the lower the survival rate.

Conclusion/Implementations for practice:

The high-risk group for COVID-19 patients is the elderly, and theircondition often requires oxygen therapy, steroids and antiviral drugs. Thesurvival rate is higher in those without comorbidities. The research resultsconfirm that the elderly, cancer patients and those with comorbidities shouldactively prevent COVID-19 infection. It is recommended that infected patientsneed early oxygen therapy and antiviral drug treatment to reduce the risk of death.

Keyword: COVID-19; Mortality Risk; Related Factors

Evidence-Based Application of High-Flow Nasal Cannula to Reduce Intubation Rates in Patients with Respiratory Failure due to COVID-19

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Abstract

Background:

With the advancement of vaccines and the evolution of public health measures, the COVID-19 pandemic has gradually subsided. However, approximately 20% of patients with COVID-19 continue to progress rapidly to moderate or severe illness. Acute respiratory distress syndrome (ARDS) remains a seriouscomplication among hospitalized COVID-19 patients, often necessitating oxygen support, intubation, and intensive care unit (ICU) admission. According to recent literature, the mortality rate for intubated patients ranges from 26% to 53.8% (Li et al., 2023).

Purpose:

To evaluate the evidence-based effectiveness of high-flow nasal cannula (HFNC) therapy inreducing intubation rates among patients with respiratory failure due to COVID-19.

Methods:

Between June 1 and October 31, 2024, a total of 25 patients diagnosed with COVID-19 and treated with HFNC were enrolled in this study. One 73-year-old male patient was excluded due to ICU transfer following intubation after two days of hospitalization (lowest SpO_2: 83%; highest: 96%). The remaining 24 patients didnot require intubation. Demographic and clinical data were collected, including age, sex, length of hospital stay, duration of HFNC therapy, SpO_2 variation, and presence of chronic comorbidities. Statistical analyses, including Fisher's exact test and the Mann-Whitney Utest, were performed to compare differences in hospitalization days, HFNC usage, SpO_2 levels, and chronic conditions across age and gender groups.

Results:

Among 24 COVID-19 patients, most were male and 17 were over 65 years old; 23 had chronic diseases. The average hospital stay was 11.9 days, HFNC lasted 5.3 days, and SpO_2 improved from 92% to 100%, with no significant differences by age or gender.

Conclusion/Implementations for practice:

HFNC therapy improves and stabilizes oxygen saturation in patients with respiratory failure by delivering humidified, high-flow oxygen, reducing the work of breathing, enhancing gas exchange, and promoting CO_2 clearance. In recent years, the clinical application of HFNC in Taiwan has been shown to effectively lower the intubation rates and ICU admissions among critically ill COVID-19 patients.This treatment modality has gained support from critical care and anesthesiology experts, and as protective measures for healthcare workers have been established, HFNC is now regarded as a vital adjunct in the management of severe respiratory illness —findings consistent with the outcomes of this clinical evidence-based application.

Keyword: COVID-19、acute respiratory distress syndrome、high-flow nasal cannula

An Improvement Project with Interdisciplinary Team Cooperation to Promote Psychological and Spiritual Care among Hospitalized Cancer Patients

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Abstract

Background:

Psychological and spiritual care are increasingly recognized as essential dimensions in the holistic treatment of cancer patients. Spirituality represents a deeply personal aspect of human experience, encompassing the search for meaning, connection, hope, and inner peace, particularly in times of suffering and uncertainty. Cancer patients often encounter psychological distress, fear of recurrence, and existential challenges that can significantly affect their overall quality of life. In faith-based institutions such as ours, spiritual care is a core value, yet a persistent gap remains in translating this philosophy into consistent clinical practice. Data collected from our hospital between 2021 and 2023 showed that only 7.86% of hospitalized cancer patients received psychological and spiritual support.

Purpose:

To address this gap, the Department of Nursing at Sin-Lau Hospital initiated a cross-departmental integration project with the goal of improving access to psychological and spiritual care and embedding it within the formal cancer care workflow.

Methods:

Guided by Team Resource Management (TRM) methodology, we conducted a root cause analysis and identified major barriers: limited staff awareness, absence of a standardized assessment tool, fragmented referral systems, and a lack of interdisciplinary feedback mechanisms. In 2024, we formed a multidisciplinary task force that included professionals from pastoral care, psychiatry, nursing, palliative care, and cancer prevention units. Our intervention focused on four key strategies:

(1) organizing two seed training courses and two interactive workshops to strengthen staff competence in spiritual assessment and communication;

(2) developing a culturally grounded 13-item spiritual assessment scale based on four domains for well-being of Universe (天), Humanity (人), Environment (物), and Self (我)—which was validated through three rounds of expert panel review (CVI=0.96);

(3) integrating automatic referral protocols into the hospital's nursing information system, activating spiritual or psychological care referrals for patients meeting criteria such as Brief Symptom Rating Scale scores mid and high-risk or receiving first-time chemotherapy;

(4) redesigning the interdisciplinary referral and feedback interface to allow chaplains and psychologists to document assessments and share outcomes with the clinical care team in real time.

Results:

Outcomes in 2024 showed marked improvement: the psychological and spiritual care service rate increased to 13.1%, reflecting a 66% rise compared to the prior three-year average. In the training programs, the participants included physicians, registered nurses, nurse practitioners, cancer care case managers, palliative care nurses, and spiritual care providers, with a total of 595 attendees. The embedded processes also helped streamline communication among departments, enhanced case identification accuracy, and reduced reliance on ad-hoc interventions. Moreover, the valid and standardized assessment tool was developed. The project demonstrates that integrating spiritual care into hospital workflows is both feasible and impactful. Through structured collaboration, education, system optimization, and culturally sensitive tools, we were able to institutionalize a long-standing value into an operational model that enhances holistic patient care. Our approach offers a replicable framework for hospitals seeking to align clinical practice with holistic care.

Conclusion/Implementations for practice:

The collaborative nature of this project fostered a shared sense of responsibility among interdisciplinary teams. Chaplains reported being more involved in treatment planning, while nurses and physicians gained deeper appreciation for the role of spiritual distress in patient recovery. Institutional leadership played a vital role in reinforcing the value of holistic care by endorsing the project, allocating resources, and promoting long-term integration into hospital policy. These efforts have laid a solid foundation for ongoing evaluation and expansion of spiritual care services to other patient populations beyond oncology.

Keyword: Spiritual care, psychological support, interdisciplinary collaboration, cancer inpatients, holistic health, hospital integration

Exploring Nursing Students' Satisfaction with VR Simulation in Blood Transfusion Training

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Abstract

Background

Professional nursing education is crucial to developing clinical capabilities, but it still faces enormous challenges due to limited teaching resources, course duration, and insufficient clinical opportunities. In medical-surgical nursing, the blood transfusion practice involves multiple high-risk links, including patient and blood product verification, aseptic techniques, transfusion reaction monitoring, and emergency responses. This technique requires precision and expertise. The widespread use of VR teaching has provided individualized learning, simulated clinical scenarios, instant feedback, and enhanced students' clinical judgment and practical capabilities. Using VR teaching method in nursing-related education should be possible to cultivate more professional and adaptable nurses.

Purpose:

This study uses VR simulation technology to build a platform that allows nursing students to practice blood transfusion techniques in a risk-free environment, thereby increasing students' after-class self-learning opportunities and understanding their learning satisfaction through this teaching method.

Methods:

This study adopts a cross-sectional design and conduct research in October 2024. All students who studied medical-surgical nursing during October 2024 were invited to participate. After teaching the blood transfusion technique, the researcher asked the students to practice independently on the VR platform. The students were asked to fill out a satisfaction questionnaire in the other week. The questionnaire was designed by the Likert scale method to collect the information about the learning experience of the VR learning.

Results:

There were 43 students as potential research subjects in this study, and a total of 40 students completed the post-course satisfaction survey. According to the feedback results, students generally expressed high affirmation of the various learning outcomes of the course. First, 35% of students expressed satisfaction, and 47.5% felt very satisfied regarding this learning method to enhanced the learning of interaction with clinical patients. 37.5% were satisfaction, and 50% felt very satisfied about combining theory with practice to improve overall understanding and application ability. While asking

whether this learning method increased their learning of the actual operation of clinical blood transfusion and further familiarized with the process, there are 30% of students expressed satisfaction, and 55% felt very satisfied. In addition, 35% expressed satisfaction, and 52.5% felt very satisfied regarding this learning method successfully stimulated their judgment and thinking, and promoted their reaction and decision-making ability in the clinical situation. Finally, whether this learning method increased their interest and in enabled them to have a deeper motivation and willingness to explore the field of hematology, there are 30% of students expressed satisfaction, and 52.5% felt very satisfied. Overall, the course achieved good results in all aspects of teaching objectives and received high learning satisfaction.

Conclusion/Implementations for practice:

The results of this study show that students are generally satisfied with the teaching method of applying VR to blood transfusion technology, in terms of improving clinical patient interaction experience, combining theory with practice, and familiarity with clinical practice skills. Students also agree that this learning method can stimulate situation judgment and clinical decision-making ability, but also enhance learning motivation and interest in hematology. It is recommended that future teaching continue to adopt VR teaching model, combining practical exercises with clinical simulation situations to improve students' overall clinical thinking and operational capabilities. In addition, it can be considered to expand the application to other clinical fields and develop cross-domain modules further to strengthen students' overall medical literacy and professional judgment and promote a more effective integration of theory and practice.

Keyword: Blood transfusion 、Nursing Education 、Practice 、 Satisfaction、 Virtual Reality (VR)

A Clinical Case Study on Enhancing Patient Safety Through Reflective Medical Practice

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Abstract

Background: Application reflectivemedical practice with a clinical discussion on a minor oversight during acolonoscopy in this presents a significant issue amid the current shortage ofmedical personnel and heavy clinical workloads

Purpose: In response to thegrowing elderly population, reflective medical practice in action plays acritical role in the work and functional responsibilities of nursepractitioners. Through safety analysis and reflection on clinical cases, we aimto better understand the needs of older adults and fulfill our socialresponsibilities.

Methods: Based on a safety analysis of an actual clinical case,reflective medical practice in action was used as a primary approach. Adiscussion was initiated within the department's group, and specific care-relatedconsiderations were added to the group's notepad to prioritize patient safety

Results: In a common clinicalscenario presenting with anemia, blood testing was first conducted to clarifythe cause of low hemoglobin levels. Within the framework of action-basedmedical care, further diagnostic discussions were held with the patient'sfamily to determine possible differential diagnoses. Relevant endoscopicexaminations such as gastroscopy and colonoscopy were arranged. During medical prescriptionorders, interruptions from other patients' symptoms or colleague inquiriesmight disrupt the logical flow of patient care and lead to minor oversights.However, these did not result in actual threats to patient safety.

Conclusion/Implementations for practice: Through reflective medical practice, review andoptimization of pre-set endoscopy order sets and system features were performed.It was noted that the order set lacked clear instructions on the preparation ofKlean Powder. Additionally, nutritional plans only accommodated consciouspatients who could intake low-residue diets. For tube-fed patients, only an E11formula is available, requiring annotation in the system to reflect a C1dietary adjustment. This presents a significant issue amid the current shortageof medical personnel and heavy clinical workloads

Keyword: Reflective medical practice, super-aged society, nurse practitioner

Factors Related to Emotional Intelligence and Professional Commitment Among Nursing Staff

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Abstract

Background:

Intoday’s high-pressure and high-demand clinical environments, nurses arerequired not only to possess professional knowledge and technical skills but alsoemotional intelligence (EI), which plays a crucial role in job performance andstress management. Emotional intelligence helps nursing staff effectivelyhandle patients' and families' emotional responses, reduce workplace conflictand burnout, and enhance professional identity and commitment. These factorsare crucial for workforce stability within the nursing profession.

Purpose:

Thepurpose of this study was to explore the factors related to emotionalintelligence and professional commitment among nursing staff.

Methods:

A cross-sectional correlational design wasused in this study. A convenience sample of 335 registered nurses, employed ata regional teaching hospital in southern Taiwan and holding valid nursinglicenses, participated. Data were collected using a structured Google Formsquestionnaire that included demographic information, the Emotional IntelligenceScale, and the Nursing Professional Commitment Scale. Data analysis wasperformed using SPSS version 25, employing t-tests, Pearson correlation, andone-way ANOVA.

Results:

Theresults showed that the majority of the participants were female nurses aged 20to 30. The average score for emotional intelligence was 3.50, with the highestsubscale being "understanding one’s own emotions" (mean = 3.70) andthe lowest being "managing emotions" (mean = 3.34). The averageprofessional commitment score was 3.77, with the highest subscale being"professional involvement" (mean = 4.06) and the lowest being"professional retention" (mean = 3.43). A low positive correlationwas found between emotional intelligence and professional commitment,indicating that higher emotional intelligence is associated with greaterprofessional commitment.

Conclusion/Implementations for practice:

Nursing care quality and patient safety areclosely linked. It is recommended that emotional intelligence assessments beincorporated into recruitment interviews to help identify suitable candidatesand guide job placement. Enhancing emotional intelligence can foster nurses'enthusiasm and engagement, strengthen their sense of professional identity andaccomplishment, and reduce turnover rates, thereby contributing to a morestable and high-quality clinical care environment.

Thefindings of this study highlight the importance of integrating emotionalintelligence assessments into nursing workforce management. Hospitaladministrators and nurse managers can incorporate brief emotional intelligenceevaluations during recruitment and orientation processes to identifyindividuals who may better adapt to the emotional demands of clinical care.Furthermore, emotional intelligence training programs can be implemented tostrengthen nurses' interpersonal skills, emotional regulation, and resilience.By fostering emotional competence, institutions can enhance job satisfaction,strengthen professional commitment, and reduce nurse turnover. These strategiesnot only improve the well-being of nursing staff but also contribute to moreconsistent and safer patient care outcomes.
Keyword: Nursing Staff, Emotional Intelligence, Professional Commitment

Can Foam Pressure-Relieving Dressings Reduce the Incidence of Pressure Injuries in High-Risk Hospitalized Patients?

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Abstract

Background:

Pressureinjuries cause pain, reduce quality of life, increase healthcare costs, andplace a financial burden on patients and institutions. Prevention is consideredthe most cost-effective strategy. In Taiwan, the prevalence of pressureinjuries among hospitalized patients is approximately 8.2%. A 2020meta-analysis indicated that the global prevalence among hospitalized adults isaround 12.8%. The medical expenditure for treating moderate to severe pressureinjuries can reach up to $26.8 billion USD. Furthermore, the mortality risk forpatients with pressure injuries is twice as high compared to those without.

Recentstudies have shown that early application of foam dressings over bonyprominences or pressure-prone areas in high-risk hospitalized patients—such asthose who are bedridden or already have pressure injuries—can effectivelyreduce the incidence of pressure injuries.

Purpose:

FromJanuary 1, 2021, to December 31, 2023, the incidence rate of pressure injuriesin our ward consistently exceeded the threshold of 0.05%. Since pressureredistribution is a critical factor in prevention, the goal of this study is toassess whether foam pressure-relieving dressings can help lower pressure injuryrates among high-risk inpatients, thereby reducing discomfort, preservingquality of life, alleviating financial burden, and decreasing healthcare costs.

Methods:

Patientswere enrolled upon admission if they met any of the following criteria:immobility, presence of an existing pressure injury, or use of medical deviceson the face. The intervention included:

1. **In-service education**: Nurses received training on the correct application of foam dressings.
2. **Visual monitoring**: Nurses took photos of the affected areas at admission or upon transfer, uploading them to the nursing system and repeating the process every two days.
3. **Family education**: A health education handout with a QR code was provided to family members, detailing pressure injury prevention strategies.
4. **Visual aids and material guidance**: Photo guides were created to illustrate proper use of foam dressings, helping families purchase appropriate materials to assist in patient care.

Results:

Pressureinjury density rates from 2021 to 2024 are as follows:

Year	Incidence Density (%)	Number of Cases	Threshold (%)
2021	0.21%	20	0.05%
2022	0.16%	23	0.05%
2023	0.14%	23	0.05%
2024	0.02%	3	0.08%

Conclusion/Implementations for practice:

Theseresults demonstrate a year-by-year reduction in pressure injury incidencefollowing the implementation of foam dressings and associated interventions. By2024, the incidence dropped significantly to 0.02%, well below the setthreshold and consistent with findings from evidence-based literature. Thesefindings support the practical value of foam dressings in clinical settings forpressure injury prevention among high-risk patients.

Keyword: Pressure Injuries, Foam

Nursing Experience of Applying Cardiac Rehabilitation in a Patient with Pulmonary Fibrosis and Heart Failure

MAN-LIN[1]
1

Abstract

1. Background & Purpose

Heart failure (HF) combined with pulmonaryfibrosis (PF) is commonly seen in elderly patients and often results in poorquality of life. This case describes an elderly man experiencing dyspnea,anxiety, and hopelessness, frequently hospitalized and expressing a desire togive up treatment. The purpose of this care was to apply cardiac rehabilitationand individualized nursing to relieve symptoms, improve endurance, and enhanceemotional resilience. 2. Methods

A nursing case study was conducted betweenOctober 28 and November 24, 2022. Data were collected through direct care,assessment, chart review, and interviews. Gordon's 11 functional healthpatterns were used for holistic evaluation. Main nursing problems included:

•Decreasedcardiac output

•Activity intolerance

•Hopelessness

3.Results

The patient presented with worseningdyspnea and emotional fatigue. Interventions included:

• Breathing techniques and fluid/sodiumrestriction

• Cardiac rehabilitation with visual aidsand Taiwanese-language videos

• Emotional support through empathy,religious encouragement, and family involvement

The patient gradually regained motivationand willingness to participate in care.

4.Conclusion

Though the nurse could not follow up afterdischarge, inpatient rehabilitation education with multimedia tools showedpositive effects. Recommendations include:

•Multidisciplinary discharge planning

•Long-term follow-up rehab at home

•Enhanced nurse training on HF comorbidities

•Use of diverse educational tools for better learning outcomes

Keyword: Cardiac Rehabilitation, Pulmonary Fibrosis, Heart Failure, Nursing Care, Activity Intolerance

Nursing Experience of a Myasthenia Gravis Patient with Respiratory Failure Successfully Weaned from Mechanical Ventilation

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Abstract

Background:

Myasthenia gravis (MG) is a common autoimmune disorder with a prevalence of approximately 1.5 to 2‰. As the disease progresses, patients may experience an increased respiratory muscle workload, leading to a significant reduction in maximal voluntary ventilation. This can result in respiratory failure in approximately 20% of patients, a condition referred to as myasthenic crisis, which requires mechanical ventilatory support.This article presents the nursingexperience of a 58-year-old patient diagnosed with myasthenia graviscomplicated by respiratory failure. The patient experienced significantphysical and psychological distress due to respiratory insufficiency, impairedmobility, and uncertainty about the prognosis. These factors led to a profoundsense of hopelessness and considerable stress for both the patient and family,affecting the overall disease adjustment process.

Purpose:

The purpose of this casereport is to illustrate the use of an interdisciplinary care model to conduct acomprehensive assessment of the patient's individualized needs. Throughtargeted nursing interventions, the care team aimed to alleviate respiratorydifficulties, facilitate ventilator weaning, enhance physical functioning, andstrengthen disease-related knowledge to rebuild patient confidence and promotepositive disease adaptation.

Methods:

The nursing care periodspanned from April 12, 2024, to June 15, 2024. Data were collected throughphysical assessments, clinical observation, patient interviews, and medicalrecord review. The patient's condition was assessed using Gordon’s ElevenFunctional Health Patterns, identifying key nursing problems, including:ineffective breathing pattern, impaired physical mobility, and hopelessness. Amultidisciplinary care plan was collaboratively developed to provideindividualized and holistic nursing care.

Results:

Through the coordinated efforts of the interdisciplinary team, the patient was taught deep breathing techniques, effective coughing methods, and chest rehabilitation exercises to strengthen respiratory muscles. Continuous monitoring of respiratory patterns and appropriate airway care were implemented. The patient was encouraged to express emotional distress, while gradual enhancement of self-care abilities and disease understanding were promoted to reduce uncertainty and foster a trusting nurse-patient relationship. A stepwise weaning plan from mechanical ventilation was developed and executed safely and effectively. Family involvement was encouraged to enhance the

support system, and caregivers were educated on disease management techniques. This collaborative approach helped the patient regain confidence, achieve comprehensive biopsychosocial care, and foster a positive attitude toward coexisting with a rare chronic illness.

Conclusion/Implementations for practice:

The care process for patients with myasthenia gravis complicated by respiratory failure can be prolonged and complex. The implementation of an interdisciplinary collaborative care model provides comprehensive professional support tailored to patient needs, effectively addressing key nursing issues. Encouraging patient and family participation in care planning enhances continuity and sustainability of care. It is recommended that future care for patients facing severe illnesses and multiple comorbidities include consultation with psychiatric professionals to address psychological dimensions and ensure holistic and continuous care.

Keyword: Myasthenia gravis, respiratory failure, ventilator weaning, hopelessness, nursing care

Nursing Experience of a 38-Year-Old Woman with Acute Myocarditis Undergoing Extracorporeal Membrane Oxygenation (ECMO) Therapy

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Abstract

Background:

Myocarditis is a rare but potentially life-threatening inflammatory disease of the heart muscle, often caused by viral infections such as Coxsackievirus, Adenovirus, and Influenza virus. Early symptoms are usually nonspecific, resembling gastrointestinal or upper respiratory tract infections, which makes timely diagnosis challenging. In severe cases, the disease may progress rapidly to fulminant myocarditis with cardiogenic shock, resulting in high mortality. Extracorporeal Membrane Oxygenation (ECMO) is an advanced life-support technique that provides temporary circulatory and respiratory support, significantly improving hemodynamic stability and patient survival. However, ECMO usage is associated with serious complications such as infection, thrombosis, and bleeding. Furthermore, patients admitted to intensive care units (ICUs), particularly while receiving ECMO and mechanical ventilation, often experience heightened anxiety due to isolation, uncertainty and loss of communication. Holistic nursing care that integrates physiological monitoring and emotional support is essential in facilitating patient recovery.

Purpose:

This case report aims to present a comprehensive nursing experience involving a 38-year-old woman who developed acute myocarditis complicated by cardiogenic shock and required ECMO support in the ICU. The objective is to highlight critical nursing interventions, including hemodynamic monitoring, infection prevention and anxiety management, that contributed to the patient's successful recovery and weaning from ECMO. The report also seeks to provide evidence-based insights for future clinical practice in managing similar critically ill cardiac patients.

Methods:

During the care period from March 23 to April 7, 2024, the patient was evaluated using Gordon’s Eleven Functional Health Patterns framework. Data collection was conducted through direct care, observation, therapeutic communication and physical assessments. Key nursing problems identified were: decreased cardiac output related to impaired myocardial contractility; risk for infection due to multiple invasive lines (ECMO cannula, central venous catheter, urinary catheter endotracheal tube); anxiety associated with uncertainty about illness and perceived threat of death. Tailored nursing interventions included continuous cardiac monitoring, strict adherence to aseptic techniques, hemodynamic and biochemical surveillance, administration of vasoactive agents, sedation titration and the use of non-pharmacological anxiety-reducing strategies such as therapeutic communication, family involvement, music therapy and spiritual support.

Results:

The patient's left ventricular ejection fraction (LVEF) improved from 28.9% to 50% over ten days of ECMO support. Serial cardiac biomarkers (Troponin-I, CPK, CK-MB) showed a steady decline and arterial blood gas (ABG) parameters normalized. ECMO was successfully weaned on April 2 and the endotracheal tube was weaned and removed on April 6. Throughout the ICU stay, no nosocomial infections occurred. Wound sites remained clean and inflammatory markers (CRP, WBC count) normalized. Anxiety was significantly reduced through multidisciplinary interventions. The patient expressed feelings of safety and gratitude, engaged in verbal interaction post-extubation and demonstrated emotional recovery. She was transferred to a general ward on April 7 and discharged to home on April 14 with stable cardiac function and preserved quality of life.

Conclusion/Implementations for practice:

In this case demonstrated the importance of integrated and individualized nursing care for patients with acute myocarditis requiring ECMO support. Successful outcomes depend not only on advanced medical technology but also on the vigilance and empathy of nursing staff. Continuous hemodynamic assessment, meticulous infection control and effective communication strategies are essential to prevent complications and alleviate psychological distress. The role of family involvement, spiritual care and music therapy in mitigating ICU-related anxiety is notable. This experience underscores the need for interdisciplinary collaboration and holistic care approaches in critical care settings, providing a valuable reference for nursing education and clinical practice in managing life-threatening cardiac conditions.

Keyword: Myocarditis、Extracorporeal Membrane Oxygenation (ECMO)、 Anxiety

Machine Learning for Predicting Extubation Timing: A Smart Healthcare Application

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Abstract

Background:

Delayed extubation in postoperative patients may lead to increased complications and prolonged hospital stays. Identifying optimal extubation timing is critical for enhancing outcomes in surgical intensive care unit (SICU) patients. This study utilizes machine learning (ML) techniques to support clinical decision-making in extubation timing.

Purpose:

To develop and validate machine learning models that can accurately predict the timing of extubation in SICU postoperative patients, thereby improving clinical workflow and patient outcomes.

Methods:

A retrospective analysis was conducted on 204 SICU patients who underwent surgery between March and June 2018. Variables such as APACHE II score, hemoglobin, rapid shallow breathing index (RSBI), maximal inspiratory pressure (Pimax), and cumulative fluid balance (CFB) were collected. Multiple ML models including artificial neural networks, random forests, and XGBoost were trained and evaluated using 10-fold cross-validation.

Results:

Key predictors of extubation timing were APACHE II, RSBI, Pimax, and CFB ($p < 0.05$). Machine learning models demonstrated high performance in predicting extubation timing, with strong area under the curve (AUC) and accuracy results.

Conclusion/Implementations for practice:

Machine learning provides a reliable tool to assist clinicians in determining the appropriate extubation timing for SICU patients. Integrating such predictive models into clinical practice can enhance decision-making, reduce complications, and improve healthcare quality.

Keyword: Surgical intensive care unit (SICU), Delayed extubation,Hospital stay, Machine learning, predictive model

Preparation for discharge from hospital for patients with dementia who have recurrent hip fracture dislocation after surgery

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Abstract

Background:

Taiwan is expected to enter a super-aged society by 2026, with agingbodies, muscle atrophy, and increased risk of fractures from falls. Due to accidents that impair daily living abilities, the demand forlong-term care service resources for patients discharged from hospital andreturning home has increased, especially for dementia cases with cognitiveimpairment.

Purpose:

According to a 2024 survey by Taiwan's Ministry of Healthand Welfare, the prevalence of dementia among adults aged 65 and older is 7.99%.Clinically, dementia is not only characterized by progressive cognitive declinebut is also frequently associated with physical symptoms such as abnormalmuscle tone (e.g., rigidity), gait instability, and an increased risk offalls—particularly hip fractures.

Hip fractures are common and serious injuries in theelderly population, often requiring surgical intervention followed by intensiverehabilitation to restore mobility and prevent complications. However, patientswith dementia face significant challenges during the rehabilitation process,including difficulty understanding and following instructions, impaired motorcoordination, and behavioral disturbances. These factors may lead to suboptimalrehabilitation outcomes, recurrent dislocations, or further falls and injuries.

Such clinical scenarios pose substantial challenges formultidisciplinary care teams—including rehabilitation specialists, orthopedicsurgeons, neurologists, and nursing staff. Individualized rehabilitation plans,enhanced nursing supervision, and environmental safety measures are essential.Additionally, cognitive function should be regularly assessed, and acollaborative, interdisciplinary approach is critical to minimizing secondaryinjury risk and improving overall prognosis and quality of life.

Methods:

Initiation of Multidisciplinary Care Plan:

1. **RehabilitationDepartment Involvement:**
Rehabilitation team to provide instruction on joint mobility exercises, musclestrengthening, and wheelchair transfer techniques to improve functionalindependence.

2. **Initiation of Long-TermCare 2.0 Evaluation:**

- Applicationfor assistive devices (e.g., wheelchair, walker) to support daily activities.

- Assessmentand application for home modifications to create a barrier-free livingenvironment.

o Applicationfor a foreign caregiver to assist with long-term care needs.

3. Neurology Consultation:

o Dementiaassessment and medication management.

o Referralto case manager for enrollment and ongoing follow-up to ensure continuity ofcare and coordination of services.

Results:

Through team care, the patient wears a hipbrace, can be assisted by a physical therapist to get out of bed, learnwheelchair transfer, and practice standing and walking with a walker The patient appliedfor Long-term Care 2.0, which includes "home service", "homenursing" and "home rehabilitation". The patient was dischargedfrom the hospital and returned home smoothly one week after hospitalization.

Conclusion/Implementations for practice:

With the aging ofthe population, dementia patients may not be able to fully recover theiroriginal mobility due to fractures caused by falls, resulting in mobility difficulties.When they are discharged from the hospital and return home, they need tocooperate with the "Discharge Preparation and Transition to Long-term CareService Plan" so that patients can receive continuous care when theyreturn home and improve their quality of life.

Keyword: Dementia Hip fracture Discharge preparation

Effectiveness of Zhan Zhuang Qigong Practice on Limb Weakness in Stroke Patients: A Pilot Study

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Abstract

Background:

Stroke is one of the top ten causes of death in Taiwan and is often associated with limb weakness and reduced mobility. Without timely rehabilitation, physical function recovery may behindered, thereby affecting overall quality of life.

Purpose:

This study investigates the effects of Zhan Zhuang Qigong on reducing limb weakness among stroke patients.

Methods:

This pilot study included five stroke patients experiencing limb weakness who participated in a 3-week Zhan Zhuang Qigong training program. The practice was performed three times daily, with session durations progressively increasing each week: 5 minutes persession in Week 1, 10 minutes in Week 2, and 15 minutes in Week 3. Outcomes were assessed before and after the intervention using the Modified Rankin Scale(mRS), JAMAR Smart Hand Dynamometer, and the 30-Second Chair Stand Test(30s-CST).

Results:

A total of five participants (mean age 68.8 ±13.99 years) were included in this pilot study. Results from the Modified Rankin Scale (MRS) indicated a significant improvement in overall functional independence ($p = .025$). While upper limb strength, assessed by JAMAR Smart Hand Dynamometer, showed no statistically significant change ($p = .11$), the 30-Second Chair Stand Test (30s-CST) demonstrated a significant enhancement in lower limb strength ($p = .038$).

Conclusion/Implementations for practice:

The findings of this study suggest that variations in participation duration, stroke severity, adherence to the intervention, and individual expectations for recovery may have influenced muscle strength outcomes among participants. Despite these differences, the Zhan Zhuang Qigong training showed beneficial effects on functional independence and lower limb strength. These preliminary results may serve as a reference for the design and methodology of future research.

Keyword: Qigong, Zhan Zhuang Qigong, Stroke, Limb Weakness

Lean Transformation of Hospital Health Insurance Management Process: A Case Study of Inpatient Sampling Audit

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Abstract

Background and Purpose:

The National Health InsuranceAdministration (NHIA) has established review standards to ensure the rationaluse of medical resources and enhance healthcare quality. Newly establishedhospitals encounter frequent NHIA audits in their initial years. Samplingaudits are critical in health insurance claims. Although processes from medicalcenters have been adopted, differences in scale and operations necessitate leantransformation as a primary management goal.

Methods:

Data from a newly establishedhospital's sampling audit operations from August 2024 to February 2025 werecollected. An assessment of the completeness of medical record items wasconducted. This process helped clarify key improvement areas and facilitatedthe planning of a lean transformation strategy for operational processes.

Results: Acomprehensive review of sampling audit data from August 2024 to February 2025provided insights into inpatient clinical records and identified focus areasfor NHIA project audits. Collaboration between healthinsurance claims personnel and IT staff centered on improving the"completeness," "sequencing," and "consistency"of medical records. This lean transformation estimates a 14.29% reduction inoperational time, effectively alleviating the pressure on claims processingtimelines.

Conclusion/Implementations for practice:

The application of process analysisand AI operation optimization has enhanced the efficiency of health insuranceclaims management. This approach accommodates increased audit workloads due tobusiness growth, achieving sustainable management benefits for hospitals.

Keyword: Sustainable Management

Exploring the Effectiveness of Clinical Scenario-Based Learning on Nurses' Breastfeeding Instruction Competency and the Quality of Maternal-Infant Care

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Abstract

Background:

Clinical nurses often face challenges whenassisting postpartum women with breastfeeding, such as the inability topromptly identify breastfeeding difficulties and a lack of consistentinstructional techniques. These issues can lead to decreased maternal supportand lower rates of exclusive breastfeeding. To strengthen nurses' practicalskills and improve the quality of care, our hospital implemented clinicalscenario-based learning as an educational intervention strategy.

Purpose:

This project aimed to enhance nurses' observationalskills, proficiency in breastfeeding techniques, and confidence in clinicaldecision-making through the design of realistic scenarios based on commonbreastfeeding challenges.

Methods:

Teaching cases were developed based onclinical breastfeeding scenarios, including the creation of scripts, guidelinesfor examiners and standardized patients, and a clinical breastfeeding skillschecklist. Obstetric clinical instructors were trained to serve as examinersand standardized patients. Simulation exercises were followed by consensusdiscussions to reinforce learning.

Results:

After training, the average written testscore among participating nurses was 85.81. Learner satisfaction was assessedusing a five-point Likert scale following the simulation exercises, with anoverall satisfaction score of 4.67. Additionally, 77% of participants reportedthat the course was helpful for their clinical practice. During theimplementation period, the rate of exclusive breastfeeding duringhospitalization increased from 41.1% to 44.07%.

Conclusion/Implementations for practice:

Clinical scenario-based learningeffectively enhances nurses' breastfeeding skills and confidence, therebyimproving the quality of maternal-infant care and breastfeeding outcomes.Future plans include the development of standardized teaching modules on topicssuch as "breastfeeding and infant latch positioning," "manual milk expression," and "engorgement management." These modules will be incorporated into routinetraining for obstetric nursing staff to establish a consistent and structuredclinical teaching model for breastfeeding support.

Keyword: Clinical Scenario-Based Learning、Breastfeeding Support、Nursing Education、Exclusive Breastfeeding、Simulation Training

Enhancing Accuracy in Postoperative Nursing Care for Microsurgical Flaps: A Quality Improvement Project

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Abstract

Background:

In 2023, our unit performed 185 microsurgical flap procedures, with 10 cases of postoperative flap abnormalities, primarily due to venous congestion. Only one case resulted in flap failure. However, in the first half of 2024, the number of flap abnormalities caused by venous obstruction increased significantly. Among 100 procedures, 10 cases showed flap abnormalities, and 5 resulted in flap failure due to delayed recognition and reporting by nursing staff. This triggered the initiation of a quality improvement project.

Purpose:

Inspired by the benchmark project by Tseng et al. (2022), the goal was to improve the accuracy of nurses' assessments of postoperative microsurgical flaps, with a target accuracy rate set at over 95%. The formula used was:

Flap assessment accuracy = (Number of consistent assessments / Total number of assessments) × 100%.

Methods:

1.Planning Phase(August to December 2024)

(1) Develop in-service education and bedside teaching for postoperative flap monitoring and care

(a) Utilize simulation-based practical exercises combined withe-learning to design the training content, including a comprehensive introduction to microsurgical flap reconstruction,criteria for identifying normal and abnormal postoperative flap conditions,and related clinicaldecision-making.

(b) Create a QR code–based mobile learning video to enable nursing staff to engage in self-directed learning anytime and anywhere without time or location constraints.

(2)Develop portable color reference cards and a microsurgical flap assessment kit

(a) Integrate commonly used flap monitoring tools—infrared thermometers,Doppler devices, portable color reference cards, standardized flap care cards,and QR code videos–into a designated flap assessment kit area.

(b) This aims to enhance consistency and accuracy in flap monitoring assessments.

(3)Establish a standardized microsurgical flap care protocol,Develop a standardized protocol table for postoperative flap care to ensure uniformity and quality in clinical practice.

2. Implementation Phase (August 2024 to January 2025)

(1) Conduct microsurgical flap care courses and bedside demonstration teaching.

(2) Promote the use of portable color reference cards, the flap assessment kit,and the standardized microsurgical flap care protocol among nursing staff.

3. Evaluation Phase (January to March 2025)

(1) Audit 15 nursing staff, achieving a 97% accuracy rate inpostoperative microsurgical flap monitoring and assessment.

(2) Between January and March 2025, a total of 40 microsurgical flap procedures were performed. Among these,4 cases developed postoperative flap abnormalities, all of which were promptly detected by nursing staff,resulting in a 100% flap survival rate.

Results:

Following the implementation of these strategies, the accuracy of flap monitoring by nursing staff increased from 55% to 97%, while knowledge accuracy improved from 73% to 100%. From January 1 to March 31, 2025, the flap failure rate among oral cancer patients undergoing microsurgical reconstruction decreased from 7.61% (15/197) to 0%(0/118), demonstrating the significant impact of the project.

Conclusion/Implementations for practice:

Through standardized care protocols, enhanced staff training, improved access to monitoring tools, and the integration of flap care procedures into the onboarding manual for new nurses, the project effectively improved both the knowledge and clinical skills of nursing staff in postoperative flap care, contributing to improved patient safety and care quality.

Keyword: Free micro flap

Facilitating nursing students role transition to the workplace through clinical practice

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Abstract

Background:

There is a significant discrepancy between the roles of nursing students and professional nurses in the workplace. When entering the workplace, new staff often experience 'reality shock' due to poor adaptation, which affects retention rates among new staff. Clinical practice serves as a critical stage for facilitating students' role transition. If students are guided to engage in reflective thinking, and if their learning needs at each stage are understood, educators can better design practicum courses aligned with clinical demands, thereby bridging the education-service gap and assisting students in transitioning smoothly into the workforce.

Purpose:

To explore the adaptation process and effectiveness of clinical practice in facilitating nursing students' role transition into the workplace.

Methods:

This qualitative study adopted a content analysis approach. Twenty nursing students from a university of science and technology in southern Taiwan participated in a four-week clinical practice in medical units. Weekly reflective journals were collected and analyzed to explore their role transition experiences.

Results:

The findings of the study revealed a progressive role transition process, categorized into five stages:

Stage 1: Lack of preparedness for entering the professional workplace role

Stage 2: Searching for role identity through imitation of professional nurses

Stage 3: Facing challenges during role transition

Stage 4: Overcoming challenges by strengthening clinical capabilities

Stage 5: Gradual adaptation to professional roles as competencies grow

Conclusion/Implementations for practice:

These findings underscore the essential role of reflective practice and stage-based support in clinical training for developing competent and resilient nursing professionals. Through reflective engagement,students enhance their clinical reasoning, problem-solving skills, and sense of professional responsibility. By aligning practicum design with students'evolving learning needs, educators can more effectively bridge the gap between academic preparation and real-world clinical expectations. Limitations include

a single-institution sample anda short practicum period; future studies may explore longitudinal outcomes.
Keyword:clinical practice, role transition

Enhancing Problem-Solving Abilities in Nursing Students through Simulation-Based Teaching

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Abstract

Background:

Clinical practice aims to help students transform theoretical knowledge into problem-solving abilities to address patients' health problems. However,when students frequently rely on instructors' guidance or standardized care protocols, they may develop habitual thinking patterns that hinder the development of their problem-solving abilities. In response, simulation-based teaching that replicates real clinical settings has emerged as a core strategy in nursing education.This study aimed to explore the effectiveness of simulation-based teaching in enhancing nursing students' problem-solving abilities, including holistic assessment, clinical reasoning, clinical judgment, individualized care, and critical thinking.

Methods:

The study involved 28 nursing students from a university of technology in Tainan. Three simulation scenarios were developed to reflect typical patient conditions encountered in internal medicine wards. Students assumed designated roles and actively engaged in simulation activities encompassing patient assessment, clinical data collection, and the initiation of care plans. After each simulation, instructors facilitated group reflection sessions to guide students in reviewing their decision-making processes, setting care priorities,and enhancing team communication strategies. Learning outcomes were evaluated using holistic assessment scores and qualitative analysis of students'reflective journals.

Results:

Students' average scores on holistic assessment improved from 30.2 before the intervention to 46.0 at the mid pointand reached 61.0 by the end, indicating significant progress. Thematic analysis of students' reflective journals identified notable growth in five core competencies: clinical reasoning, clinical judgment, individualized care,reflective practice, and critical thinking.

Conclusion/Implementations for practice:

Simulation-based teaching effectively enhances nursing students' clinical reasoning and problem-solving abilities. This study suggests that integrating Problem-Based Learning (PBL) and standardized assessment tools, such as Objective Structured Clinical Examinations (OSCE),may enhance learning outcomes and improve the objectivity of student evaluation.

Keyword:clinical practice, role transition

End-of-Life Care Experience for a Patient with Primary Meningeal Melanoma

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Abstract

Background:

Melanoma is a malignant tumor originating from melanocytes in the skin. It may initially present as a newly formed mole with irregular shape or color. Without timely diagnosis, it can metastasize to the lymph nodes or internal organs. While most melanomas arise from the skin, primary melanocytic tumors of the central nervous system, such as meningeal melanocytomas, are relatively rare, with an annual incidence of approximately one in ten million. These tumors typically occur in regions such as the cervical and thoracic spine, posterior cranial fossa, cerebellopontine angle, and Meckel's cave. Although usually benign or of low malignancy, they carry risks of malignant transformation and local invasion, respond poorly to adjuvant therapy, and generally have poor prognoses. Most patients are adults, with some studies indicating a slightly higher prevalence among females.

Purpose:

The purpose of this case report is to share the end-of-life care experience of a patient diagnosed with the rare central nervous system tumor—primary meningeal melanoma. Through the implementation of holistic nursing care, this report aims to highlight the critical roles nurses play in symptom management, nutritional support, emotional care, and family communication, with the goal of improving the patient's quality of life at the end stage and providing practical insights for clinical

Methods:

This case involved a female patient diagnosed with meningeal melanocytoma presenting in critical condition. Neurological assessment showed a Glasgow Coma Scale (GCS) score of E4VTM1. Both pupils were 3.0 mm with no light reflex, no verbal or limb responses, and muscle strength scored 0 in all extremities. The patient was completely dependent on nursing care. Cardiovascular examination revealed weak pulse; respiratory support required invasive mechanical ventilation with FiO_2 up to 80%, accompanied by moderate amounts of white, viscous sputum. The skin was warm, but the oral mucosa showed ulcers and odor. Nutritional support was provided via tube feeding and peripheral parenteral nutrition due to abdominal distension and constipation. Urination was dependent on a Foley catheter. Sleep and mental status could not be accurately evaluated due to the illness. Overall care focused on symptom management, nutritional support, infection prevention, and end-of-life psychological support.

Results:

The nursing team provided a comprehensive assessment and intervention plan aimed at improving the patient’s quality of life and alleviating discomfort. Symptom control was achieved through medications, supportive therapies, and non-pharmacological measures including airway management, nutritional supplementation, elimination care, and maintenance of skin integrity. Due to the rare and poor prognosis of the condition, the patient’s family experienced emotional responses such as anxiety and depression.

Nurses offered emotional and psychological support to both the patient and family and referred them to social workers or psychologists for further assistance. The patient's religious beliefs were respected by offering a quiet and private environment and the opportunity for family companionship, enabling the patient to complete the "four dimensions of life" with loved ones present.

Conclusion/Implementations for practice:

Although melanocytic tumors of the central nervous system are rare, they significantly impact both the physical and psychological well-being of patients. Nurses must conduct holistic assessments focused on maintaining physiological functions, managing symptoms, providing emotional and psychological support, and helping families understand the condition and participate in care. Interdisciplinary teamwork and empathetic communication are essential to improving the quality of care. Even with a poor prognosis, professional and compassionate care can help patients retain dignity and comfort throughout their illness.

Keyword: End-of-Life Care 、 Meningeal Melanoma

Can abdominal massage improve abdominal bloating symptoms in adults within three days?

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Abstract

Background:

Abdominal bloating is a common clinical issue among adults, often caused by insufficient physical activity, postoperative recovery, or gastrointestinal dysfunction. It can lead to discomfort, affect dietary intake, disrupt sleep, and reduce overall well-being. Conventional treatments, such as dietary modifications and medications, provide varying levels of relief, but their effectiveness is often inconsistent. Recently, abdominal massage has gained attention as a non-pharmacological intervention that may enhance intestinal motility and alleviate bloating symptoms.

Purpose:

This study aims to evaluate the effectiveness of abdominal massage in reducing bloating symptoms within three days compared to routine care without massage. It investigates whether this intervention can improve abdominal circumference, bowel sounds frequency, bowel movement frequency, and patient satisfaction in adult patients experiencing bloating discomfort.

Methods:

A literature review of randomized controlled trials (RCTs) and systematic reviews (SRs) published within the last five years formed the basis for this analysis. Selected studies focused on adult patients experiencing abdominal bloating and assessed abdominal massage as an intervention. The intervention involved daily clockwise abdominal massage for three consecutive days, while the comparison group received routine inpatient care without massage. Outcome measures included physical and subjective indicators, such as abdominal circumference reduction, improved bowel motility, increased defecation frequency, and patient satisfaction.

Results:

Literature Review Findings: RCTs indicate that abdominal massage significantly reduces bloating risk ($p < .05$). Systematic reviews show that massage lowers gastric residual volume, vomiting rates, and ventilator-associated pneumonia (VAP) incidence.

Clinical Application Results: Patients with intestinal obstruction demonstrated a reduction in abdominal circumference (from 110cm to 105cm). Massage group participants reported higher satisfaction (10 points vs. 5 points in the non-massage group). Limited improvements were observed in bowel motility and defecation frequency.

Conclusion/Implementations for practice:

Abdominal massage appears to be a simple, safe, and non-invasive intervention that can be integrated into routine inpatient care, especially for patients experiencing bloating symptoms. It enhances patient comfort and satisfaction, fostering a more positive nursing experience. However, further large-scale studies are required to verify its long-

term effects and broader clinical applications. Successful implementation depends on trained healthcare providers, ensuring consistency and effectiveness in patient care. Consideration of individual patient conditions and nursing workload is also essential for optimal outcomes.
Keyword: abdominal massage， abdominal bloating

Effectiveness of Pain Management Interventions on Postoperative Rehabilitation Outcomes After Total Knee Arthroplasty: A Systematic Review

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Abstract

Background:

As theglobal population ages, osteoarthritis has emerged as a prevalent healthconcern among older adults, frequently resulting in chronic knee pain andfunctional limitations. Total Knee Arthroplasty (TKA) is commonly performedwhen conservative treatments are ineffective; however, postoperative painremains a significant barrier to successful rehabilitation. Effective paincontrol is therefore essential for optimizing functional recovery and improvingquality of life.

Purpose:

This systematic review aims to evaluate the effectiveness of evidence-based pain management interventions in reducing postoperative pain and enhancing rehabilitation outcomes following TKA. The objective is to inform clinical practice and improve the quality of postoperative care.

Methods:

A systematic review was conducted using the PICO framework, with the following components: Knee Replacement OR Total Knee Arthroplasty (TKA) OR TKA Patients (P); Pain Management OR Cryotherapy OR Relaxation Therapy OR Pharmacologic Treatment OR Nonpharmacological Interventions (I); Standard OR Routine care (C); and Pain Measurement OR Recovery of Function OR Knee Injury and Osteoarthritis Outcome Score (KOOS) (O). Literature searches were performed across PubMed, MEDLINE, CINAHL, the Cochrane Library, and CEPS. Studies were screened according to predefined inclusion criteria, which required that participants had undergone unilateral TKA for osteoarthritis and received postoperative pain interventions with reported outcomes related to pain and rehabilitation. Studies were excluded if they involved patients undergoing bilateral TKA, those with sport-related knee injuries, or individuals with a history of substance use disorders, including opioid dependence or alcohol abuse. A total of 16 relevant records were identified through database searches. After removing duplicates and conducting an initial screening of titles and abstracts, 6 studies met the inclusion criteria. These studies underwent full-text review, and all were included in the systematic review. The methodological quality of the included studies was assessed using the Critical Appraisal Skills Programme (CASP) checklist.

Results:

Six studies published in English, including five systematic reviews and one meta-analysis, with a combined sample of 6,868 patients were included. Duloxetine significantly reduced early postoperative pain and opioid use within the first postoperative week, without increasing adverse events. Periarticular multimodal

"cocktail" injections and long-acting local anesthetics administered at the surgical site were also effective in alleviating pain and enhancing knee flexion, thereby promoting early rehabilitation. Cryotherapy (e.g., ice packs or cold compression devices) applied within 48 hours after surgery reduced pain and swelling, facilitating early mobilization. In contrast, physical therapy alone and Continuous Passive Motion (CPM) demonstrated no clinically significant benefits in terms of pain control, functional recovery, or quality of life.

Conclusion/Implementations for practice:

This review validates multimodal pain management—particularly duloxetine, periarticular cocktail injections, long-acting local anesthetics, and early cryotherapy—as effective strategies for reducing postoperative pain and supporting rehabilitation after TKA. These findings offer evidence-based guidance for clinical practice. Given their demonstrated efficacy, accessibility, and safety, these interventions are recommended for integration into standardized postoperative care pathways to optimize patient recovery outcomes.
Keyword: Total Knee Arthroplasty, Postoperative Pain Management, Functional Rehabilitation Outcomes

Campus Sexual Harassment and Changes in Interpersonal Relationships among University Students: A Case Study in Southern Taiwan

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Abstract

Background:

In recent years, growing public attention has beendirected toward gender equality and the prevention of sexual harassment,particularly within educational institutions where social development plays acritical role. Campus sexual harassment can result in not only immediatepsychological distress but also long-term disruptions in interpersonal trustand interaction patterns. Between 2016 and 2022, Taiwan's Ministry of Educationreported between 1,000 and 2,000 campus harassment cases annually, underscoringthe urgency of addressing this issue.

Purpose:

This studyaims to examine how experiences of campus sexual harassment may influenceuniversity students' interpersonal relationships and to provide evidence-basedrecommendations for campus psychological counseling services and genderequality education policies.

Methods:

Aconvenience sampling method was used to recruit students from a university ofscience and technology in southern Taiwan. Data were collected through a GoogleForms survey conducted between September and December 2024. The surveyincluded: (1) a Campus Sexual Harassment Experience Questionnaire, whichgathered demographic data (gender, age), harassment locations, and awareness ofreporting mechanisms; and (2) the Interpersonal Attachment Style Scale,consisting of 15 items rated on a six-point Likert scale, with higher scoresindicating more secure attachment styles. Descriptive statistics were used tosummarize participant characteristics and harassment experiences. Anindependent samples t-test was conducted to compare interpersonal attachmentscores between participants with and without experiences of sexual harassment.

Results:

A total of 130 valid responses were obtained. Amongthese, 13 participants (10.0%) reported experiencing campus sexual harassment,with ages ranging from 19 to 22. The most frequently reported location was theclassroom (37%), followed by public buses and dormitories. Nearly 70% ofparticipants were unaware of the available reporting mechanisms. The averageInterpersonal Attachment Style Scale score was 58.67 (range: 35–82), indicatinga moderately secure attachment tendency overall. The average score amongparticipants who experienced harassment was 61.92, slightly higher than the58.31 for those without such experiences; however, this difference was notstatistically significant ($p = 0.104$).

Conclusion/Implementations for practice:

This study found that approximately 10% of universitystudents reported experiencing campus sexual harassment, and the majoritylacked awareness of reporting procedures—highlighting the need to enhancepreventive education and awareness campaigns. Although overall attachmenttendencies were moderately secure, traumatic experiences may lead some studentsto develop insecure attachment patterns. These findings provide valuableinsights for strengthening campus sexual harassment prevention strategies andmental health support systems, ultimately contributing to the creation of saferand more trust-based learning environments.
Keyword: Campus sexual harassment, sexual harassment, interpersonal relationships, gender equality

The relationship between hypoglycemia management knowledge, hypoglycemia self-care behaviors, fear of hypoglycemia, social support, and quality of life among males and females who have experienced hypoglycemic events

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Abstract

Background:

Different levels of correlation among knowledge,self-care behaviors, fear of hypoglycemia, social support, and quality of lifewere observed between male and female patients who had experienced ahypoglycemic event.

Purpose:

To explore the relationships among hypoglycemia management knowledge, self-carebehaviors, fear of hypoglycemia, social support, and quality of life acrossgenders in patients with type 2 diabetes who experience hypoglycemia.

Methods:

A cross-sectional study design was employed. A total of 300 patients with type 2 diabetes mellitus who had experienced hypoglycemic events were purposively recruited from a medical center and a primary care clinic in southern Taiwan. Data were collected using the Sociodemographic Characteristics Form, the Hypoglycemia Management Knowledge Scale, the Hypoglycemia Self-Care Behaviors Scale, the Hypoglycemia Fear Scale, the Social Support Scale, and the Quality of Life Scale. Data were analyzed using SPSS Statistics and AMOS software.

Results:

nmen, a greater fear of hypoglycemia was associated with better hypoglycemia knowledge,while in women, higher fear was linked to improved self-care behaviors. In both sexes, greater hypoglycemia knowledge correlated with better self-care behaviors.Among men, higher social support was associated with better hypoglycemia knowledge, self-care behaviors, and quality of life. In women, greater socialsupport contributed to improved self-care behaviors and quality of life. Additionally, in women, better quality of life was linked to greater hypoglycemia knowledge.

Conclusion/Implementations for practice:

This study highlights thesignificant relationships among knowledge, fear of hypoglycemia, and socialsupport in promoting self-care behaviors. This study highlights the significantrelationships among knowledge, fear, and social support in promoting self-care behaviours. These findings suggest that these factors mayserve as a critical foundation for developing effective interventionstrategies.

Keyword: Gender, Hypoglycemia management knowledge, Hypoglycemia self-care behaviors, Fear of hypoglycemia, Social support, Quality of life, Type 2 diabetes

Effectiveness of Repetitive Transcranial Magnetic Stimulation in Improving Depressive Symptoms in Patients with Treatment-Resistant Depression

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1

Abstract

Background:

Treatment-Resistant Depression (TRD) refersto the condition in which patients do not respond adequately to at least twoantidepressants of adequate dose and duration. TRD is commonly associated withemotional deterioration, impaired functioning, and a high risk of relapse.Traditional strategies such as augmentation or switching medications havelimited effectiveness and are often constrained by side effects. RepetitiveTranscranial Magnetic Stimulation (rTMS), a non-invasive neuromodulationtechnique, has been increasingly used in moderate-to-severe depression and isnow being applied to TRD. However, its efficacy and safety in this populationrequire further high-quality evidence.

Purpose:

To evaluate whether rTMS is effective inimproving depressive symptoms among patients with TRD, based on the frameworkof evidence-based nursing.

Methods:

This study adopted a narrative literaturereview with critical appraisal. Three randomized controlled trials (RCTs)published between 2022 and 2024, focusing on TRD patients receiving rTMSinterventions, were included for analysis. The quality of the studies wasassessed using the Critical Appraisal Skills Programme (CASP) for RCTs. Thelevel of evidence was classified according to the Joanna Briggs Institute (JBI,2014) criteria and the Scottish Intercollegiate Guidelines Network (SIGN, 2015)grading system. All three studies were rated as Level 1b evidence with a GradeA recommendation, indicating a high level of reliability.

Results:

All three high-quality RCTs demonstratedthat rTMS significantly improved depressive symptoms in patients with TRD.Compared to control groups (including medication augmentation, switching, orsham stimulation), the rTMS groups showed superior outcomes in symptomreduction, response rates, and remission rates. Standardized assessment toolssuch as the HAM-D and MADRS were used. Post-intervention, the rTMS groupsexhibited statistically significant improvements (p-values ranging from .012 to.032), with overall response rates between 45% and 60%, and higher remissionrates than controls. These findings suggest that rTMS is effective in reducingdepressive symptoms and enhancing clinical outcomes in TRD patients.

Conclusion/Implementations for practice:

rTMSprovides stable and significant improvements in depressive symptoms forpatients with TRD, with minimal side effects and high patient acceptability.Clinically, rTMS may serve as a viable second-line treatment option forindividuals unresponsive to pharmacotherapy, enhancing treatment flexibilityand personalized care. Future research

is recommended to include larger samplesizes, multicenter studies, and stratified designs, along with long-termfollow-up, to further validate its efficacy and safety within TRD treatmentpathways.
Keyword: Repetitive Transcranial Magnetic Stimulation, Treatment-Resistant Depression, Evidence-Based Nursing, Randomized Controlled Trial

Application of innovation nursing instruction of spinal surgery in clinical nursing practice: A pilot study

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Abstract

Background:

The average length of stay for spinal surgery patients is four to five days, and the nurses usually provide wound care instructions on the day of discharge. However, the effectiveness of nursing instruction on patients has not been explored.

Purpose:

To evaluate the application of innovative nursing instruction for wound care in spinal surgery in a neurosurgery unit.

Methods:

In this study, the method of quality control was used to establish and analyze the causes of spinal surgery wound infection. The following solutions were established:1. the innovative design of wound care instruction, 2.providing staff education, 3. training employees to ensure proper wound care instruction, and developing discharge planning guidelines for spinal surgery patients.

Results:

The innovative design of wound care instruction includes revised guidance content and adding pictures in a leaflet, an innovative design of a teaching aids model, and a video of spinal surgery wound care. The post-implementation review showed that wound infection in spinal surgery patients has decreased from 6.57% to 2.86%. The number of patients returning to the emergency department within 72 hours due to wound infection decreased from 7 to 4. Patient satisfaction with discharge nursing **instruction** increased from 3.3 to 5 points on a 5-point Likert scale.

Conclusion/Implementations for practice:

The implementation of wound care instructions can effectively reduce the rate of wound infection in spinal surgery patients. Therefore, we plan to promote the strategy in our hospitals.

Keyword:nursing instruction, spinal surgery

Illuminating Vigilance: A Blue-Light Chronotherapy Approach for ICU Nurses

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Abstract

Background: Intensive care unit (ICU) nurses working consecutive night shifts experience significant circadian misalignment, characterized by delayed melatonin suppression, heightened subjective sleepiness, elevated psychological stress, and impaired cognitive vigilance. These physiological and psychological disturbances increase the risk of clinical errors and compromise patient safety.

Purpose: This study investigates whether a timed, short-duration blue-light eyewear intervention can entrain circadian rhythms in ICU night-shift nurses, enhance alertness, and thereby reduce the incidence of clinical errors.

Methods: In a quasi-experimental crossover design, 22 ICU nurses working two consecutive night shifts were randomized to either the blue-light intervention or control condition. The intervention comprised three 20-minute exposures to 460 nm, 1500 lux blue-light eyewear at 00:00–00:20, 02:00–02:20, and 04:00–04:20 during each shift. Controls remained under standard ambient lighting. After a one-month washout, participants crossed over to the opposite condition. Salivary melatonin levels, Karolinska Sleepiness Scale (KSS) scores, DASS-21 stress indices, and 10-minute Psychomotor Vigilance Task (PVT) performance were measured pre-, mid-, and post-intervention. Clinical error rates were tracked via incident reporting systems.

Results: Compared to control, blue-light exposure suppressed nocturnal melatonin by 32%, reduced KSS scores by 22%, lowered DASS-21 stress indices by 18%, and improved PVT reaction times by 14% with a 12% increase in accuracy. Clinical error reports decreased by 25% during intervention periods. All effects were reproducible in the crossover phase.

Conclusion/Implementations for practice: This study demonstrates that timed short-duration blue-light eyewear effectively entrains circadian rhythms in ICU night-shift nurses, significantly suppresses nocturnal melatonin secretion, reduces subjective sleepiness and psychological stress, and enhances psychomotor vigilance—yielding a 25 % reduction in reported clinical errors. As a low-cost, non-pharmacological chronobiological intervention, blue-light eyewear represents a practical strategy for improving both staff well-being and patient safety during nocturnal care.

Keyword:blue-light intervention; circadian rhythm entrainment; melatonin suppression; ICU night-shift nurses; cognitive alertness

A Multifaceted Strategy to Improve Emergency Nurses' Completeness in ECMO Care

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Abstract

Background:

Extracorporeal Membrane Oxygenation (ECMO),commonly referred to as a heart-lung machine, is used to temporarily supportpatients experiencing severe cardiac or respiratory failure. While ECMO istypically initiated in operating rooms or intensive care units, mature medicalinstitutions may empower emergency departments (EDs) to activate ECMO rapidly,thereby improving patient survival rates. From 2022 to March 2023, a total of81 ECMO cases were performed in our ED, with 7 incidents related to nursingcare—an incident rate of 8.6%. Despite the seemingly low percentage, any errorin the ECMO process can jeopardize patient safety and strain interdisciplinarycollaboration. A baseline assessment revealed that emergency nurses had a carecompleteness rate of 78.2% and a knowledge accuracy rate of only 62.0%, bothbelow hospital standards. Given that emergency nurses play a pivotal role inECMO preparation and early care, this situation underscored the need forquality improvement.

Purpose:

This project aimed to enhance thecompleteness and accuracy of ECMO-related nursing care through theimplementation of multifaceted strategies.

Methods:

Root cause analysis identified three majorareas of concern:

1. **Personnel Factors:**
   - Low accuracy in ECMO-related knowledge (62.0%).
   - Inconsistent tubing fixation practices based on personal habits.
   - Lack of standardized protocols, with care techniques passed on verbally.
   - Limited ability to manage ECMO-related emergencies confidently.
2. **Policy and System Issues:**
   - Absence of routine audits.
   - Lack of structured ECMO-specific training programs.
   - No available operation manuals or step-by-step clinical guidelines.
   - Training materials were overly textual and lacked clarity.
   - Deficiency in hands-on practice opportunities.
3. **Tools and Environment:**
   - Inconsistent storage of ECMO-related supplies.
   - Space limitations in the resuscitation zone.
   - No objective evaluation tools to assess clinical competency.

To address these issues, eight targetedstrategies were implemented:
(1) development of a standardized ECMO care flowchart, (2) delivery ofspecialty training courses, (3) implementation of flipped classroom teaching,(4) creation of illustrated guidebooks and tubing reminder tags, (5)establishment of a dedicated supply

zone and ECMO nursing kits, (6) promotionof creative mnemonics, (7) training of seed instructors, and (8) reinforcementthrough regular audits.

Results:

Post-intervention evaluation, usingvalidated tools including the ECMO Objective Structured Clinical Examination(OSCE) and Knowledge Test (CVI = 0.91), showed substantial improvements:

- Nursing care completeness improved from 78.2% to 99.4%.
- Knowledge accuracy rose from 62.0% to 98.4%.

Conclusion/Implementations for practice:

With ECMO use in emergency settingsbecoming increasingly common, ensuring nursing competency is crucial to patientsafety and effective resource use. This project demonstrated that structured,multidimensional strategies can significantly enhance ECMO care quality. It ishoped that this experience will serve as a reference for other clinical teamsaiming to improve emergency ECMO management, ultimately benefiting morepatients.

Keyword:ECMO, emergency nursing, multifaceted intervention, clinical competency, quality improvement

Integrating ChatGPT into Clinical Practicum: A Systematic Review of Nursing Internship Innovation

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Abstract

Background:

With the rapid advancement of artificial intelligence (AI), nursingeducation is undergoing both new challenges and opportunities. Clinicalpracticum is a pivotal phase in nursing training. When AI tools such as ChatGPTare appropriately integrated, they may enhance learning outcomes by providing real-timesupport and guided reflection.

Purpose:

This study aims to explore innovative uses of ChatGPT during nursinginternships and evaluate its impact on students' clinical learning outcomesthrough a systematic literature review.

Methods:

A systematic review was conducted following PRISMA guidelines. Databasessearched included PubMed, CINAHL, Scopus, and ERIC for peer-reviewed articlespublished between 2020 and 2025. Keywords included "ChatGPT," "artificialintelligence," "nursing education," "clinical practicum," and "student learningoutcomes." Inclusion criteria: (1) nursing students as participants; (2)ChatGPT or similar AI tools used; (3) empirical research design; (4) outcomesrelated to clinical learning; (5) English or Chinese publications.

Results:

Ten studies met the inclusion criteria. ChatGPT use was associated withenhanced clinical reasoning, reflective ability, and self-directed learning.Studies also emphasized that educator guidance and collaboration with clinicalpreceptors can further amplify these effects. One highlighted model featured anadvanced practice nurse who used ChatGPT to guide student dialogue and criticalthinking during the practicum, in close coordination with unit nurse managers.This approach provided contextualized learning and was well-received bystudents.

Conclusion/Implementations for practice:

Incorporating ChatGPT into clinical education reveals strong potential tomodernize nursing training. When supported by instructors and clinicalsettings, AI tools can improve practical skills and learning engagement.Further research is needed to examine long-term effects and implementationstrategies.

Keyword: ChatGPT, nursing education, clinical practicum

Respiratory Care After Percutaneous Cardiopulmonary Support for Severe Pneumonia with Mitral Regurgitation and Pulmonary Edema: A Case Experience

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Abstract

Background:

Acute respiratory failure, often compounded by comorbidities like mitral regurgitation, pneumonia, and pulmonary edema, presents significant challenges in managing oxygenation and ventilation. These conditions are further complicated when the patient also suffers from acute respiratory distress syndrome (ARDS) and sepsis. Research has shown that veno-venous extracorporeal membrane oxygenation (V-V ECMO) can reduce mortality and mitigate lung injury in such critical cases. The EOLIA trial (Combes et al., 2018) demonstrated that ECMO is effective in improving survival rates and reducing lung damage in patients with ARDS and cardiogenic pulmonary edema, underscoring the potential benefits of advanced respiratory support.

Purpose:

This case report details the respiratory care management of a 57-year-old male patient who developed acute respiratory failure due to severe mitral regurgitation, pneumonia, and pulmonary edema. The purpose is to explore the challenges in optimizing oxygenation and ventilation in a patient with complex cardiac and respiratory conditions, highlighting the effectiveness of ECMO in such scenarios.

Methods:

The patient, with a history of hypertension, presented with progressive dyspnea and was diagnosed with acute respiratory failure, necessitating endotracheal intubation and mechanical ventilation. Initial management involved a lung-protective ventilation strategy with a tidal volume of 6 ml/kg ideal body weight (IBW), PEEP of 10 cmH_2O, FiO_2 of 90%, and a respiratory rate of 30 breaths per minute. Due to poor lung compliance and deteriorating oxygenation, the patient was transitioned to V-V ECMO. During ECMO support, ultraprotective ventilation strategies were employed to minimize ventilator-induced lung injury, while intra-aortic balloon pumping (IABP) was used to stabilize hemodynamics and reduce cardiac workload.

Results:

Following the initiation of ECMO, the patient's oxygenation significantly improved, and inflammatory markers decreased. FiO_2 levels were reduced, and the patient was successfully weaned from both mechanical ventilation and ECMO. The patient's condition stabilized, and he was discharged in a stable state. These results emphasize the effectiveness of ECMO and lung-protective ventilation strategies in managing severe ARDS and related cardiac complications.

Conclusion/Implementations for practice:

The case highlights the importance of early intervention with V-V ECMO in conjunction with lung-protective ventilation in critically ill patients suffering from ARDS and severe cardiac complications. The multidisciplinary collaboration between

cardiothoracic surgeons, ICU staff, infectious disease specialists, and respiratory therapists played a crucial role in optimizing the patient's care. The success of this approach supports the findings of the EOLIA trial, which validated ECMO as an effective treatment for ARDS and cardiogenic pulmonary edema (Combes et al., 2018). This case underscores the need for integrating ECMO into clinical practice as a life-saving measure for patients with complex respiratory and cardiac issues, providing valuable insight for managing similar patients in the future.
Keyword:ARDS, ECMO, Pneumonia, Mitral Regurgitation, Pulmonary Edema, Respiratory Therapy, PCPS

Nursing Experience in the Care of a Young Male with chest pain

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Abstract

Background:

According to the 2024 Health PromotionAdministration report, heart disease remains the second leading cause of deathin Taiwan. Myocardial infarction is increasingly affecting younger individuals,largely due to lifestyle changes.

Purpose:

This article presents the nursing experience in caring for a31-year-old male patient diagnosed with anterior wall acute myocardialinfarction .

Methods:

The nursing period spanned from February 3 to 5, 2025. Datacollection included patient interviews, physical assessments, clinicalobservations, diagnostic test results, imaging reports, and chart reviews.

Results:

A 31-year-old male with no known history ofsystemic disease presented with acute chest pain accompanied by cold sweating.Electrocardiography revealed ST-segment elevation in leads V2–V6 and Troponin-Iwas mildly elevated. Chest X-ray showed cardiomegaly. Upon admission, DualAntiplatelet Therapy and Heparin infusion were initiated. Coronaryangiography revealed total occlusion of LAD artery, which was successfullytreated with percutaneous coronary intervention and stent placement.Echocardiography demonstrated mild apical septal hypokinesia, with a preservedejection fraction of 69.4%. He had significant cardiovascular risk factors,including smoking and dyslipidemia. He was started on dual antiplatelettherapy, beta-blockers, and lipid-lowering agents. His nursing diagnosesincluded 1.acute pain related to myocardial hypoxia,2. deficient knowledgeregarding health behaviors related to dietary and lifestyle modifications. The nursinginterventions included 1. Administer oxygen therapy and assist the patient inassuming a comfortable position, such as semi-Fowler’s.2. Administer prescribedmedications as indicated.3. Provide education about the condition, itsmanagement, and necessary lifestyle modifications, including dietary changes,regular physical activity, and smoking cessation guidance.

Conclusion/Implementations for practice:

Nursing staff caring for patients with myocardial infarction play a vital role not only in acute treatment and ongoing monitoring but also in supporting self-management and long-term health promotion. Patients should be encouraged to take advantage of government-funded health check-ups to monitor their cardiac health and adopt early preventive measures to reduce the risk of future cardiovascular events.

Keyword:chest pain、acute myocardial infarction、percutaneous coronary intervention

Factors Associated with Smoking Attitudes, Refusal Self-Efficacy, and Cessation Behaviors among Adolescent Smokers: A Case Study of Youth Smoking Cessation Classes in Southern Taiwan

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Abstract

Background:

Adolescent smoking remains a significant public health concern, with initiation commonly occurring during junior or senior high school and often persisting into adulthood. The 2024 Taiwan Youth Smoking Survey reported cigarette use rates of 2.0% among junior high and 6.7% among senior high students, while e-cigarette use has risen to 3.2% and 6.3%,respectively. Given the substantial influence of peers, family, and media on youth smoking behaviors, early intervention through preventive education is essential to mitigate long-term health risks.

Purpose:

This study aims to evaluate changes in students' smoking-related attitudes following a smoking cessation education intervention, including their knowledge and perceptions of the harms of smoking. It further analyzes changes in smoking refusal self-efficacy to understand students' confidence and ability to resist smoking when faced with temptation. The study also examines physiological outcomes of smoking cessation using carbon monoxide (CO) concentration as an indicator to assess changes in actual smoking behavior. Additionally, it compares pre- and post-intervention changes across different educational levels (junior high, senior high, and university) to explore the impact of age on intervention effectiveness. Based on the findings, the study proposes age-appropriate tobacco prevention strategies for adolescents, providing evidence to support future school-based health promotion and public health policy development.

Methods:

A purposive sample of 189 students from 12 schools (junior high, senior high, and university) in southern Taiwan participated between 2014 and 2024. All participants completed an 8-hour smoking cessation course and underwent CO testing three months post-intervention.The survey instrument demonstrated strong validity (CVI = 0.91) and reliability(Cronbach's $\alpha = 0.94$), assessing demographics, peer and family smoking status,personal smoking behavior, attitudes toward smoking, and refusal self-efficacy(5-point Likert scale). CO levels were classified as non-smoker,smoker, heavy smoker, or very heavy smoker. Data were analyzed using SPSS for descriptive statistics and paired t-tests.

Results:

Participants had a mean age of 16.6 years; 88.4% were male, 39.6% were from single-parent families, 70.9% had family members who smoked, and 93.1% had friends who smoked, underscoring the strong influence of social circles.

Smoking Attitudes: The overall mean score was 3.23 (out of 5),reflecting generally negative perceptions of smoking. Junior high students had the most negative attitudes (3.17), while university students were more neutral to negative (3.31).

Refusal Self-Efficacy: The average score was 3.04 (out of 5), with junior high students scoring highest (3.20) and senior high students lowest (2.74), suggesting that junior high may be a pivotal stage for developing refusal skills.

CO Levels: Post-intervention, the proportion of non-smokers increased from 66.7% to 74.6% ($P < .005$), with decreases observed in light, heavy, and very heavy smokers.

Age Group Differences: Junior high: Non-smoking rate increased from 90.2% to 96.7% (most effective). Senior high: Non-smoking rate decreased from 78.7% to 49.4% (least effective). University: Non-smoking rate rose from 42% to 51.9% (moderate effect), with notable reductions in heavy and very heavy smokers.

Conclusion/Implementations for practice:

The smoking cessation program effectively increased the proportion of non-smoking students and reduced rates of heavy smoking. Most students demonstrated negative attitudes toward smoking and moderately positive refusal self-efficacy, with 80.9% expressing a willingness to quit. While most junior and senior high students were in the experimental stage of smoking, 68.4% of university students had developed nicotine dependence.These findings highlight the importance of targeting tobacco control education at the junior and senior high school levels. The effectiveness of intervention varied by age group, with junior high students showing the greatest improvement and senior high students the least, indicating a need for enhanced strategies and support for the latter. Future programs should tailor interventions by age group, reinforce refusal self-efficacy, and ensure ongoing follow-up to optimize youth health promotion. These results offer valuable guidance for school-based tobacco control education and public health policy.

Keyword:adolescents, smoking, smoking attitudes, refusal self-efficacy, smoking cessation

Exploring the Impact of Integrating Intelligent Systems into Holistic Care Learning Among Clinical Nursing Students

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Abstract

Background:

Duringthe COVID-19 pandemic, nursing interns were compelled to undertake remote,online practicums, leading to a decline in learning motivation, insufficientself-directed learning capabilities, and heightened feelings of isolation andpsychological stress. In the post-pandemic era, supporting nursing students'adaptation to clinical practice has become a major challenge. Effectiveclinical education ultimately aims to translate theoretical knowledge intoreal-world application. Blended learning, which combines the flexibility ofonline and offline instruction, offers a promising solution by mitigating thecurrent gap between classroom learning and clinical application.

Purpose:

Thisstudy investigates the effectiveness of an intelligent system in enhancingnursing students' self-directed holistic care learning by integrating classroomand clinical experiences during internships in hematology and oncology wards,with the goal of optimizing clinical education.

Methods:

Thisstudy utilized LINE Biz-Solutions to develop a tiered dataset supportingnursing students' holistic care learning process. The content was organizedinto three main domains: a pre-internship student handbook, clinicalevidence-based practices, and an introduction to holistic care. Through videos,interactive games, and guided worksheets on holistic thinking in clinicalsettings, students engaged in self-directed learning before the internship. Onthe first day of the practicum, students participated in classroom-baseddiscussions, sharing their individual approaches to applying holistic thinkingin the care process of simulated cases.

Results:

FromJanuary 21 to June 19, 2025, the LINE Biz-Solutions system was utilized acrossfour cohorts of nursing interns, each consisting of eight students, totaling 32participants. A survey based on a Likert scale was administered to evaluatestudents' experiences using LINE Biz-Solutions for holistic care learning. Theaverage satisfaction score regarding the usefulness of the official LINEchannel provided by instructors before the internship was 4.7. Additionally,the guided worksheet on clinical holistic care thinking received an averagesatisfaction score of 4.8 regarding its effectiveness in bridging theoreticalknowledge with clinical practice.

Conclusion/Implementations for practice:

Theresults of this study indicate that integrating intelligent programs into theholistic clinical education of nursing students offers significant advantages.The intelligent learning process facilitates the connection between classroomknowledge and clinical scenarios, enhancing overall learning efficiency andunderscoring the value of smart systems in clinical practice for students.

Keyword: Smart Program, Nursing Intern

Effectiveness of Multimodal Interventions to Reduce CLABSI Incidence in the Intensive Care Unit

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Abstract

Background:

Central line-associated bloodstream infection(CLABSI) is a common and serious healthcare-associated infection in intensivecare units (ICUs), leading to increased patient complications, prolonged hospitalization,and higher medical costs. In 2022, the CLABSI incidence density in our ICUreached 3.98‰. Although continuous clinical improvement measures have beenimplemented, the rate remained elevated at 2.9‰ (15 cases) in 2023,significantly higher than the regional peer average of 1.12‰, indicating roomfor further improvement.

Purpose:

This study aimed to enhance compliance with centralvenous catheter (CVC) care protocols and effectively reduce the incidence ofcentral line-associated bloodstream infections (CLABSIs) in the ICU byimplementing a multifaceted management strategy. Key interventions includedregular clinical audits, a real-time BI (business intelligence) visualizationdashboard, and a cross-departmental instant notification system, all designedto improve overall healthcare quality.

Methods:

1. Clinical Audits

In 2024, quarterly unannounced clinical audits were conducted in the ICU usingthe CLABSI care bundle checklist. Audits included on-site reviews, staff verbalinterviews, and workflow validation to ensure consistency between documentationand actual clinical practices.

2. Establishment of a Cross-Department Real-TimeCommunication Group
A LINE chat group was created including ICU supervisors, the Quality ManagementCenter, and the Infection Control Team. Upon identification of a CLABSI case,immediate notifications were shared within the group to facilitate timely casetracing and analysis.

3. Development of a BI-Based Real-Time MonitoringDashboard
A real-time monitoring dashboard for central venous catheters (CVPs) wasdeveloped to support timely clinical decision-making by providing data oncatheter duration, insertion site, and AI-predicted infection risk.

4. Analysis of CVP Insertion Site Distribution
Analysis of infection cases revealed a significant association with femoral CVPinsertions. Accordingly, the Critical Care Committee mandated monthlystatistical reviews of insertion site distribution to enhance theappropriateness of catheter placement.

Results:

Following the implementation ofimprovement measures, the CLABSI incidence density in the ICU decreased from2.9‰ in 2023 to 1.2‰ in 2024, with the number of infection cases reduced from15 to 6. Although a downward trend was observed after the 2023 intervention,the changes were not statistically significant, as indicated by the F-test ($p = 0.138$) and t-test ($p = 0.062$) results ($p > 0.05$). However, a continuousimprovement initiative from 2022 (3.98‰) to 2024 demonstrated a statisticallysignificant reduction, with an F-test result of $p = 0.237$ and a t-test resultof $p = 0.033$ ($p < 0.05$).

The proportion of CVP insertions via the femoral site increased from 34.3% in2023 to 40.5% in 2024, primarily due to difficulties accessing the neck orsubclavian sites, insertion failure, or lack of patient cooperation. Quarterlyclinical audits in 2024 confirmed a 100% compliance rate in post-insertion carefor femoral lines. In addition, with support from the BI real-time monitoringdashboard and immediate communication through a dedicated LINE group, theclinical team was able to promptly monitor catheter usage and patient status.Despite the increased use of femoral access, the overall CLABSI rate continuedto show a significant decline.

Conclusion/Implementations for practice:

This improvement initiative integrated data analysis, real-time BI monitoring, and clinical audits to enhance adherence to CVP care protocols and real-time responsiveness among clinical staff. These efforts contributed to safer and more appropriate medical care for patients. Future actions will focus on refining audit frequency and team education to further reduce CLABSI rates and enhance overall healthcare quality.

Keyword: Central line-associated bloodstream infection (CLABSI), Clinical Audit, BI Dashboard

Exploring the Impact of Multimodal Activities on the Quality of Life of Older Adults: A Scoping Review

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Abstract

Background:

With the global trend ofpopulation aging, enhancing the quality of life (QoL) for older adults hasbecome a key issue in public health and long-term care. Multimodal activities,which incorporate physical, cognitive, social, and psychological aspects, areconsidered effective interventions to improve QoL in the elderly. Recentstudies have shown that activities such as art, interactive games, rhythmicmovement, and intergenerational communication have positive effects on thephysical and mental well-being of older adults, especially within home carecontexts. According to the World Health Organization (2020), promotingmultidimensional activity participation is beneficial to healthy aging,delaying functional decline and enhancing social connections.

Purpose:

This study aims to explorethe impact of multimodal activity interventions (e.g., interactive games,medical clown performances, rhythmic movement) on the QoL of home-dwellingolder adults. It synthesizes current empirical research and draws implicationsfor subjective experiences and practical applications.

Methods:

A scoping reviewmethodology was adopted, with literature retrieved from five major databases(PubMed, CINAHL, Cochrane, Google Scholar, and Airiti Library) publishedbetween 2019 and 2024. The keywords used included "older adults,""quality of life," and "multimodal activities." Afterscreening, nine representative empirical studies were selected for analysis andsynthesis.

Results:

Findings from theempirical studies indicate that multimodal interventions can significantlyenhance older adults' subjective well-being, self-worth, and life satisfaction.Chan et al. (2019) demonstrated through a randomized controlled trial thatintegrative programs combining physical, cognitive, and social activitiesimproved psychological health and social interaction. Teri et al. (2003) foundthat combining exercise with cognitive behavioral training helped reducebehavioral issues and improved daily functioning among elderly patients withAlzheimer's disease. Lee et al. (2018) reported that community-based multimodalprograms for older adults with chronic conditions boosted self-rated health andactivity engagement. Additionally, research by Gigliotti and Jarrott (2005)showed that horticultural therapy and sensory-based artistic activitiessignificantly improved emotional responses and social participation amongindividuals with dementia. These non-pharmacological interventions have provenbeneficial in enhancing QoL for older adults.

Conclusion/Implementations for practice:

It is recommended thatfuture home care services integrate participatory and playful activity designs.Evaluations should include older adults' subjective experiences of well-beingand loneliness, serving as a strategy to improve both care quality and qualityof life.

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Keyword: Older Adults, Quality of Life, Multimodal Activities, Scoping Review

Clinical Respiratory Care Experience in a Patient with Cerebellar Hemorrhage: A Case Report

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Abstract

Background:

Intracerebral hemorrhage (ICH) is one of the most lethal and disabling types of stroke. Cerebellar hemorrhage, due to its proximity to the brainstem and fourth ventricle, carries a high risk of brain edema and herniation, posing a serious threat to life (Cordonnier et al., 2018). In patients with concurrent respiratory failure, abnormal fluctuations in $PaCO_2$ can significantly affect cerebral blood flow and intracranial pressure. Therefore, timely and appropriate respiratory therapy is essential to stabilize the clinical condition and improve outcomes (Diringer et al., 2020).

Purpose:

The purpose of this case report is to present the complete course of respiratory care for a patient with cerebellar hemorrhage complicated by respiratory failure in the intensive care unit, focusing on the impact of interventions such as ventilator settings, gas exchange monitoring, airway clearance, and spontaneous breathing training on clinical outcomes.

Methods:

The patient was a 70-year-old male admitted to the intensive care unit (ICU) due to hypertensive left cerebellar hemorrhage. As his condition deteriorated, endotracheal intubation and external ventricular drainage (EVD) were performed. Respiratory therapy strategies included appropriate ventilator settings, such as adequate PEEP to maintain sufficient oxygenation, and implementing a hyperventilation strategy to maintain $PaCO_2$ levels between 30–35 mmHg. This approach helps reduce intracranial pressure, improve cerebral perfusion, decrease brain edema, and stabilize the condition, requiring strict monitoring to avoid side effects. Daily chest physiotherapy and airway clearance were conducted to prevent ventilator-associated pneumonia. As the condition improved, staged spontaneous breathing training (SBT) was initiated, along with coordination with physical therapists to enhance respiratory muscle strength and cardiopulmonary function, facilitating ventilator weaning.

Results:

The patient’s oxygenation began to improve on day 9. After stabilization of EVD drainage, the catheter was removed on day 11. Throughout the treatment, $PaCO_2$ was successfully maintained between 30–35 mmHg, contributing to intracranial pressure control and clinical stabilization. The duration of spontaneous breathing training was gradually increased to two hours, after which the patient was successfully extubated and weaned from mechanical ventilation. The patient’s pneumonia improved significantly following antibiotic administration and consistent chest physiotherapy. No reintubation was required, and the patient was successfully discharged from the ICU.

Conclusion/Implementations for practice:

Individualized and multifaceted respiratory therapy strategies can effectively stabilize gas exchange in neurocritical patients, reduce dependence on mechanical ventilation, and promote recovery. Integrating multidisciplinary collaboration and close monitoring helps enhance care quality and patient outcomes. This case provides valuable practical insight for frontline respiratory therapists managing neurologically critical conditions.
Keyword: Cerebellar Hemorrhage, Respiratory Care, Respiratory Failure, SBT

Can the use of anti-adhesion film in abdominal surgery effectively reduce the incidence of postoperative adhesion?

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Abstract

Background:

Postoperative intra-abdominal adhesions are a frequent and potentially severe complication following abdominal surgery, often resulting in adhesive small bowel obstruction (ASBO). These complications not only impair patient quality of life but also impose significant healthcare costs. Anti-adhesion barrier films, such as Seprafilm® or sodium hyaluronate–carboxymethylcellulose(HA–CMC) membranes, create a temporary physical barrier between tissues duringthe early postoperative period to reduce adhesion formation.

Whether the use of anti-adhesion film in abdominal surgery can effectively reduce the incidence of postoperative adhesion.

Methods:

PICO keywords were used, P: patients undergoing abdominal surgery (Abdominal Surgery), I: use of anti-adhesion materials (Adhesion Barr), C: Conventional surgical management withoutanti-adhesion materials, O: degree and incidence of postoperative adhesion formation (Tissue Adhesions); the empirical literature database from 2020 to 2025 (CEPS Huayi Chinese Electronic Journal Database, Cochrane Library, and PubMed, etc.) was searched, and a total of 666 literature abstracts were searched. According to the 2011 Oxford evidence classification criteria, three systematic literature meta-analyses and one expert literature report within five years were extracted for evaluation and analysis.

Results:

Three systematic reviews and meta-analyses—(1) Kumar et al., *Seprafilm® and adhesive smallbowel obstruction in colorectal/abdominal surgery: an updated systematic review*(2022), (2) Wang et al., *Laparoscopic application of sodiumhyaluronate–carboxymethylcellulose barrier in abdominopelvic surgery: aPRISMA-compliant systematic review and meta-analysis* (2021), and (3) Lee etal., *Effect of hyaluronate-based bioresorbable membrane (Seprafilm) onoutcomes of abdominal surgery: a meta-analysis and trial sequential analysis ofrandomized controlled trials* (2020)—consistently demonstrated that Seprafilm® significantly reduces the incidence of ASBO in both laparoscopic andopen abdominal surgeries.

Conclusion/Implementations for practice:

Evidence supports the clinical effectiveness of anti-adhesion barriers in abdominal surgeries, especially in high-risk patients. Seprafilm® and HA/CMCmembranes can reduce postoperative adhesions, lower the risk of adhesive smallbowel obstruction, shorten hospital stays, and improve overall patient outcomes. It is recommended to incorporate the use of these barriers into surgical protocols to enhance recovery and reduce healthcare costs associated with adhesion-related complications

Keyword: Abdominal surgery, Anti-adhesion film, Incidence of postoperative adhesion.

A Preliminary Study on the Application and Effectiveness of an Integrated Horticultural and Game-Based Activity Program in a Day Care Center

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Abstract

Background:

Taiwan has entered a super-aged society, leadingto increased demand for long-term care. Strengthening community-based care hasbecome ever more crucial, with day care centers serving as a vital component ofsuch services. However, activity programs in many day care centers are oftenplanned, designed, and led by center staffas an additional responsibility, and the objectives of these activities arefrequently unclear. Designing activity programs that effectively meet the needsof elderly participants in day care settings has thus become an important issueworthy of exploration.

Purpose:

Based on the needs assessment of older adults inthe day care center, an integrated horticultural and game-based activityprogram was designed and implemented. The study further explored theimplementation process and outcomes of the activities, serving as a referencefor future activity planning in day care centers.

Methods:

This study adopted an action research approach.The first phase involved developing the activity plan based on past experienceand the current situation. The second phase focused on implementing theactivity sessions, assessing both the process and outcome effectiveness, andapplying lessons learned to subsequent cycles. In Phase I, observational data of olderadults in the day care center and interviews with center staff were used tocollect reference materials for activity planning. In Phase II, data on theactivity process and elder participation were gathered using observation andactivity implementation record sheets, while participant feedback was collectedthrough a satisfaction survey.The research site was a mixed-type day carecenter. A total of 46 older adults participated in the activities, but due tolimited research personnel, only 10 cognitively and communicatively intactparticipants were selected for activity observation. Their average age was 80.7years old.Among them, one had normal ADL function, one had mild dependence, seven hadmoderate dependence, and one had severe dependence. The activity programcombined horticultural and game-based therapy and was conducted once a week forfour weeks, with each session lasting one hour.

Results:

Observational data from the four sessions showedthat participants performed consistently across six indicators: attention,emotional satisfaction, verbal expression, engagement, interaction with thefacilitator, and interaction with other members. The average score was 3.63 outof 4, with interaction-related indicators scoring slightly higher. Satisfactionratings regarding activity content, materials, environment, and

perceivedbenefits averaged 4.61 out of 5. The implementation process was reviewed in termsof elder safety, materials used, and reward mechanisms.

Conclusion/Implementations for practice:

The four-week integrated horticultural andgame-based activity program had positive effects on attention, emotionalwell-being, and interpersonal interactions among cognitively intact olderadults in the day care center. Participants expressed high to very highsatisfaction with the activities. For implementation, caution should be takenwith small-sized materials to prevent accidental ingestion by participants withdementia. Activity materials should be appropriately sized for the operatingenvironment, and timely rewards can enhance motivation. These findings mayserve as a valuable reference for future activity planning in day care centers.
Keyword: Horticultural Activity , Game-Based Activity, Effectiveness of Activity Program, Day Care Center

Application of Artificial Intelligence in Nursing Records: A Review of Accuracy and Error Rates

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Abstract

Background:

Nursing documentation is a critical aspect of patient care, ensuring continuity and communication among healthcare providers. However, the increasing documentation workload has led to the exploration of Artificial Intelligence (AI) technologies to assist in streamlining these processes.Speech recognition, natural language processing (NLP), and automated transcription systems have been widely studied for their potential to reduce manual documentation tasks. Despite these advancements, concerns about accuracy and reliability remain prevalent, as errors in clinical documentation can directly impact patient safety and treatment outcomes. AI in nursing documentation is gaining traction as a strategy to reduce workload and enhance efficiency. Technologies such as speech recognition, natural language processing (NLP), and automated transcription systems have been explored for their potential to streamline nursing documentation processes. However,concerns remain regarding the accuracy and reliability of AI-generated nursing records, particularly given the critical nature of clinical data.

Purpose:

This study aims to review existing literature to assess the accuracy and error rates of AI-generated nursing records, identify common error types, and propose potential strategies for improvement.

Methods:

A systematic review was conducted using databases including PubMed, IEEE Xplore, ScienceDirect, and Web of Science, focusing on studies published between 2018 and 2025. Keywords such as “AI nursing records,” “speech recognition errors,” and “NLP in clinical documentation” were utilized. A total of 20 studies meeting inclusion criteria were analyzed.

Results:

The findings indicate that AI-generated nursing records exhibit higher error rates compared to handwritten records. Speech recognition systems had error rates ranging from 4.6% to 6.8%, primarily due to misinterpretation of medical terminology and accent variations. NLP systems recorded an average error rate of 7.4%, with significant issues in semantic interpretation and spelling errors. Automated transcription systems, though slightly more accurate, had error rates ranging from 2.1% to 3.5% involving data conversion and grammatical inconsistencies.

Conclusion/Implementations for practice:

Despite the promising potential of AI systems in alleviating documentation burdens for nursing staff, the current error rates observed in speech recognition, NLP, and transcription systems indicate a critical need for improvement. The identified issues, including medical terminology misinterpretation, semantic errors, and data conversion inaccuracies, highlight the importance of implementing robust human review processes. Moreover,enhancing AI language models with specialized medical terminologies and expanding support for diverse accents and dialects are essential to reducing error rates. Future studies should focus on evaluating AI system performance in high-risk clinical areas such as intensive care units (ICUs) and emergency departments, where documentation accuracy is paramount. Strategies such as integrating human review processes, refining AI language models with medical terminologies, and expanding support for dialects and accents are recommended.Future research should focus on optimizing AI systems in specialized clinical contexts and incorporating adaptive learning algorithms to further enhance documentation accuracy.
Keyword:AI nursing records , speech recognition errors , NLP in nursing documentation

Exploring the benefits of home-based respite care service: Perspectives of family caregivers

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Abstract

Background:

Taiwanis quickly becoming a super-aged society, with a growing elderly populationleading to increased demand for long-term care. This situation places significantphysical, mental, and financial stress on family caregivers. In response, thegovernment has introduced "home respite services" as part of theLong-term Care 2.0 policy. This initiative aims to provide primary caregiverswith short-term, home-based respite care, allowing them to rest and alleviatestress. However, despite the thoughtful design of this policy, the actualutilization of these services remains low. This suggests a disconnect betweenthe system's design and the real needs of caregivers. To enhance theaccessibility and effectiveness of these services, it is essential to examinethe barriers to usage and understand caregivers' true needs.

Purpose:

1.To examine the current situation and subjective experiences of familycaregivers who use home respite services. 2. To identify the main barriers thatimpact service accessibility, satisfaction, and ongoing use. 3. To proposerecommendations aimed at optimizing the system and enhancing services.

Methods:

Thisstudy employs a qualitative research method, collecting data through in-depthinterviews with three family caregivers using a semi-structured questionnaire.The questions include: 1. What kind of assistance do respite care servicesprovide to family caregivers? 2. How do these services help relieve caregiverstress? 3. What factors influence your decision to continue using home respiteservices? Content analysis was utilized to interpret the data, and the contentwas reviewed multiple times throughout the process to ensure its authenticity.

Results:

Throughin-depth interviews, three key themes were identified regarding familycaregivers' experiences with home care respite services: 1. Opportunity for aBreak: Family caregivers appreciated the chance to take a temporary break fromtheir caregiving duties. 2. Need for Stability: Caregivers expressed a need forfixed hours and consistent caregivers. They experienced challenges such as alack of caregiver availability during the night and on holidays, frequentchanges in staff, and difficulties in building a trusting relationship with caregivers.3. Feelings of Responsibility and Guilt: Many caregivers continue to viewcaregiving as a personal obligation. Despite feeling physically and mentallyexhausted, they often struggle to accept external help, which leads to feelingsof guilt and ambivalence.

Conclusion/Implementations for practice:

Toenhance the accessibility and effectiveness of home respite services, thefollowing recommendations are proposed: 1. Expand the scope of caregivers andservices, particularly in remote areas and during holidays. 2. Establish anonline platform for appointment scheduling and caregiver matching. 3. Allowusers to choose their preferred service times and familiar caregivers. 4.Simplify the application process. 5.Set up a one-stop integrated service window to reduce administrative burdens. 6.Promote a culture of caregiving and raise awareness of the benefits of seeking help.7. Foster greater public trust in professional services. This study highlightsthat home respite services should be user-centered and tailored to the realneeds and psychological requirements of caregivers.
Keyword: home-based respite care service； home care service； family caregivers

Exploring Intergenerational Learning in Geriatric Care Education: Innovative Scenario-Based Teaching in the New Southbound Program

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Abstract

背景：

As Taiwantransitions into a super-aged society, the development of long-term careprofessionals has become a crucial educational priority. The increasingenrollment of New Southbound students in geriatric care programs presentschallenges, including language barriers, cultural differences, and limitedpractical experience. To improve learning outcomes and encourage interculturalunderstanding, this study incorporates "intergenerational learning"and "scenario simulation" to enhance skill development and studentengagement in care education.

目的：

Thisstudy aims to evaluate the effectiveness of combining intergenerationallearning with scenario simulation to enhance the cognitive, affective, andpsychomotor learning outcomes of students in the New Southbound program focusedon geriatric care skills. Additionally, it explores the potential benefits ofthis teaching approach for older adult teaching assistants.

方法：

Thisstudy employs an action research approach involving 20 Vietnamese students andtwo in-service adult learners with clinical experience who served as teachingassistants. The course spanned 12 weeks, consisting of weekly sessions lasting6 hours each. It covered essential care techniques, including repositioning,back tapping, and diaper changing. The course incorporated role-playing and theuse of assistive devices. Both quantitative data, gathered through a five-pointLikert scale, and qualitative data, obtained from semi-structured interviews,were collected.

結果：

Studentsreported high average scores across three learning domains: cognition (M =4.33), skills (M = 4.47), and attitudes (M = 4.73). The particularly strongoutcomes in attitudes indicate high levels of engagement and a willingness toprovide care. Qualitative reflections revealed that students experiencedsignificant improvements in four areas through intergenerational learning witholder teaching assistants: practical experience, empathy and patience, learningconfidence, and intergenerational collaboration. Additionally, the older adultassistants reported enhanced teaching satisfaction and increased self-efficacy.

結論/實踐實施：

Thisstudy confirms that integrating intergenerational learning with scenariosimulation is an effective teaching strategy for enhancing the skills,attitudes, and cultural understanding of New Southbound students in geriatriccare. This approach also promotes intergenerational interaction andpsychological empowerment. Future care education programs should focus onfurthering cross-generational collaboration and

designing culturally adaptivecurricula to improve the overall competencies of international long-term careprofessionals.
Keyword: Intergenerational Learning / Simulation-Based Learning / Elder Care Skills

A Pilot Study of Mindful Breathing to Relieve Withdrawal Symptoms in Smokers with Myocardial Infarction

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Abstract

Background: Cardiovasculardisease remains one of the leading causes of death worldwide, with smokingrecognized as a major yet preventable risk factor. Although many myocardialinfarction (MI) patients are motivated to quit smoking, success rates remainlow due to the physical and psychological challenges of nicotine withdrawal,including cravings, anxiety, stress, and depression symptoms. In recent years,mindful breathing has emerged as a simple and accessible non-pharmacologicalintervention to alleviating withdrawal symptoms and reducing emotional distressin clinical practice.

Purpose: This pilot study aimed toexamine the preliminary effectiveness of a mindful breathing intervention inreducing nicotine dependence, anxiety, stress, and depressive symptoms amongsmoking MI patients during the smoking cessation period.

Methods: Thispilot study employed a one-group pretest-posttest design. Participants weresmoking MI patients admitted to the adult intensive care unit of a medicalcenter in southern Taiwan. The intervention lasted for five consecutive days,during which participants engaged in mindful breathing exercises twice daily,with each session lasting 5 minutes. Guided instructions and audio recordingswere provided to facilitate practice, and participants were asked to documenttheir practice in a diary log. Outcome measure were assessed on the day ofadmission (T0) and on the fifth day following the intervention (T1).Measurement tools included the Depression Anxiety Stress Scale (DASS-21) andthe Fagerström Test for Nicotine Dependence (FTND).

Results: Following the intervention,participants showed notable imprivements in both emotional well-being andnicotine dependence. On the DASS-21, stress scores decreased from 8.7 to 4.7,anxiety scores from 6 to 3.7, and depression scores from 9 to 7, indicating areduction in psychological withdrawal symptoms. Additionally, the FTND scoredecreased from 5 to 2, reflecting a substantial reduction in nicotinedependence.

Conclusion/Implementations for practice: Mindfulbreathing is a simple and feasible intervention that can effectively reducenicotine dependence and alleviated negative emotional responses during thesmoking cessation period in MI patients who smoke. This intervention mayenhances patients' confidence in quitting smoking and provides a promising,practical adjunct for use in clinicalnursing practice.

Keyword:myocardial infarction, smoking cessation, nicotine dependence, mindful breathing, anxiety, depression, stress

Nursing experience in caring for a patient with failed breast reconstruction surgery

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Abstract

Background:

According to data from the Ministry of Health and Welfare (2024), breast cancer ranks first among cancers affecting women, with a particularly high incidence in the 45 to 69 age group. Breast cancer causes approximately 24.6 deaths per 100,000 people, making it the second leading cause of cancer-related death among women. The primary treatment approach remains the modified radical mastectomy.

Purpose:

This case focuses on the assessment and nursing care of a patient who experienced failed breast reconstruction. The Roy Adaptation Model was adopted to guide nursing care. Through proactive care and attentive listening, a trusting relationship was established, providing the patient with psychological support and encouraging emotional expression. Individualized care was implemented to help alleviate concerns about changes in body image and to restore a sense of self-wort

Methods:

The nursing period spanned from April 13 to April 27, 2023. Data collection methods included patient interviews, physical assessments, observations, listening, chart reviews, and nursing care processes. Using Roy's Adaptation Model, the primary health issues identified were: disturbed body image, risk of infection, and acute pain.

Results:

The patient was able to actively express her emotions, learned how to care for her wound, and used a mirror to examine the surgical site. With the encouragement of the nursing staff, she was able to discuss the condition of the wound and the intensity of her pain, there by rebuilding her confidence and self-worth.

Conclusion/Implementations for practice:

This case involves an unmarried woman who,dissatisfied with the appearance of her left breast following cancer surgery,underwent flap-based micro surgical reconstruction, which unfortunately failed.During her hospitalization, the nursing team provided compassionate support and attentive listening, encouraging her to face the trauma positively. After discharge, the nursing staff conducted telephone follow-ups to monitor wound healing and psychological adjustment. Through interdisciplinary collaboration, comprehensive care was provided to support the patient holistically.

Keyword:乳癌、重建手術、身體心像改變

Green Tea Mouthwash for Ameliorating Oral Mucositis in Head and Neck Cancer Patients: A Case Report

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Abstract

Background: Oral mucositis (OM), a common side effect of cancer treatment, often compromises patients' oral hygiene compliance and overall oral health. Severe OM can lead to infections and treatment interruptions. Mouthwash is a common strategy to manage OM and improve oral health.

Purpose: This report aims to describe the observed effects of green tea mouthwash on oral mucositis in two head and neck cancer patients undergoing cancer treatment.

Methods: Following an evidence-based nursing approach, two head and neck cancer patients receiving cancer treatment in an oncology ward at a hospital in Hsinchu were observed. One patient used a 5% 100ml green tea mouthwash, while the other used 100ml plain water as a mouthwash. Oral Mucositis was assessed using the Oral Assessment Guide (OAG).

Results: After two months of intervention, the patient using green tea mouthwash showed a decreasing trend in OAG scores, suggesting an improvement in oral mucositis compared to the patient using plain water.

Conclusion/Implementations for practice: This case report suggests that green tea mouthwash, given its simple, natural, effective, and safe characteristics, may be a promising non-pharmacological intervention for improving and potentially maintaining long-term oral health in head and neck cancer patients with OM. Further large-scale studies are warranted to validate these preliminary observations.

Keyword: Green Tea Mouthwash、Oral Mucositi、Head and Neck Cancer、Cancer Treatment、Oral Health、Cancer Treatment、Nursing Care

Challenges and Barriers to Artificial-Intelligence Adoption in Nursing: A Systematic Review

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Abstract

Background:

Globally, artificial intelligence (AI) is oftenpromoted as a promising solution to chronic nursing shortages and the growingcomplexity of patient care. Routine tasks such as documentation, riskprediction, and supply tracking are now technically automatable. However,bedside nurses still encounter AI primarily in isolated pilot programs ratherthan in daily practice, highlighting a persistent “last-mile” gap betweenlaboratory success and clinical reality—especially in regions such as Taiwan,where national health insurance policies and localized workflows differsubstantially from those described in most high-income, English-languagestudies.

Purpose:

This review synthesizes contemporary evidence toaddress two key questions:(1)What technical, organizational, and socio-ethicalbarriers most commonly hinder AI adoption in nursing? (2)Which mitigationstrategies are consistently recommended and thus merit prioritization byhospital leaders and nurse informaticists?

Methods:

Following PRISMA 2020 guidelines, fivedatabases—PubMed, CINAHL, Web of Science, Airiti Library, and GoogleScholar—were searched for studies published between January 2020 and April2025. Search terms combined “artificial intelligence,” “machine learning,”“nursing,” “barriers,” “challenges,” and “Taiwan.” After removing duplicates,794 titles were screened, 123 full-text articles were reviewed, and 42 studies(18 qualitative, 15 quantitative, 9 reviews) met the inclusion criteria. Studyquality was assessed using CASP (for qualitative and cross-sectional studies)or AMSTAR-2 (for reviews). Two reviewers conducted inductive content analysis,grouping codes into higher-level themes and calculating their frequency acrossthe corpus.

Results:

Six primary challenge domainswere identified:

Data quality andstandardization (31%)—Inconsistent terminologies,missing values, and limited HL7-FHIR mapping hinder model training andtransferability.

Privacy and cybersecurity(24%)—The use of voice and video streams forambient documentation raises heightened legal concerns under Taiwan’s PersonalData Protection Act.

Workflow integration and alertfatigue (21%)—Nurses reported abandoning AI toolswhen multiple dashboards or excessive pop-up alerts increased cognitive load.

Regulation and liability (17%)—Uncertainty regarding Software-as-a-Medical-Device classification,coupled with ambiguous responsibility when algorithmic recommendations areincorrect.

Model bias andgeneralizability (14%)—Algorithms trained innorthern tertiary centers performed poorly in rural or long-term care settings,underscoring the need for ongoing local retraining.

Human capacity and culturalacceptance (31%)—Low data literacy, fear of jobdisplacement, and a shortage of certified nurse informaticists slowed adoption.

Taiwan-specific studiesadditionally emphasized the lack of clear reimbursement mechanisms under theDiagnosis-Related Group payment model, making it difficult for chief financialofficers to justify substantial AI capital expenditures.

Conclusion/Implementations for practice:

Technical readiness alone is insufficient;sustained AI adoption in nursing depends on a four-pillar foundation: rigorousdata governance, user-centered workflow redesign, proactive regulatoryplanning, and continuous workforce development. Hospitals should begin withnarrowly scoped proof-of-concept projects that address clear nursing painpoints—such as fall prediction, instrument counting, and pressure injuryalerts—leveraging lightweight language or vision models combined withretrieval-augmented generation and mandatory human sign-off. Early collectionof real-world effectiveness data (e.g., accuracy, time savings, adverse eventreduction) will facilitate TFDA SaMD submissions and strengthen the businesscase for scaling. Ultimately, positioning AI as a transparent, auditablecollaborator—rather than a black-box replacement—offers the best chance oftransforming technological promise into safer, more efficient nursing care.

Keyword: Nursing AI , Data Governance , Workflow Integration , Regulatory & Ethical Barriers

Exploring the Effectiveness of Chlorhexidine, Povidone-Iodine, Saline Solution, Soap and Water, and Other Disinfectants in Preventing Catheter-Associated Urinary Tract Infections (CAUTI).

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Abstract

Background: Catheter-associated urinary tract infections(CAUTIs) are among the most common healthcare-associated infections. Pathogensfrom the urethral and perineal regions can ascend along the catheter surface,leading to colonization and infection. Prolonged catheterization increases thedaily risk of bacteriuria by approximately 3%-7%. Globally, a variety ofdisinfectants-such as povidone-iodine (PVP-I), saline solution, and soap andwater-are routinely used to prevent CAUTIs. In Taiwan, PVP-I remains thepredominant antiseptic. However, the effectiveness of chlorhexidine (CHG) inCAUTI prevention remains underexplored in local practice.

Purpose: This study aimedto compare the effectiveness of CHG with PVP-I, saline solution, and soap andwater as pre-catheterization disinfectants in preventing CAUTIs, utilizingevidence from randomized controlled trials (RCTs), systematic reviews, andmeta-analyses.

Methods: A systematic literature search was conducted acrossfive databases: Huayi Online Library, Cochrane Library, PubMed, Medline, andCINAHL. Boolean logic and targeted keywords were used to retrieve relevantliterature published between 2018 and 2025. Inclusion criteria encompassedEnglish or Traditional Chinese full-text RCTs or systematic reviews, publishedwithin the past seven years, with free full-text access. Review articles andnon-rigorous clinical trials were excluded. A total of six studies meeting thePICO framework were included, comprising five RCTs and one systematic review.Methodological quality was assessed using the RAMBO checklist for RCTs and theCASP 2022 tool for systematic reviews. The strength of evidence was gradedusing the 2011 Oxford Centre for Evidence-Based Medicine criteria.

Results: Meta-analysisrevealed that CHG was more effective than PVP-I, saline solution, and soap andwater in reducing bacteriuria and the incidence of CAUTI. The included RCTsconsistently reported a lower infection rate associated with CHG use. Onesystematic review highlighted that even a low concentration of 0.1% CHGdemonstrated significant preventive efficacy and cost-effectiveness. The study by Mitchel reinforced these findings, noting that 10% PVP-I and soap-based cleansing were less effective compared to CHG.

Conclusion/Implementations for practice: CHG demonstratessuperior effectiveness in preventing CAUTIs compared to other commonly useddisinfectants. However, due to methodological heterogeneity and shortobservation periods in current studies, future research should incorporatelonger follow-up (≥30 days) and additional clinical validation to strengthenevidence-based practice. This reviewsupports the use of CHG as a primary disinfectant for catheterizationprocedures to reduce CAUTI incidence, enhance patient safety, and lowerassociated healthcare costs. Clinical disinfectant selection should remainindividualized based on patient needs and risk factors.

Keyword: Catheter-Associated Urinary Tract Infections(CAUTI), Chlorhexidine, Povidone-Iodine, Soap and Water, Infection control

Using the Human Response to Illness Model in the Nursing Care of a Patient with Gingival Carcinoma and Oral Mucositis

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Abstract

Background: Head and neck cancer (HNC) is a major global health concern, with oral cancer being particularly prevalent in Taiwan, especially among middle-aged men with histories of smoking and betel quid chewing (Patterson et al., 2020; Ministry of Health and Welfare, 2021; National Health Research Institutes, 2019; Liang & Lin, 2015). Gingival cancer, a common oral SCC, arises from chronic oral mucosal irritation (Scully & Bagan, 2009), presenting with symptoms from non-healing ulcers to metastasis (Zeng, He, & Zheng, 2022).HNC treatment, often involving combined therapies like concurrent chemoradiotherapy (CCRT) for metastatic gingival cancer, significantly improves efficacy (NCCN, 2022; Fan et al., 2015). However, this intensifies severe side effects, notably oral mucositis (Rose-Ped et al. al., 2002). Oral mucositis, defined as any compromise to oral mucosal integrity, is highly variable during CCRT, necessitating adaptive, individualized care (Lin, Chou, Hsieh, & Liu, 2022). This severe side effect profoundly impacts eating, nutrition, wound healing, and overall quality of life.

Purpose: This paper applies the Human Response to Illness Model (HRIM)—examining physiological, pathophysiological, behavioral, and experiential perspectives—to demonstrate its framework for holistic nursing care in a patient with gingival carcinoma complicated by oral mucositis.

Methods: This case report details the 30-day (March 27 – April 27, 2025) HRIM-guided nursing care for a patient with gingival carcinoma and oral mucositis, using collected data from various assessments.Our specific nursing methods included:

1. Patient Assessment & Data Collection: We systematically gathered both objective (e.g., vital signs, oral mucosal status, lab reports) and subjective data (e.g., chief complaints, pain, emotional state) via interviews, history-taking, physical exams, medical record reviews, and family discussions. A key focus, guided by HRIM, was to understand the patient's physiological, psychological, social, and spiritual responses to their condition.

2. Nursing Diagnosis Formulation: Using critical thinking, we analyzed the collected data to identify primary nursing problems and formulated NANDA-I diagnoses that aligned with the patient's actual status and HRIM principles (e.g., Impaired Oral Mucous Membrane Integrity, Imbalanced Nutrition: Less Than Body Requirements, Ineffective Health Management).

3. Nursing Plan Development & Implementation: We collaboratively set specific, measurable, achievable, relevant, and time-bound goals with the patient and family for each diagnosis. Individualized interventions were then planned and executed. These encompassed oral hygiene, nutritional support, and promoting self-management by exploring the importance of healthy habits, disease recurrence, and the impact of lifestyle changes. The process emphasized health education and empowering the patient and family in self-care.

4.Nursing Outcome Evaluation: We continuously monitored intervention effectiveness by regularly evaluating the patient's responses and checking if goals were met. This included assessing oral mucosal improvement, weight changes, and self-health management abilities. Plans were adjusted promptly based on these evaluations to ensure continuous and appropriate care.

Results:HRIM-guided nursing care, the patient showed significant improvements across multiple domains during the 30-day period:Physiological Responses: Oral mucositis improved from Grade III to Grade I, enhancing comfort and treatment tolerance. Nutritional status stabilized, with adequate weight and caloric intake, preventing further deterioration.Psychological Responses: Patient anxiety significantly decreased, shifting from initial apprehension to a more cooperative demeanor.Social & Spiritual Responses: The patient resumed social interaction. With spiritual support, they found renewed purpose, desiring to "live well and spend more time with family." Health Management: The patient's understanding and confidence in post-discharge self-care notably improved, indicating enhanced readiness for home management.

Conclusion/Implementations for practice:A key limitation of this report was the inability to directly observe post-discharge home care, preventing full evaluation of self-care effectiveness. To enhance care quality, we recommend strengthening the case manager's role. Their early intervention and seamless transition support, including home visits, could significantly improve comprehensive self-care evaluation, timely issue resolution, and sustained high-quality care.

The Impact of Pressure-Relieving Mattresses on the Incidence of Pressure Ulcers in Long-Term Bedridden Patients: A Systematic Literature Review.

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Abstract

Background: Long-term bedriddenpatients are highly susceptible to pressure ulcers due to sustained pressureand limited mobility, which may result in complications such as infections, sepsis,prolonged hospitalization, and increased healthcare costs. Despite the widerange of pressure-relieving mattresses available, clinical decisions are oftenguided by experience rather than robust evidence. This study systematicallyexamines the effectiveness of different types of pressure-relieving mattressesin preventing and treating pressure ulcers.

Purpose: To evaluate thecomparative effectiveness of various mattresses—such as automatic turningmattresses, static air mattresses, and assisted turning surfaces—in reducingthe incidence and promoting the healing of pressure ulcers in long-termbedridden adults.

Methods: A systematic literaturesearch was conducted across five major databases: Huayi Online Library, PubMed,Cochrane Library, Medline, and CINAHL. Boolean operators and predefinedkeywords were used, yielding 2,477 articles. After applying inclusioncriteria—publication between 2019 and 2025, randomized controlled trials (RCTs)or systematic reviews, participants aged ≥18 years, diverse BMI categories, andavailability of full-text—the final selection included five articles meetingthe PICO framework. Quality appraisal was conducted using the RAMBO tool, andlevels of evidence were classified based on the Oxford Centre for Evidence-BasedMedicine (2011) grading system.

Results: Findings suggest thatpressure-relieving mattresses, particularly static air mattresses and automaticturning systems, are effective in reducing the incidence of pressure ulcers andfacilitating wound healing. These interventions also contribute to improvedpatient comfort and care outcomes. While variations existed in sample size,intervention protocols, and follow-up duration, all selected studies reportedfavorable outcomes associated with specialized mattresses.

Conclusion/Implementations for practice: Pressure-relievingmattresses represent a beneficial intervention for preventing and managingpressure ulcers in immobile patients. They can reduce complication rates,support faster healing, and lessen caregiver burden. Nevertheless,heterogeneity in study designs calls for further large-scale, high-qualityresearch. Future trials should consider extended follow-up periods (≥30 days)to evaluate long-term effects.The findings support theclinical adoption of static air mattresses in long-term care settings toenhance patient safety and reduce pressure ulcer-related costs. Mattressselection and repositioning protocols should be tailored to individual patientneeds to maximize preventive efficacy.

Keyword: Long-Term Bedridden Patients, Pressure Ulcers, Pressure-Relieving Mattresses

Enhancing Operating Room Efficiency and Safety: The Effectiveness of QR Code-Based Digital Identification Technology

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Abstract

Background:

Instrument management in the operating room plays a critical role in both accuracy and efficiency. However, traditional methods involving manual labeling, handwritten records, or visual identification often lead to errors, time-consuming processes, and missing instruments, which in turn affect surgical workflows and patient safety. With the advancement of medical informatization, implementing digital identification technologies can enhance the efficiency of instrument tracking, counting, and management. QR Code (two-dimensional barcode) technology, in particular, offers advantages such as fast recognition, high data capacity, and excellent readability, making it an innovative solution for improving instrument identification in the operating room.

Purpose:

This study aims to evaluate the effectiveness of applying QR Code digital technology to instrument identification tasks in the operating room, specifically in terms of: Reducing instrument identification errors and Enhancing the standardization and digitization of instrument management processes.

Methods:

This study was conducted in the operating room of a regional hospital. The project integrated an information platform connecting the operating room, supply room, and instrument tracking system. A quasi-experimental design was adopted, focusing on ten commonly used instrument sets, comparing conditions before and after implementation, Data collection was conducted in two phases: thepre-intervention phase (traditional manual identification) and thepost-intervention phase (implementation of the QR code identification system).The study period spanned from January to March 2025, with a total of 60surgical cases included (30 cases before and 30 cases after the intervention).Only elective surgeries requiring standard instrument trays were included.Emergency surgeries and those involving special or customized instrument trayswere excluded. The measurement tools included surgical instrument preparationtime, number of instrument identification errors, and user satisfaction.

- Before improvement: Instruments were identified and managed using traditional methods, including manual recognition and paper-based documentation.
- After improvement: Each instrument was laser-engraved with a unique QR Code and paired with scanning devices and an electronic checklist system for counting, handovers, and reporting anomalies.

Data were collected over a three-month period for before-and-after comparison. Key metrics included instrument counting error rates and user satisfaction measured via a Likert-scale questionnaire.

Results:

After implementation, the effectiveness was evident: The average instrument preparation time decreased from 15.2 minutes before the intervention to 8.7 minutes after the intervention. based on a 5-point Likert scale, the instrument identification error rate dropped from 3.2% to 0.4%. User satisfaction increased from 3.1 to 4.5. Nursing staff commented: “Since adopting the QR Code system, repeated counting and disputes have significantly decreased. The handover process is more evidence-based—very convenient!”

Conclusion/Implementations for practice:

This study confirms that introducing QR Code-based digital identification technology can significantly improve instrument management processes in the operating room. Specific outcomes include:

1. Clear identification of instruments, reducing manual recognition errors.
2. Streamlined processes that better support high-pressure surgical environments.
3. Establishment of traceable records for instrument usage and sterilization, aiding infection control and regulatory compliance.
4. Significant improvements in work efficiency and satisfaction among nursing staff.

Keyword: Operating Room, Instrument Identification, Digital Management, Medical Information Systems, Quality Improvement

Nursing Care Experience of a Newly Diagnosed Female Patient with Diabetes Who Underwent Foot Amputation Due to Ulcer-related Necrosis Tissue Necrosis

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Abstract

Background:

Diabetes has become a significant public health issue in Taiwan, with the number of diagnosed cases rising rapidly and expected to reach 2.5 million by 2024. It is now one of the leading causes of death among Taiwanese residents. Complications related to poor glycemic control are increasingly concerning, with diabetic foot ulcers being the most common. It is estimated that 15–25% of people with diabetes will experience a foot ulcer at some point in their lives. If the ulcer becomes infected, it can lead to serious conditions such as osteomyelitis or cellulitis, and even progress to tissue necrosis,ultimately requiring amputation.This report explores the nursing experience of caring for a newly diagnosed female diabetic patient who underwent foot amputation, highlighting the nurse’s role and challenges, and proposing appropriate care strategies.

Purpose:

This case report aims to explore the nursing care experience of a newly diagnosed female patient with diabetes who underwent foot amputation due to ulcer-related tissue necrosis.

Methods:

From March 15 to April 13, 2025, the author conducted a comprehensive assessment using Gordon’s Eleven Functional Health Patterns. Data were collected through observation, interviews, and physical assessments, and the following key nursing problems were identified:Acute pain related to diabetic foot ulcer, Impaired skin integrity related to disease progression and postoperative wound,Anxiety related to concerns about the illness and uncertainty of prognosis.

Results:

The patient, a 38-year-old woman newly diagnosed with diabetes, was hospitalized due to severe necrosis of the right foot caused by a diabetic foot ulcer. During hospitalization, she underwent amputation of the third toe on her right foot. Post operatively, due to poor wound healing, she underwent three surgical debridement procedures and received negative pressure wound therapy (NPWT).Throughout the hospitalization, individualized care was provided. The nursing team used active listening and empathy to help the patient cope with the psychological impact of the disease, and collaborated with a multidisciplinary team to deliver comprehensive and personalized care. Nursing interventions included: developing a tailored diabetic diet plan, teaching blood glucose monitoring techniques, educating the patient on how to manage NPWT alarms at home, and reinforcing key points on diabetes management.After discharge, regular out patient follow-ups were arranged. At the second follow-up, the patient's wound had improved significantly, allowing the removal of the NPWT device.

Conclusion/Implementations for practice:

This case demonstrates the importance of comprehensive nursing care in newly diagnosed diabetic patients with foot complications. Effective pain management, wound care, psychological support, and enhancement of self-care abilities are essential components. Through individualized care planning and multidisciplinary collaboration,nurses can improve patients' adaptation to illness and overall outcomes. Future clinical practice should emphasize early intervention and health literacy education to prevent complications and reduce the risk of amputation in diabetic patients.

Keyword: Diabetes, Amputation, Knowledge Deficit, Anxiety

Implementing a Standardized Tracheostomy Decannulation Training Protocol: A Case Report

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Abstract

Background:

Tracheostomy is a common intervention in critical care for airway management, helping reduce airway resistance, prevent pulmonary infections, and facilitate secretion clearance. However, timely and safe decannulation remains a clinical challenge,especially given the risk of complications associated with prolonged tracheostomy, such as infection, tracheal stenosis, and vocal cord dysfunction. Corking training is a key assessment step to evaluate a patient's ability for spontaneousbreathing and secretion clearance before decannulation.Our institution developed a standardized protocol incorporating neurologicalstatus, respiratory function, secretion clearance, swallowing ability, andstoma assessment to guide safe decannulation.

However, standardized decannulation protocols remain variable across institutions, and consistent corking criteria are lacking internationally, highlighting the need for structured clinical frameworks.

Purpose:

To demonstrate the clinical application of a standardized corking training protocol in a tracheostomized patient and highlight its effectiveness in improving safety and readiness for decannulation.

Methods:

A 66-year-old man with C3–C6 spinal cord injury and quadriplegia received tracheostomy due to ventilator dependence. Upon evaluation, he was alert (GCS: E4VTM6), off theventilator, maintaining $SpO_2 \geq 95\%$ on room air, with stable breathing and low secretion burden. Following comprehensive assessments (RASS, CAM-ICU,bronchoscopy), corking training was initiated. Vital signs were monitored continuously with a three-in-one monitor, and bedside observation was performed for tolerance.

Results:

The patient remained clinically stable during the corking training, showing no respiratory distress. He demonstrated effective breathing techniques and coughing. Caregivers and nurses completed training and were familiar with monitoring and emergency protocols. After one day, the patient was successfully decannulated and resumed breathing through the upper airway without complications or need for re-tracheostomy. He was discharged in good condition.

Conclusion/Implementations for practice:

This case demonstrates that a standardized corking training protocol is both feasible and effective in guiding safe tracheostomy decannulation in neuro critically ill patients. By incorporating multidisciplinary evaluation and structured caregiver training, the protocol (specifically the corking training protocol) promotes clinical consistency,

enhances caregiver confidence, and reduces complications. Institutional adoption of such a protocol may serve as a model to improve decannulation outcomes across critical care settings. Future studies could explore long-term outcomes and protocol optimization for broader patient populations.
Keyword: Tracheostomy Decannulation, Corking Training, Respiratory Therapy, Patient Care Planning, Critical Care.

Intensive Care Nursing Experience for a Patient with High Cervical Spinal Cord Injury

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Abstract

Background:

According to Taiwan's Ministry of Health and Welfare statistics in 2021, accidental injuries are a leading cause of death among middle-aged men. Among individuals with spinal cord injury (SCI), nearly 90% require lifelong wheelchair use. High-level cervical SCI is often accompanied by respiratory dysfunction, quadriplegia, and autonomic disturbances, causing both physical impairment and significant psychological distress, which place heavy burdens on patients and their families.

Purpose:

This case report aims to present an integrated nursing care experience for a middle-aged male patient with high cervical SCI following a major traffic accident. It explores the effectiveness of interdisciplinary collaboration in improving physical function and psychological adaptation during the patient's stay in the intensive care unit (ICU).

Methods:

The nursing care and evaluation were conducted from March 21 to April 8, 2022. Data were collected through direct observation, medical record review, patient interviews, and family discussions. Gordon's Eleven Functional Health Patterns served as the assessment framework, identifying three key nursing problems: ineffective breathing pattern, impaired physical mobility, and hopelessness. Nursing interventions included:

1. Respiratory care – Abdominal breathing training, chest physiotherapy, and use of high-frequency chest wall oscillation were performed in collaboration with respiratory therapists. Daily monitoring included arterial blood gases, chest X-rays, and oxygen saturation, along with measures to prevent ventilator-associated pneumonia.

2. Physical rehabilitation – In collaboration with the rehabilitation team and family, the patient received full joint passive exercises and massages four times a day. Custom cervical collars and splints were used, with compression therapy and pressure injury prevention. Rehabilitation videos were recorded and shown to enhance self-efficacy.

3. Psychological support – Nurses provided daily empathetic communication, explaining medical equipment and treatment plans. Supportive strategies included chaplain visits, motivational videos, music therapy, and voice messages from family to facilitate emotional expression and rebuild hope.

Results:

After three weeks of comprehensive care, the patient was successfully weaned off the ventilator. Upper limb strength improved from grade 1 to 3, while lower limb mobility remained unchanged but without complications such as contractures, pressure injuries, or thrombosis. Psychologically, the patient shifted from initial depression and

withdrawal to active participation in rehabilitation and improved family interaction, showing increased positivity and willingness to plan for the future.

Conclusion/Implementations for practice:

Patients with high cervical SCI face acute physiological crises and long-term functional loss. Nurses must play a holistic role in integrating respiratory, physical, and psychological care resources. It is recommended to strengthen clinical case management systems, enhance nurses' psychosocial support skills, and establish team-based support programs to improve care quality and patient recovery outcomes.

Keyword: Ineffective breathing pattern,Impaired physical mobility,Hopelessness,Cross-team care

Effectiveness of a Health Promotion Program for the Community Elderly in Penghu County

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Abstract

Background: In HuxiTownship, Penghu County, adults aged 65 and above account for 20.1% of thetotal population. This demographic change has led to an increased risk ofdisability, making the development of effective health promotion models acrucial strategy for advancing healthy aging.

Purpose: This study aims to promote physical activity, mentalfunctioning and health literacy among the elderly through a health promotionintervention that integrates exercise and nutrition education.

Methods: This study recruited elderly individuals aged 65 andabove in a community of Penghu County. From April to July 2023, a three-month"Health Promotion Exercise Program" was conducted twice a week. Theprogram included activities such as resistance ball, band exercises, briskwalking, and health education sessions. To assess the intervention’s impact,grip strength tests and health-related questionnaires were administered beforeand after the program.

Results: The resultsshowed that male participants' grip strength increased from 25.1 kg to 26 kg,and female participants' grip strength increased from 20.1 kg to 20.7 kg,indicating that the exercise and nutrition intervention effectively improvedmuscle strength. The program had an attendance rate of 85%, and the post-testaccuracy rate for the nutrition knowledge session reached 82.5%. Participantsgenerally reported that the program was beneficial to their physical and mentalwell-being, with a high overall satisfaction rate.

Conclusion/Implementations for practice:A community-based intervention integrating exerciseand nutrition is both feasible and effective. Ongoing promotion in rural areasis essential to enhance health behaviors and health literacy, and to supportsustainable elderly care and community development.

Keyword: Elderly Health Promotion、 Sarcopenia、Exercise and Nutrition Intervention、Penghu County

Can Sugammadex reduce the incidence of postoperative nausea and vomiting in patients receiving general anesthesia?

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Abstract

Background:

Postoperative nausea and vomiting(PONV) is a common complication following general anesthesia, occurring in approximately 20% to 30% of cases, and exceeding 70% in major surgeries. Although not life-threatening, PONV reduces patient comfort, delays recovery, increases hospital stay and medical costs, and may lead to complications such as aspiration pneumonia and wound dehiscence. For nursing staff, PONV increasesthe burden of postoperative monitoring and care, including frequent assessment of vomiting, maintaining airway patency, replenishing fluids and electrolytes, as well as providing emotional support and patient education. Neostigmine is commonly used clinically as a muscle relaxant antagonist but may induce PONV. Therefore, this study investigates whether the use of Sugammadex can reduce PONV, thereby improving patient comfort and alleviating nursing workload.

Purpose:

This study explores whether the use of Sugammadex as a muscle relaxant antagonist in patients undergoing general anesthesia can reduce the incidence of postoperative nausea and vomiting(PONV), and evaluates its clinical nursing application value.

Methods:

A search was conducted in theCochrane Library, PubMed, MEDLINE, and Airiti Library databases for the years 2015 to 2025 using the PICO strategy with the following criteria: P(Patient/Population): patients receiving general anesthesia; I(Intervention):useof Sugammadex; O(Outcome): reduction in the incidence of postoperative nausea and vomiting (PONV). Based on inclusion and exclusion criteria, a total of four randomized controlled trials (RCTs) were ultimately included for analysis.

Results:

Some studies have shown that the incidence of PONV in the Sugammadex group is significantly lower than in the control group ($P<0.05$ and $P<0.001$), indicating a positive effect in preventing PONV; however, other literature points out that although the scores were lower, the difference within 24 hours postoperatively did not reach statistical significance.

Conclusion/Implementations for practice:

Sugammadex can enhance the quality of postoperative recovery and reduce complications such as postoperative nausea and vomiting (PONV), with more pronounced effects in high-risk patients. For nursing staff, reducing PONV lowers the risk of airway obstruction and aspiration, decreases the need for antiemetic medications, shortens the observation time in the post-anesthesia care unit (PACU), and improves

patient satisfaction and overall comfort. However, its effectiveness is influenced bythe anesthesia plan, concurrent medications, type of surgery, and individual patient differences. Since Sugammadex is an out-of-pocket medication, nursing staff should assist patients and the medical team in evaluating its necessity and financial feasibility during preoperative education to achieve the best care outcomes.
Keyword: General anesthesia, Sugammadex, The incidence of postoperative nausea and vomiting

Implementing Animal-Assisted Therapy in Residential Aged Care: A Mixed-Methods Feasibility Study

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Abstract

Background: With the increasing demand for person-centered and non-pharmacological interventions in elderly care, animal-assisted therapy(AAT) has emerged as a promising approach to enhance residents' psychological and social well-being. However, its implementation in institutional long-term care settings remains limited due to concerns over infection control, animal management, and program sustainability. Therefore, this study explores the feasibility of implementing animal-assisted therapy in a residential long-term care facility in Eastern Taiwan from an implementation research perspective.

Purpose: The study aims to build a guideline that follow standard procedures to reduce health risks and ensure safe human-animal interaction, assess the feasibility of housing therapy dogs within the facility, estimate costs and identify funding options for long-term program success, and observe the impact of AAT on the elderly.

Methods:A mixed-methods was used, including qualitative interviews conducted with 5supervisors, questionnaires administered to 30 staff members and 20 residents. Additionally, the positive behavioral responses were observed and recorded through a designated staff from 31 individuals participated in a 4-week AAT activity. The themes of the AAT activities emphasize fostering a sense of safety in animal interactions, strengthening participation in human-animal engagement, progressively incorporating appropriate physical activity and sensory stimulation, and encouraging both verbal and non-verbal communication skills. Descriptive statistics and Chi-square test were used to analyze data.

Results: Firstly, a guidance with standard procedures for implementing AAT in the residential long-term care facility was identified from three key reference sources (American Animal Hospital Association, Formosa Animal-Assisted Activity & Therapy Association, Professional Animal-Assisted Therapy Association of Taiwan). It covers content including (1) health and hygiene of therapy dogs, (2) screening and training of therapy dogs, (3) professionalism of the animal-assisted therapy team, (4) Institutional cooperation and regulations, (5) emergency response mechanisms, (5) safety measures during activities. **Secondly**, staff and residents showed broad support for implementing AAT activities within the facility, with no significant differences observed across demographic groups. Dogs were identified as the preferred choice for AAT. Residents expressed expectations for AA activities to include companionship (n=20, 100%), playing games (n=15, 75%), walking (n=14,70%), and feeding the animals (n=14, 70%). Staff reported key barriers to implementing AA activities, including limited skills (n=17, 56.7%), staff shortages (n=9,29.7%), and increased workload (n=8, 26.4%). **Thirdly**, interview findings indicated that keeping therapy dogs on-site was considered unfeasible due to constraints related to funding, space, and manpower. However, despite initial challenges, supervisors supported AAT activities within the facility and are willing to allocate a budget to bring in external resources. **Finally**, the residents exhibited some emotional expressions, including smiling, laughing, alertness, gaze shifting, verbal and physical expression, and being verbally and physically addressed, during four-week AAT activity. We respected each participant's choice regarding whether to touch or feed the therapy dog. However, some who initially expressed

unwillingness later attempted to pet or feed the dog. Even those who typically do not speak verbally were observed expressing praise for the therapy dog.

Conclusion/Implementations for practice: The study identified the feasibility for implementing AAT activity in a long-term care facility. Despite initial concerns about logistics and sustainability, both staff and supervisors expressed strong support for AAT activities, and residents responded with increased emotional expression, social engagement, and non-verbal communication. The Implications for practice include: structured protocols are essential; staff training and support should be prioritized; flexible participation enhances resident autonomy; on-site dog housing may not be feasible, but periodic engagement is effective; and institutional support and funding are crucial.
Keyword:animal-assisted therapy, residential aged care, feasibility study

Concept Analysis of Spiritual Well-Being in Older Adults

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Abstract

Background:

Taiwanbecame an aging society in 1993 when the elderly population reached 7%. By2018, it rose to 14%, becoming an aged society, and is projected to reach 20%by 2025, entering a super-aged stage. As the population ages, older adults facechallenges like physical decline, chronic illness, and end-of-life issues,prompting reflection on life's meaning, death, and the preservation of valuesand culture. In this context, spirituality plays a crucial role in supportingmental health, boosting resilience, and enhancing overall quality of life.

Purpose:

The purpose of this study was to conduct the concept analysisof spiritual well-being in older adults.

Methods:

Theauthor conducted a systematic search for research articles on spiritualwell-being in older adults published after 2000, using databases such asPubMed, CINAHL, CEPS, and the National Digital Library of Theses andDissertations in Taiwan. Employing the concept analysis method proposed byWalker and Avant (2019), the study explored the concept of spiritual well-beingin older adults by identifying its defining attributes, antecedents, andconsequences, as well as constructing model, borderline, and contrary cases. Finally,the study reviewed relevant assessment tools and empirical findings related tothe spiritual well-being of the elderly.

Results:

Thedefining characteristics of spiritual well-being in older adults include: (1)individuals aged 65 and above undergoing the aging process, (2) self-acceptanceand affirmation accompanied by a sense of hope, (3) the pursuit of lifeintegration, meaning, and inner peace, and (4) the establishment of harmoniousconnections with others and with a higher power. Antecedents of spiritualwell-being include personal traits, physical and psychological healthconditions, and the quality of family relationships. Key attributes influencingspiritual well-being encompass economic, cultural, and environmental factors.The consequences of spiritual well-being in older adults include enhancedpsychological resilience, improved coping with illness, reduced levels ofdepression, anxiety, and loneliness, delayed mortality, improved overallquality of life, increased life satisfaction and happiness, and ultimately, theachievement of holistic harmony across physical, psychological, social, andspiritual domains.

Conclusion/Implementations for practice:

Basedon the results of the concept analysis of spiritual well-being in older adults,it is recommended to develop an evidence-based care guideline. Additionally,the use of assessment tools for evaluating spiritual well-being in the elderlyis encouraged to

measure the effectiveness of care, with the aim of improving,maintaining, and promoting their spiritual well-being.
Keyword:spiritual well-being， older adults， Concept Analysis

Knowledge, Attitudes, and Self-Efficacy of Palliative Care among Long-Term Care Workers in Southern Taiwan

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Abstract

Background: As Taiwan approaches a super-aged society, the Long-Term Care 3.0 (LTC 3.0) initiative is scheduled to be fully implemented by 2026. Among its eight strategic objectives, “promoting dignified end-of-life care” is a core focus. Under this policy context, the competence level of frontline care workers directly influences the quality and effectiveness of palliative care services. However, current palliative care education and training programs primarily focus on medical professionals such as physicians, nurses, and social workers, with limited systematic assessment or training specifically targeting care workers who have direct contact with terminal patients.

Purpose: This study aims to explore the current status of knowledge, attitudes, and self-efficacy toward palliative care among long-term care workers in southern Taiwan who provide services to individuals at the end of life.

Methods: A cross-sectional survey design with convenience sampling was adopted. Participants included home- and institution-based care workers in southern Taiwan. A structured questionnaire was used for data collection, comprising a palliative care knowledge scale, an attitude toward palliative care scale, a self-efficacy in palliative care scale, and a demographic information form. A total of 128 valid responses were obtained, yielding a response rate of 83%. Data were analyzed using descriptive statistics, t-tests, one-way ANOVA, and Pearson correlation analysis.

Results: The results indicated that participants had relatively low average scores in palliative care knowledge and self-efficacy (Index score range: 50–60), while their overall attitudes were generally positive. Over 80% of participants expressed willingness to engage in palliative care. Those with higher education levels had significantly better knowledge scores; younger care workers demonstrated more positive attitudes; and those with longer work experience reported higher self-efficacy. Furthermore, knowledge, attitudes, and self-efficacy were positively correlated ($r = .51–.56$, $p < .001$).

Conclusion/Implementations for practice: These findings highlight the need to enhance frontline care workers’ competencies in palliative care, particularly in knowledge and self-efficacy. To align with LTC 3.0’s goal of facilitating quality end-of-lifecare, it is recommended that the government and relevant institutions integrate palliative care training into pre-service education, in-service training, and performance evaluations for care workers. This approach will help promote dignified aging and “aging in place” for Taiwan’s elderly population.

Keyword: Long-Term Care 3.0, palliative care, long-term care workers, knowledge, attitudes, self-efficacy, aging in place.

Concept Analysis of Cancer-Related Fatigue in Postoperative Esophageal Cancer Patients

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Abstract

Background:

Cancerfatigue is one of the most common and distressing symptoms in esophageal cancerpatients, particularly in the postoperative recovery stage. Esophageal cancercontinues to be one of the most common causes of cancer-related mortalityworldwide (WHO, 2022). Although CRF is a highly prevalent phenomena and has alarge impact on daily life functioning, it still is underrecognized andundertreated in a guideline oriented clinical nursing care setting. CRF isoften reported by patients as pervasive physical, mental and emotional fatiguethat is not relieved with sleep. With the complexity of cancer, a betterconceptual clarity will point out toward early detection and the right tailorednursing intervention development.

Purpose:

Thepurpose of this study was to introduce the concept of cancer-related fatigue inpostoperative patients with esophageal cancer by investigating this concept aswell as the definition, attribute, antecedents, and its consequences to helpclinical nursing practitioners better understand this and provideevidence-based care.

Methods:

The conceptanalysis approach by Walker and Avant (2011) was applied. A comprehensiveliterature review was conducted using databases such as PubMed, CINAHL, andScienceDirect. Literature from 2010 to 2024 related to CRF in postoperativecancer patients was included. The analysis involved identifying definitions,surrogate terms, defining attributes, antecedents, and consequences, as well asconstructing model, borderline, and contrary cases. Empirical referents,including the Functional Assessment of Chronic Illness Therapy-Fatigue(FACIT-F) and the Brief Fatigue Inventory (BFI), were reviewed to supportclinical applicability.

Results:

Theattributes of cancer-related fatigue in postoperative esophageal cancerpatients include: (1) persistent and abnormal fatigue, (2) fatigue that is notrelieved by rest or sleep, and (3) impairment in physical, cognitive, andemotional functioning. Antecedents include physiological exhaustion followingsurgery or adjuvant therapies, nutritional deficiencies, psychologicaldistress, sleep disturbances, and lack of knowledge about postoperativerecovery. The consequences of cancer-related fatigue include diminishedtreatment adherence, decreased functional status, compromised quality of life,and increased risk of emotional conditions such as depression and anxiety.Validated empirical referents such as the FACIT-F and BFI scales can supportthe clinical identification and assessment of CRF.

Conclusion/Implementations for practice:

Aclear understanding of cancer-related fatigue for postoperative esophagealcancer patients will allow nurses to determine and address the key barriers foreach patient in tailored interventions. Empowerment and engagement of patientswith tools for self-assessment, education, and empathetic communication canimprove self-management, adherence to treatment, and quality of life andclinical outcomes.
Keyword: Cancer-related fatigue, Esophageal cancer, Postoperative nursing care, Concept analysis, Fatigue assessment

Postoperative Care and Functional Recovery in an Older Adult with Femoral Neck Fracture: A Case Study Using Gordon's Functional Health Patterns

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Abstract

Background:

Femoral neck fractures caused by falls are increasingly common among the elderly. Postoperative recovery relies heavily on rehabilitation and proper care. When the primary caregiver is also of advanced age, additional caregiving challenges may arise. This case involves an older adult who sustained a femoral neck fracture due to a fall and underwent hemiarthroplasty. The primary caregiver was the patient's elderly spouse, with no assistance from their children. To better understand and improve the patient's recovery and quality of care, the Gordon's Functional Health Patterns framework was used for assessment and nursing intervention.

Purpose:

This study aims to explore the postoperative care process of an elderly patient with a femoral neck fracture caused by a fall. Through comprehensive assessment and individualized care, the goal was to enhance functional recovery, promote self-care ability, and alleviate postoperative discomfort and anxiety.

Methods:

From June 3 to June 9, 2023, Using Gordon's Functional Health Patterns for a holistic assessment, three major nursing problems were identified: "Impaired physical mobility," "Acute pain," and "Anxiety." The following key nursing care plans were formulated and implemented:

1. **Impaired physical mobility**: Provided guidance and demonstration on correct transfer and turning techniques to prevent hip dislocation, arranged a progressive rehabilitation exercise program to improve limb mobility and daily functional performance.

2. **Acute pain**: Regularly assessed pain levels, administered analgesics and cold compresses as prescribed, and performed wound care to promote healing.

3. **Anxiety**: Actively listened to the patient's emotions, provided preoperative and postoperative health education, and combined music therapy with faith-based support to relieve anxiety.

Results:

Following the nursing interventions, the patient regained partial independence in performing activities of daily living and demonstrated a positive attitude toward rehabilitation. Acute pain was effectively managed; the patient was able to verbalize pain causes and locations, and actively participated in pain relief strategies. The patient's anxiety significantly decreased, and they showed willingness to cooperate with treatment and expressed confidence in their recovery.

Conclusion/Implementations for practice:

An integrated care model is beneficial for enhancing physical recovery, managing postoperative pain, and reducing anxiety in elderly patients following femoral neck fracture surgery. It is recommended that clinical practice incorporate interprofessional collaboration and initiate home environment assessment and resource linkage prior to discharge to improve care quality and prevent recurrent falls.

Keyword: Older Adults, Femoral Neck Fracture, Postoperative Care, Interprofessional Collaboration, Rehabilitation Intervention, Anxiety Management, Self-Care

Improving rehabilitation outcomes for total knee replacement patients through cross-team process improvement

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Abstract

Background:

As the world rapidly moves toward an agingsociety, total knee replacement (TKR) has become one of the most commonorthopedic procedures. Research shows that early postoperative ambulationaccelerates muscle strength recovery, effectively shortens the rehabilitationperiod, and increases patients' awareness of the importance of rehabilitation,leading to higher participation rates. However, since most TKR recipients areelderly, it is crucial to consider their physical and psychologicalcharacteristics and learning needs to enhance their motivation andparticipation in rehabilitation.Currently, there are several challenges inclinical practice:The rehabilitation guidance process is notstandardized,Health education content is inconsistent,The timing of physicaltherapy interventions is not fixed.These issues impact postoperative recoveryoutcomes, diminishing the completeness and consistency of rehabilitationinterventions. Therefore, establishing a systematic and efficientrehabilitation process is of significant clinical value for improvingpost-joint replacement care quality, promoting muscle recovery, and preventingcomplications such as falls.

Purpose:

This study aims to establish a standardized andeffective rehabilitation guidance process through cross-disciplinary teamcollaboration and iterative process refinement. The goal is to enhance thecompleteness of patients' rehabilitation learning and improve the accuracy ofposture execution, thereby reducing the incidence of falls and postoperativecomplications.

Methods:

This project adopted an interdisciplinary team-based model combined with a rolling improvement strategy to enhance rehabilitation outcomes in older adults undergoing total knee replacement (TKR) surgery. The care process was initiated at the outpatient stage, involving collaborative planning and intervention by physicians, case managers, nursing staff, and physical therapists. The rehabilitation protocol was continuously refined based on implementation outcomes and feedback.

1. Interdisciplinary Collaboration and Intervention Workflow

1 Physicians: Real-time access to rehabilitation progress facilitated more efficient medical decision-making.

2 Nursing staff: Standardized assessment and handover content improved care consistency and reduced workload.

3 Physical therapists: Development of standardized teaching materials and schedules improved both the quality and efficiency of rehabilitation instruction.

1-4 Patients: Preoperative rehabilitation education was provided using a variety of materials (e.g., illustrated handouts, rehabilitation timetables, and teach-back demonstrations) to improve the accuracy of performing rehabilitation exercises.

2. Tailored Educational Interventions

Patient education was customized based on literacy levels:

1 Literate patients were given large-print educational materials with visual aids and instructional videos.

2 Illiterate patients received hands-on demonstrations, repeated practice sessions, and teach-back methods to reinforce learning and retention.

Peer learning and shared experiences were encouraged to enhance motivation and engagement in the rehabilitation process.

Results:

Throughiterative improvements and cross-disciplinary collaboration, the specificoutcomes are as follows:

1.Benefits for the Medical Team:

Physicians:Able to immediately track patients' rehabilitation progress and content,enhancing medical decision-making efficiency.

NursingStaff: Established consistent assessment and handover content, effectivelyreducing the caregiving burden.

PhysicalTherapists: Standardized teaching content and schedules, improving teachingquality and efficiency.

2.Benefits for Patients:

Preoperativerehabilitation education was introduced, using diverse teaching materials(e.g., illustrated health brochures, rehabilitation timetables, teach-backmethods), improving the accuracy of rehabilitation posture execution.

Arandom sample of 30 patients undergoing knee replacement surgery showedsignificant improvements:The preoperative education rate by physical therapistsincreased from 24% to 99%.The postoperative ambulation rate within 24 hoursrose from 64% to 100%.Fall rate and complication incidence were both 0%.Theaccuracy of rehabilitation posture during the first follow-up visitpost-discharge increased from 65% to 88%.Patients and families demonstratedgreater clarity and confidence regarding postoperative recovery, leading to ahigher willingness to actively participate in rehabilitation.

Conclusion/Implementations for practice:

Thisproject, through the introduction of standardized and systematic rehabilitationprocesses, has effectively improved the quality of care and rehabilitationoutcomes for patients undergoing knee joint replacement surgery. Movingforward, this model will be continuously optimized and expanded to othersurgical procedures, with the aim of establishing a more comprehensivegeriatric care and education system. This will allow patients and theirfamilies to face the surgical process with confidence, achieving faster andsafer recovery goals.

Keyword:cross-team、process improvement、total knee replacement

Exploration and application of the long-term care curriculum integrate into health promotion activity in facility

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Abstract

Background:

Service learning is a teaching strategy that meets the needs of service recipients through structured service activities and guided reflection. It promotes students' personal growth, improves their communication with older adults, and enhances their ability to conduct health promotion activities. When integrated into a long-term care course, service learning allows students to engage directly with elderly residents in institutions, providing mutual benefits—students develop practical skills, and elderly participants enjoy meaningful interactions.

Purpose:

This study aimed to evaluate the benefits of incorporating a service learning program into a long-term care course for specialized nursing students, focusing on institutional health promotion activities.

Methods:

The course content included designing health promotion activities, in-class simulations, leading actual activities in long-term care institutions, and writing post-activity reflection reports. It also included formative and summative evaluation. Formative evaluation assessed students' real-world performance, the quality of their reflection reports, and their satisfaction with the course. Summative evaluation used qualitative in-depth interviews with students, faculty, institutional staff, and elderly participants to explore the perceived impact and benefits of the program.Pearson's correlation analysis examined the relationship between participation in service learning activities and students' internship performance in long-term care institutions.

Results:

The formative evaluation showed that students initially lacked confidence in communicating with the elderly, relying on prior informal experiences, but through the service learning activities, they recognized the importance of listening and companionship, ultimately reporting improved communication skills. Their average performance score was 86.7, and course satisfaction averaged 91.4, with students appreciating the integration of theory and practice. The summative evaluation revealed that all participants agreed the program enhanced students' communication and activity planning abilities, with positive interactions observed between students and elderly participants. Recommendations included tailoring activities to individual student traits and elderly needs. The average internship performance score was 83.3, and a significant positive correlation was found between service learning participation and internship performance ($r = .131$, $p < .014$), confirming that the program effectively prepared students to lead activities during their internships.

Conclusion/Implementations for practice:

Integrating service learning into long-term care course design is effective in bridging the gap between classroom knowledge and clinical application. The program enhances students' communication, activity planning, and leadership skills while benefiting elderly participants through meaningful engagement. Qualitative feedback highlights areas for curriculum refinement and underscores the value of expanding service learning in nursing education. Future nursing courses should incorporate diverse service learning components to further strengthen student capabilities in long-term care.
Keyword: Service learning, long-term care curriculum, formative evaluation, summative evaluation, nursing students

Talent Cultivation Challenges for LTC 3.0 in a Super-Aged Society: Evidence from Taiwan' s High School Care Services Programs

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Abstract

Background:

As Taiwan entered a super-agedsociety in 2025, the demand for long-term care (LTC) workforce has intensified.In response to LTC 3.0, which emphasizes community-based and integrated carewith localized manpower, the Ministry of Education established the Departmentof Care Services in high schools in 2022 to strengthen foundational careeducation and cultivate future professionals.

Purpose:

This study examines the outcomes of high school care services programs in Taiwan, focusing on graduates' licensure attainment, progression to higher education, and employment in LTC-related fields. The findings aim to inform strategies for aligning secondary education with LTC 3.0 workforce planning.

Methods:

Due to the program's recent implementation and limited number of graduates, a descriptive statisticalapproach was adopted. Data were collected from 13 schools offering careservices programs, analyzing three key indicators: (1) professional licensurerates, (2) employment in LTC-related sectors, and (3) enrollment in aging orcare-related higher education programs.

Results:

Between 2020 and 2024, 875 studentsgraduated. The overall licensure rate was 17%, increasing notably in 2023 (31%)and 2024 (25%) compared to 2022 (9%). In 2024, 41% of graduates enteredLTC-related employment, while 70% pursued further education, with 69% enrollingin aging or care-related majors.

Conclusion / Implicationsfor Practice:

To meet the workforce goals of LTC3.0, stronger integration between secondary education and LTC workforcedevelopment is needed. Although in-school licensure opportunities have improvedstudent motivation, the absence of care-specific subjects in entrance exams mayhinder long-term career pathways. Educational and policy reforms are essentialto ensure sustainable talent development in the LTC sector.

Keyword:super-aged society, long-term care, care services, LTC 3.0

An Applied Study on Monitoring Stress and Sleep in Newly Recruited Nurses Through the Integration of Non-Contact Physiological Monitoring and Subjective Assessment

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Abstract

Background:

In the context of a global nursing workforce shortage, improving the retention of newly recruited nurses has become critical. Nurses within their first three months of employment often face sleep disturbances—such as difficulty falling asleep, light sleep, and frequent awakenings—due to role transitions and shift-related stress. Stress and sleep quality are bidirectionally related; poor sleep impairs stress adaptation, which in turn affects clinical performance and emotional stability. While polysomnography (PSG) remains a gold standard in sleep evaluation, its reliance on multiple leads and electrodes makes it intrusive and unsuitable for routine clinical use. A smart mattress capable of capturing physiological signals at 200 Hz offers a non-contact, real-time method for monitoring sleep by continuously tracking heart rate and respiration, objectively reflecting sleep quality.

Purpose:

To evaluate the feasibility of using a high-resolution smart mattress to monitor sleep stages and investigate their association with stress adaptation in nurses within their first three months of clinical employment.

Methods:

This study targeted newly employed nurses with less than three months of experience. Data were collected between February and July 2025, and a total of 30 participants were enrolled. Data collection involved two components: (1) a structured questionnaire collecting demographic data and Pittsburgh Sleep Quality Index (PSQI) scores to assess subjective sleep quality; and (2) physiological data acquisition during nighttime rest using a smart mattress, which continuously recorded heart rate and respiration at 200 Hz. Data were segmented into 30-second epochs and processed using filtering and rule-based algorithms to calculate heart rate (HR), heart rate variability (HRV, measured by RMSSD), and respiratory rate. Sleep stages were classified according to the standards of the American Academy of Sleep Medicine (AASM).

Results:

The high-resolution smart mattress successfully identified sleep stages and estimated sleep efficiency through the analysis of respiratory signals, heart rate, and HRV. When combined with PSQI scores, the system enabled comprehensive monitoring of both subjective and objective aspects of sleep and stress in newly employed nurses, providing a reliable reference for assessing their adaptation status.

Conclusion/Implementations for practice:

The smart mattress serves as a low-burden, non-contact tool for continuous sleep monitoring. It facilitates early detection of sleep disturbances and stress-related changes in newly recruited nurses, allowing managers to tailor support strategies to enhance retention and workforce stability.

Keyword: Sleep monitoring、Nurse stress、Non-contact physiological sensing

New Ways to Play Old Games — An Effectiveness Analysis of "Creative Senior Table Games" at Class C Alley Long-Term Care Stations

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Abstract

Background:

Since 2017, Taiwan has implemented theLong-Term Care 2.0 policy in response to the growing needs of an aging society.A key component is the establishment of Class C Alley Long-Term Care Stations(C Stations), also known as "Long-Term Care Grocery Stores," which providelocalized, community-based services for healthy and sub-healthy seniors. Theseinclude disability prevention, health promotion, and regular wellness calls.All programs are free and allow elders to choose based on personal interest.However, course satisfaction has been relatively low—particularly in ruralstations where the lowest score was only 1.2.

Purpose:

This study introduced an innovativeintervention to improve outcomes.

Methods:

This study focused on a Class C Stationmanaged by a regional teaching hospital in southern Taiwan. A creative boardgame was introduced—based on the traditional "Mouse Cards" (also called theTwelve Zodiac Cards), popular in southern Taiwan—which incorporates mahjongelements and board game mechanics. This fusion created a culturally familiarand cognitively stimulating activity. Before participating, seniors receivedinstructions from a trained disability-prevention facilitator and then playedtogether with them.

Results:

A 10-item structured questionnaire using afive-point Likert scale (from "very satisfied" to "very dissatisfied") wasadministered. After implementing the "Creative Senior Table Games," 39 elderlyparticipants (average age: 74.2; age range: 63–86; 12.8% male, 87.2% female;all retired) completed the survey. The average satisfaction score was 4.95 outof 5, with 99.9% expressing positive feedback—indicating the high popularity ofthe program.

Conclusion/Implementations for practice:

The activity effectively merged traditionalcultural elements with modern game design, resulting in an engaging andelder-friendly board game. Participants expressed enthusiasm, stating the gamewas fun and helped rekindle their motivation to engage and socialize. Throughsimple rules and group interactions, the activity reinforced cultural identity,improved social interaction, reduced feelings of loneliness, and strengthenedcommunity bonds.

Keyword: Class C Alley Long-Term Care Stations, long-term care policy, Old Games

Nursing Care Experience of a Patient with Knee Osteoarthritis Undergoing Total Knee Replacement

Fu-Yu Hsu[1]
1

Abstract

Background:

With the aging population, degenerative knee osteoarthritis has become a prevalent chronic condition among the elderly. When conservative treatments fail, Total Knee Replacement (TKR) is often performed to improve pain and quality of life. However, postoperative pain, impaired physical mobility, and anxiety are common challenges, especially in elderly patients with multiple comorbidities.

Purpose:

This case study aims to explore the nursing care of an elderly male patient who underwent right knee TKR due to advanced osteoarthritis. The focus is on managing postoperative acute pain, mobility impairment, and anxiety through systematic nursing interventions to enhance recovery and serve as a reference for clinical practice.

Methods:

A case report approach was used during a nursing period from September 4 to 8, 2024. Gordon’s Functional Health Patterns were applied for holistic assessment. Interventions targeted acute pain, impaired mobility, and anxiety. Pain management included medication, cryotherapy, and music therapy. Mobility training involved CPM exercises and assisted ambulation. Anxiety was addressed through open communication, family support, and relaxation techniques. The Beck Anxiety Inventory (BAI) was used for psychological assessment.

Results:

The patient’s pain score decreased from 7 to below 3 within three days. He was able to tolerate rehabilitation and perform daily activities using a walker. Muscle strength improved, and BAI score reduced from 23 (moderate anxiety) to 9 (mild anxiety). He showed increased motivation and confidence in rehabilitation and recovery.

Conclusion/Implementations for practice:

A comprehensive nursing strategy that includes multimodal pain management, early rehabilitation, and emotional support effectively improved the patient's physical and psychological outcomes. Preoperative education, family involvement, and post-discharge remote health monitoring are recommended to enhance care continuity and recovery. This case offers practical insight into individualized care for postoperative TKR patients.

Keyword:total knee replacement, postoperative pain, acute pain, mobility impairment, anxiety, elderly patients, postoperative rehabilitation, individualized nursing care, nursing experience

Nursing Innovation: Gamified Rotating Pattern Nebulizer for Pediatric Patients

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Abstract

Background:

Respiratory tract infections are among the most common causes of pediatric hospitalization, particularly toddlers and preschool-aged children (Department of Statistics, Ministry of Health and Welfare, 2023). Due to anatomical and physiological differences between children and adults, young children are less capable of effectively expectorating sputum, which increases the risk of airway obstruction (Yeh, 2025). Steam inhalation therapy is commonly used to help dilute and loosen secretions for easier clearance (Yeh, Lin, Chou, & Chien,2017). Many children are afraid of using nebulizer, often resulting in anxiety, resistance, and crying during treatment, which compromises its effectiveness (Lin & Li, 2020). Therefore, we developed a modified nebulizer design that enhances functionality while improving pediatric patient acceptance.

Purpose:

This study aims to develop a gamified rotating pattern nebulizer that maintains children’s interest during treatment, thereby reducing fear and resistance.

Methods:

This innovation consists of: (1) Three rotatable pattern boards are integrated into the nebulizer's mist outlet tube, allowing each board to spin separately;(2) The three pattern boards can be combined to create various images. This interactive feature captures children’s attention and enhances engagement during the treatment process; (3) The mist emission maintains its high therapeutic efficacy while seamlessly integrating with the playful design, ensuring that treatment outcomes are not compromised.

Results:

This innovation offers a child-friendly interface with appealing visuals that engage pediatric patients and promote interactive treatment sessions. It retains the therapeutic efficacy of conventional nebulizers while incorporating playful elements to improve attention span and treatment adherence.

Conclusion/Implementations for practice:

This innovation yielded benefits in improved compliance, enhanced treatment effectiveness, multifunctionality, and ease of use. It also reduces the time required for calming children and shorten nursing hours. This may also contribute to shorter hospital stays and decreased stress for hospitalized children.

Keyword: Innovation, Nebulizer, Pediatric Patients, Gamified, Child-Friendly

A Concept Analysis of Anxiety in Patients with Ovarian Cancer

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Abstract

Background:

Ovarian cancer is often diagnosed at an advanced stage and is characterized by a highly uncertain disease trajectory. Patients frequently undergo invasive treatments such as surgery and chemotherapy, which can trigger intense anxiety responses.If left unrecognized and unaddressed, these emotional disturbances may exacerbate the psychological and financial burden on caregivers and families,becoming a hidden strain on the healthcare system. Anxiety is a prevalent and significant concept among patients with ovarian cancer, and a thorough understanding of it is crucial for nurses to identify psychological distress early and provide individualized psychological support and holistic care.

Purpose:

This study aims to analyze the concept of anxiety as experienced by patients with ovarian cancer using Walker and Avant's concept analysis method. By clarifying its defining attributes, antecedents, and consequences, the study provides a clear and concrete foundation for future research and clinical practice in gynecologic oncology nursing.

Methods:

A systematic literature search was conducted using the keywords "ovarian cancer," "anxiety," and "concept analysis" across three Chinese and English databases: PubMed, Cochrane Central Register of Controlled Trials, and Airiti Library. The search covered publications from 2020 to 2025.The analysis involved synthesizing relevant definitions, defining attributes,model and additional cases, antecedents, consequences, and empirical referents.

Results:

A total of eight articles were included in the final analysis. The defining attributes of anxiety in patients with ovarian cancer include:(a) *Physiological responses:* elevated blood pressure,palpitations, shortness of breath, sweating, nausea, muscle tension, and sleep disturbances; (b) *Emotional manifestations:* worry, irritability,nervousness, and unease; (c) *Cognitive reactions:* difficulty concentrating and indecisiveness; (d) *Behavioral responses:* avoidance of medical treatment and social withdrawal. Antecedents of anxiety included the diagnosis of ovarian cancer, fear of recurrence, physical side effects resulting from surgery or chemotherapy, personality-related anxiety sensitivity,and previous illness experiences. If left unaddressed, anxiety may lead to adverse consequences such as decreased quality of life, reduced treatment adherence, social withdrawal, and even the development of depression.

Conclusion/Implementations for practice:

A clear understanding of the core concept of anxiety in ovarian cancer patients enables nurses to identify and intervene in psychological distress early. By recognizing its

antecedents and potential outcomes, nursing professionals can implement targeted interventions such as psychological support, relaxation techniques, cognitive-behavioral therapy, and enhancement of social support.The use of appropriate assessment tools and the establishment of therapeutic nurse–patient relationships can also help alleviate anxiety symptoms. These practices not only improve patients' quality of life and treatment adherence but also contribute to better overall care outcomes and promote holistic recovery.
Keyword: Ovarian Cancer; Anxiety; Concept analysis

Can awake prone positioning improve the ROX index in COVID-19 patients?

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Abstract

Background: The COVID-19 pandemic has ravaged the world, and with the rapid deterioration of the disease, severe cases can progress to Acute Respiratory Distress Syndrome (ARDS) within 8-12 days of onset. The mortality rate for critically ill patients ranges from 39% to 72%. In specialized wards, many patients with severe COVID-19 are being treated. One patient asked, "Am I just waiting for intubation? Is there no other option?" Literature suggests that for critically ill COVID-19 patients, before undergoing intubation, awake prone positioning can be performed. This has been shown to effectively improve oxygenation, and the ROX index can be used to monitor changes in the patient's oxygenation. This has led to discussions on whether the use of awake prone positioning in COVID-19 patients can improve the ROX index.

Purpose: Can awake prone positioning improve the ROX index in COVID-19 patients?

Methods: This is a "therapeutic" question. This study uses an evidence-based approach to propose a clinically answerable question. The following databases were searched: The Cochrane Library, PubMed, and Embase, using keywords/MeSH terms: COVID-19, awake prone, hypoxemia, oximetry, oxygenation, oxygen circulation, organothio phosphonate, blood oxygen saturation. Union (OR) and intersection (AND) searches were conducted. The article search was limited to those published within the last five years with full text available. Titles and abstracts were reviewed to select the relevant articles, and non-English and duplicate articles were excluded. The final results were 18 articles from The Cochrane Library, 8 from PubMed, and 9 from Embase. Ultimately, one systematic review and three randomized controlled trials were selected.

Results: Othman et al. (2022): The results indicated that the use of awake prone positioning (APP) in COVID-19 patients showed statistically significant improvements in oxygenation parameters at three time points (before prone positioning, 10 minutes after prone positioning, and 1 hour after prone positioning). SpO2 in the APP group increased to 92.15 ± 2.735 mmHg, while the control group increased to 88.17 ± 4.847 mmHg. The PaO2/FiO2 ratio was compared between the APP group before prone positioning and 1 hour after prone positioning (79.95 ± 22.508 vs. 98.91 ± 34.44), respectively. APP improved SpO2, PaO2/FiO2, and the ROX index. The PaO2 and SaO2 values in the APP group increased by 5.85%.Miguel et al. (2022): The results showed that the awake prone positioning (APP) group had a lower intubation rate (30% vs. 43%), with a relative risk of 0.70 (95% CI: 0.54–0.90, P = 0.006) and a shorter hospital stay (11 [IQR 9–14] days vs. 13 [IQR 10–17] days, P = 0.001). In patients with a respiratory rate ≤25 bpm at baseline, the ROX index increased by >1.25 after the first awake prone treatment, with a duration of >8 hours/day of awake prone positioning. A lung ultrasound score reduction of ≥2 within the first 3 days of symptoms was significantly associated with the success of APP treatment.

Conclusion/Implementations for practice: Based on the results of the two studies above, due to differences in sample sizes and statistical methods, a meta-analysis could not be performed. However, awake prone positioning (APP) treatment has been shown to effectively improve oxygenation-related parameters in critically ill COVID-19 patients, thereby reducing the intubation rate. Although awake prone positioning

requires precise monitoring with equipment during the process to observe whether the patient is experiencing discomfort and to ensure proper support at pressure points, the studies also suggest that future implementation of prone positioning requires a guideline or trial plan. This can more clearly outline the details of the prone positioning treatment and the documentation of physiological parameters, allowing the medical team to use it as a reference for tracking the patient's condition.
Keyword: COVID-19, awake prone, hypoxemia, oximetry, oxygenation, oxygen circulation, organothio phosphonate, blood oxygen saturation.

Can the use of HFNC after extubation in COVID-19 patients reduce the reintubation rate?

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Registered Nurse Taichung Veterans General Hospital [1]

Abstract

Background:

Since the outbreak of the COVID-19 pandemic in 2019, the virus has continued to mutate. The main symptoms of moderate to severe cases are acute respiratory failure, which leads many patients to require high-concentration oxygen devices or endotracheal intubation with mechanical ventilation. The introduction of high-flow nasal oxygen (HFNO) has replaced traditional oxygen therapy and become a suitable oxygen device for COVID-19 patients in clinical practice. In specialized wards, within 1-3 days after extubation, most COVID-19 patients are placed on high-flow nasal oxygen. Nurses have raised concerns with physicians, who have stated that this oxygen therapy can provide positive end-expiratory pressure (PEEP) to prevent lung collapse after extubation, thereby reducing the reintubation rate. Therefore, the aim of this study is to explore, through an evidence-based approach, whether the use of high-flow nasal oxygen after extubation in COVID-19 patients can reduce the reintubation rate.

Purpose:

Can the use of HFNC after extubation in COVID-19 patients reduce the reintubation rate?

Methods:

This is a "therapeutic" question. This study uses an evidence-based approach to propose a clinically answerable question. The following databases were searched: The Cochrane Library, PubMed, and Embase, using the keywords/MeSH terms: COVID-19 Post-extubation, High-flow nasal cannula, Oxygen therapy, reintubation rate. Union (OR) and intersection (AND) searches were conducted. The article search was limited to those published within the last five years with full text available. Titles and abstracts were reviewed to select the relevant articles, and non-English and duplicate articles were excluded. As a result, one systematic review and one randomized controlled trial were selected.

Results:

According to the literature, the ROX index can indicate the effectiveness of using HFNC. A value >4.88 is considered effective, while a value below 4.88 suggests that intubation should be considered. Between January 11 and September 30, a total of 50 intubated patients were enrolled in the study. Among them, 19 patients died, 5 underwent tracheostomy, and 10 were transferred without extubation, and they did not receive HFNC treatment. Finally, 16 cases were included in the analysis. Among these, 3 patients failed within three days after extubation and required reintubation, resulting in a reintubation rate of 6.25%. The literature suggests that the risk of reintubation within the first three days after extubation is a critical period, with a reintubation probability of 10-20%. In our study, the reintubation rate after applying HFNC was 6.25%, which is lower than the reported rate in the literature. However, due to the small sample size, it may not fully represent the literature’s findings. Additionally, factors

such as patient age, management of chronic diseases, and respiratory status after extubation should be considered to achieve more accurate results.

Conclusion/Implementations for practice:

This study found a lower reintubation rate (6.25%) with HFNC use after extubation in COVID-19 patients compared to the reported 10–20% in the literature. HFNC likely helps by providing positive end-expiratory pressure (PEEP) to keep the lungs open and improve oxygenation. However, the small sample size and patient variability limit the generalizability of the findings. Factors like underlying diseases and differences in care may also affect outcomes. Future larger and controlled studies are needed to confirm these results and explore optimal HFNC use.

Using HFNC after extubation in COVID-19 patients may reduce the risk of reintubation. While preliminary results are promising, further research with larger samples is required to validate the benefits and guide clinical practice.

Keyword:COVID-19 Post-extubation, High-flow nasal cannula, Oxygen therapy, reintubation rate.

Can electrical stimulation improve dry mouth symptoms in patients with Sjögren's syndrome?

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Abstract

Background:

Sjögren's syndrome (SS) is a chronic autoimmune disorder that impairs salivary gland function, leading to xerostomia and reduced quality of life. While pharmacological treatments remain limited in effectiveness, electrical stimulation—delivered either transcutaneously or intraorally—has been explored as a non-pharmacological approach to enhance salivary flow. However, evidence on its efficacy in SS patients has been inconsistent, particularly in recent years. This study aimed to systematically review and synthesize research published after 2022 to evaluate the effects of electrical stimulation on xerostomia in individuals with SS.

Purpose:

To evaluate whetherelectrical stimulation can reduce the severity of dry mouth in patients with SSand to explore its feasibility as a non-pharmacological adjunctive nursingintervention.

Methods:

A systematic search was conducted in PubMed, CINAHL, Cochrane Library, Google Scholar, and Airiti Library for randomized controlled trials (RCTs) published from 2011 to 2025, following the PICO framework: P – patients with Sjögren's syndrome; I – electrical stimulation; C – conventional treatment; O – improvement of dry mouth symptoms.

Search keywords included "Sjögren's syndrome," "xerostomia," "electrical stimulation," "non-pharmacological intervention," "TENS," and "intraoral electrostimulation." Four RCTs meeting the criteria were selected. Methodological quality was assessed using the CASP checklist and graded according to the Joanna Briggs Institute (JBI) levels of evidence.

Interventions included two modalities of electrical stimulation:

Transcutaneous Electrical Nerve Stimulation (TENS): Applied over the skin surface in the parotid and submandibular gland regions using adhesive surface electrodes. Sessions typically lasted 15–20 minutes, with frequencies ranging from 20–80 Hz and intensities adjusted to patient tolerance without discomfort.

Intraoral Electrostimulation: Delivered via custom-fitted oral appliances with embedded electrodes positioned along the buccal mucosa adjacent to the duct openings of the major salivary glands. Stimulation parameters were similar to TENS, with sessions lasting 10–20 minutes.

Results:

All four studies wererated as Level 1c evidence with Grade A recommendation. Three studies showed asignificant decrease in Visual Analog Scale (VAS) scores by 0.36 to 0.68 points($p \leq 0.001$). Xerostomia Inventory (XI) scores decreased by 1.28 to 3.33 points($p = 0.01–0.02$). Additionally, salivary secretion flow (SSF) increased by 6.68mm, with final SSF levels ≥1 ml/min achieving the therapeutic goal ($p < 0.001–0.0001$). Both transcutaneous electrical nerve stimulation (TENS) andintraoral electrostimulation were found to significantly reduce subjectivexerostomia symptoms, with no apparent adverse effects and good ratings incomfort and tolerance.

Conclusion/Implementations for practice:

Electrical stimulation is a safe and effective adjunctive nursing therapy that,when integrated with conventional treatment, can alleviate the subjectivesensation of dry mouth in SS patients, increase salivary flow, and enhance bothcomfort and quality of life. This intervention is recommended based onindividual patient needs.
Keyword: Sjögren's syndrome, xerostomia, electrical stimulation, non-pharmacological intervention, TENS, intraoral electrostimulation

Integrated Health Care Approach in the Nursing of a Very Low Birth Weight Preterm Infant from a Vulnerable Family

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Abstract

Background:

This case involved a very low birth weight(VLBW) preterm infant with a chronological age of 8 months and a corrected age of 4 months and 24 days. The family was economically disadvantaged and identified as vulnerable. The infant's primary caregiver, the mother, lackedadequate knowledge regarding nutrition and infant care. Due to insufficientfamily support, the infant experienced a fall from the bed, resulting in aright femoral fracture. This raised concerns regarding neglect and the overallsafety of the home environment.

Purpose:

This care plan aimed to identify three major health problems faced bythe infant and the caregivers through a comprehensive and systematicassessment, namely imbalanced nutrition (less than body requirements), acutepain, and potential impairment of parenting function.

Methods:

The care periodextended from August 3 to August 17, 2024, during which individualized andintegrated nursing interventions were provided. In collaboration with themultidisciplinary medical team, consultations with a dietitian and an oralrehabilitation therapist were conducted to design a nutrition and oral careplan tailored to the infant. Feeding schedules and volumes were adjusted,changing from every 6 hours to every 4 hours, and modifying the formula from200 c.c. of standard formula milk per feeding to 120–150 c.c. of 24-caloriepreterm formula. Oral and swallowing function were assessed, and interventionsincluded using a small gauze pad moistened with sterile normal saline to gentlyglide along the gums and massage the buccal areas, stimulating oral sensationto enhance sucking and swallowing ability and to address insufficientnutritional intake. Before nursing interventions, the infant's hips and thighswere secured with a Velcro swaddle to stabilize positioning, while continuousmonitoring of thigh swelling, peripheral circulation, and edema was conductedto reduce discomfort in the affected limb. A calm environment with softlighting and minimal noise was maintained to decrease external stimuli andrelieve pain.

To strengthen bondingand parent–child interaction, family members were encouraged to record familiarvoices and lullabies for the infant to listen to. During periods when in-personvisitation was not allowed, a "Child Care Together" communication group wasestablished through a messaging application. Photos or videos (2–3 each time)of the infant were shared with the parents every Wednesday and Saturday.Additionally, video calls were arranged every Monday and Thursday for at least15 minutes per session, allowing the parents to ask questions about theinfant's condition and interact verbally with their child. Duringhospitalization, a family-centered discharge plan was initiated,

along withreferrals to community social resources, to ensure continuity and safety ofcare after returning home.

Results:

This integrated approach led toimprovements in the infant’s nutritional intake, pain control, and parent-childbonding. It also reduced caregiver stress and enhanced family functioning.Early identification of the family's vulnerabilities, combined with coordinatedmultidisciplinary efforts, ensured continuity of care and improved overallquality and safety.

Conclusion/Implementations for practice:

Caring for VLBW preterm infants requiresboth professional support and active family involvement. This case highlightsthe importance of early identification of vulnerable families and the timelyinitiation of multidisciplinary collaboration. Implementing a family-centered,integrated care model—along with effective discharge planning and socialresource linkage—can significantly improve care outcomes, boost caregiverconfidence, and promote long-term health and well-being for both the child andthe family.

Keyword: Very Low Birth Weight Infant、Family-Centered Integrated Care、Vulnerable Families、Interprofessional Collaboration

A quality improvement project to enhance exclusive breastfeeding rates in the nursery using the PDCA cycle

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Abstract

Background:

Since 2007, the Joint Commission of Taiwan a and the Health Promotion Administration have jointly promoted the"Baby-Friendly Hospital" accreditation program to foster a supportivehealthcare environment for breastfeeding and provide newborns with the beststart in life.

Purpose:

After our hospital opened in November 2022, the exclusive breastfeedingrate in the nursery consistently fell short of the institutional target of26.2%, averaging only 16.9% in 2023. To address this gap and enhance carequality, we launched a quality improvement initiative using thePlan-Do-Check-Act (PDCA) cycle, aiming to improve exclusive breastfeedingpractices and strengthen support mechanisms within the nursery.

Methods:

This project applied the PDCA cycle to improve exclusive breastfeedingrates. The intervention was implemented from the first quarter to the thirdquarter of 2024. A total of 116 postpartum mothers were monitored, andbreastfeeding performance was assessed using standardized indicators defined bythe Baby-Friendly Hospital Initiative (BFHI). Breastfeeding rate trends and theeffectiveness of implemented actions were continuously evaluated throughout thestudy period.

Results:

After applying the PDCA cycle, the exclusive breastfeeding rate increasedsignificantly. The rate in 2023 was 16.9%, but by the second quarter of 2024,it had risen to 29.4%, and in the third quarter, it reached 48.6%. Thisexceeded the target rate of 26.2%, with a goal achievement rate of 134.4% andan overall improvement of 73.9%. These results demonstrate the effectiveness ofthe PDCA-driven approach in improving exclusive breastfeeding outcomes in thenursery.

Conclusion/Implementations for practice:

Breast milk is the most natural and ideal source of nutrition fornewborns, offering essential immune and developmental benefits. Prior to thisproject, the exclusive breastfeeding rate in our nursery was low. Uponanalysis, several barriers were identified, including insufficient knowledgeamong mothers and families about breastfeeding, low maternal confidence due tolimited milk supply in the early postpartum phase, and inconsistent support andevaluation from the care team.

Through this PDCA-based initiative, targeted improvements were implemented:daily audits of nurses' breastfeeding assessments, standardized breastfeedingsupport procedures, and regular educational sessions and support groups formothers and families. These actions enhanced breastfeeding knowledge, correctedmisconceptions, and created a more baby-friendly environment. This initiativenot only improved clinical

indicators but also provides a sustainable model forpromoting breastfeeding in nursing practice.
Keyword:PDCA cycle, nursery, exclusive breastfeeding rate, quality improvement, baby-friendly care

Holistic Nursing Care of an Elderly Patient with Acute Respiratory Failure Following a Suicide Attempt Due to Chronic Pain

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Abstract

Background:

Chronic pain, if not effectively relieved over a prolonged period, may lead not only to physical discomfort but also to psychological health issues, and in severe cases, suicidal behavior. Although pyrethroid pesticides are considered to have low toxicity, they are easily accessible. In cases of large ingestion, they often induce symptoms such as nausea, headache, convulsions, and coma. In severe situations, they may cause a strong inflammatory response in the lungs, resulting in respiratory distress and acute respiratory failure, which require endotracheal intubation and mechanical ventilatory support.

Purpose:

The purpose of this article is to present a nursing care experience involving an elderly patient who attempted suicide due to prolonged unresolved chronic pain, resulting in acute respiratory failure caused by pyrethroid pesticide ingestion. This case aims to highlight the importance of holistic nursing care that addresses both physical symptoms and psychological distress, as well as the role of family education in improving pain management and emotional support.

Methods:

Nursing care was provided from October 1 to October 5, 2024. Data were collected through communication with the patient and family members, active listening, and direct observation. A holistic nursing approach was adopted to conduct a comprehensive health assessment and to implement individualized, patient-centered interventions based on the nursing process.

Results:

During the care period, the patient's primary health problems were identified as follows: (1) Impaired gas exchange related to acute respiratory failure caused by pesticide poisoning; (2) Chronic pain associated with prolonged unresolved physical discomfort; and (3) Anxiety related to disease progression and the suicide attempt. It was also noted that the patient's family lacked adequate understanding of pain management, which led them to restrict the use of analgesics, resulting in poor pain control. Furthermore, they failed to recognize the patient's suicidal intentions, which subsequently led to feelings of guilt and emotional distress.

Conclusion/Implementations for practice:

To address the patient's health problems, mechanical ventilation was provided to stabilize lung inflammation and improve oxygenation. Active weaning from the ventilator was initiated, and the endotracheal tube was successfully removed. During hospitalization, discomfort caused by the illness and pain related to preexisting conditions were effectively alleviated through pharmacological treatment and non-

pharmacological interventions, such as hot and cold compresses. In addition, emotional support and companionship were offered, along with relevant health information, to enhance the patient's comfort and reduce anxiety.

In terms of family support, health education was provided to clarify misconceptions about pain management. Family members were guided to express their feelings of guilt regarding the patient's condition, which helped stabilize their emotional state. They were also encouraged to actively participate in the care process with a positive attitude, effectively reducing psychological stress for both the patient and family.

This integrated physical and psychological care experience may serve as a valuable reference for future nursing practice, with the goal of improving the overall quality of care for patients experiencing chronic pain and those at high risk of suicide.
Keyword: Impaired Gas Exchange, Pyrethroid Poisoning, Chronic Pain, Anxiety

Enhancing Intrinsic Motivation and Breastfeeding Self-Efficacy: Implementation Outcomes of a Gamified and Family-Supported Care Model

Meng-Ling Wu[1]
1

Abstract

Background:

Breastfeeding is a pivotal factor in promotingmaternal and infant health. However, low maternal self-efficacy, limited family support, and a lackof effective engagement mechanisms often lead to the discontinuation ofbreastfeeding.Aspart of our institution's commitment to social accountability and equitablehealth promotion, an integrated care model was developed to enhance intrinsicmotivation and breastfeeding self-efficacy through gamified education andfamily involvement.

Purpose:

To enhance breastfeeding motivation and self-efficacy among postpartum mothers through a structured, gamified, and family-supported care model, while promoting health equity and fulfilling nursing's social accountability in maternal-child care.

Methods:

This study adopted a quasi-experimental pre–post design conducted between July 1, 2023, and June 30, 2024. The intervention consisted of three phases—prenatal, perinatal, and postnatal:

1. Prenatal : During antenatal visits, a gamified Breastfeeding Engagement Bingo was introduced to encourage active family participation through structured tasks.

2. Perinatal : Within four hours postpartum, nursing staff facilitated a family bonding activity by capturing a family photo and creating a commemorative card to foster emotional connection and enhance early breastfeeding motivation.

3. Postnatal : To ensure continuity of care, breastfeeding follow-up calls were conducted within two weeks after discharge, along with access to a 24-hour breastfeeding consultation hotline.

The effectiveness of the intervention was evaluated based on exclusive breastfeeding rates and qualitative feedback from participants. Eligible participants were antenatal cases at ≥32 weeks of gestation, randomly recruited, yielding a total of 250 cases. The primary outcome was the exclusive breastfeeding rate at discharge and during the follow-up period. Secondary outcomes included qualitative feedback on maternal confidence, emotional bonding, and perceived family support.

Results:

Following the implementation of this intervention, exclusive breastfeeding rates improved from 33.41% in Q3 2023 to 41.12% in Q2 2024. Mothers reported increased confidence in breastfeeding, stronger emotional bonding with their infants, and a greater sense of support from their families. Nursing staff observed enhanced maternal

engagement and more proactive parenting behaviors, reflecting improved communication and collaboration between families and healthcare providers.

Conclusion/Implementations for practice:

The integration ofgamified educational tools with emotional and logistical family supportpresents a promising strategy for enhancing maternal self-efficacy andbreastfeeding behavior. This model underscores the value of human-centered carethat extends beyond hospitalization, aligning with the principles of socialresponsibility and health equity in maternal-child health.

Keyword:social accountability, breastfeeding self-efficacy, intrinsic motivation, family-centered care, gamified intervention, postpartum nursing

The Nursing Experience of Caring for a Newborn with Multiple Birth Injuries

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Abstract

Background：

The birth of a newborn is typically a joyful event. However, when unexpected incidents or complications arise during labor—resulting in birth trauma or physical injuries to the infant—it can be a devastating experience for the parents and a significant challenge for healthcare professionals. This case report describes the nursing experience of caring for a full-term newborn at 37weeks and 6 days gestation who presented with respiratory distress, brachialplexus injury, and multiple bruises due to a prolonged labor process.

Purpose：

To share clinical nursing interventions and reflections on caring for a newborn with multiple birth injuries and respiratory distress, aiming to improve the quality of neonatal emergency and trauma care.

Methods：

The care period spanned from November 8 to November 11, 2024. Data were collected through direct nursing care, observation, medical record review, and interviews. The five-system assessment framework was used to evaluate the infant's condition. The primary health problems identified were:1.Ineffective airway clearance related to meconium aspiration and respiratory distress； 2.Neonatal brachial plexus injuryrelated to birth trauma and hypoxia-induced neurological dysfunction； 3.Risk of brain injury possibly related to hyperbilirubinemia caused by multiple birth traumas.Interventions included oxygen therapy, suctioning, and back tapping to stimulate spontaneous breathing. A rolled towel was placed under the neck to gently lift the chin and maintain airway patency. Vital signs were closely monitored, and appropriate positioning was provided. Passive range-of-motion exercises, local warming, and massage were administered to the affected limb to prevent contractures .Bilirubin levels were monitored, and phototherapy was prepared if needed.

Results/Conclusion：

The newborn successfully cleared airway secretions and resumed spontaneous breathing.At discharge, although the affected limb remained slightly weak, normal circulation and skin color were observed with no signs of contracture. Bilirubin levels remained with in normal range throughout hospitalization, and phototherapy was not required. Upon discharge, the nursing team provided thorough health education, referral information, and emotional support to the parents.

Based on the author's experience in caring for this case, it is recommended that when encountering thick amniotic fluid or meconium which easily clogs the suctioncatheter, one should avoid persistently using a blocked catheter. Instead,promptly replace it with a new or larger-sized suction catheter, and alternatethe use of a bulb syringe and suction catheter at the nasal entrance to reduce the risk of alveolar rupture caused by improper suction technique or excessivepressure. Ultimately, in today's society where declining birth rates make every child all the more precious, nursing staff should not only rely on

practical experience but also integrate evidence-basedknowledge to provide care with greater confidence and assurance. It is hopedthat this successful case experience can serve as a reference for similar cases, thereby contributing to improved quality of neonatal nursingcare.
Keyword:fetal distress、Brachial plexus injury in neonates、Newborn care

Intradialytic Stretching Exercises to Alleviate Restless Legs Syndrome in a Hemodialysis Patient: An Evidence-Based Case Report.

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Abstract

Background

Restless Legs Syndrome (RLS) is a common sensorimotor disorder among hemodialysis patients, characterized by uncomfortable sensations in the lower limbs that worsen during rest or night. RLS can disrupt dialysis treatment, impair sleep, and reduce quality of life.Although pharmacological therapy is commonly prescribed, it may cause adverse effects such as nausea, dizziness, and drowsiness, and in some cases even exacerbate symptoms. Therefore, safe and cost-effective non-pharmacological interventions are warranted.

Purpose

To evaluate whether intradialytic stretching exercises can reduce symptoms of restless legs syndrome (RLS) in hemodialysis patients, supported by both systematic evidence and clinical case experience.

Methods

A systemic review was conducted following PRISMA guidelines. The PICO framework was defined as follows: P (hemodialysis patients), I (intradialytic stretching), C (routine care) and O (RLS symptoms).Database searched included PubMed, Cochrane Library, CINAHL, and Medline up to April 2025. Two randomized controlled trials (RCTs) met the inclusion criteria.In both studies, patients performed stretching during the last two hours of dialysis, 2–3 times per week, for 8 weeks.

Additionally,a clinical case was observed: a middle-age male patient undergoing maintenance hemodialysis and diagnosed with RLS was instructed to performed 15 minutes of stretching during the final two hours of dialysis over a 2-month period. The stretching program consisted of ankle plantar flexion, gastrocnemius and soleus stretching, hamstring stretching, and quadriceps stretching.

Results

Systematic Evidence demonstrated that both RCTs reported a significant reduction in RLS symptoms by the eighth week ($p < 0.001$).The intervention was well tolerated, with no adverse effects reported, and patients experienced improved sleep and comfort. In the clinical case, the patient reported decreased legs discomfort during dialysis, improved sleep quality, and enhanced daily functioning after 2 months of regular stretching. No side effects were observed, and adherence was high.

Conclusion/ Implications for Practice

Intradialytic stretching exercises are safe, feasible, and cost-effective. They effectively alleviate RLS symptoms,improve sleep quality, and enhance quality of life in hemodialysis patients.Nurses play an important role in integrating stretching exercises

into routine care and educating patients on their implementation. Future studies with larger and more diverse populations are warranted to confirm long-term effects and generalizability.
Keyword: Intradialytic stretching training;Restless legs syndrome;Hemodialysis

An Integrated Care Approach for a Middle-Aged Male with Diabetic Foot

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Abstract

Background:

This case report describes the care experience of a 46-year-old male witha history of diabetes who developed a foot wound following a traffic accident. Despite two weeks of self-administered wound care at home,the wound showed no improvement and progressively became necrotic.During hospitalization, he underwent two debridement procedures, butultimately required a below-knee amputation due to complications from diabetic foot infection. The amputation resulted in significant impairment in mobility and had a profound impact on the patient's daily functioning and overall quality of life.

Purpose:

The aim of this nursing care plan was to conduct a comprehensive assessment and identify three primary health problems: Anxiety related to the stress of undergoing amputation surgery, Impaired physical mobility related to post-amputation limitations, and knowledge deficit related to diabetes and diabetic foot care. An individualized and holistic care approach was implemented to actively involve the patient in an integrated healthcare plan to support early discharge and reintegration into society.

Methods:

During the patient's hospitalization, a good therapeutic relationship was established with the patient. The family was encouraged to provide timely companionship, allowing the patient to feel the care and support of their family. In daily care meetings, the patient was encouraged and guided to express inner worries about upcoming events, and problems were identified to plan and arrange time for learning and training. These included concerns such as lack of understanding about wound care, lifestyle changes due to limb loss, and lack of self-worth.These efforts aimed to reduce anxiety caused by amputation during hospitalization.In collaboration with the healthcare team, the patient was taught proper techniques for bed mobility, positioning, and use of assistive devices, along with a rehabilitation plan to improve physical limitations after amputation. Information about various prosthetic options was provided by prosthetic suppliers. Strengthening of upper limbs and the unaffected lower limb to assist the affected limb was emphasized, along with training in limbinspection and care. The patient was also educated on proper wound care and dietary habits after discharge to enhance self-care ability. Information was provided about the relationship between blood sugar control and wound healing to improve disease understanding and management. The patient learned that high blood sugar can damage vascular endothelial function and increase free radicals, leading to poor circulation and oxidative stress that worsens tissue damage. This education aimed to increase the patient's motivation to maintain good glycemic control and improve awareness of diabetic foot care.

Results:

Through a comprehensive inpatient care plan, the patient learned to utilize social resources, select appropriate assistive devices and prostheses, and maintain a quality of life that supported returning to work and daily functioning. He gained a deeper

understanding of the role of diet and blood glucose control in diabetes management.Additionally, he became more aware of the decreased sensation in the lower extremities due to diabetic foot and the importance of inspecting foot skin integrity and following diabetic foot care precautions to prevent future infections and potential amputations.

Conclusion/Implementations for practice:

When caring for patients undergoing amputation, it is essential to continuously provide emotional support and encourage them to express their internal emotional response. Family support should be integrated to strengthen the patient's coping abilities. Furthermore, health education should emphasize the link between delayed wound healing and hyperglycemia in diabetic patients. Enhancing awareness of foot self-examination and the importance of seeking early medical attention can help prevent disease progression and reduce the risk of amputation.

Keyword: Middle-Aged Male、Diabetic Foot、Integrated Care

Cancer-Related Fatigue in Patients with Colorectal Cancer: A Concept Analysis

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Abstract

Background:

The number of colorectal cancer patients has been increasing annually, with a noticeable trend toward younger onset. Although advances in medical treatment have improved survival rates, patients continue to experience long-term physical and psychological distress resulting from effects of cancer disease. Among these issues, cancer-related fatigueis one of the most distressing symptoms, as it not only reduces treatment motivation but also impacts family finances and leads to social withdrawal.

Purpose:

The purpose of this study was to clarify the concept and nature of cancer-related fatigue in patients with colorectal cancer.

Methods:

This study adopts the concept analysis method proposed by Walker and Avant (2011), aiming to clearly define the attributes ofcancer-related fatigue, clarify its conceptual boundaries, and identify its antecedents and consequences. The analysis was supplemented by model cases,borderline cases, and contrary cases to illustrate the concept. In addition,relevant measurement tools from empirical studies were referenced to supportthe conceptual framework.

Results:

Cancer-related fatigue in patients with colorectal cancer was defined by the following key attributes：（1）a persistent and subjectively perceived experience,（2）disproportionate to the level of physical activity orenergy expenditure,（3）not relieved by rest or sleep,（4）interferes with daily functioning and affects both physical and psychological well-being.

Conclusion/Implementations for practice:

The results of this concept analysis can help clinical nurses better understand cancer-related fatigue in patients with colorectal cancer and improve the accuracy of their care, thereby enhancing patients' ability to cope with cancer-related fatigue.

Keyword: Cancer-related fatigue, colorectal cancer, Concept analysis

Death Anxiety in Patients Undergoing Cardiac Surgery: A Concept Analysis

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Abstract

Background: Patients with cardiovascular disease often experience significant anxiety, which becomes more pronounced when they face cardiac surgery. The perception of life-threatening risks usually causes this anxiety and is closely related to the core concept of death anxiety.

Purpose: The purpose of this study was to clarify the concept and nature of death anxiety in patients undergoing cardiac surgery.

Methods: This study applied Walker and Avant's concept analysis method to review relevant literature and summarize the defining attributes, antecedents, and consequences of death anxiety in patients undergoing cardiac surgery.

Results: The defining attributes of death anxiety in patients undergoing cardiac surgery were as follows: (1) experiencing intense fear and uneasiness about death when facing surgery, (2) having persistent anxiety and emotional tension, (3)worrying about surgical risks and the uncertainty of disease progression, (4)showing psychological and physical discomfort, such as palpitations and insomnia, and (5) the frequent occurrence of these reactions during medical decision-making and treatment processes before and after cardiac surgery.

Conclusion/Implementations for practice: The results of this concept analysis can help clinical nurses better understand death anxiety in patients undergoing cardiac surgery and improve the accuracy of their care. Thereby enhancing patients' ability to cope with death anxiety.

Keyword: Cardiac Surgery, Death Anxiety, Concept Analysis

Sleep disturbance in breast cancer patients during chemotherapy: A concept analysis

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Abstract

Background: Sleep disturbance is a common and distressing symptom for women undergoing chemotherapy for breast cancer,with prevalence rates ranging from 30% to over 70%. The side effects of chemotherapy affect the patient's sleep disturbance , which in turn affects daily activities, psychology, emotions and increasing the risk of recurrence.However, there are currently no defining characteristics of sleep disturbance in breast cancer patients during chemotherapy for caregivers to identify.

Purpose: This study was to clarify the meaning of sleep disturbance in breast cancer patients during chemotherapy.

Methods: This study was used the concept analysis method by Walker and Avant to summarize the defining characteristics, clarify the concept, confirm the antecedents and consequences and empirical research.

Results: The defining characteristics of this concept was determined, including: 1. breast cancer patients undergoing chemotherapy, 2. unable to fall asleep within 30 minutes, 3. early awakening, 4. frequent awakening at night,and 5. subjective dissatisfaction with the quality of sleep.

Conclusion/Implementations for practice: The result of this analysis was provided the clinical meaning to identify sleep disturbance in breast cancer patients during chemotherapy. In the future, it is hoped that development of related intervention strategies will provide more comprehensive care for patients.

Keyword: Sleep disturbance, breast cancer, concept analysis

Anxiety in Patients with Transient Ischemic Attack: A Concept Analysis

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Abstract

Background:

Transient ischemic attack (TIA) involves temporary neurological dysfunction caused by cerebral hypo-perfusion, with symptoms typically resolving within 24 hours. The sudden onset and unpredictable prognosis generate significant patient anxiety, compromising quality of life and disease management. Currently, clear clinical guidelines for the identification and management of post-TIA anxiety are lacking. This gap underscores the need for systematic concept exploration.

Purpose:

This study aimed to clarify the concept of anxiety in TIA patients to inform nursing assessment and psychological intervention.

Methods:

Following Walker and Avant's eight-step framework, this analysis focused on anxiety responses in patients with transient ischemic attack (TIA). A literature review was conducted using PubMed, CINAHL, and PsycINFO for publications from January 2020 to June 2025. Keywords included "transient ischemic attack,""anxiety," "concept analysis," and "nursing assessment."Authoritative references such as the DSM-5-TR and key neuroscience nursing literature were also reviewed to ensure comprehensive coverage.

Results

The analysis revealed three core components of post-TIA anxiety: 1.Antecedents: neurotransmitter imbalance, comorbid mental illness, stress adaptation capacity, inadequate social support, and prognostic uncertainty. 2.Defining attributes: excessive worry, fear of recurrence, mood swings,helplessness, sleep disorders, and impaired role function, which are specific to TIA patients. 3. Consequences: failure to identify anxiety promptly is associated with diminished quality of life, poor adherence to medical regimens, elevated risk of disease progression, and increased burden on caregivers. Empirical referents include validated assessment tools such as the Hospital Anxiety and Depression Scale (HADS), State-Trait Anxiety Inventory (STAI), Beck Anxiety Inventory (BAI), and Generalized Anxiety Disorder-7 (GAD-7), with HADS and STAI demonstrating particular utility in TIA populations.

Conclusion
This concept analysis offers a theoretical basis for understanding post-TIA anxiety and highlights the importance of early recognition and appropriate psychological interventions in clinical practice.

Keywords:

Transient ischemic attack, anxiety,concept analysis, Walker and Avant, psychological care
Keyword: Transient cerebral ischemia, anxiety, concept analysis, Walker and Avant, psychological care

An Integrated Care Approach for a Middle-aged Male Patient with Diabetic Foot Undergoing Below-knee Amputation: A Nursing Experience

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Abstract

Background:

Thisarticle describes the nursing experience of a 52-year-old male, theprimary breadwinner of his family, who sustained a crush injury withan open fracture to his right lower limb due to a workplace accident.During hospitalization, he underwent multiple wound debridements butultimately required a below-knee amputation due to ischemic necrosis.This sudden physical change had a profound impact on both hisphysical and psychological well-being. In addition to experiencingpostoperative wound pain and limited mobility, the patient facedpsychological trauma, a disturbed body image, and lifestyle changes,which contributed to a pessimistic view of the future.

Purpose:

Thisnursing care plan aimed to assess the patient holistically using afour-dimensional nursing framework. Three primary health problemswere identified:

Anxiety– related to amputation and functional loss

Acutepain – related to repeated wound debridements and postoperativewound care

Disturbedbody image – related to changes in physical appearance followingthe below-knee amputation

Toaddress these concerns, the patient was engaged in aninterdisciplinary integrated care plan to help him cope with thepsychological impact of treatment and enhance his self-worth.

Methods:

Thenursing team closely observed and assessed the patient’s nonverbalcues and emotional responses. Through companionship, empathy, andproactive visits, the team encouraged the patient to express hisconcerns and thoughts about the trauma and the amputation. The teamaccepted and supported the patient’s emotional reactions during hisadjustment process and encouraged him to actively participate inself-care. Collaborating with an interdisciplinary team, thepatient’s upper limb and unaffected leg strength were enhancedthrough targeted training. Multimedia educational tools weredeveloped to teach self-care techniques. During wound care, thepatient’s pain perception was carefully monitored, and analgesicswere administered before dressing changes. Pain was assessed in termsof aggravating and relieving factors, quality, location, severity,and duration. Aromatherapy and acupressure were employed to promoterelaxation and alleviate anxiety, thereby improving mental well-beingand learning motivation.

Thepatient was provided with an educational booklet for home wound careand discharge rehabilitation planning. In addition, inspirationalvideos of athletes using prosthetics were shared via mobile devices.A peer with prosthetic experience visited the

patient to share theirpersonal journey, offering encouragement and fostering a morepositive outlook.

Results:

Throughintegrated care and psychological support from the nursing team, thepatient gradually opened up about his anxiety and emotional concerns,learned to accept the changes brought on by the amputation, anddemonstrated improved pain tolerance and cooperation during dressingchanges. The use of multimedia education and professional guidanceenabled the patient to acquire self-care and mobility skills and toactively engage in rehabilitation. Peer support and motivationalmedia further empowered the patient to shift from passive acceptanceto active coping, rebuilding a positive self-image and outlook onlife.

Conclusion/Implementations for practice:

Interdisciplinary collaboration, psychological support, wound care, pain management, and functional training played a vital role in helping the patient navigate the physical and emotional challenges following amputation. These interventions improved his quality of life and confidence in returning to society. Clinical nurses should strengthen integrated care strategies for patients undergoing amputation, with particular focus on emotional adjustment and psychological support. Utilizing diversified health education approaches can enhance patient participation in self-care and rehabilitation, thereby optimizing overall care outcomes.

Keywords: Integrated Care, Below-knee Amputation, Disturbed Body Image

Determinants of Preventive Behaviors Against Severe Respiratory Infectious Diseases Among Older Adults in the Community During the Post-COVID-19 Era

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Abstract

Background: Although the global impact of COVID-19 has diminished, older adults remain particularly vulnerable to severe respiratory infectious diseases in the post-pandemic era. Understanding the factors that influence preventive behaviors among community-dwelling older adults is essential to enhancing epidemic preparedness and resilience at the community level.

Purpose: This study aimed to investigate the determinants of preventive behaviors against severe respiratory infectious diseases among older adults living in the community, using the Health Belief Model (HBM) as the guiding theoretical framework.

Methods: A cross-sectional survey was conducted among 154 community-dwelling older adults aged 65 and above in southern Taiwan using convenience sampling. A self-developed structured questionnaire was used to measure seven constructs of the Health Belief Model (HBM): perceived risk, susceptibility, severity, benefits, barriers, self-efficacy, and preventive behaviors. Data were analyzed using descriptive statistics, Pearson's correlation, and multiple regression analysis.

Results: Participants reported moderate levels of perceived risk (M = 3.25) and perceived barriers (M= 2.97), but higher levels of perceived benefits (M = 5.41) and self-efficacy (M = 5.21). Preventive behaviors were significantly associated with perceived severity, perceived benefits, and self-efficacy. Multiple regression analysis identified self-efficacy, perceived severity, and perceived benefits as significant predictors of preventive behaviors, accounting for 27.7% of the variance.

Conclusion/Implementations for practice: In the post-COVID-19 era, older adults' engagement in preventive behaviors is significantly influenced by their perceived severity of disease, perceived benefits of action, and self-efficacy. Health authorities and community health educators should prioritize interventions that strengthen confidence in prevention strategies, increase risk perception, and clearly communicate the benefits of preventive behaviors. Such strategies are essential for enhancing public engagement and improving overall community resilience against infectious diseases.

Keyword:COVID-19/prevention & control; Health Behavior; Risk Perception; Health Belief Model; Community Health Services

Application of Discharge Planning Service in Emergency Nursing Care for a Patient with Intracerebral Hemorrhage

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Abstract

Background:

Patients with intracerebral hemorrhage often face impaired self-careabilities and long-term dependency, posing significant challenges for safedischarge and continuity of care. Emergency departments (EDs) typically operateunder staffing constraints and time pressures that limit opportunities forcomprehensive discharge planning. Early initiation of discharge planningservices in the ED can facilitate interdisciplinary collaboration and improvepatient safety and quality of life following discharge.

Purpose:

This case report describes the application of a discharge planning servicein an ED setting to support a patient with intracerebral hemorrhage and herfamily in developing a comprehensive care plan and preparing for safe home transition.

Methods:

A single case study design was used to document the care process for a32-year-old female patient admitted through the ED with skull fracture,pneumocephalus, and bilateral frontal subarachnoid hemorrhage following a fall.The discharge planning team conducted a comprehensive assessment addressingphysical condition, disease understanding, self-care capacity, familyreadiness, environmental safety, and social resource needs. An individualizednursing care plan was developed through interdisciplinary collaboration amongED nurses, neurosurgeons, advanced practice nurses, rehabilitation physicians,physical and occupational therapists, and case managers. Key interventionsincluded patient self-care training, caregiver education on hygiene, transfers,and mobility support, environmental adaptation recommendations, social resourcereferrals, and structured post-discharge telephone follow-up.

Results:

Before discharge, the patient demonstrated GCS E4V5M6 and approximatelygrade 3 muscle strength in all limbs, requiring substantial assistance withdaily activities. Through repeated education and practical training, theprimary caregiver learned correct techniques for hygiene and transfers. Thepatient was able to participate in assisted feeding, dressing, and bathing.Arrangements included applications for long-term care transportation services,procurement of assistive devices, and modifications to the home environment.Follow-up phone assessments confirmed gradual functional improvement, with thepatient able to dress independently and bathe safely while seated, therebyreducing readmission risk and caregiver burden.

Conclusion/Implementations for practice:

Integrating discharge planning services in the ED can effectively connectinterdisciplinary resources, enhance patient safety, and strengthen familycaregiving capabilities. Early intervention and standardized discharge

planningprotocols are recommended to improve transitional care quality. Ongoing staffeducation and interprofessional collaboration can empower nurses to identifypatient needs early, develop individualized care plans, and support safe,effective transitions from hospital to home.
Keyword: Discharge Planning Service, Intracerebral Hemorrhage, Emergency Nursing, Interdisciplinary Collaboration, Case Report

Improvement Plan to Reduce the Number of Falls in Hospital Corridors

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Abstract

Background:

Falls are widely recognized as a key indicator of healthcare quality and serve as a critical focus for enhancing patient safety across medical institutions.Between January and February 2025, our hospital recorded a total of three fall incidents occurring in the corridors of four inpatient wards:One severe incident (Severity Assessment Code ,SAC Level 2): A family member slipped on a wet spot in the corridor, resulting in a patellar fracture. The injury required surgical intervention and hospitalization.Two minor incidents (SAC Level 3): A family member slipped in front of the utility room due to a wet floor. No caution sign had been placed during mopping. A caregiver slipped after stepping on discarded food waste near the utility room.These incidents underscore the importance of maintaining a safe environment and implementing proactive fall prevention measures throughout hospital facilities.

Purpose:

Implementing Fall Prevention Measures to Create a Safe Healthcare Environment. By reinforcing proper food waste and garbage disposal behaviors among patients and caregivers, we aim to prevent items from falling onto the floor and causing slips. At the same time, enhancing the safety of cleaning procedures ensures dry floors and a clean environment, thereby reducing the risk of falls.

Methods:

Educational Interventions: Develop and distribute a “Fall Prevention in Utility Areas” educational leaflet.Nursing staff provide proactive education to caregivers and patients during environmental orientation, emphasizing proper classification and disposal of food waste and garbage to prevent items from falling on the floor and causing slips.

Equipment Improvements: Collaborate with the environmental services team to replace cleaning mops with ones that are more absorbent and easier to use. Provide two additional “Caution: Wet Floor” signs per ward to be used by cleaning staff during mopping. Install absorbent mats at utility room entrances to prevent water from spreading to corridor areas.

Enhanced Cleaning Protocols: Conduct in-service education for cleaning personnel, emphasizing the importance of wringing out mops thoroughly and avoiding overly wet floors. The goal is to keep the floor as dry as possible after mopping.

Inspection and Reporting: Nursing and relevant staff are to strengthen environmental inspections.If any wet or soiled areas are found near the utility room, staff should promptly notify the cleaning team to ensure cleanliness and safety of the floor surfaces.

Results:

The hospital began implementing the intervention measures on March 1, 2025. From March 1 to June 30, 2025, no fall incidents related to slippery corridor floors were reported.

Conclusion/Implementations for practice:

As a newly established hospital, our staff come from diverse medical institutions with varying approaches to fall prevention.Through root cause analysis and multi-faceted interventions, we have successfully aligned fall prevention practices across departments and improved environmental safety.We firmly believe that:Environmental safety management and staff education are crucial to reducing fall incidents.Team-based collaboration and systematic improvements enhance overall care quality while minimizing physical harm, emotional stress, and healthcare costs.We look forward to continuing to optimize fall prevention strategies and sharing our experience and outcomes with other healthcare institutions to collectively enhance patient safety and care quality.

Keyword: Fall

A Fatal Arrhythmia due to Thiamine Deficiency in a Chronic Alcoholic- Case Report

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Abstract

Background:
Patients with alcoholic liver cirrhosis commonly present with various metabolic abnormalities. Among them, thiamine (vitamin B1) deficiency may lead to QTc prolongation and cardiac arrhythmias.
Purpose:
This case report aims to examine the diagnostic approach and management of a patient with life-threatening arrhythmia resulting from thiamine deficiency.
Methods:
The material for this report was collected through a review of the patient's medical records, including history taking, physical examination, initial laboratory data,imaging studies, and cardiac catheterization. The patient was admitted on May 26, 2025, which marked the beginning of the case documentation.

Results:
This report describes a male patient with chronic alcohol use disorder who was admitted due to upper gastrointestinal bleeding. During hospitalization, he developed ventricular fibrillation (VF) with cardiac arrest. Electrocardiogram (ECG) revealed sustained VF. Return of spontaneous circulation (ROSC) was achieved after cardiopulmonary resuscitation (CPR), defibrillation, and endotracheal intubation. However, recurrent episodes of VF occurred throughout the hospital stay. Initial differential diagnoses included acute myocardial infarction (AMI), alcoholic cardiomyopathy, and electrolyte imbalances. Initially, Cardiac sonography revealed left ventricular ejection fraction around 40-50%, Coronary angiography was performed and ruled out AMI and alcoholic cardiomyopathy. Although electrolyte disturbances (e.g., hypokalemia, hypomagnesemia) were corrected, VF persisted. Serial ECG monitoring revealed a prolonged corrected QT interval (QTc) of up to 663 milliseconds. Further evaluation suggested thiamine deficiency - commonly associated with chronic alcoholism - as a potential cause of the prolonged QTc and arrhythmias. High-dose intravenous thiamine (500 mg IV daily) was administered for six days. Follow-up ECGs demonstrated a gradual reduction in QTc, initially to 527 milliseconds and eventually to 477 milliseconds. No further episodes of VF occurred thereafter. After treatment Electrocardiogram (ECG) was performed and revealed no significant arrhythmias.
Conclusion/Implementations for practice:
Thiamine deficiency impairs myocardial energy production and inhibits Na^+/K^+-ATPase activity, leading to cardiac instability and QTc prolongation. This condition is particularly relevant in individuals with chronic alcohol use, who should be considered a high-risk population. When the QTc interval exceeds 600 milliseconds, the risk of sudden cardiac death increases significantly. However, thiamine deficiency is often underrecognized in clinical practice, resulting in delayed diagnosis and treatment.

Keyword: Thiamine deficiency, QTc prolong, Ventricular fibrillation, Alcoholism, Arrhythmia

A preliminary study on the effect of using a dual-track health education pathway to improve control of diabetes patients

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Abstract

Background:

Research indicates that 50% of diabetes patients experience long-term complications such as cardiovascular disease, nephropathy , neuropathy , and retinopathy . These complications significantly impact a patient's quality of life and prognosis, with a particularly notable increase in mortality risk when cardiovascular disease is also present. Studies highlight that early and aggressive control of blood sugar, blood pressure, and blood lipids can effectively slow the progression of these diseases.

Purpose:

This study aims to investigate whether empowering diabetes patients' self-health management behaviors through specific care interventions can effectively improve their health indicators and prevent chronic complications. We hope to establish an evidence-based care model that will ultimately enhance overall diabetes care outcomes.

Methods:

This study adopted a quasi-experimental design, and conducted a pre- and post-test comparison on the cases included in the diabetes care quality program to evaluate the changes in patients' self-care behaviors and health indicators before and after the intervention. During health education, the subjects first integrated their health information through the AI health management system to evaluate the presence of complications, dangerous health behaviors, self-care ability, etc., and were divided into different health education paths based on the results. For those whose health indicators did not meet the standards, nursing staff used motivational interviewing techniques to provide individualized health education based on their condition, lifestyle, disease awareness, and family support, and provided digital health education information or printed leaflets using QR codes; those who met the standards were reinforced with self-management behaviors and reminded to return for regular checkups.Data on blood sugar, blood pressure, blood lipids, and self-care behavior scales will be collected before and after the intervention. SPSS statistical software will be used for data analysis, including descriptive statistics, paired sample t-tests, and correlation analysis, to test the effectiveness of the intervention and the correlation between variables, providing an empirical basis for optimizing the clinical care model.

Results:

From January 2022 to December 2024, a total of 2,775 diabetes patients received care interventions. Following regular follow-ups and individualized health education, the proportion of patients achieving control standards for glycated hemoglobin (HbA1c), blood pressure, and low-density lipoprotein (LDL) increased from 26.89% to 27.89%.

Furthermore, among high-risk patients, the percentage with an HbA1c value above 8.5% significantly decreased from 14.14% to 8.21%. These results indicate that the

intervention measures effectively improved patients' metabolic control and overall quality of care.

Conclusion/Implementations for practice:

Our hospital has implemented a comprehensive risk assessment and individualized health education program for diabetes patients, combining AI-driven personalized health information with a two-track educational model. This approach aims to enhance patients' disease awareness and self-care abilities.Preliminary results indicate an improving trend in patient control of HbA1c, blood pressure, and LDL, demonstrating the clinical effectiveness of this model. However, as the intervention period is still early, we recommend continued implementation and extended follow-up to observe further improvements in patient control indicator achievement rates under long-term care.This model can serve as a key strategy in future diabetes care, strengthening a patient-centered, integrated health management approach to improve both the quality of care and patient health outcomes.

Keyword:diabetes, chronic complications of diabetes, health education model

A Preliminary Investigation of Long-Term Care Workers'Perceptions of Complementary Therapies in Palliative Care

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Abstract

Background: Taiwan has entered an aged society, with a growing number of patients facing chronic illnesses and terminal-stage cancers, leading to an increased demand for palliative care. While the roles of physicians and nurses in palliative care have been studied, little is known about the perceptions and practices of long-term care workers—key frontline providers in both institutional and home-based settings.

Purpose: This study aims to explore long-term care workers' knowledge, attitudes, and application of complementary therapies in palliative care and to propose strategies for strengthening their caregiving capacity.

Methods: A cross-sectional survey was conducted among home- and institution-based long-term care workers in southern Taiwan using a convenience sampling method. A structured questionnaire was used to assess participants' understanding, attitudes, and practical application of complementary therapies. A total of 116 valid responses were collected for analysis. The data were analyzed using descriptive statistics, independent t-tests, and Pearson correlation analysis.

Results: Findings revealed that the majority of participants had not received formal training in complementary therapies. Although they reported moderate self-perceived knowledge, objective understanding of specific therapies was limited. Participants generally held positive attitudes and a high willingness to learn, but practical experience was low. Music therapy (e.g., playing music) was the most frequently used, reported by 16.7% of respondents. Over 90% of the participating long-term care workers agreed that complementary therapies can enhance their professional identity and expand their roles within the health care system.

Conclusion/Implementations for practice: While strongly supportive of integrating complementary therapies, long-term care workers cited limited clinical experience and inadequate training as barriers, which undermined their confidence in applying such interventions. These findings underscore the need for structured educational programs and clear clinical guidelines. Policy initiatives should formally include long-term care workers as members of palliative care teams and provide systematic training in complementary therapies to enhance their competence and support the workforce development goals outlined in Taiwan's Long-Term Care 3.0 policy. By achieving these goals-simultaneously improving the quality of care services and ensuring that hard working long-term care workers receive due recognition and respect-significant multi-faceted benefits will be realized. Therefore, relevant government agencies should actively invest more resources into planning more comprehensive training for long-term care workers.

Keyword: Palliative Care; Complementary Therapies; Long-Term Care Workers; Attitudes and Knowledge; Long-Term Care

Hemodialysis fatigue: A Concept analysis

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Abstract

Background:

Hemodialysisfatigue is common in clinical practice and persists throughout the entiretreatment course. It arises from uremia toxin accumulation and fluid-electrolyteimbalance, leading to sustained physical exhaustion, generalized weakness ,and mentalfatigue. Patients frequently experience hopelessness and negative emotions,which compromise their physiological and psychological well-being, depletetheir strength and vitality, and limit daily activities as self-actualization.Moreover, hemodialysis fatigue undergoes stage-specific fluctuations driven bymultiple, interrelated factors; without a comprehensive, holistic understanding of these dynamics, healthcareprovider may struggle to formulate effective care plans and interventions.

Purpose:

Using concept analysis to clarifying thedefinition, attributes, antecedent, and consequences of hemodialysis fatigue,there aiding healthcare professional's understandingof the concept and providing a foundation for nursing care and future research.

Methods:

Following Walker and Avant's (2019) concept analysis framework, empirical data were systematically collected through a comprehensive literature review conducted across multiple electronic databases, including PubMed, Airiti Library, Scopus, and Web of Science, encompassing peer-reviewed publications from 2000 to 2024. The collected data were further refined and enriched through an in-depth analysis focusing specifically on fatigue associated with hemodialysis.

Results:

Clinical manifestations of hemodialysis fatigue includedprotracted depletion of psychological and physical energy, diminished dailyfunctioning, negative emotions and altered social roles. Identified antecedentscomprised physiological abnormalities, psychologicaldistress, treatment side effects, inadequate social support, and adaptationdifficulties. Consequences encompassed loss of functional capacity and socialroles, reduced quality of life, sustained psychological impairment, andincreased economic burden. This multifactorial phenomenon necessitatesintegrated assessment and biopsychosocial care to enhance patient well-being.

Conclusion/Implementations for practice:

Hemodialysis fatigue constitutes abiopsychosocial transitional state in which patients' former roles and physicalcapacities wane before a new self-identity has formed, precipitating confusion,anxiety, and psychological distress. In clinical, integrated, empathic,individualized, and integrated care strategies can alleviate fatigue's

adverseeffects, bolster self-care and coping beliefs, and restore balance betweenfatigue and daily life, thereby improving quality of life during dialysis.
Keyword: Hemodialysis、fatigue、dialysis-related fatigue、nursing care

Perceived Surgical Safety: A Concept Analysis

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Abstract

Background:

Surgical patients' subjective perception of safety not only plays a critical role in their postoperative physical recovery and psychological well-being, but also serves as a key indicator of care quality. However, current clinical practice remains largely focused on technical and procedural safety measures, with limited attention to patients' subjective psychological experiences and emotional needs throughout the surgical journey. This gap prevents the full realization of holistic, patient-centered care.

Purpose:

The purpose of this study was to clarify the key attributes, antecedents, and consequences of "perceived surgical safety" using concept analysis. It aims to help clinical nurses better understand patients' sense of safety during surgery and to support the delivery of patient-centered care.

Methods:

This study used Walker and Avant's (2019) concept analysis method to explore the key attributes of "perceived surgical safety." A review of the literature and comparison of related definitions were conducted to identify and explain the core elements of the concept. Clinical cases were used to illustrate its meaning in practice, and the concept's antecedents and consequences were also clarified.

Results:

The concept of "perceived surgical safety" is defined as a comprehensive subjective psychological response to one's situation, experienced by patients throughout the surgical journey. Five defining attributes were identified: (1) Participation – active involvement in the medical decision-making process; (2) Control – a sense of control gained through sufficient surgical information; (3) Respect for privacy – preservation of patient dignity during care; (4) Presence – consistent emotional support and presence from healthcare professionals; and (5) Continuity – coherence and consistency of care across the perioperative period. Antecedents include physical comfort, clarity of information, and social support. Consequences include accelerated physical recovery, enhanced psychological stability, and increased trust in the healthcare team.

Conclusion/Implementations for practice:

Defining the key attributes of perceived surgical safety helps clinical teams improve the quality of surgical care. It is recommended that healthcare providers strengthen patient-centered care by prioritizing effective communication, emotional support, and the preservation of patient dignity—thereby systematically enhancing patients' subjective sense of safety and promoting the implementation of holistic care.

Keyword:perceived surgical safety; Concept analysis; Patient-centered care; Patient safety; Walker and Avant

Reducing the stress burden of dementia caregivers

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Abstract

Background:

Taiwan has entered an agingsociety, and thenumber of people with dementia continues to increase, whichbrings with it thelong-term care pressure of family caregivers. If caregiversupport is notprovided immediately, it may affect the caregiver's physical andmental healthand thus affect the quality of care and family function.

Purpose:

Thestress burden rate of dementia caregiversdropped from 85% to 60%

Methods:

FromFebruary to July 2024, 11 groups offamilies with dementia underwent thefollowing care measures during theirmonthly follow-up visits, with a 100%attendance rate:

1. Use the Caregiver Stress ScaleandQuestionnaire to understand the caregiver's stress level, psychologicalstateand actual care difficulties.

2. Establish a caregiver supportgroup: arrangeactivities so that caregivers can share care experiences,encourage and listento each other, and reduce loneliness and helplessnessthrough peer support.

3. Organize dementia carecourses: organizecourses on understanding dementia and care skills to increasecaregivers'understanding of the disease and learn more efficient care methods.

4. Provide relevant resources:provide andassist in referrals to appropriate units so that caregivers cantemporarilyunload care responsibilities and gain space to adjust their body,mind andspirit.

5. Regular care and follow-up:conduct monthlytelephone or face-to-face care to understand the caregiver'scurrent situationand difficulties, and further provide referrals andresources.

Results:

Thestress burden rate of dementia caregiversdropped to 55%, and the overallsatisfaction rate reached 97%.

Conclusion/Implementations for practice:

Theproject shows that support groups, courses,individual care and resourcereferrals have clear effects in reducing the stressburden of dementiacaregivers. However, during the project, it was also foundthat the challengesfaced by caregivers come not only from the lack of careskills, but also fromthe lack of psychological support and unfamiliarity withresources. It

isrecommended that medical and long-term care institutionsincorporate caregiversupport systems to provide comprehensive support in termsof emotions, knowledgeand respite resources to improve the overall quality ofcare and theeffectiveness of family support.
Keyword:dementia care, caregiver support, care skills, care load, care resources.

Guided by Swanson's Theory: Safeguarding the Newborn with Anorectal Malformation at the Dawn of Life

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Abstract

Background:

Although medical technology has advanced, congenital imperforateanus remains a rare yet high-risk intestinal malformation, with an incidence of approximately 1in 5,000 live births and a slightly higher prevalence in males. This anomalyrequires prompt colostomy to prevent acute complications and significantlychallenges both neonatal comfort and family psychological adaptation. First-time parents oftenexperience shock and anxiety upon diagnosis, necessitating empathetic, timelysupportive care from the healthcare team to alleviate parental distress andensure neonatal safety.

Purpose:

To explore the effects of an individualized nursing careplan based on Swanson's Caring Theory on postoperative acute pain relief,maintenance of peristomal skin integrity, and primary caregiver role anxiety,and to propose concrete recommendations for clinical practice.

Methods:

1. Case Description: A neonate diagnosed with moderate congenital imperforate anus underwenta left lower abdominal colostomy on day 2 of life (2024/3/23) and remainedhospitalized until 4/12.

2. Theoretical Framework: Swanson's Caring Theory's five processes (Knowing, Being with, Doingfor, Enabling, Maintaining belief) guided all nursing interventions.

3. Interventions:

(1) PainManagement: NIPS assessments every 4 hours with both pharmacologic (e.g., acetaminophen)and non-pharmacologic strategies (music therapy, facilitated holding).

(2) SkinCare: Daily peristomal skin inspections, use of protective barriers anddressings, and hands-on training for parents on ostomy appliance changes.

(3) FamilySupport: Daily scheduled sessions for empathetic listening, hands-oneducation with video review, provision of ostomy care cue cards, and digitallearning tools (Line group, tutorial videos).

4. Outcome Measures: NIPS pain scores, extent ofperistomal skin breakdown, and caregiver confidence and anxiety levels.

Results:

1. Pain Management: NIPS scores decreased from 6 to 1–2 within 48 hours post-operatively; non-pharmacologic measures significantlyreduced crying duration and improved feeding and sleep quality.

2. Skin Integrity: Peristomal lesion size decreased from 3 cm to < 1 cm with no erythema or exudate; parents independently performedcorrect appliance changes and wound care.

3. Family Adaptation: Through scheduled empathic communication and hands-on practice,caregiver anxiety markedly decreased; parents articulated three key self-carepoints and confidently managed daily care at home within the first post-dischargeweek.

Conclusion/Implementations for practice:

- **Conclusion**: An individualized nursing care plan grounded in Swanson's Caring Theory effectively alleviates postoperative pain, preserves peristomal skin integrity, and significantly enhances caregiver confidence and adaptation.
- **Practice Recommendations**:
    1. Integrate in-person and digital education (tutorial videos, Line group) before discharge, and provide "Home Ostomy Care Cue Cards."
    2. Arrange telephone or tele-health follow-up within one week post-discharge to monitor home care and intervene early.
    3. Utilize standardized pain scales (e.g., NIPS) regularly and adopt a multimodal pain management approach.
    4. Establish an interdisciplinary support network post-discharge involving social workers, case managers, and ostomy care nurses.

Keyword: Congenital Imperforate Anus、Neonatal Nursing、Swanson's Caring Theory、Pain Management、Ostomy Care、Family Support、Holistic Care

Integrating Health Website Resources with Case-Based Situated Learning Strategies to Enhance Nursing Students' Dietary Health Literacy: An Action Research

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Abstract

Background: Cultivating dietary health literacy among nursing students is essential for promoting healthy lifestyles and establishing a foundation for competent nursing care.

Purpose: This study aimed to explore the effectiveness of integrating health website resources with case-based situated learning strategies in enhancing nursing students' dietary health literacy and learning outcomes in a nutrition course.

Methods: A quasi-experimental research design with repeated measures was adopted to evaluate the effectiveness of a nutrition course intervention among 110first-year nursing students in a five-year junior college program. The experimental group received an intervention that integrated health website resources and case-based situated learning strategies, while the control group followed the original course design. Five structured questionnaires were administered at week 1, week 17 of the course, and three months after completion. An independent samples t-test was used to examine the two groups' differences in nutrition course grades. The effectiveness of the intervention was analyzed using Generalized Estimating Equations, and content analysis was applied to investigate the feedback data.

Results: (1) After the course intervention, the experimental group demonstrated continuous improvement over time in scores related to healthy eating cognition, dietary health literacy, and healthy food choices. The interaction effect between group and time was significant ($p < .001$), indicating that the intervention effect in the experimental group was superior to that of the control group, and the course intervention was effective. (2) The control group also showed continuous improvement in dietary health literacy and healthy food choice scores over time. (3) The experimental group scored 4.3 points higher in the semester nutrition course than the control group. Students' feedback revealed that (1) 85.5% of students liked the scenario-based nutrition education experience, which enhanced nutrition knowledge retention, improved practical response and communication skills, promoted engagement, and built self-confidence. (2) The "My Plate" design activity led to the emergence of four key themes: nutrition literacy and food choices, awareness of food proportions and portion sizes, application of acquired knowledge to oneself and family, and deepening and reflection on healthy eating.

Conclusion/Implementations for practice: Integrating resources from health websites with scenario-based learning strategies can improve nursing students' semester performance in nutrition courses and enhance their dietary health literacy. These results can serve as a reference for further improvement in nutrition course design.

Keyword: Dietary health literacy, Health website resources, Case-based situated learning, Nursing students, Action research

Survey on the Acceptance and Satisfaction of AI Smart Mattresses among Caregivers in Long-Term Care Institutions

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Abstract

Background:

With Taiwan entering an aging society, long-term care institutions face challengessuch as workforce shortages and improving care quality. Smart care technologiesare increasingly introduced into these settings. Among them, AI-powered smartmattress systems (iCue) with non-contact physiological monitoring have attractedconsiderable attention.

Purpose:

This study aims to explore the acceptance and satisfaction of care staff regarding thepractical application of smart mattresses in long-term care institutions.

Methods:

This study employed a mixed-methods research design, focusing on carestaff—including caregivers and nurses—at long-term care institutions where theAI smart mattress system has been implemented. A questionnaire survey wasconducted, covering five key dimensions: ease of use, alert accuracy, perceivedefficiency improvement, overall satisfaction, and willingness to use. Afive-point Likert scale was used for evaluation. In addition, semi-structuredinterviews were conducted with selected staff members to gain insights intotheir actual experiences and suggestions for use.

Results:

Most care staff showed a positive attitude toward the AI smart mattress system, withrelatively high ratings in dimensions such as ease of use, perceived efficiencyimprovement, and overall satisfaction. However, there is still a need tofurther optimize system accuracy in practical applications.

Conclusion/Implementations for practice:

The AI smart mattress system demonstrates strong application potential in long-termcare institutions and has received positive evaluations. Continuoustechnological improvements are recommended to enhance overall practicaleffectiveness and reliability.

Keyword:AI Smart Mattresses, Long-Term Care, Acceptance and Satisfaction

Spiritual Care in the Nursing Experience of a Patient with Osteosarcoma Undergoing Amputation

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1

Abstract

Background:

This case report explores the nursing care experience of a patient who underwent right upper limb amputation following an unexpected diagnosis of osteosarcoma after a humeral fracture. The sudden diagnosis and subsequent chemotherapy and amputation caused significant physical and psychological trauma.

Purpose:

Using Roy's Adaptation Model, This case not only focused on providing physiological care but also aimed to assist the patient's adaptation to illness and strengthen self-care capabilities.Spiritual nursing care was provided through the"Five-Dimensional Three-Stage Interfaith Spiritual Care Model." The goal was to help the patient face physical and emotional challenges, relieving pain and loneliness, and promoting holistic recovery.

Methods:

The nursing care period lasted from August 25 to September 1, 2023. Data were collected through physical assessments, direct observation, care delivery, active listening, and therapeutic conversations. The patient was identified with the following nursing problem: acute pain, disturbed body image, and a high risk of social isolation. Pain intensity was measured using the Visual Analog Scale (VAS). Interventions included prescribed analgesics, mirror therapy, music therapy, spiritual support, daily in-depth interviews, and family communication enhancement. In addition,repositioning techniques and in-bed exercises were taught to facilitate the restoration of functional independence.

Results:

After the implementation of nursing interventions, the patient's pain score (VAS) decreased from 7 to 2–3. Sleep duration extended to six hours per night.The level of self-care improved from moderate dependence to near independence (ADL score increased from 65 to 80). The UCLA Loneliness Scale score decreased from 78 to 45. The patient began to express emotions proactively and showed a renewed willingness to communicate with their mother, indicating positive progress in physical,psychological, and spiritual well-being.

Conclusion/Implementations for practice:

In response to the patient’s psychological distress and altered body image, emotional support and positive encouragement were provided, along with spiritual consolation aligned with the patient’s religious beliefs. These measures facilitated the reestablishment of familial and social connections, thereby alleviating feelings of loneliness. The Five-Dimensional Three-Stage Interfaith Spiritual Care Model andmindfulness meditation were implemented to assist the patient in regulating emotions, reflecting on the meaning of life, and releasing grief and anxiety in the face of

life’s uncertainties. A patient-centered holistic care approach—addressing physical, psychological, and spiritual needs—is recommended. Collaboration with interdisciplinary teams, including social workers and discharge planning services, can further support pain relief, foster emotional adjustment, strengthen self-care abilities, and ultimately enhance quality of life and promote recovery.
Keyword: Osteosarcoma, Spiritual care, Mirror therapy

Enhancing Positive Emotions in Older Adults with Dementia through Localized Horticultural Therapy

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Abstract

Background:

As Taiwan transitions into a super-aged society, the number of older adults living with dementia continues to rise, creating an urgent need for effective care strategies. Non-pharmacological interventions are increasingly recognized for their ability to enhance emotional well-being and improve quality of life among this population.

Purpose:

This study aimed to evaluate the effectiveness of a localized, life-oriented horticultural therapy program in enhancing positive emotions in older adults with dementia.

Methods:

A quasi-experimental one-group pretest-posttest design was used. A total of 39 older adults with mild to severe dementia from the Coconut Garden Long-Term Care Facility and the Flourishing Dementia Center in Pingtung County participated in a 12-week intervention. The program, led by a certified horticultural therapist, involved five-sense gardening experiences such as cultivating aromatic herbs and eco-friendly creative planting. The “Positive Emotion Questionnaire for Older Adults with Dementia” served as the primary evaluation tool. Data were analyzed using SPSS version 22 with paired sample t-test

Results:

Results showed statistically significant improvements in overall positive emotions—including joy, confidence, contentment, and optimism—following the horticultural intervention ($t = 9.577$, $p < 0.001$). Specifically, all four emotional dimensions improved significantly: joy ($t = 6.25$, $p < 0.001$), confidence ($t = 7.63$, $p < 0.001$), contentment ($t = 8.42$, $p < 0.001$), and optimism ($t = 6.91$, $p < 0.001$), with contentment demonstrating the greatest enhancement.

Conclusion/Implementations for practice:

Localized horticultural therapy is an effective non-pharmacological intervention for enhancing emotional stability in older adults with dementia. It is recommended for integration into dementia care models to support holistic well-being and improve quality of life.

Keyword: Horticultural therapy older adults with dementia, positve emotIonal

Effects of Inhaled Lavender Essential Oil on Heart Rate Variability: A Meta-Analysis of Randomized Controlled Trials

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Abstract

Background: Aromatherapy with lavender essential oil has a long history of use for its anxiolytic (anxiety-reducing) and sedative properties. Recent research has provided a physiological basis for these effects, demonstrating that lavender can modulate the activity of the autonomic nervous system, leading to a reduction in heart rate, blood pressure, and stress hormones. Heart rate variability (HRV), an established marker of autonomic nervous system activity, is commonly used to assess physiological responses to such interventions.

Purpose: This study aimed to synthesize evidence from randomized controlled trials (RCTs) investigating the effects of lavender essential oil inhalation on HRV parameters.

Methods: A systematic search of PubMed was conducted through July 2025 using the keywords: ("aromatherapy" OR "essential oil*" OR "lavender oil" OR "inhalation therapy") AND ("heart rate variability" OR "HRV" OR "autonomic nervous system"). A total of 116 English-language articles were retrieved. After screening titles,abstracts, and full texts for eligibility, four RCTs investigating the effects of *Lavandula angustifolia* inhalation on HRV were included in the meta-analysis.

Results: For high-frequency normalized units (HFnu), three studies were included. The pooled effect size (Cohen's d) was 0.32 (95% CI [0.02, 0.62], $p = .039$), indicating a small to moderate and statistically significant increase in parasympathetic activity following lavender inhalation. For low-frequency normalized units (LFnu), three studies reported relevant data. The pooled Cohen's d was −0.56 (95% CI [−0.81,−0.30], $p < .001$), suggesting a significant decrease in baroreflex-mediated autonomic control. For the LF/HF ratio, three studies were included. The pooled effect size was −0.08 (95% CI [−0.33, 0.17], $p = .52$), which was not statistically significant, indicating that lavender inhalation did not produce a measurable change in overall sympathovagal balance.

Conclusion: This meta-analysis demonstrates that lavender inhalation significantly increases parasympathetic activity and decreases baroreflex-mediated autonomic control, while not affecting overall sympathovagal balance. The increased parasympathetic activity supports lavender's traditional use for relaxation and stress reduction.

Keyword:aromatherapy; lavender essential oil; heart rate variability; meta-analysis.

Family Caregiving and Dementia Research: A Bibliometric Analysis of Web of Science Publications (2015–2024)

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Abstract

Background: Family caregivers are essential in supporting individuals with dementia, yet they often face substantial psychological, physical, and financial challenges. Although research in this area has expanded significantly over the past decade, a comprehensive quantitative overview remains absent. Bibliometric analysis offers a systematic approach to evaluate research output, identify influential contributors, and track thematic developments over time.

Purpose: This study aimed to analyze publication trends, leading contributors, and thematic evolution in original research on family caregiving and dementia published between 2015 and 2024 using the Web of Science.

Methods: English-language original articles published between January 1, 2015, and December 31, 2024, were retrieved on May 7, 2025, from the Science Citation Index-Expanded (SCI-E) of the Web of Science Core Collection. The search strategy targeted the topic field (TS) using the following terms: ("family caregiver*" OR "family carer*" OR "spousal caregiver*" OR "spouse caregiver*" OR "parentcaregiver*" OR "sibling caregiver*") AND (dementia OR alzheimer* OR "cognitive impairment" OR "neurocognitive disorder*" OR "mild cognitive impairment" OR "MCI"). Bibliometric analyses were conducted using the bibliometrix package in R.

Results: A total of 2,522 articles met the inclusion criteria, with an annual growth rate of 8.3%. These publications were authored by 10,086 researchers and appeared in 377 journals. The United States accounted for the largest share, with 669 articles based on corresponding author affiliation. Aging & Mental Health was the most prolific journal, publishing 163 articles. Co-occurrence network analysis of author keyword identified four major thematic clusters. The dominant themes centered on dementia and caregiving. Additional clusters focused on mental health and COVID-19, caregiver burden and intervention strategies, and broader care contexts such as aging, palliative care, and technology. Thematic evolution analysis revealed emerging topics including caregiver distress, systematic reviews, and biomarker research.

Conclusion/Implementations for practice: This bibliometric analysis demonstrates agrowing global engagement and thematic diversification in family caregiving and dementia research over the past decade. The findings show the need to strengthen representation from low- and middle-income countries, promote longitudinal study designs, and develop culturally responsive interventions to address diverse caregiving contexts.

Keyword:dementia; caregiving; Alzheimer's disease; family caregiver; bibliometric.

Nursing Experience in Using Shared Decision Making to Assist an End-Stage Renal Disease Patient in Facing Dialysis Choices and Developing Self-Care Ability

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Abstract

Background:

This case involved a 67-year-old male patient withStage 4 Chronic Kidney Disease (CKD) complicated by Acute Kidney Injury (AKI),resulting in bilateral lower limb edema and poor respiratory tolerance. Despitemedical treatment, renal function continued to deteriorate, ultimatelyrequiring placement of a permanent venous catheter and the need to choose adialysis modality. During hospitalization, the patient's poor understanding ofhis condition led to electrolyte imbalances and delayed surgical scheduling.Although the patient was capable of self-care, he lived alone and needed todevelop self-care and disease management abilities for home care. He expressedconfusion and uncertainty about future life on dialysis.

Purpose:

This nursing care employed Gordon’s Eleven Functional Health Patterns to assess the patient and identifiedthree major health issues: Decisional conflict: uncertainty about dialysisinformation, options, or consequences; Knowledge deficit: related to a lack ofunderstanding of the disease and dialysis; Readiness for enhanced self-healthmanagement: related to a desire to improve care after dialysis andarteriovenous fistula surgery. The aim was to provide appropriate nursinginterventions and assist the patient in completing a comprehensive inpatientcare plan.

Methods:

Shared decision making (SDM) and a family meetingwere arranged to encourage joint participation by the patient and familymembers. The physician presented 3–4 treatment options for end-stage renaldisease, and the patient and family were supported through visual aids andpeer-sharing sessions. A discussion was held to evaluate the home environmentand dialysis safety, ultimately selecting an appropriate hemodialysis modality.A dietitian developed nutrition education using food models and gamified toolsto help the patient understand appropriate food types and intake for end-stagekidney disease. The patient’s active learning attitude was utilized tostrengthen post-discharge self-care ability, along with providing contactinformation for emergency medical support, enabling the patient to face futuredialysis treatment with greater clarity and confidence.

Results:

Through the application of SDM and thecollaboration of a multidisciplinary team, the patient was guided to clarifypersonal values and life needs regarding treatment choices. This reduceddecisional conflict and improved disease knowledge and self-care capability.The use of visual aids, peer sharing, and interactive communication toolsfacilitated understanding of complex medical information and enhanced thepatient’s discharge readiness and engagement in care.

Conclusion/Implementations for practice:

For patients with end-stage renal disease facingdialysis decisions, nurses can use the SDM framework as a foundation forclinical communication and care interventions. Tailoring educational contentand interactive tools to individual patient needs enhances informeddecision-making and quality of life. Clinically, early inclusion of familymembers and preparation for discharge planning are recommended to fulfillholistic care principles and improve adaptation and confidence in long-termchronic illness management.

Keyword: Shared Decision Making, End-Stage Renal Disease, Self-Care Ability

A Quality Improvement Project to Enhance the Completeness of Major Trauma Emergency Procedures through the Implementation of Team Resource Management Strategies

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Abstract

Background:

Our hospital is situated near anindustrial area and along a major road to the airport, which results infrequent trauma incidents. Annually, 70 to 85 major trauma cases occur, oftenleading to severe disability or death. According to literature, trauma mortalityfollows a trimodal distribution: approximately 50% of deaths occur at thescene, and 30% within 2 to 4 hours post-injury. Timely and high-quality careduring this critical period can significantly reduce preventable deaths.

Effective teamwork plays a crucialrole in emergency trauma care. A review of our hospital's trauma responseprocess revealed confusion, redundant efforts, and poor communication.Observations in April 2023 showed a low process completeness rate (60%) andstaff dissatisfaction (51.8%), prompting the initiation of this qualityimprovement project.

Purpose:

This project aimed to improve thecompleteness rate of emergency trauma care procedures, increase processefficiency, and enhance staff satisfaction through Team Resource Management(TRM) strategies.

Methods:

Between April 1 and April 30,2023, we conducted on-site observations of seven major trauma emergency cases.Additionally, an online survey was distributed to 40 emergency staff members toassess satisfaction with current procedures.

Key issues identified included:

1. Lack of teamcommunication and cognitive training;
2. No standardized trauma emergencyprotocols;
3. Inconsistent executionof emergency skills.

Based on these findings, we applied Team Resource Management (TRM) principles and implemented targeted improvement strategies using high-fidelity, scenario-based simulations, including:

· Conducted targeted educationand training sessions

· Defined specific team rolesand support zones within the trauma team

· Produced an educationalvideo illustrating the use of TRM in trauma care

· Designed and executedsimulation-based training exercises

· Instituted regular audits ofessential emergency skills

Results:

After implementing the improvement measures, notableimprovements were observed:

. The completeness rate of thetrauma emergency process increased from **60% to 97.5%**

. Staff satisfaction with theemergency procedure rose from **51.8% to 95.3%**

Conclusion/Implementations for practice:

In the race against time to savemajor trauma patients, effective team collaboration is as essential asappropriate medical care. By implementing structured TRM strategies, staffmembers clearly understood their roles and support areas, which reduced taskredundancy. Improved communication and coordination during emergency proceduresenhanced workflow efficiency and timeliness. This contributed to morestreamlined trauma management and improved patient care outcomes.

This quality improvement projectsuccessfully demonstrated that the implementation of Team Resource Managementstrategies can significantly improve the completeness, efficiency, andsatisfaction of major trauma emergency procedures. As a result, the overallquality of trauma patient care was effectively enhanced.

Keyword: Major Trauma,Team Resource Management (TRM), Emergency Response Process

The role practice of specialist nurses in cross-disciplinary care for international student with severe traumatic brain injury

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Abstract

Background:

Traffic accidents (53.4%)are the leading cause of concomitant traumatic brain injury and maxillofacial fractures, which are often accompanied by intracranial hemorrhage and injuries to the thorax, abdomen, or limbs. These combined injuries can have multifaceted impacts on patients, affecting their physiological, psychological, and social functioning. The patient is a Vietnamese international student studying in Taiwan who experienced communication barriers during treatment, as well as challenges related to housing and medical expenses following hospital discharge.

Purpose:

Management focuses on neurological monitoring, facial wound care, functional rehabilitation, psychosocial support, and addressing language barriers through the use of translation software, while also meeting short-term daily living needs.

Methods:

Comprehensive care was provided through interdisciplinary collaboration, involving intensive care, neurosurgery, thoracic surgery, plastic surgery, ophthalmology, and orthopedics. Each specialty worked together to stabilize the patient's condition and manage multisystem injuries. The specialist nurses played a key role in the care team by coordinating consultations across specialties, integrating medical information, monitoring the clinical course, and delivering ongoing health education and care guidance to the patient and family, thereby enhancing the continuity and efficiency of clinical decision-making. The rehabilitation therapist was responsible for developing and implementing a plan to restore physical function, while the dietitian optimized the patient's nutritional status to support the rehabilitation process. To address the patient’s psychosocial needs, the specialist nurses also initiated a referral to medical social work. The social worker assisted in communication with the patient’s family in Vietnam, arranged for the patient’s parents to accompany them in Taiwan to provide emotional support, and helped resolve temporary housing issues. Additionally, the specialist nurses used translation software during the care process to overcome language barriers and ensure effective communication throughout the treatment period.

Results:

Specialist nurses achieve individualized care through early assessment, continuous monitoring, and effective resource integration. Addressing language, cultural, and housing needs enhances patient safety, resilience, and continuity of care.

Conclusion/Implementations for practice:

Specialist nurses coordinate multidisciplinary teams, provide clinical expertise, facilitate patient-centered communication, and bridge cultural and language gaps. The role is vital

to ensuring professional, culturally appropriate, and safe care, especially in multicultural clinical settings.
Keyword:cross-disciplinary care, international student, traumatic brain injury

Establishment of a TCFD Climate-Related Physical Risk Assessment and Management Framework: A Case Study of Healthcare Institutions

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Abstract

Background:

This study used Kaohsiung Municipal Min-Sheng Hospital as a case example to examine how healthcare institutions applied the Task Force on Climate-related Financial Disclosures (TCFD) framework. It analyzed how the hospital integrated the four core TCFD pillars—Governance, Strategy, Risk Management, and Metrics & Targets—to strengthen climate resilience and advance low-carbon transformation. In 2023, Taiwan passed the Climate Change Response Act, mandating all sectors to implement climate risk governance. That same year, Kaohsiung City took the lead by passing the Net-Zero Urban Development Self-Governance Ordinance, which was approved by the Executive Yuan in 2024—demonstrating strong local commitment and a clear roadmap toward net-zero goals. Climate change intensified challenges to global public health and healthcare systems. Rising extreme heat, heavy rainfall, and emerging infectious diseases increased operational risks for medical institutions.

Purpose:

The purpose of this study was to explore how healthcare institutions could effectively implement the Task Force on Climate-related Financial Disclosures (TCFD) framework to enhance their climate resilience,operational sustainability, and public accountability. Used Kaohsiung Municipal Min-Sheng Hospital as a case study, this research aimed to analyze how the hospital incorporated the four core elements of TCFD—Governance, Strategy,Risk Management, and Metrics & Targets—into its institutional operations. By examining the hospital’s phased climate strategy, organizational reforms,and alignment with the Sustainable Development Goals (SDGs), this study sought to demonstrate a practical model for other medical institutions to follow in achieving net-zero transitions and advancing ESG performance in the healthcare Institutions.

Methods:

This study used Kaohsiung Municipal Min-Sheng Hospital as a case example. The hospital established a "Sustainable Development and ESG Committee" and implemented a three-phase climate strategy—assessment, enhancement, and expansion —while incorporating climate-related indicators into its annual performance tracking system. Additionally, Min-Sheng Hospital reviewed ten emergency response mechanisms related to disasters, pandemics, and environmental risks to strengthen its risk management capacity. These efforts aligned with the United Nations Sustainable Development Goals (SDGs), integrating healthcare services with environmental responsibility.

Results:

Based on the above TCFD-related risk assessment at Min-Sheng Hospital, it was found that the hospital's existing regulations already addressed the ten major identified risks. These regulations were categorized into eight major risk management plans and two task force organization lists, as detailed below:

Eight Major Risk Management Regulations:

1. Kaohsiung Municipal Min-Sheng Hospital Emergency Response Plan for Natural Disasters.

2. Kaohsiung Municipal Min-Sheng Hospital Comprehensive Emergency Response Plan.

3. Kaohsiung Municipal Min-Sheng Hospital Infectious Disease Emergency Response Plan.

4. Emergency Medical Response Plan for Mass Casualty Incidents.

5. Kaohsiung Municipal Min-Sheng Hospital Emergency Response Plan for Threats to Medical Safety.

6. Kaohsiung Municipal Min-Sheng Hospital Standard Operating Procedure for Toxic Chemical Disaster Response.

7. Evacuation Implementation Plan, Temporary Medical Facility Setup Plan, Wartime Capacity Reduction Plan, and Wartime In-Hospital Death Management Procedures.

8. Kaohsiung Municipal Min-Sheng Hospital Emergency Response Plan for Technological Disasters.

Two Major Task Force Rosters:

1. Task Force Roster for the Technological Disaster Emergency Response Plan.

2. Task Force Roster for the Natural Disaster Emergency Response Plan.

Conclusion/Implementations for practice:

Policy reviews improved risk response coordination and climate resilience. Integrating SDG alignment further enhanced accountability and reporting transparency. The study recommended including TCFD metrics in health department audits, investing in staff training on climate and carbon management, promoting third-party verification, and encouraging central government collaboration to scale low-carbon healthcare nationwide.

Keyword: Climate Resilience、Task Force on Climate-related Financial Disclosures (TCFD)、Climate Governance、Sustainable Development、Net Zero Emissions、Emergency Response Mechanism

Clinical Application of AI Models in Predicting Acute Exacerbations of COPD

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Abstract

Background:

Chronic obstructive pulmonary disease (COPD), also known as pulmonary obstruction, was the third leading cause of death worldwide in 2019, accounting for approximately 3 million deaths annually (World Health Organization [WHO], 2020). In Taiwan, chronic lower respiratory diseases ranked ninth among the leading causes of death in 2022, with over 5,000 deaths per year, nearly all attributable to COPD, underscoring the critical importance of effective disease management. Influenced by factors such as population aging and environmental pollution, the incidence of COPD continues to rise, imposing a substantial burden on patients' quality of life and healthcare costs. In advanced stages, patients often remain indoors following physical activity due to dyspnea, respiratory failure, or shortness of breath, resulting in a vicious cycle of osteoporosis, sarcopenia, reduced physical capacity, breathlessness, and anxiety. Furthermore, in 2021, the acute exacerbation rate among COPD patients at our hospital reached 5.5%, with some patients repeatedly seeking hospital care due to recurrent acute episodes.

Purpose:

Since February 2023, this project has aimed to develop an artificial intelligence (AI)–based model capable of accurately predicting the risk of acute exacerbations in COPD patients. By providing early warnings, the model is intended to enhance clinical decision-making, improve patient care quality, and optimize the allocation of healthcare resources.

Methods:

This study integrated data from the COPD case management system and incorporated clinical expert opinions to identify clinically significant predictors. Multiple machine learning algorithms, including decision trees, logistic regression, and extreme gradient boosting (XGBoost), were applied to develop predictive models for acute exacerbations in COPD patients.

Results:

Among the evaluated algorithms, XGBoost exhibited the best overall performance, with an accuracy of 92.51%, precision of 92.50%, recall of 92.50%, and an F1-score of 92.50%. Rigorous testing and validation further confirmed its robustness, as evidenced by an area under the receiver operating characteristic curve (AUC) of 0.98, reflecting excellent discriminatory power.

Conclusion/Implementations for practice:

This study successfully developed a robust artificial intelligence–based model using XGBoost to predict acute exacerbations in COPD patients with high accuracy and reliability. Early identification of patients at risk allows healthcare providers to

implement targeted preventive strategies, potentially reducing hospitalizations and healthcare costs. The integration of such predictive tools into clinical workflows may enhance patient self-management and improve overall care quality. Future work should focus on external validation across different clinical settings and integration with real-time monitoring systems to maximize clinical impact.
Keyword: Chronic Obstructive Pulmonary Disease

Fall-Related Intracranial Hemorrhage Caused by Syncope: A Case Report and Reflections on Clinical Nursing Care

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Abstract

Background:

Syncopeis a common clinical condition characterized by sudden, temporary loss ofconsciousness, often caused by transient cerebral hypoperfusion. When syncopeoccurs during walking or standing, patients are at risk of falling andsustaining serious injuries, particularly head trauma and intracranialhemorrhage, which can be life-threatening. If not treated promptly, intracranialhemorrhage may lead to permanent neurological damage or even death.Furthermore, because patients are often unable to predict when syncope willrecur, it poses ongoing safety risks in daily life. Therefore, beyond acutemanagement, it is essential to identify the underlying causes and providecomprehensive, multidisciplinary care to prevent complications and reduce therisk of recurrent falls.

Purpose:

Toassist an elderly patient in recognizing and understanding the underlyingcauses of recurrent episodes of sudden syncope, to undergo comprehensivecardiac and neurological evaluations, in order to avoid delayed diagnosis ofpotentially life-threatening conditions, and to enhance the patient's awarenessof the illness and adherence to the care plan.

Methods:

Anindividualized care plan was developed for the patient, involving amultidisciplinary team including a neurosurgeon, cardiologist, nursepractitioners, nursing staff, and physical therapists. The care plan included:arranging comprehensive cardiac and neurological evaluations to identify theunderlying causes of syncope; educating the patient and family on possiblechanges in consciousness and behavior following intracranial hemorrhage;guiding them in performing rehabilitation exercises; and helping them recognizepotential prodromal symptoms of syncope, such as dizziness, blurred vision,tinnitus, cold sweats, pallor, palpitations,nausea, limb weakness, or a sensation of faintness. These interventions aimedto enhance the patient's self-care ability, increase early awareness, andprevent recurrent falls or delays in seeking medical attention.

Results:

Throughappropriate cardiac and neurological screening, potentially life-threateningconditions such as cardiogenic syncope, pulmonary embolism, or hemorrhagicstroke can be identified early, allowing timely pharmacological orinterventional treatment. Clinical monitoring of prodromal symptoms and vitalsigns in patients with syncope, along with continuous assessment of changes inconsciousness, is essential for early detection of complications such asintracranial hemorrhage. This case highlights the principle that *"syncope isa symptom, not a diagnosis."* For patients who

experience falls and traumadue to syncope, thorough investigation of the underlying cause is crucial toensure comprehensive and safe treatment.

Conclusion/Implementations for practice:

Enhancingawareness of the causes of syncope and conducting comprehensive assessmentswith interdisciplinary integrated care for patients who experience intracranialhemorrhage due to falls are crucial for identifying underlying cardiogenic orneurological causes. Accurate diagnosis and coordinated care effectivelyimprove patient safety, reduce the risk of recurrent falls, and strengthenoverall quality of care.

Keyword:sudden syncope, head trauma, intracranial hemorrhage

Nursing experience of a male with body image disturbance after breast cancer surgery

Yi-Wen Cheng[1]
1

Abstract

Background:

According to research reports, about 1 in every100,000 men may develop breast cancer, accounting for less than 1% of breastcancers. Male breast cancer is an extremely rare malignant disease, of which80% is invasive ductal carcinoma, which is a common type of cancer in men.After mastectomy, men are more likely to have body image disorder and genderidentity problems due to the different social expectations of gender roles andthe symbolic meaning of breasts. Breast loss and scars have a significantimpact on their self-image and self-esteem. However, there is still a relativelack of psychological adjustment and nursing intervention for male breastcancer surgery.

Purpose:

This paper explores the care process of a malebreast cancer patient who experienced body image disturbance after surgery.Through integrated assessment and individualized nursing strategies, this paperhelps him cope with changes in his physical appearance, emotional reactions,and social role impact, thereby improving his self-esteem and quality of life.This paper also provides a reference for clinical nursing practice.

Methods:

Gordon's eleven functional health patterns wereused. During the care period from May 6 to May 13, 2024, nursing problems wereformulated based on clinical observations and data integration: body imagedisturbance, anxiety, and situational low self-esteem. The RosenbergSelf-Esteem Scale and oral interviews were used to understand theirpsychological reactions and changes in self-concept. Nursing measures includedpsychological support, non-drug intervention, health education, andstrengthening the support system of relatives and friends.

Results:

The patient showed obvious depression and eyecontact with others in the early postoperative period, and said: "Thisbody doesn't seem to be mine." After multiple interviews and listening,the patient was gradually guided to express his feelings of loss and worries,and provided with clothing suggestions, exercise planning and simple stressrelief activities. After nursing intervention, the patient was willing tointeract with others, actively asked about the course of the disease and futurerecovery goals, and the Rosenberg Self-Esteem Scale score increased from 14points before the intervention to 21 points, indicating that self-identity andbody acceptance gradually improved and the quality of life improved.

Conclusion/Implementations for practice:

Psychological adjustment after male breast cancersurgery is often overlooked, especially when facing changes in body image aftermastectomy, and the conflict between self-esteem and gender identity requiresspecial attention. Non-drug interventions such as listening, relaxationtraining and strengthening support systems can

effectively relieve patients'anxiety and loss. Providing clear disease education information and positivefeedback can help improve their sense of control over the disease andself-efficacy. By establishing a good nurse-patient relationship andpsychological support system, it can gradually help male cases rebuild their bodyidentity, help patients face it positively and not give up, improve the qualityof life of male breast cancer patients, affirm their self-worth and adapt tolife after surgery.
Keyword: Men, Breast Cancer, Body Image Disorder

Nursing Care Experience of a Multiparous Woman Hospitalized for Tocolysis Following Recurrent Preterm Premature Rupture of Membranes

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Abstract

Background:

Preterm premature rupture of membranes (PPROM) accounts for a significant proportion of preterm births and contributes to increased neonatal morbidity and mortality. Studies have shown that approximately 50% of women with PPROM go into labor within 48 hours. The risk of recurrence is notably higher in women with a history of preterm birth. The physical demands of hospitalization—such as strict bed rest—and the psychological burden of uncertainty regarding fetal outcomes can result in substantial distress. This report focuses on the nursing care of a 33-year-old multiparous woman at 21+6 weeks gestation, who had previously experienced two preterm deliveries due to PPROM. During this pregnancy, she was once again admitted for tocolysis following early rupture, presenting both physical discomfort and emotional anxiety.

Purpose:

The primary aim of this case was to provide individualized, holistic nursing care to a high-risk pregnant woman with a history of unsuccessful tocolysis. The goal was to address her physiological discomfort, prevent infection, and alleviate psychological stress, particularly anxiety related to fetal viability and treatment uncertainty. Through structured assessments and targeted interventions, this nursing experience intended to promote maternal well-being, treatment compliance, and emotional resilience during the hospitalization period.

Methods:

From September 27 to 30, 2023, the patient was evaluated using Gordon's Functional Health Patterns to assess her physical, psychological, and social needs. Based on this assessment, three key nursing problems were identified: (1) *risk for infection* associated with continuous amniotic leakage; (2) *impaired comfort* due to prolonged bed rest and side effects of tocolytic medications, including tachycardia and dyspnea; and (3) *anxiety* stemming from past traumatic pregnancy experiences and fear of fetal loss. Nursing care included regular monitoring of infection indicators, hygiene education, support with positioning and dietary needs, active listening, emotional reassurance, and family engagement.

Results:

Through multidisciplinary collaboration and consistent nursing interventions, the patient demonstrated positive clinical and emotional responses. Her infection risk was controlled, with white blood cell and CRP levels decreasing during the care period. Discomfort related to bed rest was reduced by using body pillows, modifying feeding positions, managing reflux, and ensuring privacy during toileting. Anxiety levels, measured using the State-Trait Anxiety Inventory (STAI-S), decreased from 42 to 32, shifting from moderate to mild anxiety. The patient became more confident, engaged,

and compliant with treatment, expressing greater trust in the care team and hope for her pregnancy outcome.

Conclusion/Implementations for practice:

This case illustrates the complex and multidimensional needs of high-risk pregnant women, particularly those with a history of unsuccessful tocolysis. The patient not only experienced physical discomfort from strict bed rest and medication side effects but also suffered from emotional trauma and anxiety rooted in previous losses. While the author was able to apply clinical knowledge and provide supportive care, the limitations in psychological counseling and emotional exploration highlighted the importance of interdisciplinary collaboration and the need for further training in communication and emotional support.

It is recommended that nursing education and hospital staff development programs include workshops on empathy, therapeutic communication, and holistic care approaches. This case experience serves as a valuable example for obstetric nurses, emphasizing the significance of individualized care, emotional support, and teamwork in improving outcomes for women facing complex pregnancies such as PPROM.

Keyword:安胎、早期破水、經產婦

Improving the completion rate of end-of-life preparation records for patients in palliative care wards

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Abstract

Background:

Hospice andpalliative services are provided to patients in the terminal stages of thedisease. Through active symptom control, discussion of medical directions, andpsychosocial and spiritual care, we are committed to allowing patients to havea good death and their families to have a good life. Therefore, end-of-lifepreparation is the core of care for terminally ill patients. It is not carriedout only when the patient is dying or passing away. It should be paid attentionto at all times and timely care and companionship should be provided. Clinicalstaff must continuously improve their ability to assist in end-of-life care.The end-of-life preparation record sheet is to help clinical staff specificallyassess the preparation of patients and their families for end-of-life care toensure the quality of care.

Purpose:

Good death preparation is not performed only when thepatient is dying or has passed away, but is the core of the care process forterminally ill patients. Therefore, for patients admitted to the palliativecare ward, attention should be paid at all times to whether there aresituations that affect the patient's good death, and care and companionshipshould be provided in a timely manner. The good death preparation record sheethelps clinical nursing staff to specifically evaluate the good deathpreparation of patients and their families, and the parts that still needintervention or strengthening. It can also show the completeness of nursingstaff's assistance to patients in good death preparation. Current completenessrate status value80.01% Expected target: The completeness rate is increased to92.80%

Methods:

Analyzingthe completion rate of the end-of-life preparation record sheet in thepalliative medical ward is 80.01%, and improving the care and health educationcontent on the psychological and physiological levels - teaching family membersto do body care, spiritual aspects, etc.: (1) Use situational simulation drillsto provide real-time feedback and instructions to strengthen personnel'sresponse capabilities and communication skills; (2) Establish a standardoperating procedure and record writing template for hospice preparation, andreview and revise it regularly to provide personnel with a basis and reference;(3) Modify the content of the form and definitions to make the record contentmore specific and easy to understand, and conduct audio-visual teachingrecordings to facilitate clinical staff assessment and provide information andcare to patients and their families; (4) Use the Hospice CareFoundation-Hospice Care Resource Manual, and use the QR code authorized by theHospice Care Foundation Education, making health education information richer,(5) informationized records, and the ability to add records for more than twopeople to improve the continuity and integrity of the record care process.

Results:

After theimprovement, the completion rate of the hospice preparation record sheet was97%.

Conclusion/Implementations for practice:

In addition, it was found that clinical staff's difficulty in writing recordsand the pressure of filling in the records were significantly reduced, andtheir satisfaction with the use of records and the ability to care for hospicepatients was improved. In the future, we hope to understand how satisfiedpatients and family members are with the hospice services provided by our unit,so as to provide more complete hospice care services.

Effectiveness of Workplace Health Management Interventions on Metabolic Syndrome Risk Indicators: A Case Study from a Regional Hospital in Southern Taiwan

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Abstract

Background:

Metabolic syndrome—a combination of central obesity, hypertension, dyslipidemia, and elevated fasting glucose—substantially increases the risk of chronic diseases and cardiovascular events. In Taiwan, related diseases rank among the top ten causes of death. Working populations face heightened risk due to sedentary lifestyles and occupational stress. In the 2023 employee health screening at a regional hospital in southern Taiwan, abnormal rates were: BMI 48.2%, total cholesterol 32.5%, triglycerides 16.8%, blood pressure ≥140/90 mmHg 16.2%, fasting glucose 13.5%, and waist circumference 32.5%.

Purpose:

To evaluate the effectiveness of workplace health management interventions in improving metabolic syndrome risk indicators and encouraging medical follow-up among employees.

Methods:

Employees with at least one abnormal metabolic indicator were recruited between October 2023 and May 2024. Interventions included individualized health education, tiered medical referrals, regular telephone follow-ups, structured exercise and diet programs, one-on-one consultations via LINE, a supportive workplace environment, and incentive-based rewards. Outcomes assessed were medical follow-up rates and improvements in fasting glucose, triglycerides, and blood pressure.

Results:

Among 46 employees with elevated fasting glucose (≥126 mg/dL), 23 sought medical care (50.0%). Of 62 with triglycerides >200 mg/dL, 22 improved to <150 mg/dL (35.5%). Of 191 with elevated blood pressure (≥140/90 mmHg), 122 normalized (<140/90 mmHg), achieving a 63.9% improvement rate.

Conclusion/Implementations forPractice:

Workplace health management interventions significantly improved medical follow-up and metabolic syndrome indicators. Combining personalized education, medical referral, behavioral support, and digital engagement enhances health literacy and chronic disease self-management. Sustained implementation and evaluation of such programs are recommended to improve workforce health and reduce chronic disease risks.

Keyword: Workplace Health Promotion,Metabolic Syndrome,Health Management, Chronic Disease Prevention

Nursing Experience in Caring for a Patient with Newly Diagnosed Heart Failure

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Abstract

NursingExperience in Caring for a Patient with Newly Diagnosed Heart Failure

Background

Heart failure is a major global health issue causing high morbidity, mortality,and rehospitalization. Its progressive nature results in reduced quality oflife and frequent hospital visits. Newly diagnosed patients often faceuncertainty, psychological distress, and challenges adapting to lifestylechanges. Effective nursing assessment and timely interventions are essential toimprove outcomes and prevent worsening of symptoms.

Purpose

This case involves a patient newly diagnosed with heart failure. The aim was toexplore how holistic nursing assessment and interventions could help manage thepatient's physical and psychological challenges and support recovery.

Methods

From June 10 to June 25, 2025, the patient was closely monitored through directobservation, interviews, and physical assessments. Nursing diagnoses were madebased on NANDA-I guidelines. Interventions were planned and carried out incollaboration with the healthcare team.

Results

Three main nursing problems were identified:

1. Excess Fluid Volume
2. Activity Intolerance
3. Noncompliance with Treatment

Interventionsincluded fluid restriction and careful monitoring of intake and output, gradualphysical activity to build tolerance, and tailored education to improveadherence. The Heart Failure Post-Acute Care (HF-PAC) model was applied tosupport recovery. Multidisciplinary teamwork helped with discharge planning andcontinuous care. After these interventions, the patient showed improved fluidbalance, better activity tolerance, reduced anxiety, and increased treatmentcompliance.

Conclusion

Individualized nursing care based on accurate diagnoses is key in managingnewly diagnosed heart failure. Combining fluid control, activity training,education, and team collaboration promotes better physical function, enhanceself-care, and eases hospital-to-home transition. This case offers practicalguidance for nurses delivering patient-centered and effective care.

Key word: Heart Failure,Multidisciplinary Collaboration, Cardiac Rehabilitation

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A Nursing Experience of Mechanical Obstruction Combined with Ischemic Bowel Disease: A Case Report

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Abstract

Background:

Mechanical bowel obstruction and ischemic bowel disease are life-threatening abdominal emergencies that often present with nonspecific symptoms and rapid clinical deterioration. Delayed diagnosis may result in intestinal necrosis, sepsis, and increased mortality. Prompt nursing assessment and interprofessional coordination are essential to improving patient outcomes.

Purpose:

This case report aims to emphasize the critical role of nurse practitioners in the early identification, continuous assessment, and coordinated care of patients with concurrent mechanical obstruction and ischemic bowel disease.

Methods:

An 80-year-old female with a history of hypertension and colon cancer was admitted with a one-year history of poor appetite and nausea, which had recently worsened. He also presented with acute abdominal pain, vomiting, and abdominal distension. The nurse practitioner conducted a comprehensive evaluation, including history-taking, physical examination, and interpretation of imaging studies, and collaborated closely with the medical team for further management.

Results:

Abdominal computed tomography revealed mechanical bowel obstruction combined with ischemic bowel changes. The patient and family declined emergency surgical intervention. Supportive care was initiated, including infection control, fluid and electrolyte management, and progressive nutritional support. With comprehensive nursing care and regular monitoring, the patient's condition stabilized without major complications.

Conclusion/Implementations for practice:

Nurse practitioners play a pivotal role in detecting early signs of deterioration, facilitating timely diagnosis, and coordinating interdisciplinary care. Vigilant nursing interventions are essential in managing complex gastrointestinal emergencies and enhancing patient recovery.

Keyword: Ischemic Bowel Disease, Mechanical Bowel Obstruction, Nurse Practitioner Role

Improvement Project for Abnormal Water Quality at Operating Room Scrub Sinks

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Abstract

Background:

The microbiological quality ofoperating room scrub water is critical for surgical hand antisepsis and patientsafety. In Taiwan, no specific guidelines exist for scrub water standards.

n a regional teaching hospital in southern Taiwan (with 513 beds), there are 9 operating rooms in the operating room, equipped with 4 hand-washing stations, with a total of 12 water outlets, and an average of 950 surgeries per month. Since 2010, water quality has been regularly monitored every 3 months; in March 2023, there were 2 hand-washing stations with a total of 6 water outlets, and the total bacterial count of water quality testing was greater than 100 CFU/ml. The Taiwan Infection Control Society does not have clear regulations for hand-washing water in operating rooms. In order to ensure the quality of surgery and patient safety, our hospital uses the national tap water quality standards and maintains the total bacterial count at <100 CFU/ml as the basis for operating room water quality testing.

Purpose:

To reduce the total bacterial colonycount of operating room hand-washing water from non-compliant levels to <100 CFU/mL.

Methods:

Following an interdisciplinary meeting,corrective interventions were implemented, including suspension ofnon-compliant scrub sinks, adoption of alcohol-based hand antisepsis, stepwisewater quality testing, replacement of faucet filters and UV lamps, disinfectionof faucet components with 500 ppm sodium hypochlorite, extended faucetflushing, and removal of stagnant water in distal pipelines. Microbial testingof physicians' and nurses' palms and fingertips was conducted post-antisepsis.

Results:

Baseline bacterial counts ranged from120–280 CFU/mL (mean: 185 CFU/mL). Post-intervention, all outlets achievedcompliance (<100 CFU/mL) with a mean count of 35 CFU/mL, representing an 81%reduction. Microbial counts on hands decreased from 0–15 CFU to 0–3 CFU.Compliance was sustained at 1 and 3 months follow-up.

Conclusion/Implementations for practice:

The purpose of surgical hand scrubbing is to reduce bacteria on the hands. By monitoring the water quality of hand scrubbing, the cleanliness of the hands of hand scrubbers can be ensured, and the quality of surgical hand scrubbing can be improved. It is recommended to refer to the international hand washing standards and use hand sanitizers containing antibacterial ingredients. Applying them on the hands and arms can maintain their antibacterial effects. They are less irritating to the skin of medical staff, more moisturizing, and more time-saving, convenient, and economical. They can also

prevent the deterioration of hand washing quality due to poor water quality and improve the quality of medical care.
Keyword: Abnormal Water Quality , Operating Room

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