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Review Article

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Beyond the Screen: Debunking the Myth that Online Education Means Being Alone

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Abstract

Background: Nursing education has shifted to online learning environments due to rapid advancements in technology and the COVID-19 pandemic. Some nursing educators and students misunderstand that online learning is isolating and lonely.

Method: This literature review explores the impact of online learning on students' emotional well-being and challenges the belief that it is inherently lonely. It examines global events, the growth of online nursing programs, and the myth of online nursing education as isolating and depressing.

Results: Online learning is a popular and effective education method that caters to diverse learners and contexts. The instructor's role is crucial in ensuring student satisfaction and engagement, fostering community and interaction among online learners.

Conclusion: Online learning is a rich and rewarding experience, with supportive instructors. This series will explore ways to break the myth of loneliness and foster community in the online environment.

Keywords: online learning, virtual, technology, student collaboration, lonely, isolating, online community

Introduction

Nursing education has evolved significantly in recent years, shifting from traditional classroom settings to online learning environments due to technological advancements, student flexibility, and the COVID-19 pandemic's challenges. However, some nursing educators and students still perceive online learning as isolated and lonely, lacking community and collaboration. This article aims to dispel this myth and demonstrate how online learning can foster a rich and engaging learning community for both students and educators. Strategies and tools are used to facilitate communication, interaction, feedback, and support. The article addresses the evolution of online education and the misconception that it is isolating and lonely and provides recommendations for online doctoral of nursing practice(DNP) programs.

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Impact of Global Events on the Demand for Online Learning

In 2020, the COVID-19 pandemic led to a significant shift in education, with colleges transitioning from face-to-face to online learning platforms. This impacted one billion learners, with 89.4% enrolled in higher education.[1] Online tools were used to produce, deliver, and manage learning content, allowing for a two-way interaction between students and teachers.[2] The flexibility of online learning has been praised by students as it fosters resilience and prepares them for future changes.[3] Virtual clinical learning requires robust instructors to foster student engagement, participation, collaboration, and critical thinking.[4] Students appreciate the pandemic-resilient educational standard and the potential benefits of online work, despite the increased cost. Instructors used audio, visual, and written online tools to create unique learning experiences, fostering student collaboration and patient care like an in-person clinical day.[4]

Historical Growth of Online Nursing Programs

Nursing education has evolved significantly over the years, with online programs becoming a crucial part of the curriculum. The internet's popularity began in the 1990s, leading to the establishment of the first online doctoral program in 1997.[5] The e-learning market in the United States grew to $6.22 billion between 2017 and 2022, with 59% of the market share coming from content-related online learning products.[6] The COVID-19 pandemic forced nursing schools to shift to almost fully online classes in 2020. Today, over 30% of American students are enrolled in at least one online course, and the number of undergraduate and graduate-level enrollment has increased from 15.6% in 2004 to 27.3% in 2016.[7] Technology investment in the United States has already superseded $13 billion and learning management systems (LMS) are expected to evolve to provide more social online learning experiences.[8] Videos have become a standard part of online learning, with over 60% of students finding technological advancements in the classroom to improve their grades and learning process.[9] Online education has a transformative impact on learners, fostering a sense of community across geographical boundaries. Platforms like online learning platforms allow learners to engage in discussions, collaborate on projects, and support each other's learning journey.[10]

Online Nursing Education is Isolating and Lonely

Online education has gained popularity due to its flexibility, time management, and the ability to work at one's own pace.[11] However, it also presents challenges such as technical difficulties, time needed to adapt to new technology, and lack of training for students to become adept at learning management systems. Students may struggle to understand course content and lose track of the learning process due to the lack of face-to-face interaction. The pandemic has further impacted students, with 24.9% of college students being anxious about moving to online learning due to the outbreak.[12] However, today's digitally driven generation has desensitized them to the technical hiccups of online learning, allowing them to maintain focus and efficiency in their studies. To be successful and satisfied in online learning, students must benefit from having an online community.

Online communities have rules of conduct that help students understand how to behave in an online environment, building trust and comfort within the community.[13] The role of the instructor is crucial in the development of an online community, and student satisfaction with their instructor is directly related to their perception of the online learning environment. Six conditions lead to community development among students in the online learning environment: (1) the instructor models expected behaviors; (2) sufficient time for online discussion and interaction is provided; (3) similarities are identified between online participants; (4) students feel a need to be part of a community; (5) students prioritize class interaction; and (6) students are engaged in class dialogue.[14]Face-to-face communication is now secondary, but it can still enhance the student experience. A study by Richardson and Swan (2019) found that 59% of students indicated that feedback and acknowledgment by their instructor in the online environment were the most beneficial to their learning.

Engaging Students in Online Learning

Christopher et al.'s (2020) study emphasizes the importance of 'online caring presence' in online

education, focusing on the mutually present and engaged relationship between faculty and students.[16] The study also investigates nursing students' perceptions of the level of care teachers provide online, finding that students highly appreciate their relationships with professors and identify distinct reactions to online courses. Students reported enhanced connectivity and increased engagement with teachers through online platforms compared to in-person encounters. Instructors also conveyed the same views and saw a deeper understanding of students online than in-person interactions.

The shift to online learning, particularly in nursing and related healthcare fields, has led to the development of innovative approaches to foster community and teamwork among learners. Interactive tools and platforms have become crucial in online nursing education, enhancing student outcomes, community engagement, peer support, and mentoring. Learning management systems (LMS) like Blackboard and Canvas serve as the foundation for communication between students and teachers, assignment changing, and the dissemination of course materials. Video conferencing platforms like Zoom and Microsoft Teams facilitate synchronous connections, reducing geographical isolation and promoting a more individualized learning environment.[17] Project management and collaboration platforms like Trello and Slack enhance interpersonal communication by using structured communication channels and visual task management interfaces.[18]

Virtual simulation platforms like SyncSim and vSim for Nursing offer learners' access to simulated clinical settings, improving clinical judgment and team problem-solving skills. Social networking and community platforms like Facebook, TikTok, Messenger, and YouTube provide peer support, networking, and mentoring in the nursing profession.[19] Specialist mentorship networks like NurseMentor and MentorNet connect nursing students with seasoned practitioners, offering structured mentorship relationships that improve learning outcomes and create opportunities for professional growth.[20]

Wagg and Morgan's (2022) case study "explore a unique approach to practice placements, focusing on virtual practice experiences led by clinical practitioners". The study concludes that virtual practice days can enhance interpersonal connections by incorporating intentional bonding activities and more on-camera discussions. Chat rooms and discussion boards are crucial for creating an engaging learning environment, enabling synchronous and asynchronous discussions. Online platforms with discussion forums and chat tools allow real-time communication and facilitate questions, answers, and discussion of course materials.

Online nursing programs provide group assignments that mimic teamwork in healthcare settings, enhancing critical thinking, problem-solving, and collaboration skills. Giroux and Moreau's (2022) exploratory qualitative case study investigated the use of social media by nursing students in formal and informal learning contexts. Results showed that individuals use social media platforms for both official and informal educational purposes, particularly to enhance their learning beyond formal institutional frameworks.[23]

Peer-led learning is facilitated by online study groups, which let learners gain knowledge from one another. Online activities like webinars and guest lectures offer chances to network with peers and experts, introducing learners to real-world experiences and viewpoints in nursing and healthcare.[24] Personalized individual attention and virtual office hours are essential for meeting each student's unique learning needs.[25] Online tutoring services deliver supplemental academic support designed to cater to various learners' diverse needs and learning styles.

Online nursing learners benefit from comprehensive support services, including academic advising, technological assistance, and mental health counseling. Virtual campus communities provide platforms for social and professional activities, fostering a sense of belonging and community. Alumni networks and mentorship programs connect recent graduates with current students, offering career assistance, professional development, and mentorship.

In conclusion, online nursing education requires a positive learning environment and enhanced student motivation. Digital platforms like social media can

be used to recognize milestones, implement virtual recognition systems, and host online ceremonies. These strategies adapt traditional celebratory practices into the digital realm, enriching the online educational experience for nursing students.[26]

Embrace the Christian Spirit of Serving

Research emphasizes the benefits of teamwork in remote nursing education, highlighting the importance of engaging and nurturing virtual spaces. This enhances academic achievement, prepares students for the team-based nature of healthcare, and ensures they have the necessary skills to provide excellent patient care in a world embracing digital technology. Online nursing schools can provide dynamic, encouraging, and highly connected learning communities, defying the belief that these settings encourage isolation. Educators must promote inclusive, friendly environments guided by Christian ideals of compassion and empathy. Effective communication techniques, such as social media, discussion forums, and video conferencing, are necessary to build a cohesive online learning community and reduce feelings of loneliness. Online nursing programs can also improve students' capacity for time management and self-discipline, enhancing their education and equipping them for the demands of the nursing profession.[27] Incorporating Christian principles into online education can spur career success, personal development, and academic success.

Learner Success

Online learning success is influenced by course appeal, suitability, and user-friendliness.[28] While online nursing courses have a positive impact, traditional face-to-face learning remains preferred. Students perceive success as connecting learning to their professional lives and feeling confident in their abilities. Self-directed learning and managing satisfaction are crucial for academic achievement. Factors like self-directed learning, online class flow, and happiness contribute to academic achievement. Common themes influencing satisfaction include internet access, self-discipline cultivation, and effective resource utilization.

Future Trends in Online Education

The future of online education is expected to evolve with continued technology integration, enhancing accessibility and effectiveness. Personalized learning, which caters to individual students' needs, preferences, and abilities, is expected to improve learning outcomes and student engagement.[29] This approach differs from the traditional one-size-fits-all approach, recognizing and accommodating diverse learning styles and paces.[30]

Artificial intelligence (AI) is revolutionizing online learning by providing personalized feedback and adaptive pathways. It helps learners navigate course materials and concepts without face-to-face interactions, generating valuable insights for educators. AI systems can identify trends, learning gaps, and areas for improvement, ensuring engaging and responsive online learning experiences.[31] AI also addresses loneliness in nursing programs by enhancing social connectedness and teamwork through remote collaboration tools, fostering virtual communities of practice and mitigating feelings of loneliness and isolation.[32]

Virtual reality (VR) and augmented reality (AR) technologies are revolutionizing online education by providing immersive simulations and experiential learning opportunities.[32] These technologies foster a sense of community and camaraderie among online learners, promoting knowledge sharing, teamwork, and collective problem-solving skills. In online nursing education, VR and AR can create collaborative learning environments that simulate real-world healthcare teams, allowing learners to interact with peers, instructors, and virtual patients.[33] AR-enhanced collaborative tools enable virtual collaboration on patient case studies, treatment plans, and research projects. These technologies also reduce feelings of isolation and loneliness among online learners, enhancing social interaction and professional networking.[34]

Real-Life Application

A Western university's DNP program is implementing recommendations to foster relationships with students despite distance barriers. The faculty aims to develop a sense of community and address the online loneliness myth by providing

multiple methods for face-to-face interaction.PICOT Mondays is a weekly meeting where students can work in small groups with a faculty member to review literature and wording before submitting for a formal review process. This allows for connection, asking questions, and developing relationships with faculty.

Monthly course meetings are another option for students to meet faculty, ask questions about the class, and seek extra assistance if they struggle. A mandatory seminar is held before project implementation, conducted via Zoom, once a month. This allows students to engage with faculty, ask questions, and receive immediate feedback and support.A bi-monthly Zoom meeting is also offered to interact with the course lead, obtaining additional feedback, help, and support needed for continued document and project development before entering the project courses. The university offers twice a week institutional review board (IRB) meeting, allowing learners to review their IRB documents prior to submission, ask data collection and analysis questions, and address any other concerns with the quality improvement (QI)/IRB lead.

Interactive workshops are hosted on different aspects of the IRB application process, including hands-on sessions on writing consent forms, developing data collection tools, and understanding privacy laws related to healthcare research. By using real-world examples and allowing students to work on sections of their own IRB applications, learners gain practical insights and immediate feedback. Student success and support are paramount to the university. One full-time faculty member oversees learner success, paired 1:1 with students who are leaving after an extended absence or struggling. This support results in meetings on Tuesdays, emails, and phone calls. Other full-time faculty attend these meetings as an additional level of support to ensure student success.

Feedback Fridays is another platform for students to log into Zoom to discuss whatever concerns they have. Topics range from obtaining PICOT approval, finding literature and implementing projects to supporting peers at different points on their educational journey.Successful faculty are essential for having successful students. The university provides a mentorship program for adjunct faculty, offering weekly meetings and regular updates on curriculum changes.

Conclusion

Online education is a rapidly changing educational paradigm that fosters community, collaboration, and personal growth. Its transformative potential is evident through success stories, case studies, and future trends. Understanding the online learning experience is crucial for empowering learners and enhancing educational outcomes. The shift from isolation to community in online education creates a more inclusive and accessible learning environment. Continuous innovation and exploration of new possibilities are essential for improving education and empowering learners worldwide.

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References

1. Marinoni, G., Van't Land, H., & Jensen, T. The impact of COVID-19 on higher education around the world. *International Association of Universities*.2020 Apr 30.[cited 2024 March, 8]; (102);7-9. Available from: https://ejournals.bc.edu/index.php/ihe/article/view/14593.
2. Mukhtar, K., Javed, K., Arooj, M. & Sethi, A.Advantages, limitations and recommendations for online learning during COVID-19 pandemic era. *Pakistan Journal of Medical Sciences*. 2020 May. [cited 2024 March, 8]; 36(COVID19-S4); S27-S31. Available from: 10.12669/pjms.36.COVID19-S4.2785.
3. Head, M. L., Acosta, S., Bickford, E. G., & Leatherland, M. A. Impact of COVID-19 on undergraduate nursing education: Student perspectives. *Academic Medicine*. 2022 Mar 1. [cited 2024 March 8]; 97(3); S49-S54. Available from: Doi: 10.1097/ACM.0000000000004530.
4. Hargreaves, L., Zickgraf, P., Paniagua, N., Evan, T. L., & Radesi, L. COVID-19 Pandemic impact on nursing student education: Telenursing with virtual clinical experiences. *SAGE Open Nursing*.2021 Oct 4.[cited 2024 March 8]; Available from: Doi: 10.1177/23779608211044618.
5. Chronicle of Higher Education. The evolution of nursing education. 2020 [2024 Mar 8]. Available from:

https://sponsored.chronicle.com/Evolution-of-Nursing-Education/index.html.

6. Beyond Market Insights. E-Learning Market Size, Share, Growth, Trends & Forecast to 2030. 2023 [2024 Apr 29]. Available from: https://beyondmarketinsights.com/report/e-learning-market/.
7. Aslanian, C. B., Fischer, S., & Kitchell, R. Online college students report 2023. *EducationDynamics*. 2023 [2024, Apr 29]. Available from:https://insights.educationdynamics.com/rs/183-YME-928/images/EDDY-online-college-students-2023.pdf.
8. Wei, Z. Navigating digital learning landscapes: Unveiling the interplay between learning behaviors, digital literacy, and educational outcomes. *Journal of the Knowledge Economy*. 2023 [2024, Apr 29]. Available from:https://doi.org/10.1007/s13132-023-01522-3.
9. Kaltura. Video and Learning at Work: The State of Video in the Enterprise 2019. 2019 [2024, Mar 8]. Available from: https://corp.kaltura.com/resources/state-video-enterprise-2019/.
10. Rajaraman, G., Klein, R., &Sinnayah, P. Zoomed in, zoned out: Academic self-reports on the challenges and benefits of online teaching in higher education. *Education Sciences*. 2024 [2024, Mar 8];14(2):133. Available from: https://doi.org/10.3390/educsci14020133.
11. Mushtaha, E., Abu Dabous, S., Alsyouf, I., Ahmed, A., Raafat Abdraboh, N. The challenges and opportunities of online learning and teaching at engineering and theoretical colleges during the pandemic. *Ain Shams Engineering Journal*. 2022 [2024, Mar 8];13(6). Available from: Doi: 10.1016/j.asej.2022.101770.
12. Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., and Dong, J. The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry Res.*2020 [2024, Mar 8];287:112934. Available from: Doi: 10.1016/j.psychres.2020.112934.
13. Haythornthwaite, C., Kazmer, M. M., Robins, J., & Shoemaker, S. Community development among distance learners: Temporal and technological dimensions. *Journal of Computer-Mediated Communication*. 2000 [2024, Mar 8];6(1). Available from:https://doi.org/10.1111/j.1083-6101.2000.tb00114.x.
14. Shea, P., Li, C. S., Swan, K., & Pickett, A. Developing learning community in online asynchronous college courses: The role of teaching presence. *Online Learning*. 2019 [2024, Mar 8];9(4). Available from: https://doi.org/10.24059/olj.v9i4.1779.
15. Richardson, J., & Swan, K. Examining social presence in online courses in relation to student's perceived learning and satisfaction. *Online Learning*. 2019 [2024 Mar 8];*7*(1). Available from: Doi: 10.24059/olj.v7i1.1864.
16. Christopher, R., de Tantillo, L., & Watson, J. Academic caring pedagogy, presence, and communitas in nursing education during the COVID-19 pandemic. *Nursing Outlook*. 2020 [2024, Apr 29];68(6):822-829. Available from: https://www.nursingoutlook.org/article/S0029-6554%2820%2930620-5/pdf.
17. Gumasing, M. J. J., Kaye Endozo, E., Ceasar Laingo, J. C., & Henry Tapucar, W. Usability evaluation of online learning management system: Blackboard, Google Classroom and Canvas. *2023 11th International Conference on Information and Education Technology (ICIET), Information and Education Technology (ICIET), 2023 11th International Conference On*. 2023 [2024, Mar 8]:92–97. Available from: https://doi-org.lopes.idm.oclc.org/10.1109/ICIET56899.2023.10111426.
18. Ates, H., &Koroglu, M. Online collaborative tools for science education: Boosting learning outcomes, motivation, and engagement. *Journal of Computer Assisted Learning*.2024 [2024 Mar 8].Available from: https://doi-org.lopes.idm.oclc.org/10.1111/jcal.12931.
19. Niraula, K. B., &Bohora, P. College students' utilization of social networking sites. *International Journal of Technology in Education and Science*. 2023 [2024 Mar 8]. Available from: https://doi.org/10.46328/ijtes.472.
20. Hoover, J., Koon, A. D., Rosser, E. N., & Rao, K. D. Mentoring the working nurse: A scoping review. *Human Resources for Health*. 2020 [2024, Apr 29];18(52). Available from:https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00491-x.
21. Wagg, A.J., & Morgan, K. Online virtual nursing placements: A case study on placement expansion. *SAGE Open Nursing;* 2022 [2024 Mar 8].Available from:https://doi.org/10.1177/23779608221117392.
22. Giroux, C.M., & Moreau, K.A. Nursing students' use of social media in their learning: Acase study of a Canadian school of nursing. *BMC Nursing*. 2022 [2024 Mar 8];21(195). Available from:https://doi.org/10.1186/s12912-022-00977-0.
23. Gasmi, A. A.Through the lens of students: How online discussion forums affect students' learning. *International Journal of Technology in Education*. 2022 [2024 Mar 8]. Available from:https://doi.org/10.46328/ijte.291.

24. Fleischauer, C. Overview and summary: Virtual opportunities for nurses. *OJIN: The Online Journal of Issues in Nursing*. 2023 [2024 Mar 8]. Available from:https://ojin.nursingworld.org/~49c5e4/globalassets/ojin/tableofcontents/vol-28-2023/no2-may-2023/overview-and-summary_virtual-opportunities-for-nurses_ojin.pdf.

25. Gao, Z., Heckman, S. S., & Lynch, C. Who uses office hours? A comparison of in-person and virtual office hours utilization. *Proceedings of the 53rd ACM Technical Symposium on Computer Science Education - Volume 1*. 2022 [2024 Mar 8]. Available from:https://dl.acm.org/doi/10.1145/3478431.3499334.

26. Vizcaya-Moreno, M. F., & Pérez-Cañaveras, R. M. Social media used and teaching methods Preferred by generation Z Students in the nursing clinical learning environment: A cross-sectional research study. *International Journal of Environmental Research and Public Health*.2020 [2024 Mar 8].17. Available from:https://www.semanticscholar.org/reader/9a2605803d872c1da44fb0ba0bb394d0e13790fc.

27. Nwamu, H. & Ya Ni, A. Nursing students' evolving perceptions of online learning: A hierarchy of curricula. *Education Sciences*. 2023 [2024 Apr 29];13(6):574. Available from: https://doi.org/10.3390/educsci13060574.

28. Ali, K., Khalil, H., & El-Sharkawy, F. Impact of online remote education on learningprocess among nursing students. *Open Journal of Nursing*. 2020 [2024 Mar 8];10(9):810-830.Available from: https://doi.org/10.4236/ojn.2020.109057.

29. Thomas, R. A., & Dello Stritto, M. E.What is the future of online education? Theperceptions of instructors with over a decade of online teaching experience. *Online Journal of Distance Learning Administration*.2021 [2024 Mar 8};24(4). Available from: https://doi.org/https://ojdla.com/articles/what-is-the-future-of-online-education-the-perceptions-of-instructors-with-over-a-decade-of-online-teaching-experienc.

30. Harrison, L. M., &Mathuews, K. B. Three priorities for the future of online education. *Journal of Thought*. 2022 [2024 Mar 8];56(1/2):3–16. Available from: http://journalofthought.com/?p=1160.

31. Dignum, V. The role and challenges of education for responsible AI. *London Review of Education*. 2021 [2024, Mar 8];19(1):1–11. Available from: https://doi.org/10.14324/LRE.19.1.01.

32. Kavanagh, J. M., & Sharpnack, P. Crisis in competency: A defining moment in nursing education. *Online Journal of Issues in Nursing*. 2021 [2024, Mar 8];26(1). Available from:https://doi.org/10.3912/OJIN.Vol26No01Man02.

33. van der Meer, N., van der Werf, V., & Brinkman, W. P., & Specht, M. Virtual reality and collaborative learning: A systematic literature review. *Virtual Reality and Human Behavior*. 2023 [2024 Apr 29];4. Available from: https://doi.org/10.3389/frvir.2023.1159905. Accessed April 29, 2024.

34. Aebersold, M., & Gonzalez, L. Advances in technology mediated nursing education. *Online Journal of Issues in Nursing*. 2023 [2024 Mar 8];28(2). Available from: https://doi.org/10.3912/ojin.vol28no02man06.

Original Article

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Methodological Diversity in Health Care Master's Theses in Finland: A Pilot Study

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Abstract

Background: Master's level education could strengthen the efforts to sustain and retain professionals in health and social care by providing possibilities of career development. The master's education thesis process allows students to demonstrate their research competence, which could be one answer to enhancing research competence in clinical practice. This research examines what kind of research methods have been used in the master's level health care education theses in Finland.

Methods: 1056 master's theses in health care educations in Finland in 2017-2018 were analyzed with the document analysis and categorized as qualitative, quantitative, literature reviews and other methods.

Results: 30% of theses were conducted with qualitative and 12 % with quantitative methods. 6 % were literature reviews while the most were categorized in the other methods (52%). Different surveys were the most widely used method (32%) and interviews (20%) for data gathering among this category but several others, like workshops, Learning Cafes, observations, SWOT analysis, benchmarking, and brainstorms were mentioned.

Conclusions: Results could be partially explained with the context of the study, but at the same time they raise a critical question and need for future research.

Keywords: master´s degree, health care, thesis, methodology, higher education

Background

In health and social sector, the shortage of professionals, especially nurses,[1] as well as problems with recruitment and retention have been reported in several countries. These problems were spotlighted by the pandemic although many of them exist already before.[2] Possibilities for career development has been mentioned as one key to make this sector more appealing. Master education is proving one opportunity to increase one's competence in several areas of health and social care while increasing academic competence. The request for an increase

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in academic competence lies in various levels of education and is highlighted by the requests of the evidence-based practice. But at the same time there are worries about the reality with this demand.[3] Independently conducted, but supervised master thesis is the most common way to demonstrate one's competence in research. Courses on research methodology are included in the master's degree programs curricula, but there is very limited knowledge on which research methods students are applying in their master's theses. Previous studies have provided information about master thesis in certain disciplines,[4-5] within certain frameworks,[6-8] according to certain methods[9] or by interviewing students on their methodological choices.[10] The aforementioned studies on the master's theses are conducted in the context of universities.

However, the results from the university context might not describe the situation of the methodological choices in universities of applied sciences. In some countries, so called dual model in higher education with universities and universities of applied sciences (in some countries university colleges or polytechnics) still exists while master's degree program might be available in both. The presented study was conducted in Finland where 13 universities and 22 universities of applied sciences are providing master's degree programs. In universities, the master's programs are at least 120 credits (European credit system) while in the universities of applied sciences the master degree programs in health care educations are 90 credits. Degree programs for doctoral students are available only in universities. Difference between the master's degree exist on the requested work experience; only applicants for at least two years of working experience are applicable for universities of applied sciences, but for master's programs in universities this request does not exist.[11] Previous working experience of master's students in universities of applied sciences enables students often to conduct their studies with the focus on developing their work or practice.

The Rectors' Conference of Finnish Universities of Applied Sciences (Arene), have described the cross-discipline competence of a master student as 1) produces new information and reforms operating methods, combining competence in different fields, 2) is able to implement research, development and innovation projects and apply different research and development methods, 3) is able to develop new customer-oriented, sustainable and economically viable solutions, anticipating the future, 4) is able to analyze the current situation and anticipate the future of their field and changes in the operating environment.[12] Even though competence in research is clearly stated in these recommendations, the knowledge on the applied research methods in the master's thesis in universities of applied sciences is missing. This research aims to fulfil this gap of knowledge from the viewpoint of one country, Finland, as a pilot, by answering to the research question: what kind of research methods have been used in the master's level health care education thesis in Finland?

Method

Document analysis[13] was adapted in this descriptive research. The open repository service, called Theseus, provides online access to all bachelor's and master's theses published in universities of applied sciences in Finland. Finnish health care educations' master's theses published in this repository 2017-2018 (N=1056) were included in data. The information on permanent link (URL) to each of the thesis, their titles, fields of education in health care, publication year, and applied research methods were gathered. First level of examination of the applied research methods was based on the information on abstracts and if the research methods were not mentioned, the content of the thesis was checked. However, the primary level was the abstracts because of the high number of theses. Research methods were categorized into four categories: qualitative, quantitative, literature reviews, and other methods according to both data gathering and the analysis methods mentioned in the theses. Results are presented as frequencies and percentages. Comparison between Finnish universities of applied sciences is excluded from this report.[14]

Results

Out of 1056 master's theses 30% were categorized as qualitative and 12 % as quantitative (Table 1). Majority (52%) of the theses were categorized as other methods. Six percent of the theses were literature reviews.

Table 1. Research methods of Health Care Master's theses (N=1056)

Method	Frequency (f)	Percentage (%)
Qualitative	315	30
Quantitative	132	12
Literature review	65	6
Other	544	52

As the number of the other methods was the more detailed analysis was conducted in this category. In this category, the most popular data gathering methods were different surveys (32%) and interviews (20%), but several others, like workshops, Learning Cafes (World Café), observations, SWOT analysis, benchmarking, and brainstorms were mentioned (Table 2). Further analysis showed that in 22% (N=120) of theses in this category were reporting the use of at least three kinds of data gathering methods in one thesis. Similarly, in every fifth theses at least two research methods were mentioned. They were named for example as action research, development activity, research-based development, and development project.

Table 2. Data gathering methods among other methods of Health Care Master's theses (N=544)

Data gathering method	Frequency (f)	Percentage (%)
Survey	175	32
Interview	110	20
Workshop	45	8
Learning Cafe	36	7
Observation	35	6
SWOT	14	2
Benchmarking	12	2
Brainstorm	11	2
Other	223	41

Discussion

The results describe the research methods applied in master's level health care educations' theses at certain time in Finland. Because of the dual model in higher education in Finland, more fully picture would be possible only if the master's theses in universities would be examined in a similar manner. Therefore, this research should be considered as a pilot and start of the discussion on research education in higher education institutions.

Previous studies on the subject are sparse. Literature review has been found as the most common method in the Master of Nursing degree program at The University of Washington Tacoma[15] and survey as the most common in the social workers' masters' level education in Turkey.[16]

Also in Turkey, in master's level nursing education 83,2% has been reported as experimental and 16,8% as descriptive, major of theses being quantitative.[17]The results of the presented study do not follow these trends, but the difference in the context as well as the age of the studies might have an influence.

The result revealed not only the amounts of qualitative and quantitative methods as well as literature reviews, but also the strong emphasis on other methods. It could be argued that more detailed analysis would place some of these in the aforementioned categories, but still the category is large and also includes theses with several different methods mentioned. Although acknowledging that for example action research is an approach which could include several different data gathering and analysis methods, this observation raises a critical question of the methodological competence and mastery with variety of data gathering and analysis methods in limited time and invites further research on curricula and course contents of the methodological studies as well as studies to evaluate the research competence of master's students. As the previous knowledge on the subject is very limited, we hope this pilot study would encourage international colleagues for similar research in different disciplines in different countries.

Conclusions

The results of the presented study give an overview of the methods used in master's theses in health care education provided by universities of applied sciences in Finland. Interesting finding was the wide use of several methods which also raised concern about the research competence and masterity of several methods in this level of education. This pilot study also showed that previous studies on the topic are very limited and therefore further research is needed on the master's level education also from this viewpoint.

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References

1. Buchan, J., Cotton, H. & Sharred, F. A. Sustain and Retain in 2022 and Beyond. The Global Nursing Workforce and the COVID-19 Pandemic. International Council of Nurses and CGFNS International Inc. 2022; Available: www.icn.ch
2. WHO State of the world's nursing 2020: investing in education, jobs and leadership. 2020. Available at: www.who.int/publications/ i/item/9789240003279
3. Borglin, G. & Fagerström, C. Nursing students' understanding of critical thinking and appraisal and academic reading: A descriptive, qualitative study. Nurse Education on Practice 2012; 12, 256-360. 10.1016/j.nepr.2012.04.009
4. Drysdale, J.S., Graham C.R., Spring, K.J. & Halverson, L.R. An analysis of research trends in dissertations and theses studying blended learning. Internet and Higher Education 2013; 17, 90-100. 10.1016/j.iheduc.2012.11.003
5. Elban, M. Investigation of History Education Researches in Turkey in Terms of Some Variables (Master's Theses and Dissertations Samples). Universal Journal of Educational Research 2017; 5(9), 1529–1534. 10.13189/ujer.2017.050910
6. Demirel, M., Derman, I. & Can Aran O. Examining Graduate Dissertation in the Field of Critical Thinking: A Case from Turkey. Eurasian Journal of Educational Research 2017; 67, 141-159. 10.14689/ejer.2017.67.9
7. Edrogan, T. What Does Research Tell Us about Trends in Dissertations on PBL? Universal Journal of Educational Research 2017; 5(6): 972–988. DOI: 10.13189/ujer.2017.050610
8. Stallinga, H.A., Jansen, G.J., Kastermans, M.C., Pranger, A., Dijkstra, P.U. &Roodbol, P.F. Nurse practioners' focus on health care in terms of cure and care: analysis of graduate theses using of International Classification of Functioning, Disability and Health. Journal of Advanced Nursing 2016; 72(7), 1654-1665. 10.26817/16925777.826
9. Durak, Yünkül, E., Cankaya, S., Akpınar, Ş., Erten, E., Inam, N., Taylan, U., &Tastekin, E. Content Analysis of Master Theses and Dissertations Based on Action Research. Journal of Education and Training Studies 2016; 4(12), 71–80. 10.14689/ejer.2017.67.9
10. Sun, F-K., Long, A., Chiang, C.-Y., Huang, H.-M., Hou, Y.-C., & Yao, Y. Rationale underpinning postgraduate student nurses' choice of research methods used for their masters' theses. Nurse Education in Practice 2018; 33, 127–132. 10.1016/j.nepr.2018.10.002
11. Ministry of Education and Culture, Finnish Education System /1.6.2023. https://okm.fi/en/education-system#Higher%20education
12. The Rectors' Conference of Finnish Universities of Applied Sciences Arene ry 2022 Recommendation on the Shared Competences of Applied Sciences and Their Application. RECOMMENDATION ON THE SHARED COMPETENCES OF UNIVERSITIES OF APPLIED SCIENCES AND THEIR APPLICATION. pdf (arene.fi)
13. Dalglish, S., Khalid, H. & McMahon, S. Document analysis in health policy research: the READ approach. Health Policy and Planning 2020; 35(10), 1424–1431.
14. Liikanen, E. & Kilkku, N. & Sinkkonen, M. Tutkimusmenetelmien moninaisuus terveysalan YAMK-opinnäytetöissä. TAMK Journal 2.5.2022. Available at: https://sites.tuni.fi/tamk-julkaisut/ tamkjournal/ tutkimusmenetelmien-moninaisuus-terveysalan-yamk- opinnaytetoissa-eeva-liikanen-nina- kilkku-ja-merja-sinkkonen/
15. Dobratz, M.C. Primomo, J. & Delo, D. A Comparative Analysis of Master of Nursing Students' Scholarly Inquiry. Journal of Professional Nursing 2012; 28(6), 369-376. 10.1016/j.profnurs.2012.04.014 76
16. Duman, &İnel, Y. Review of master's theses in the field of social studies education between 2008 and 2014. Universal Journal of Educational Research 2019; 7(1), 66–73. https://doi.org/10.13189/ujer.2019.070109
17. Kaplan, A., Kaplan, Ö. & Çetin, Ş. Complementary Therapies and Supporting Care Practices: Descriptive Analysis of Nursing Theses Conducted in Türkiye between the Years of 2010-2020. Journal of Education & Research in Nursing 2023; 20(3), 204-209. 10.14744/jern.2021.21200

Original Article

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Use of Scenario-based Activities for Learning and Confidence in Accelerated Bachelor Nursing Students in Acute Settings

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Abstract

Objective: The aim of this study was to evaluate the impact of a unique, case based, learning activity,

Background: There is a great call and demand for nurse educators to prepare practice ready nurses who display critical thinking and clinical judgement. Improved critical thinking and clinical judgement have been demonstrated from case study-based learning. Along with case studies, gamification has been demonstrated to be an effective learning strategy not only in nurse education, but in other high-risk professions. In our study we combined case studies and gamification to create a new, scenario-based learning activity.

Design: This qualitative study used forums to elicit the student's experience with the learning activity.

Methods: Choose your own Pathway (CYOP)allow students to make clinical decisions in a safe, structured environment and to experience the consequences of those clinical decisions. Accelerated Undergraduate students were given three mega CYOPs based in PowerPoint corresponding to three didactic theory units. CYOPs provide students with clinical data and allowed them to make decisions based on this information and to experience the consequences of those decisions. Upon completion of these activities, students were asked to participate in a forum to discuss their experience with the CYOPs.

Results: After analysis, three main themes, with two subthemes, were identified: (1) the CYOP's engaged students thinking and led to use of clinical judgement through realism and prioritization of nursing decisions, (2) the CYOP's interactive engagement facilitated knowledge application through adaptive learning not memorization, and (3) the CYOPs technology design interfered with learning. Theme 1 subthemes included (1) interaction variety and (2) putting pieces together.

Conclusions: Our results demonstrate the potential for the CYOP learning activity to promote critical thinking and clinical judgement by placing students in the role of the nurse in simulated real-world scenarios. CYOPs are an innovative approach to enhance students learning and positively impact their readiness for the clinical setting.

Key words: gamification; nurse education research; undergraduate; schools-nursing

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Introduction

As the demand for practice ready nurses continue to increase in today's health care environment, so does the call on undergraduate nursing faculty to develop and deliver content and learning activities that effectively prepare nursing students for the workforce. Critical thinking is an essential nursing skill that requires nurses to interpret, assess, respond, and foresee possible challenges and barriers.[1] Pre-licensure nurse educators have the challenge of creating a learning environment and learning strategies that support and develop critical thinking in pre-licensure nursing students to ensure student's successful transition to practicein the clinical setting.[2,3]

Innursing education, active learning strategies, such as traditional and unfolding case studies, are vital to increase critical thinking and retention effectiveness.[4-6] Yet even with case study approaches, literature continues to indicate that students feel a disconnect and are unsure of how to transfer knowledge to practice in the clinical setting.[7] Use of digital learning activities and content have been shown to be engaging and effective methods to improve nursing education.[5,6]

Gamification, like simulation, offers a supportive, low stakes environment for students to be exposed to high risk, high stake, clinical situations in a learning environment.[8,9] Gamification involves the use of game-based mechanics, principles, and thinking such as challenges, feedback, and interactivity, in a learning context to promote engagement. The use of games has been shown to elicit significant emotional reactions that can significantly improve the learning of the player in a positive way.[10,11] Little research, specifically into gamification in nursing education, has been completed. Little to no research has been conducted on integrated digital gamification to improve student nurses' confidence, learning, and critical thinking in acute health situations.

The aim of this study was to evaluate the use of a scenario-based gamification activity and its impact on student nurses in an accelerated bachelor program's critical thinking and confidence in acute situations.

Theory

The theory of gamified learning has been reviewed and interpreted in fields beyond healthcare for its application in learning and education with a distinct separation between the conceptual ideas of "serious games" and "gamification".[12] The concept of "serious games" stems from the idea of an immersive experience often designed for training and education purposes compared to the "gamification" approach, which uses gaming elements or mechanics to enhance learning. These gamified elements might include items such as points, badges, or even leaderboards in a classroom setting.[13] Game based techniques, when employed correctly, have the power to inform, engage and educate through feedback mechanisms and learner interactivity, allowing the user to gain experience through trial and error.

Serious games for learning, when applied to nursing education, involves integrating gaming elements and design principles into the learning experience with the purpose being connected to change behavior or knowledge connected to an education goal.[14] This integration can enhance student engagement, motivation, and learning outcomes. Based on Knowles' (1984) adult learning theory, adult learners are different in how they learn. This is highlighted in the accelerated undergraduate nursing student who begins a nursing program, ranging in duration from 12 to 18 months, with previous work experience and degrees.

The blending of both theories, gamified learning and adult learning, provides a unique approach to educating adult learners with true-based gamification components. Gamification research within the nursing education is lacking, yet in the broader educational environment, including gamification has consistently demonstrated a positive effect in learning compared to learning without gamification.[15-17]Nursing student learners can be provided opportunities to be intrinsically motivated using gamification by fostering autonomy and competence in understanding material because learners feel confident when they are in control of their own perceived success.

Methods

The aim of this study was to examine the impact of a unique, scenario-based gamified activity (Choose Your Own Pathway [CYOP]) on students' learning and confidence in caring for patients in the acute care setting. CYOPs allow students to make clinical decisions and to explore the results of those decisions in a safe and low stake environment. Expanding on traditional and unfolding case studies, CYOPs are a choice-driven experience. Unfolding case studies only unfold in one direction, but CYOPs are 3-dimensional, allowing students to make their own decisions and to experience the consequences of those decisions, similar to providing care in a health care setting.

For this study, three CYOPs were developed, the topics of each CYOP corresponded with three to four weeks of content covered as didactic topics followed by a high-stakes exam The CYOPs were made available to students after the completion of the didactic content and prior to the exam for students to use the CYOP as a study tool. In each CYOP, students were first presented with a closed circular loop of assessment and chart review data that they could independently navigate through on their own prior to being presented with interventions and/or decisions to move forward. Using integrative linking design in the background of PowerPoint®, students were then directed to different potential disease trajectory tracks based on their interventions and/or decision making. From the student perspective, choices took them into variable closed loop cylinders based on their decision making. For example, in CYOP #1, a patient with a history of sickle cell disease comes to the emergency department with appendicitis, if students fail to recognize the risk of a sickle cell crisis and address this prior to the patient being taken to the operating room, the patient comes out of surgery in sickle cell crisis, and the student is faced with decision making choices regarding management of sickle cell crisis. However, this is avoided if the student addresses the risk of potential sickle cell crisis before surgery. This is only one example of the key concepts for students to address in CYOP #1. Each of these issues presents students with decisions and directs them to different tracks based on the consequences of that decision.

Institutional review board approval was obtained 2/25/2022 (IRB #24083).Informed consent were obtained prior to all study related procedures. Engagement with the CYOPs was not required for the course, and there was no assessment or grade directly associated with the CYOPs. At the completion of term after final grades had been submitted to the university registrar, students were invited to participate in one of three focus groups to discuss their experience with the CYOPs,

Data Analysis

Focus groups were completed via an online virtual meeting platform and recorded. Forum transcripts were auto generated in the virtual meeting platform and reviewed for completeness and correct transcription. Responses were analyzed by the authors. Transcripts were approached with an inductive coding process, with three coding cycles, to allow for the authors to explore the raw data itself as it was presented from the students' perspective. [18]Categories that were conceptually congruent were established from the codes created.

Results

Ten students participated across three focus groups. Three primary themes and two subthemes were identified. The main themes generated were: (1) the CYOP's engaged students thinking and led to use of clinical judgement through realism and prioritization of nursing decisions, (2) the CYOP's interactive engagement facilitated knowledge application through adaptive learning not memorization, and (3) the CYOPs technology design interfered with learning. Theme 1 subthemes included (1) interaction variety and (2) putting pieces together. *Theme 1: Challenged thinking and clinical judgement through realism and prioritization of nursing decisions.*

The first theme was the most dominant and highlights that the CYOP design met learners' needs considering the social, cognitive, emotional, and teaching aspects of the nursing content received during the study. Students reported that the CYOP activity helped to stimulate their own thought process in how they would proceed in the care of patients in each case scenario, building their critical thinking and

clinical judgement. This concept was highlighted by a student who said, "It's a way of practicing clinical judgement. It integrates the knowledge and helps you apply that knowledge to situation in a way that you're really working on your clinical judgement". Students identified that they valued the opportunity to practice their own prioritization of care, ultimately experiencing how their decisions affected outcomes.

The CYOP design helped to approximate, from the student perspective, the clinical realism of being in a clinical setting, expected to make decision with the information provided in the chart and through assessments and to make choices. But they were in a safe environment of potential high stakes-low occurrence situations. One student summed this up by stating, "In the CYOP, I am the role of the nurse, I'm seeing myself as a nurse, I'm taking actions as a nurse and I'm going to see the consequences as the nurse. So, I think really putting myself in the role or that mindset is kind of preparing me for future nursing practice". The non-punitive nature of the CYOP design provided students the opportunity to learn from mistakes and redirect their focus to which information was more important and to prioritize the appropriate care of the scenario patient.

Subtheme 1: Interaction variety

Students identified that the structural design and presentation of the CYOP activities provided a variety of ways to interact with the content that engaged various learning styles and corroborated the feeling of clinical realism. One student stated, "I enjoyed that you could say, where do you want to go from here – Let me look back at the chart, do I want to look at lab values? I liked that it wasn't so clear that you just moved in a linear fashion. I liked the dimensionality of being able to say, well actually they're not leading me to think like I should look at the lab values next, but that I could go all different places". This was supported by another who said, "The animations and the sounds kept it fun. I also liked having the reference manuals, so we didn't have to navigate away to look things up". All but two students reported that the design of CYOP helped them to develop their knowledge based on the interactive features of the case study provided.

Subtheme 2: Putting pieces together

All student participants spoke of the importance of how the CYOP's allowed them to independently follow their own thought processes, allowing them to put the clinical pieces of what was occurring with the case scenario patients together. This was also interwoven with the component of having a safe gamified environment to make mistakes and learn. As one student said, "I felt like it [CYOP activity] was a place where, in private, I could make mistakes or maybe see where my own thinking was going … and I could get feedback right away and then go back and try to understand where my thinking had gone". This sentiment was supported by all student participants as another stated, "The hardest and most beneficial things was that it exposed my own ignorance, it exposed the information that was there in front of me but that I had looked past the first time I went through. I should have thought more about why that might have been the case based on what we were learning in the class". The reported engagement and learning that students obtained through the CYOP to put the clinical pieces together demonstrates the value of this learning tool in a didactic setting.

Theme 2: Interactive engagement facilitating knowledge application through adaptive learning, not memorization.

The second theme stems from student comments about the engaging design of the CYOPs that allowed for them to directly apply their own knowledge base and think through what was happening over a learning approach that used only memorization. For example, one student said, "It [CYOP activity] feels more interactive, we had to put forth effort to know how to apply the material. So, it required more output from us versus taking in information" and another stated, "The more ways you engage with the material and draw on different learning styles the better. The CYOP activity is especially valuable in that sense because it engages with pretty much all learning styles to some degree…it really is multimodal in its engagement in terms of learning styles".

These considerations are specific to the CYOP interactive case study design that affords the interactive engagement in concrete knowledge application rather than evaluating a student's ability to memorize information. One student reported, "I

don't like to just memorize information, but that's kind of what I felt I was doing [in nursing school] and the CYOP let me really try it on and see how it fit, like trial and error and practice it in a way that was more effective for learning". Implementing and designing learning activities, like the CYOP, allowed students to grow through adaptive learning revealing that the CYOPs are a unique and new approach to learning and teaching.

Theme 3: Technology design interference with learning

This theme originated from student reports of how the technology platform used in the creation of the CYOP activities can interfere with learning. Given that the framework of this interactive case study approach relied solely on the use of a software program, PowerPoint®, students needed to adapt to it for effective learning to take place. The identified issues and subsequent recommendations students raised were not about the software itself but file size, as one student said, "Some barriers for me to use it was that they were upwards of 900 slides and being able to pull that up on my laptop, for instance, it didn't work". Additional issues revolved around navigation challenges and confusion on how to use the interactive features integrated within each CYOP.

Students described navigation once inside of the CYOP as another issue with technology design interfering with learning as. Because the activity was designed on a platform of integrative link jump points to variable slides within one PowerPoint® file, students were instructed not to navigate outside of the current slide they were on and only to move forward. This was an intentional design feature implemented to prevent students from changing their decision once an action or decision was performed. However, this was not a desirable feature from the student perspective, as one student stated, "I wanted to see – how did I get here? I wanted to go back and look at what I just chose and see if I could choose differently and make a different choice instead of going through the whole thing and having to start over" and another student said, "I would get kind of lost in the slides. I know you said don't click back or, you know, don't try to go backwards. But you know people… people like to do things that they're told not to". The students further identified recommendations to the study researchers, all suggesting a different platform for dissemination to improve navigational challenges reported.

Discussion

The results of this study discuss the potential for CYOP activities promote critical thinking and clinical judgement among nursing students by simulating real-world patient scenarios. CVOPs provide a safe environment for students to make decisions, learn from mistakes, and prioritize patient care, enhancing students' decision-making skills through clinical realism. The CYOPs expanded on a case study format, putting the student in the role of the nurse directly caring for the patient. Due to the nature of undergraduate nurse education, especially accelerated programs, student nurses have limited exposures to extensive disease processes in the acute clinical setting. Even when exposed to disease processes in the clinical environment, students are typically only able to focus on one specific aspect of care that they are providing that day. CYOPs allow students to provide care for a patient across the disease trajectory. They can synthesize the information they receive through a chart review and physical assessment, make clinical decisions based on their assessment, and immediately see the consequences of their decisions, thus promoting reflection and enhanced learning, progressing critical thinking and clinical judgement.

Accelerated undergraduate nursing students frequently struggle with the shift from their previous education practices of memorization to application of the learned content required to be a competent nurse. The interactive design of the CYOPs fostered knowledge application rather than memorization. Students appreciated the engagement and multimodal learning styles the CYOP design allowed for by providing students control of how they actively applied their clinical knowledge through trial and error. It put students in the role of the nurse, including the decision making and ultimately the experience of understanding the consequences of those decisions. Active engagement with the CYOP activities also demonstrated to students gaps in their learning and understanding. Using this low stakes, self-paced, learning activity, students were able to envision and see themselves in the role of the nurse

evaluating what they knew and what they did not know. This allowed them to tailor their studying to focus on information and/or concepts they were struggling to apply.

Although the CYOP was beneficial, it was clear that students faced challenges with the technology platform, specifically the file size and navigation within PowerPoint®. The students told the researchers to consider an alternative platform to improve the end-user experience. Due to the CYOP leading students to different 'tracks' based on their decisions, the CYOPs involved 800 to 900 PowerPoint® slides. Many of these slides were duplicates with the end result differing based on previous decision making. Although it was impossible for students to access all the slides if they played the activity as designed, students would frequently exit out of the game in an attempt to "go back" and reverse previous decisions.

Through active engagement and knowledge application, students used the CYOP interactive learning experience to nurture their own individualized learning needs and styles. This student driven customization of learning allowed them to develop their knowledge application while concurrently scaffolding in new knowledge through the gamified application of nursing care that students identified as correlated to clinical realism. With the continued need for practice ready nurses to enter the workforce to fill the nursing shortage, nursing educators need to develop innovative ways to enhance student learning that provides the opportunity for students to understand how their choices affect patients, which the CYOPs have demonstrated.

Limitations

This study had limitations. This study was conducted with a small single cohort of accelerated nursing students, as such, the results cannot be generalizable to the broader nursing student population. Additional studies are needed in order to confirm study results with both a larger student population and students not exclusively enrolled in an accelerated nursing program.

Conclusions

The findings of this study underscore the effectiveness that the CYOP activities had in fostering perceived critical thinking and clinical judgement among nursing students. By immersing students in realistic patient scenarios, the CYOP design provided a safe space in a gamified approach for students to practice decision-making, learn from their errors, and prioritize patient care. Despite the reported and perceived challenges with the technology platform, CYOP activities offer valuable learning that encourage students to grow within their own clinical reasoning. The interactive design facilitates knowledge application and accommodates diverse learning styles, thereby empowering students to actively engage with the materials and subsequently develop a deeper understanding of patient care priorities. As nursing educators strive to prepare practice-ready nurses, innovative approaches like the CYOP's hold promise in enhancing student learning and readiness for the workforce.

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References

1. Eckerson CM. The impact of nurse residency programs in the United States on improving retention and satisfaction of new nurse hires: An evidence-based literature review. *Nurse education today*. 2018;71:84-90.
2. Hong S, Yu P. Comparison of the effectiveness of two styles of case-based learning implemented in lectures for developing nursing students' critical thinking ability: A randomized controlled trial. *International journal of nursing studies*. 2017;68:16-24.
3. Kaylor SK, Strickland HP. Unfolding Case Studies as a Formative Teaching Methodology for Novice Nursing Students. *Journal of Nursing Education*. 2015;54(2):106-110.
4. Sarker U, Kanuka H, Norris C, Raymond C, Yonge O, Davidson S. Gamification in nursing literature: an integrative review. *International journal of nursing education scholarship*. 2021;18(1).
5. Mandernach BJ. Thinking Critically about Critical Thinking: Integrating Online Tools to Promote Critical Thinking. *Insight (Parkville, Mo)*. 2006;1(1):41-50.

6. Bristol T, Hagler D, McMillian-Bohler J, Wermers R, Hatch D, Oermann MH. Nurse Educators' use of Lecture and Active Learning. *Teaching and learning in nursing*. 2019;14(2):94-96.
7. Robinson L, Mulvey BK, Aller L. Early Prelicensure Nursing Students' Perceptions of Case Studies Through the Lens of the Clinical Judgment Measurement Model. *Nurse educator*. 2024;49(1):E12-E16.
8. Chou YK. *Actionable gamification: Beyone points, badges, and leaderboards.* . Packt Publishing Ltd.; 2019.
9. da Rocha Seixas L, Gomes AS, de Melo Filho IJ. Effectiveness of gamification in the engagement of students. *Computers in human behavior*. 2016;58:48-63.
10. Martínez-Cerdá J-F, Torrent-Sellens J, González-González I. Promoting collaborative skills in online university: comparing effects of games, mixed reality, social media, and other tools for ICT-supported pedagogical practices. *Behaviour & Information Technology*. 2018;37(10/11):1055-1071.
11. Ambrosio Mawhirter D, Ford Garofalo P. Expect the Unexpected: Simulation Games as a Teaching Strategy. *Clinical Simulation in Nursing*. 2016;12(4):132-136.
12. Krath J, Schürmann L, von Korflesch HFO. Revealing the theoretical basis of gamification: A systematic review and analysis of theory in research on gamification, serious games and game-based learning. *Computers in human behavior*. 2021;125:106963.
13. Nair SM, J. A Theoretical Framework for Gamified Learning. *International Journal of Innovative Technology and Exploring Engineering*. 2019;8(12):2846-2851.
14. Becker K. What's the difference between gamification, serious games, educational games,a nd game-based leraning? *Academia Letters*. 2021;Article 206.
15. Bai S, Hew KF, Huang B. Does gamification improve student learning outcome? Evidence from a meta-analysis and synthesis of qualitative data in educational contexts. *Educational research review*. 2020;30:100322.
16. Baptista G, Oliveira T. Gamification and serious games: A literature meta-analysis and integrative model. *Computers in human behavior*. 2019;92:306-315.
17. Sailer M, Hense JU, Mayr SK, Mandl H. How gamification motivates: An experimental study of the effects of specific game design elements on psychological need satisfaction. *Computers in human behavior*. 2017;69:371-380.
18. Saldaña J. *The coding manual for qualitative research.* Sage; 2021.

Original Article

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The Personal Faculty Mentor (PFM) Role: Advanced Support for Individualized Student Care

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Abstract

Background: Given the complexity of student responsibilities and backgrounds, the need for additional support during graduate education is evident for overall success. An innovative role that addresses these complexities and mitigates issues facing today's nursing student was developed.

Purpose: The Personal Faculty Mentor (PFM) role was developed to provide one, specific point of contact in an effort to support students throughout their MSN journey by completing new student orientation, individualized student outreach, frequent personal communication, and development of success plans.

The PFM role also supports the faculty or instructor role by providing additional support and outreach with student concerns (low participation or scores).

The overall purpose of the PFM is to improve student outcomes including pass rates, persistence rates, and satisfaction.

Methods: Within the University's Master of Science in Nursing Accelerated Track (MSN AT) Advanced Generalist and Clinical Nurse Leader (CNL), the PFM role was implemented to support student success. The MSN AT has flexible due dates for assignments which lends for more intensive student support.

Results: Since the PFM role has been in place since program inception (July 2019), persistence and program completion are on average 12% higher, as high as 29%, with those students who actively participate with their PFM. Through survey, students report high satisfaction with the PFM role and attribute part of their success to this supportive role. Each session, students who actively participate with their PFM have better persistence than those who do not.

Limitations: While the anecdotal feedback and positive outcomes are noteworthy, this strategy did not involve an empirical research investigation. As a result, a causative relationship may not be concrete. There is clearly an improvement in the retention and persistence of students who engage regularly with the PFM; however, there are additional variables that may be impacting the outcomes that would be helpful to identify.

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Conclusions / Implications for Practice - Student support promotes success. The role of the PFM provides individualized, student-centered support. Students who participate and interact with their PFM are more likely to be successful in the MSN AT.

Key words: Mentor, student-centered, individualized, student support, communication.

Background

Mentoring is not a new concept within education. Many instances of formal and informal mentor relationships are present throughout education settings and programs. Particularly within nursing, the need to support and transition successful nurses into practice is paramount. At the graduate level, assumptions may be present on the preparedness and functionality of nursing practice. Graduate level nursing students are especially vulnerable as many are working full-time in the field and have other personal responsibilities and obligations[6]. Some graduate nursing students are also newer to the field of nursing and may question their own ability to successfully complete a Master's or Doctorate degree. Seasoned nurses may also question their ability to function in a higher-level nursing position. Within this population of graduate nursing the students, the inclusion of formal mentorship programs provides the opportunity to support and nurture our future nursing leaders in education and learning.

Mentoring is crucial to help support the next generation of healthcare providers[1]. Mentors play a pivotal role in facilitating both personal and professional growth throughout one's journey[5]. Mentors possess the ability to enrich one's tacit understanding of the "unwritten rules" concerning professionalism, ethics, values, and the art of medicine, which often go beyond textbook teachings[3]. Additionally, in numerous instances, mentors offer invaluable emotional support and motivation. Implementing a formal mentorship plan at the graduate student level, can improve the educational experience and learning.

Review of Literature

Student mentoring is a concept that has been studied by faculty and administrators in nursing schools. Students can feel the stress of managing their studies combined with clinical components of nursing school. A mentoring program has been shown to positively impact the student's ability to cope with stress and acclimate to the university[9]. Faculty outreach can help students feel supported and cared for during their college experience.

Literature reviews exploring faculty mentoring and student success has been coorelat4ed to positive student outcomes[4]. Another literature review demonstrated a positive impact on students who feel cared for by faculty and had a sense of belonging[2]. Caring behaviors by faculty ultimately improved the student's success in the nursing program[2]. In another study, Students who drop from nursing programs felt they did not have the tools needed to cope with nursing school and the profession of nursing in general[1].

Development of a mentoring program is essential to assist students in getting the guidance necessary to be successful. The Personal Faculty Mentor (PFM) program provides students with faculty mentors who can help and guide students in all aspects of their education providing resources necessary for success.

Intervention

The intervention, PFM role, is supported by Swanson's Theory of caring. Since Swanson's theory of caring serves as a powerful motivation in nurse/patient relationships, it can be extrapolated to the PFM/student relationship in an academic environment. The theory has five tenants that is applied to this intervention: (a) knowing, (b) being with, (c) doing for, (d) enabling, and (e) managing belief [7]. First, the "knowing" tenant pertains to the PFM's knowledge related to guiding the student in every aspect of their education journey from first entering the MSN AT track to completion of the practicum course. The "being with" tenant includes the emotional presence of the PFM in giving support and feedback to help the student succeed. The "enabling" tenant provides the sense of being cared for and understood in the PFM/Student relationship as the goal of the PFM is to empower the student to achieve goals. The "doing for" tenant encompasses the entire PFM role in providing the support the

student needs throughout the MSN AT program. Finally, the "maintaining belief" tenant describes the PFM/student relationship in which the PFM provides encouragement, and the student believes that the PFM cares about the success of the student. For the PFM to be fully engaged in the caring relationship with the student, all five domains of Swanson's theory of caring are included in the development and implementation of the PFM role.

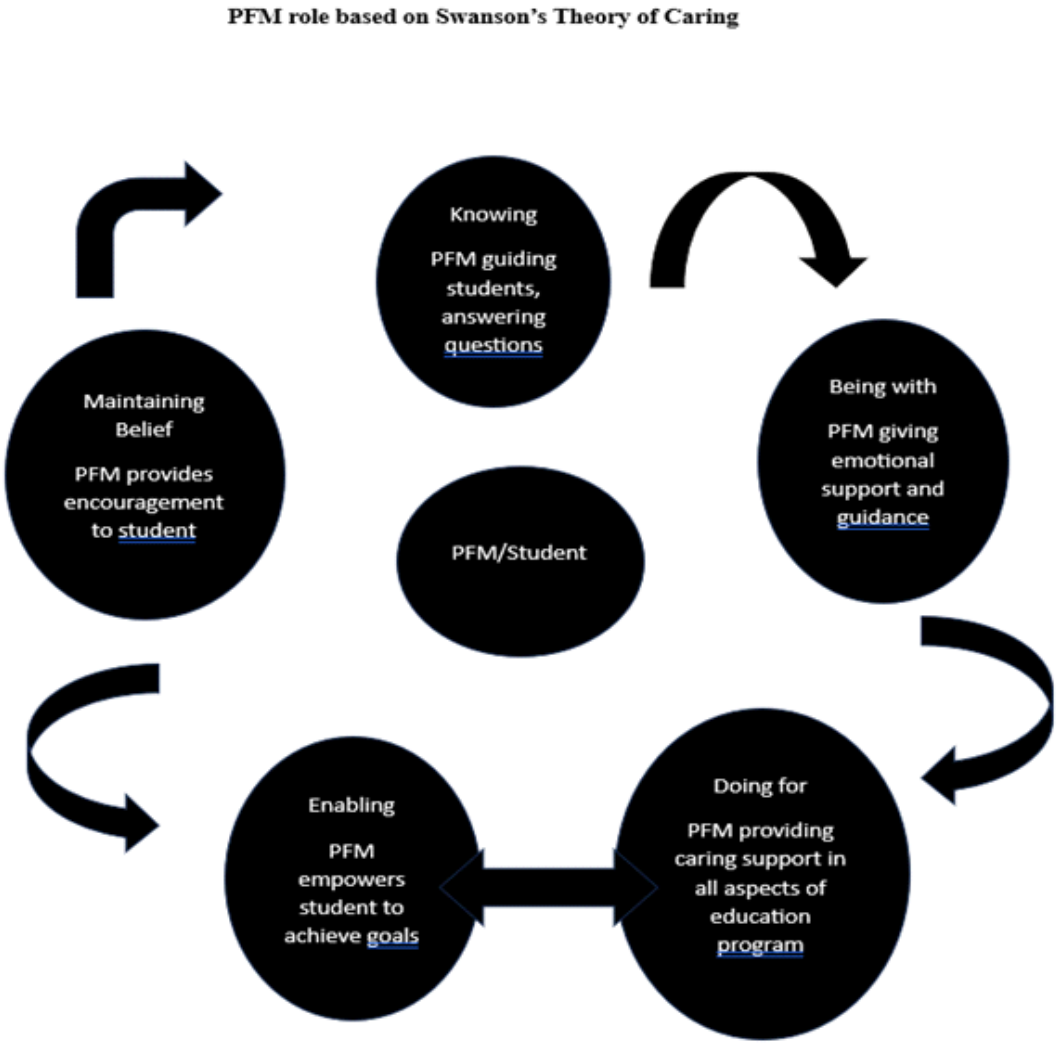

Figure 1: PFM role based on Swanson's Theory of Caring – Incorporation of Swanson's Theory of Caring with the Personal Faculty Mentor (PFM) role.

The setting for implementation of the PFM role took place in an online Master of Science in Nursing (MSN) program. This MSN program has an accelerated option in which students can potentially complete within 24 weeks if they enter the program with a Bachelor of Science in Nursing (BSN). There is also an option to start the program with an Associate's Degree in Nursing (ADN) in which students have additional courses to meet the BSN essentials. The program is fully asynchronous except for a practicum session or sessions when the student will be onsite with a MSN prepared mentor. In addition, due dates are flexible related to assignments and course participation. Two focus options are available in the program: Clinical Nurse Leadership (CNL) or Advanced Generalist. With the asynchronous format, flexibility, and accelerated option, the need for a PFM is warranted. Particularly in the online environment, students may feel "alone" or lacking support which, more urgently, supports a formal mentorship program.

The Personal Faculty Mentor (PFM) role was developed to provide one, specific point of contact in an effort to support students throughout their Master of Science in Nursing (MSN) journey by completing new student orientation, individualized student outreach, frequent personal communication, practicum-preparedness, and development of success plans. The PFM's also function as the full-time program professors. This dual role supports deeper understanding of the nursing community and program insights. The program of implementation is an online MSN program with concentration options as an Advanced Generalist or Clinical Nurse Leadership.

The development of the role has been a fluid process. Program leadership met with faculty to outline specific duties and responsibilities. As the role advanced, input from students and visiting professors was incorporated or removed from the routine of the PFM. The role continues to remain fluid and flexible to the needs of the students and greater program.

The categories of student support include new student orientation, course-specific progress, return student outreach, specialty webinar development, and practicum-preparedness. Within the categories of support, the first interaction starts with a detailed student orientation that is available live and recorded. Students are then sent a link to sign up for a personalized phone call. The PFM provides course-specific support and progress through weekly monitoring of the courses, biweekly meetings with Student Services to review and provide additional support to at risk students, individualized plans to support student success, bookstore issues or questions, and simulation support. Through course-specific support, the PFM also assists the faculty or instructor role by providing additional support and outreach with student concerns (low participation or scores). The PFM reaches out, initially, to all students via email with a request to schedule a phone call. Calls are optional with around 50-70% participation each session. Specialty webinars are created on an as needed basis. Subjects are determined through program assessment of needs. These webinars are offered both live and recorded. Examples of topics include program concentration options, practicum project development, and continuing education opportunities. Practicum-preparedness support includes mentor and site support, application process, and project development.

The goal of the PFM is to improve student outcomes including pass rates, persistence rates, and satisfaction.

Evaluation/Results

The PFM role has been in place since program inception (July 2019). Data was tracked starting in March of 2020 specific to those students who interacted with their PFM as opposed to those who did not. Persistence and program completion is on average 12% higher, as high as 29%, with those students who actively participate with their PFM (Figure 2). Each session, students who actively participate with their PFM have better persistence than those who do not. Active participation is defined as those students who completed a phone call with their PFM.

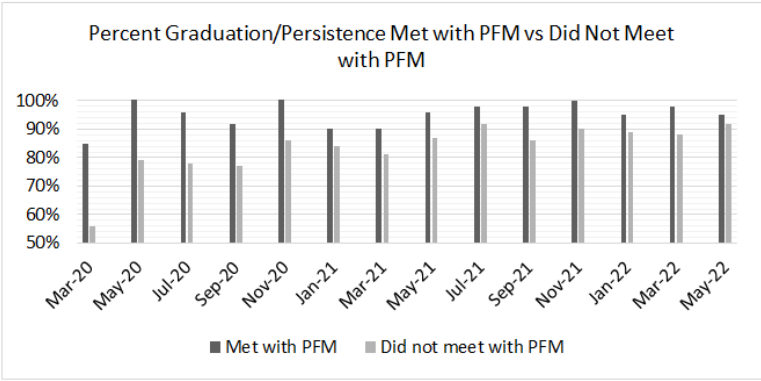

Figure 2: Percent Graduation/Persistence met with PFM vs Did Not Meet with PFM - Persistence and program completion is on average 12% higher, as high as 29%, with those students who actively participate with their PFM.

A survey was also administered to students in the program. Overwhelming positive feedback was received. Students felt supported by their PFM, felt the PFM promoted success, and multiple positive comments were shared. Within the survey of 98% or participants felt their PFM promoted their success in the program (Figure 3).

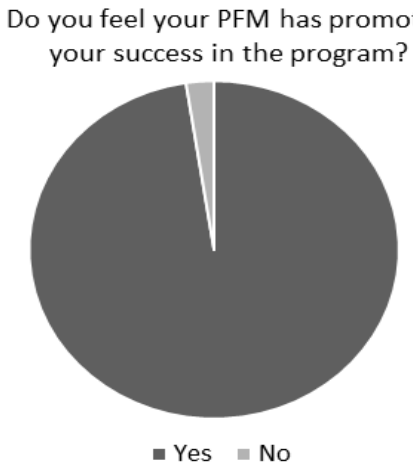

Figure 3: Survey question: Do you feel your PFM has promoted your success in the program? 98% or participants felt their PFM promoted their success in the program.

Conclusion

As a quality improvement (QI) project, full IRB was not pursued. Permissions through the university following the system policy and protocol were completed for permission. Ethical and legal risk is absent given the project topic and related components.

Student support, through mentorship, promotes success. Positive mentoring experiences in nursing academia can lead to retention of students and improve mentee satisfaction[5]. The role of the PFM provides individualized, student-centered support. The PFM role improved academic outcomes through increased persistence rates and student satisfaction in the program. Students who participate and interact with their PFM are more likely to be successful in the MSN program.

Swanson's theory of caring provided the theoretical framework for the project by streamlining the PFM role to provide caring support for the student. Just as the perception that someone cares can impact an individual's emotional needs, online MSN students also need to feel that there is someone with focused attention on them who is also listening to them; thus, the PFM role.

While the anecdotal feedback and positive outcomes are noteworthy, this strategy did not involve an empirical research investigation. As a result, a causative relationship may not be concrete. There is clearly an improvement in the retention and persistence of students who engage regularly with the PFM; however, there are additional variables that may be impacting the outcomes that would be helpful to identify. The PFM role maintains consistent efforts within the program. Based on current positive data of persistence and satisfaction, the PFM role is a selling point of the program and future of the role is bright. The fluidity of the role continues to be present as the needs of the student population and program flex over time.Additional programs within Chamberlain, have explored adding the role and supportive data continues to be evaluated.

Funding Sources: N/A

Ethical Clearance/Statement of Ethics: quality improvement project approved by Chamberlain University following the organization policy and protocol. Ethical and legal risk is absent given the project topic and related components.

Conflicts of Interest Statement: N/A

References

1. Canzan F, Saiani L, Mezzalira E, Allegrini E, Caliaro A, Ambrosi E. Why do nursing students leave bachelor program? Findings form a qualitative descriptive study. BMC Nurs. 2022;21:71. https://doi.org/10.1186/s12912-022-00851-z.
2. Henderson D, Sewell KA, Wei H. The impacts of faculty caring on nursing students' intent to graduate: A systematic literature review. Int J Nurs Sci. 2020;7(1):105-111. https://www.sciencedirect.com/science/ article/pii/S2352013219304818.
3. Henry-Noel N, Bishop M, Gwede C, Petkova E, Szumacher E. Mentorship in medicine and other health professions. J Cancer Educ. 2019;34:629-37. https://doi.org/10.1007/s13187-018-1360-6.
4. Law DD, Hales K, Busenbark D. Student Success: A Literature Review of Faculty to Student Mentoring.

J Emp Teach Excell. 2020;4(1). https://doi.org/10.15142/38x2-n847.

5. Loosveld L, Van Gerven P, Vanassche E, Driessen E. Mentors' beliefs about their roles in health care education: A qualitative study of mentors' personal interpretative framework. Acad Med. 2020;95(10):1600-6. doi: 10.1097/ACM.0000000000003159.
6. Louis D, Deranek J, Michel S, Louis S. Reflection, realization, and reaffirmation: Voices of black and white faculty members engaged in cross-racial mentoring. MulticultPerspect. 2018;20(4):205-15.
7. Swanson KM. Empirical development of a middle range theory of caring. Nurs Res. 1991;40:161-6. http://nursing.unc.edu/files/ 2012/11/ccm3_032548.pdf.
8. Wynn S, Holden C, Romer S, Julian P. The importance of mentoring in nursing academia. Open J Nurs. 2021;11(04). doi: 10.4236/ojn.2021.114021.
9. Yuksel A, Bahadir-Yilmaz E. The effect of mentoring program on adjustment to university and ways of coping with stress in nursing students: A quasi-experimental study. Nurse Educ Today. 2019;80:52-28. https://acikerisim.aksaray.edu.tr/xmlui/ bitstream/ handle/20.500.12451/ 1904/yuksel-arzu-2019.pdf?sequence=1&isAllowed=y.

Original Article

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Effects of an Interactive Handwashing Lecture on First-Year Thai Nursing Students: A Pretest-Posttest Study

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Abstract

Background: Hand hygiene is essential in healthcare to prevent infections and ensure patient safety. The World Health Organization highlights hand hygiene as a key measure to reduce healthcare-associated infections. However, adherence to hand hygiene protocols is often inadequate, with a low compliance rate. First-year nursing students are at a critical stage in developing foundational practices. Traditional teaching methods have shown limited success in achieving long-term adherence, necessitating the need for more interactive and engaging teaching methods. Therefore, this study aims to evaluate the effects of an interactivelecture on the handwashing knowledge of first-year nursing students.

Methods: This study employed a quasi-experimental one-group pretest-posttest design involving 60 first-year Thai nursing students at Boromarajjonani College of Nursing. After four weeks of interactive lectures, participants completed a pretest and posttest to assess changes in hand hygiene knowledge and understanding of WHO Five Moments for Hand Hygiene. The intervention included visual demonstrations, hands-on practice, and real-time feedback. Data were analyzed using descriptive statistics and paired t-tests to determine the intervention's effectiveness.

Results: The study showed significant improvements in both handwashing knowledge and understanding of WHO Five Moments for Hand Hygiene post-intervention. The mean score for handwashing knowledge increased from 5.41 (SD = 1.06) to 6.62 (SD = 1.10) ($t(59) = 7.154$, $p < 0.001$). Similarly, the mean score for understanding WHO Five Moments for Hand Hygiene improved from 4.32 (SD = 0.68) to 4.97 (SD = 0.84) ($t(59) = 5.60$, $p < 0.001$). Correct responses to specific handwashing questions also increased significantly.

Conclusions: The interactive handwashing lecture intervention significantly improved nursing students' knowledge and understanding of hand hygiene practices. These findings support the integration of interactive educational strategies in nursing curricula to improve hand hygiene compliance and patient safety. Future research should address study limitations, such as sample size and long-term knowledge retention, to further validate these results.

Keywords: education, hand hygiene, handwashing, nursing students, Thailand

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Introduction

Hand hygiene is a fundamental practice in healthcare settings. It is crucial for preventing the spread of infections and ensuring patient safety. The World Health Organization (WHO) emphasizes that hand hygiene is a key measure in reducing healthcare-associated infections (HAIs), which significantly contribute to morbidity and mortality worldwide[1]. However, adherence to hand hygiene protocols among healthcare workers is often inadequate. Previous studies show that compliance rates were as low as 40%[2]. This indicates the critical need for improved educational strategies to enhance compliance.

First-year nursing students are at a focal point in their education, where they develop foundational practices and attitudes toward patient care. Establishing a strong understanding of hand hygiene and its importance during this stage can significantly influence their future professional behaviors and positively impact patient outcomes[3]. Traditional methods of teaching hand hygiene, such as standard lectures and demonstrations, have shown limited success in achieving long-term adherence[4]. Therefore, incorporating more interactive and engaging teaching methods may be essential to instilling these vital practices effectively.

Interactive lectures, which integrate traditional didactic teaching with elements such as discussions, demonstrations, and practical exercises, have been shown to enhance learning and retention[5]. These methods actively engage students in the learning process, making the information more relevant and memorable[6-7]. For hand hygiene education, interactive lectures can provide students not only with the theoretical knowledge of when and why to perform hand hygiene but also with the practical skills needed to do so correctly[9-10].

Therefore, this study aims to evaluate the effects of an interactive handwashing lecture on the knowledge of first-year nursing students. Using a quasi-experimental one-group pretest-posttest design, the study measures changes in students' knowledge of hand hygiene protocols before and after the intervention. The interactive lecture is based on WHO guidelines and includes components such as visual demonstrations, hands-on practice, and peer feedback.

The significance of this study is in its potential to inform and enhance educational strategies within Thai nursing curricula. The findings could support the integration of similar approaches in nursing education programs in Thailand by demonstrating the effectiveness of interactive teaching methods in improving hand hygiene practices.

Materials and Methods

Study Design, Setting, and Population

A quasi-experimental one-group pretest-posttest design was employed and conducted on 60 first-year Thai nursing students at Boromarajjonani College of Nursing, Thailand. Due to similar course structures nationwide, these students are suitable representatives of Thailand's nursing undergraduates. Students were recruited using voluntary sampling, the purpose of the research was explained to them, and their consent was given and signed.

All 60 nursing students were required to join the extracurricular course for one hour a week for four weeks. The pretest was assessed on Day 1, and the posttest was assessed at the end of the course.

Study Instrument and Data Collection

All participants completed a self-administered questionnaire, modified from the World Health Organization's (WHO) 2009 hand hygiene guidelines[1] through Google Forms, which took approximately 5 to 10 minutes. The questionnaire was validated by five public health experts and tested for reliability with a Cronbach's Alpha value of more than 0.80 in a pilot study involving 30 first-year nursing students from a nursing college in a different province. The questionnaire included three sections on general characteristics, assessed handwashing knowledge, and WHO Five Moments for Hand in healthcare settings.

The handwashing knowledge section comprised nine questions, each scoring 1 for a correct answer and 0 for an incorrect answer, leading to a total possible score between 0 and 9. The WHO Five Moments for Hand in healthcare settings comprised six questions, each scoring 1 for a correct answer and

0 for an incorrect answer, leading to a total possible score between 0 and 6.

The interactive lectures were delivered by the lecturer, who served as the regular assigned course at the Boromarajjonani College of Nursing, Thailand. The lecture schedule includes week 1, which includes an introduction to hand hygiene and HAIs. The lecture also aimed to engage students in ice-breaking and reflecting on the importance of hand hygiene, followed by a short video of the real-world impact of HAIs. In week 2, students were lectured on the theoretical aspect of hand hygiene, with a detailed presentation of handwashing with soap and water versus using alcohol-based hand rubs, explaining the proper techniques and duration for each method. The WHO Five Moments for Hand Hygieneare also thoroughly explained in week 2. An interactive discussion allows students to share clinical examples, reinforcing the practical application of these moments. A quiz using an online platform and case studies highlighting the consequences of poor hand hygiene are incorporated to solidify their understanding. In week 3, the lecture focuses on hands-on training. Demonstrations of proper handwashing techniques and the use of alcohol-based hand rubs address common errors and highlight correct practices. Students practice these techniques and receivereal-time feedback to refine their skills. Interactive scenarios and role-play exercises help students identify and apply the Five Moments in simulated patient interactions, enhancing their situational awareness and decision-making skills. The last week of the course is the conclusion session with the summary of key points, emphasizing the importance of integrating these practices into daily routines. An open Q&A session provides students the opportunity to address any lingering questions and share insights. At the end of the session, posttest was collected.

Statistical Analysis

Data analysis was conducted using the SPSS software (version 28, Chicago, IL, USA). We utilized descriptive statistics, presenting the results as frequencies and percentages. A paired t-test was applied to determine the effects of the interactive handwashing lectures between the pretest and posttest, with a statistical significance of a $p\text{-}value<0.05$.

Ethical consideration

Ethical approvals were granted from the Ethics Committees Board of Chulalongkorn University, Thailand (COA No. 064/66) and Boromarajonani College of Nursing Phra Phutthabat, Saraburi Province, Thailand (COA No. BCNPB 001/2566).

Results and Discussion

All 60 first-year students from Boromarajjonani College of Nursing Phra Phutthabat, Thailand, participated in the study with no drop-out. Table 1 showsthe demographic characteristics of the nursing students in this study. The mean age of the students is 18.95 years (SD = 0.62). The gender distribution was predominantly female, with 53 (88.3%) female students and 7 (11.7%) male students.Regarding working experience in a healthcare setting prior to enrolling in the nursing program, 16 (26.7%) students reported having such experience, while 44 (73.3%) did not. Experience with hand hygiene training was evenly split, with 30 (50%) students indicating they had received training and 30 (50%) reporting they had not.

Table 1: Characteristics of the total recruited participants (n=60)

Variables	**n (%)/ Mean(±SD)**
Age (years)	18.95 ± 0.62
Gender	
Male	7(11.7%)
Female	53 (88.3%)
Working experience in a healthcare setting before enrolling in the nursing program.	
No	44(73.3%)
Yes	16(26.7%)
Had experience in hand hygiene training.	
Not received	30(50.0%)
Had received	30(50.0%)
Presence of nursing college rules on hand hygiene.	
No	31(51.7%)
Yes	29(48.3%)
Adequate hand hygiene stations are provided by the nursing college	
No	33(55%)
Yes	27(45%)

The current study assessed the effects of an interactive handwashing lecture intervention on nursing students' hand hygiene knowledge and their understanding of the WHO Five Moments for Hand Hygiene. The findings indicated significant improvements in both areas following the intervention. As shown in Table 2, the mean score for handwashing knowledge increased significantly from 5.41 (SD = 1.06) pre-intervention to 6.62 (SD = 1.10) post-intervention. The improvement was statistically significant, as indicated by the paired t-test results ($t(59) = 7.154$, 95% CI = 0.864-1.536, $p < 0.001$). This shows a substantial enhancement in the students' handwashing knowledge following the intervention.

Correct responses to specific handwashing knowledge questions also improved, as shown in Table 3. The percentage of students correctly identifying the best hand-cleaning process after accidental contact with blood without gloves increased from 4 (6.67%) pre-intervention to 18 (30.00%) post-intervention. Knowledge about the number of steps for handwashing using soap and alcohol gel, as recommended by WHO, improved from 35 (58.33%) to 49 (81.67%). The percentage of students correctly identifying where practitioners should wash their hands increased from 3 (5.00%) to 6 (10.00%). Moreover, students' understanding of the correct statement about handwashing with alcohol gel rose from 49 (81.67%) to 57 (95.00%). The recognition that hands should be washed with soap and water when visibly dirty increased from 52 (86.67%) to 58 (96.67%). Additionally, the number of students who understood that their hands should be washed with soap and water after using alcohol gel increased from 45 (75.00%) to 50 (83.33%).The intervention strengthened the students' knowledge that hands should be washed with soap and water after using the restroom and before eating, with both questions maintaining a 100% correct response rate pre-and post-intervention. Finally, knowledge regarding the effective duration for using alcohol gel to kill germs improved from 17 (28.33%) to 39 (65.00%).

As for WHO Five Moments for Hand Hygiene, the mean score also showed significant improvement, increasing from 4.32 (SD = 0.68) pre-intervention to 4.97 (SD = 0.84) post-intervention. The mean difference was 0.65 (SD = 0.90), and this improvement was statistically significant ($t(59) = 5.60$, 95% CI = 0.42-0.88, $p < 0.001$), indicating a better understanding of these critical moments after the intervention (Table 2).Correct responses regarding WHO Five Moments for Hand Hygiene also improved. Awareness that hand hygiene should be performed before procedures such as catheter insertion remained high at 100% both pre-and post-intervention. The recognition of the need for hand hygiene while dispensing medication to patients increased significantly from 15 (25.00%) to 31 (51.67%).The understanding that hand hygiene should be performed after touching the patient's surroundings and before touching the patient was high, improving slightly from 58 (96.67%) to 60 (100.00%) for the latter. Knowledge about the importance of hand hygiene before handing instruments to a nursing team member saw a notable increase from 8 (13.33%) to 27 (45.00%). Finally, knowing that hand hygiene should be performed after touching bodily fluids from patients improved from 58 (96.67%) to 60 (100.00%).

Table 2: Comparison of Handwashing Knowledge and Understanding of WHO Five Moments for Hand Hygiene Pre- and Post-Intervention

	Mean (SD)	Mean Difference (SD)	Paired t-test			
			t value	df	95% CI	p-value
Handwashing knowledge			7.154	59	0.864-1.536	<0.001*
Pre-intervention	5.41 (1.06)	1.20 (1.299)				
Post-intervention	6.62 (1.10)					
WHO Five moments for hand hygiene			5.60	59	0.42-0.88	<0.001*
Pre-intervention	4.32 (0.68)	0.65 (0.90)				
Post-intervention	4.97 (0.84)					

**p< 0.001 significant difference*

Table 3: Correct answers onhandwashing knowledge and WHO Five moments for hand hygiene before and after intervention (n=60)

Statements	Pre-intervention		Post-intervention	
Handwashing knowledge	**n**	**(%)**	**n**	**(%)**
1. If you accidentally come into contact with blood in an emergency without wearing gloves, what is the "best" hand-cleaning process then?	4	6.67	18	30.00
2. According to the World Health Organization (WHO), how many similar steps are there when handwashing using soap and alcohol gel?	35	58.33	49	81.67
3. As a practitioner nurse, where should we wash our hands?	3	5.00	6	10.00
4. Which statement is "correct" about handwashing with alcohol gel?	49	81.67	57	95.00
5. When your hands are visibly dirty, you should wash your hands with soap and water	52	86.67	58	96.67
6. After washing hands with alcohol gel, you should immediately wash your hands with soap and water.	45	75.00	50	83.33
7. You should wash your hands with soap and water after using the restroom.	60	100.00	60	100.00
8.You should wash your hands with soap and water before eating.	60	100.00	60	100.00
9. How long should alcohol gel be used to effectively kill germs?	17	28.33	39	65.00
WHO Five moments for hand for healthcare settings				
Which of the following are included in the 5 moments of hand hygiene recommended by WHO in a healthcare setting?				
1. Before performing procedures such as catheter insertion for patients	60	100.00	60	100.00
2. While dispensing medication to patients	15	25.00	31	51.67
3. After touching the patient's surroundings	60	100.00	60	100.00
4. Before touching the patient.	58	96.67	60	100.00
5. Before handing instruments to a nursing team member	8	13.33	27	45.00
6. After touching bodily fluids from patients	58	96.67	60	100.00

The findings of this study demonstrate a significant positive effect of an interactive lecture intervention on nursing students' hand hygiene knowledge and understanding of the WHO Five Moments for Hand Hygiene. These results are consistent with existing literature that shows the effectiveness of educational interventions in improving hand hygiene compliance among healthcare workers.For instance, Gould et al. (2017)[10] reported that educational interventions, particularly those incorporating practical demonstrations and interactive components, significantly enhance hand hygiene practices among healthcare workers.The increase in correct responses to specific handwashing knowledge questions further supports the effectiveness of the intervention. For example, the recognition of the best hand-cleaning process after accidental contact with blood without gloves improved markedly from 6.67% to

30.00%. This finding is consistent with Larson et al. (2001)[11], who found that structured educational programs significantly improved healthcare workers' knowledge and compliance with hand hygiene protocols.

Furthermore, the enhanced understanding of the number of steps for handwashing using soap and alcohol gel, as recommended by the WHO, from 58.33% to 81.67%, underscores the importance of detailed and interactive educational sessions. Previous studies have demonstrated that multimodal educational strategies and comprehensive training programs, including visual demonstrations and hands-on practice, are effective in improving knowledge retention and application in clinical practice[4,9, 12, 13].

The integration of interactive methodsin the educational intervention likely contributed to the significant improvements observed, as supported by previous studies. For instance,the efficacy of interactive approaches in reinforcing hand hygiene practices among nursing students. These findings indicate that engaging students in practical exercises can enhance their understanding and retention of key hand hygiene principles[14, 15].Additionally, recent research has explored the use of technology in hand hygiene education. Mobile applications and online modules improved hand hygiene knowledge and compliance among healthcare workers. The integration of technology into educational interventions can provide continuous learning opportunities and immediate feedback, which are critical for habit formation[16, 17].

The study has several limitations. The small sample size from a single institution limits generalizability, and the short-term evaluation does not assess long-term knowledge retention. The lack of a control group makes attributing improvements solely to the intervention difficult. The focus on knowledge rather than observed behavior and the variability in teaching methods further complicate the findings. Additionally, institutional differences and unverified assessment tools could affect the applicability and credibility of the results. Future research should address these limitations to understand better the effectiveness of educational interventions on hand hygiene practices.

Conclusion

In conclusion, the interactive handwashing lecture intervention significantly enhanced nursing students' hand hygiene knowledge and their understanding of the WHO Five Moments for Hand Hygiene. These findings support the integration of similar educational strategies in nursing curricula to encourage better hand hygiene practices and ultimately improve patient safety.

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Ethical consideration

Ethical approvals were granted from the Ethics Committees Board of Chulalongkorn University, Thailand (COA No. 064/66) and Boromarajonani College of Nursing Phra Phutthabat, Saraburi Province, Thailand (COA No. BCNPB 001/2566).

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References

1. Challenge FG. WHO Guidelines on Hand Hygiene in Health Care. Retrieved from: whqlibdoc who int/ publications/009 pdf. 2009.
2. Erasmus V, Daha TJ, Brug H, Richardus JH, Behrendt MD, Vos MC, van Beeck EF. Systematic review of studies on compliance with hand hygiene guidelines in hospital care. Infection Control & Hospital Epidemiology. 2010 Mar;31(3):283-94.
3. Jeong SY, Kim KM. Influencing factors on hand hygiene behavior of nursing students based on theory of planned behavior: A descriptive survey study. Nurse education today. 2016 Jan 1;36:159-64.
4. Allegranzi B, Gayet-Ageron A, Damani N, Bengaly L, McLaws ML, Moro ML, Memish Z, Urroz O, Richet H, Storr J, Donaldson L. Global implementation of WHO's multimodal strategy for improvement of hand hygiene: a quasi-experimental study. The Lancet infectious diseases. 2013 Oct 1;13(10):843-51.

5. Prince M. Does active learning work? A review of the research. Journal of engineering education. 2004 Jul;93(3):223-31.
6. Fuchs K. Innovative teaching: A qualitative review of flipped classrooms. International Journal of Learning, Teaching and Educational Research. 2021 Mar 31;20(3):18-32.
7. Zainuddin Z, Haruna H, Li X, Zhang Y, Chu SK. A systematic review of flipped classroom empirical evidence from different fields: what are the gaps and future trends?. On the Horizon. 2019 Jul 17;27(2):72-86.
8. Jeong D, Park C, Eun Y. Effects of Infection Control Education Program Using Flipped Learning Based on the ARCS Model for Nursing Students: A Mixed Method. InHealthcare 2023 Oct 13 (Vol. 11, No. 20, p. 2731). MDPI.
9. Pittet D, Hugonnet S, Harbarth S, Mourouga P, Sauvan V, Touveneau S, Perneger TV. Effectiveness of a hospital-wide programme to improve compliance with hand hygiene. The Lancet. 2000 Oct 14;356(9238):1307-12.
10. Gould DJ, Moralejo D, Drey N, Chudleigh JH, Taljaard M. Interventions to improve hand hygiene compliance in patient care. Cochrane database of systematic reviews. 2017(9).
11. Larson EL, Aiello AE, Bastyr J, Lyle C, Stahl J, Cronquist A, Lai L, Della-Latta P. Assessment of two hand hygiene regimens for intensive care unit personnel. Critical care medicine. 2001 May 1;29(5):944-51.
12. Fuller C, Michie S, Savage J, McAteer J, Besser S, Charlett A, Hayward A, Cookson BD, Cooper BS, Duckworth G, Jeanes A. The Feedback Intervention Trial (FIT)—improving hand-hygiene compliance in UK healthcare workers: a stepped wedge cluster randomised controlled trial. PloS one. 2012 Oct 23;7(10):e41617.
13. Mahfouz, A.A., Al-Zaydani, I.A., Abdelaziz, A.O., El-Gamal, M.N. and Assiri, A.M., 2014. Changes in hand hygiene compliance after a multimodal intervention among health-care workers from intensive care units in Southwestern Saudi Arabia. Journal of epidemiology and global health, 4(4), pp.315-321.
14. Gammon J, Morgan□Samuel H, Gould D. A review of the evidence for suboptimal compliance of healthcare practitioners to standard/universal infection control precautions. Journal of clinical nursing. 2008 Jan;17(2):157-67.
15. Kelcíkova S, Skodova Z, Straka S. Effectiveness of hand hygiene education in a basic nursing school curricula. Public Health Nursing. 2012 Mar;29(2):152-9.
16. Chakma SK, Hossen S, Rakib TM, Hoque S, Islam R, Biswas T, Islam Z, Islam MM. Effectiveness of a hand hygiene training intervention in improving knowledge and compliance rate among healthcare workers in a respiratory disease hospital. Heliyon. 2024 Mar 15;10(5).
17. Fernandes DR, Santos BN, Guimarães CS, Ferreira EB, Margatho AS, Reis PE, Pittet D, Silveira RC. Educational technologies for teaching hand hygiene: Systematic review. Plos one. 2024 Jan 16;19(1):e0294725.

Original Article

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Exploring the Factors Related to Knowledge of Palliative Care for Patients with Terminal Cancer Among Nursing Students: A Cross-Sectional Study

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Abstract

Introduction: The inadequate knowledge is the main obstacle of provision of palliative care. This study attempted to examine the association between related factors and knowledge about palliative care for patients with terminal cancer among nursing students in Bangkok, Thailand.

Methods: This study was cross-sectional, conducted on 7th June 2024 at Saint Louis College, Bangkok, Thailand. Data were collected through self-administered questionnaires measuring sociodemographic characteristics. We employed the Palliative Care Quiz for Nursing (PCQN) and the Frommelt Attitude Toward Care of the Dying (FATCOD), form B. Descriptive statistics and multiple linear regression were selected to use for analysis.

Results: The participants were 111 third-year nursing students. The mean score of knowledge about palliative care for patients with terminal cancer was 8.52 (SD =1.84). The significant predictors of knowledge about palliative care for patient with terminal cancer were experience of losing close relatives or beloved ones from cancer within 1 year ($\beta = 1.083$, $p < 0.05$), and attitude toward dying ($\beta = 0.041$, $p < 0.05$).

Conclusion: This study highlights that nursing students had insufficient palliative care knowledge for patient with end-stage cancer. These findings implies that better attitude toward caring for end-of-life patient associated with improved palliative care knowledge. Therefore, to develop educational program of palliative care for nursing students with psychological and spiritual care training should be embedded in the program for optimum palliative care for patients with terminal cancer.

Keywords: Palliative care, Nursing students, Knowledge, Attitude toward dying

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Introduction

Cancer is one of the most important global health issues. In 2022, new cancer cases were estimated to be around 20 million worldwide, with 9.7 million deaths, and the numbers are increasing annually.[1] In Thailand, there were an estimated 139,000 cancer cases from 2016 to 2018.[2] Although innovative cancer treatments are progressing, many cancer patients, especially those in the terminal, endure significant physical and psychological distress. Some studies have indicated that administering chemotherapy to patients at the end-of-life (EOL) with unclear benefits causes adverse toxicities, delays hospice referral, and does not improve survival rates.[3-5]Thus, palliative care is recommended for cancer patients. Palliative care (PC) focuses on alleviating suffering from pain and related distress, addressing physical, psychosocial, and spiritual problems. It aims to enhance the quality of life for patients and their families dealing with life-limiting and advanced illnesses through coordination with an interdisciplinary care team.[6]A recent study indicated that early integration of specialty PC improves patient satisfaction, mood, quality of life, healthcare utilization, and overall survival.[7] Hence, it is necessary for all healthcare professionals to integrate knowledge, skills, and favorable attitudes toward PC.[8, 9]

Nurses have important responsibility to provides PC for patient and their families. Their roles include educating patients about the dying process, symptom management, and making PC and hospice referrals.[10-12] Palliative care nursing can improve symptom outcomes, fulfill patient wishes, increase coping abilities, and reduce hospitalization and healthcare costs.[13] Learning about PC should be integrated in the basic education for nursing students. Previous studies presented that nurses who receive PC and EOL education have higher levels of PC knowledge. Moreover, knowledge was found to be positively correlated with attitude toward PC which has impact on self-efficacy of providing PC for patients.[14]

Nursing students, who are future healthcare professionals, should be prepared to provide quality PC for cancer patients. However, nursing students who have insufficient knowledge may feel stressed and unprepared, potentially leading to negative attitudes towards care for EOL patients.[15] Additionally, nursing students often experience negative feelings towards death, such as uncertainty, fear, sadness, anxiety, and a low ability to confront with the death, all of which can influence the quality of PC.[16-20] It is important to plan proper PC education programs and promote positive attitudes toward PC among nursing students caring for patients with terminal cancer.

Therefore, this study's objective is to examine the relationship between related factors and knowledge about PC for patients with terminal cancer among nursing students in Bangkok, Thailand. The outcomes of this research will be applied to develop PC education programs for nursing students and graduated nurses in both clinical and community settings.

Materials and Methods

Participants and Setting

This research, a cross-sectional study, was carried out at the Faculty of Nursing, Saint Louis College, Bangkok, Thailand, on 7th June 2024. Data were collected from 111 third-year nursing students based on purposive sampling technique via self-administered questionnaires. Patients were eligible if they were: 1) the third-year nursing students who enrolled in the Bachelor Degree of Nursing Science program of Saint Louis College, 2) aged 18 years or older, 3) willing to participate. However, those found to be diagnosed of severe related psychological problems due to losing closed relatives or beloved ones within 1 year or having severe related physical distress and had difficulty participating in the study were excluded. Ethical approval was granted by the Research Ethics Committee of Saint Louis College (E.008/2567). All participants were given information about the aims, method of the study prior to their decision to sign the informed consent. All participants have the right to deny or quit participation at any given time without being blamed, charged a fine or forced to re-participate in the study. This research adhered to the Declaration of Helsinki and the Belmont Report's ethical principles.

Measurements

Sociodemographic Variables

This study incorporated a range of sociodemographic variables to explore the characteristics of the participants. The variables included age, gender, religion, GPAX, personal income status, family income status, patient care working experiences, PC training experience, palliative patient caring experience, experience of losing family members or beloved person.

The Palliative Care Quiz for Nursing (PCQN)

PCQN was used to evaluate knowledge of palliative care. This tool consists of 20 items. An answer of each item is True ("1 score"), False and Don't know ("0 score").An overall score is the sum number of all correct answer, which range from 0 to 20. Higher scores are determined as more sufficient palliative care knowledge.[21] The internal consistency using the measurement of the Kuder-Richardson Formula 20 (KR-20) was 0.78.[14]

The Frommelt Attitude Toward Care of the Dying (FATCOD), form B

The FATCOD, Form B, was utilized to evaluate attitudes toward EOL patient care. This tool employs a 5-point Likert scale to rate participants' attitudes toward PC, with negative items scored in reverse. The overall score ranges from 30 to 150, where higher scores denote more positive attitudes toward EOL care.[23] In this study, the Cronbach's alpha for internal consistency was 0.76.

Statistical analysis

Data analysis was conducted using SPSS 23.0. Descriptive statistics (frequencies, percentages, means, and standard deviations) were employed to summarize demographic characteristics, palliative care (PC) knowledge scores, and attitudes toward care for dying patients. Multiple linear regression analysis was utilized to identify significant predictors of PC knowledge among nursing students, with a p-value of less than 0.05 considered statistically significant.

Results

Demographic Characteristics

Table 1 showed that among 111 participants, most participants were female (94.6%), Buddhism (82.9%), had personal income between 5,001-10,000 THB per month (55.9%), family income between 20,001-40,000 THB per month (48.6%), no experience of patient care working (79.3%), no experience of palliative care education or training (77.5%), no experience of caring for the palliative patient (55.0%), and no experience of losing close relatives or beloved ones from cancer within 1 year (80.2%). The mean score for age and GPAX was with 22.64±2.86 and 2.90 ± 0.27respectively.

Table 1: Demographic Characteristics (n = 111)

Individual characteristics	Frequency (n)	Percentages (%)
Age (years)		
Mean ± SD	22.64 ± 2.86	
Gender		
Female	105	94.6
Male	6	5.4
Family income (Baht/ month)		
≤ 20,000	32	28.8
20,001 - 40,000	54	48.6
≥ 40,001	25	22.5
Personal income (Baht/month)		
≤ 5,000	24	21.6
5,0001 - 10,000	62	55.9
≥ 10,001	25	22.5
GPAX		
Mean ± SD	2.90 ± 0.27	
Religion		
Buddhism	92	82.9
Other	19	17.1
Having experience of patient care working		
Yes	23	20.7
No	88	79.3
Having experience of palliative care education or training		

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Yes	25	22.5
No	86	77.5
Having experience of caring for the palliative patient		
Yes	50	45.0
No	61	55.0
Having experience of losing close relatives or beloved ones from cancer within 1 year		
Yes	22	19.8
No	89	80.2

Knowledge of palliative care

Table 2 showed the result of PC knowledge. The mean and SD of total PCQN score was 8.52 ± 1.84. The highest percentage of correct answer were (1) "Manifestation of chronic pain are different from those of acute pain" with 91.9% of participants answered, followed by (2) "Morphine is the standard used to compare the analgesic effect of other opioids" with 91.0% of participants answered. The lowest percentage of correct answer were (1) "The loss of a distant or contentious relationship is easier to resolve than the loss of one that is close or intimate" with 8.1% of participants response, followed by (2) "It is crucial for family members to remain at the bedside until death occurs" with 10.8% of participants response.

Table 2: The result of the Palliative Care Quiz for Nursing (PCQN)

No.	Item	Correct n (%)	Incorrect / do not know n (%)
1	Palliative care is appropriate only in situations where there is evidence of a downhill trajectory or deterioration (F)	44 (36.9)	67 (60.4)
2	Morphine is the standard used to compare the analgesic effect of other opioids (T)	101 (91.0)	10 (9.0)
3	The extent of the disease determines the method of pain treatment (F)	30 (27.0)	81 (73.0)
4	Adjuvant therapies are important in managing pain (T)	64 (57.7)	47 (42.3)
5	It is crucial for family members to remain at the bedside until death occurs (F)	12 (10.8)	99 (89.2)
6	During the last day of life, the drowsiness associated with electrolyte imbalance may decrease the need for sedation (T)	53 (47.7)	58 (52.3)
7	Drug addiction is a major problem when morphine is used on a long-term basis for the management of pain (F)	18 (16.2)	93 (83.8)
8	Individuals who are taking opioids should also follow a bowel regime (T)	52 (46.8)	59 (53.2)
9	The provision of palliative care requires emotional detachment (F)	96 (86.5)	15 (13.5)
10	During the terminal stages of an illness, drugs that can cause respiratory depression are appropriate for the treatment of severe dyspnea (T)	29 (26.1)	82 (73.9)
11	Men generally reconcile their grief more quickly than women (F)	41 (36.9)	70 (63.1)
12	The philosophy of palliative care is compatible with that of aggressive treatment (T)	28 (25.2)	83 (74.8)
13	The use of placebos is appropriate in the treatment of some type of pain (F)	21 (18.9)	90 (81.1)

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14	In high doses, codeine causes more nausea and vomiting than morphine (T)	64 (57.7)	47 (42.3)
15	Suffering and physical pain are synonymous (F)	40 (36.0)	71 (64.0)
16	Pethidine is not an effective analgesic in the control of chronic pain (T)	70 (63.1)	41 (36.9)
17	The accumulation of losses renders burnout inevitable for those who seek work in palliative care (F)	26 (23.4)	85 (76.6)
18	Manifestation of chronic pain are different from those of acute pain (T)	102 (91.9)	9 (8.1)
19	The loss of a distant or contentious relationship is easier to resolve than the loss of one that is close or intimate (F)	9 (8.1)	102 (91.9)
20	The pain threshold is lowered by anxiety or fatigue (T)	92 (82.9)	19 (17.1)
	Total scores of PCQN		
	Mean ± SD	8.52 ± 1.84	

Association between PC knowledge in nursing students and related factors

Multiple linear regression analysis was used to evaluate the significant predicted factors of PC knowledge in nursing students. Having experience of losing close relatives or beloved ones from cancer within 1 year, with B = 1.083 ($p < 0.05$). This finding indicated that, when the score of having experience of losing close relatives or beloved ones from cancer within 1 year increase by 1, the score of PC knowledge in nursing students will increase by 1.083. In addition, it was found that attitude toward EOL patient care positively affected PC knowledge in nursing students, with B = 0.041 ($p < 0.05$). This finding presented that, when the score of attitudes toward care of EOL patient increases by 1, the score of PC knowledge in nursing students will increase by 0.041 (Table 3).

Table 3: Association between PC knowledge in nursing students and related factors

Variables	B	SE	Beta	t	95%(CI)		p
					Lower	Upper	
GPAX	0.220	0.117	0.180	1.880	-0.012	0.451	0.063
Palliative care training experience	0.112	0.430	0.026	0.261	-0.740	0.965	0.795
Having experience of caring for the palliative patient	0.397	0.340	0.108	1.169	-0.277	1.071	0.245
Having experience of patient care working	-0.614	0.457	-0.136	-1.344	-1.520	0.292	0.182
Having experience of losing close relatives or beloved ones from cancer within 1 year	1.083	0.465	0.235	2.330	0.161	2.005	0.022*
Attitude toward care of the dying	0.041	0.020	0.190	2.017	0.001	0.081	0.046*

*$p < 0.05$

Discussion

This study aimed to examine the relationship between related factors and knowledge of palliative care for patients with terminal cancer among nursing students in Bangkok, Thailand. The findings indicated that the third-year nursing students in this study had insufficient PC knowledge. Notably, we found significant associations between experienced

of losing close relatives or beloved ones from cancer within 1 year, attitude toward dying patients and PC knowledge.

The mean score for PCQN in this study was similar to the previous studies.[14, 22] Nursing students had insufficient of PC knowledge, indicating they were lacking PC knowledge. Participants had the highest scores on questions related to pain and symptom management, though obtaining lowest scores on questions about psychological and spiritual care corresponding with the previous studie.[14] It can be concluded that the third-year nursing students possessed sufficient knowledge related to pains and symptoms management owing due to studying physical care in various basic nursing subjects, which they can apply to the care of patients with cancer.

Previous study reported that the insufficient of PC knowledge happens because of the absence of PC courses quality in undergraduate nursing programs.[22] In this study, PC knowledge is integrated into geriatric nursing care education, which is only mentioned for 2 hours in the entire course. There is no dedicated nursing care for cancer education program. Moreover, psychological and spiritual care are not emphasized. To improve PC knowledge in nursing students, a special course on psychological and spiritual care in PC should be added to the nursing curriculum.

Regarding to the attitude toward care for patient with EOL in this study, the mean score was 116.53, with a mean percentage of the total score at 77.69. This finding was consistent with the prior study.[22] Previous study has shown that nursing students mostly had favorable attitudes towards caring for EOL patient. Similarly, our results also suggested that nursing students possessed positive attitude toward PC for dying patient. The highest mean scores for attitudes were on questions attributed to the participation of family members in the care of patient with terminal cancer. The lowest mean scores for attitudes reflected that nursing students were uncomfortable directly caring for or discussing death and emotional issues with patients facing impending death.[25]

A possible explanation is that due to the Thai culture, the relationship among family members is intimate. Several hospitals in Thailand permit family members to contribute in the physical and psychological care of patients, especially stay closer to dying patients. Nursing students often have experiences to participate with them during their training in hospitals. However, some of nursing students still have negative attitudes toward dying patients. This may be due to the belief that, death is often considered an unsuitable topic for discussion in Thai culture as it might bring badness or curses to the family.

Moreover, our finding demonstrated that having experience of losing close relatives or beloved ones from cancer within 1 year significantly associated with higher PC knowledge. It is not surprise that experienced of losing family members or loved ones is also a predictor of PC knowledge.[26-28] A possible explanation is that nursing students who have experienced of losing family members, especially those with terminal cancer, may have observed the progression of the disease and how to provide proper symptom management. Additionally, these students may see death as a natural phenomenon that happens to everyone. Helping dying patients with compassion to relieve suffering is based on Buddhist principles.

These factors could improve their positive attitudes and be applied in their basic nursing training, thereby improving their PC knowledge as well. It is vital that nursing students should be prepared for communication about death and emotional reactions to dying patients. In consequences, PC education programs should be developed by incorporating cultural aspects including psychological and spiritual care embedded into the curriculum for nursing students.

This study has some limitations. Firstly, the participant number is limited, and purposive sampling was employed to recruit students from a single nursing college. Consequently, the data may not be representative of all nursing students in Thailand. Second, the questionnaires were used in this study, for instance PCQN and FATCOD Form B, were slightly modified to explore nursing students' PC knowledge and attitudes toward caring for patients with terminal cancer. Some medical terms, such as medication names, were changed for better understanding of Thai nursing students. Therefore, future studies should carefully consider the medical terms used in the questionnaire.

Conclusions

The aim of this study was performed to investigate the association of related factors and PC knowledge for patients with terminal cancer among nursing students in Bangkok, Thailand. The results of this research indicated that the overall PC knowledge of nursing students was insufficient. However, their experienced of losing close relatives or beloved ones from cancer within 1 year and attitude toward dying patients was positive significant to PC knowledge. Therefore, to develop effective PC education programs for nursing students, psychological and spiritual care training should be integrated in the curriculum for optimal outcomes.

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References

1. World Health Organization. Global cancer burden growing, amidst mounting need for services. 2024. Available from: https://www.who.int/news/item/01-02-2024-global-cancer-burden-growing--amidst-mounting-need-for-services. Assessed March 15, 2024.
2. National Cancer Institute. Cancer in Thailand. 2021. Available from: https://www.nci.go.th/e_book/cit_x/index.html. Assessed February 14, 2024.
3. Saito AM, Landrum MB, Neville BA, Ayanian JZ, Earle CC. The effect on survival of continuing chemotherapy to near death. BMC Palliat Care. 2011;10:14.
4. Leong M, Shah M, Smith TJ. How to Avoid Late Chemotherapy. J Oncol Pract. 2016;12(12):1208-1210.
5. Harrington SE, Smith TJ. The role of chemotherapy at the end of life: "when is enough, enough?". JAMA. 2008;299(22):2667-2678.
6. World Health Organization. Palliative care. 2006. Available from: https://www.who.int/health-topics/palliative-care. Assessed January 5, 2024
7. Brumley R, Enguidanos S, Jamison P, Seitz R, Morgenstern N, Saito S, et al. Increased satisfaction with care and lower costs: results of a randomized trial of in-home palliative care. J Am Geriatr Soc. 2007;55(7):993-1000.
8. Achora S, Labrague LJ. An Integrative Review on Knowledge and Attitudes of Nurses Toward Palliative Care: Implications for Practice. J Hosp Palliat Nurs. 2019;21(1):29-37.
9. Sekse RJT, Hunskar I, Ellingsen S. The nurse's role in palliative care: A qualitative meta-synthesis. J Clin Nurs. 2018;27(1-2):e21-e38.
10. Hold JL, Ward EN, Blake BJ. Integrating professional apprentices into an end-of-life course. J Nurs Educ. 2014;53(2):112-115.
11. Jeffers S, Ferry D. Nursing care at the end of life: a service learning course for undergraduate nursing students. Nurse Educ. 2014;39(6):307-310.
12. Pullis BC. Integration of end-of-life education into a community health nursing course. Public Health Nurs. 2013;30(5):463-467.
13. Meghani SH. A concept analysis of palliative care in the United States. J Adv Nurs. 2004;46(2):152-161.
14. Kim JS, Kim J, Gelegjamts D. Knowledge, attitude and self-efficacy towards palliative care among nurses in Mongolia: A cross-sectional descriptive study. PLoS One. 2020;15(7):e0236390.
15. Mutto EM, Errazquin A, Rabhansl MM, Villar MJ. Nursing education: the experience, attitudes, and impact of caring for dying patients by undergraduate Argentinian nursing students. J Palliat Med. 2010;13(12):1445-1450.
16. Cevik B, Kav S. Attitudes and experiences of nurses toward death and caring for dying patients in Turkey. Cancer Nurs. 2013;36(6):E58-65.
17. A'la MZ, Setioputro B, Kurniawan DE. Nursing Students' Attitudes towards Caring for Dying Patients. Nurse Media Journal of Nursing. 2018;8(1):25-34.
18. Abu-El-Noor NI, Abu-El-Noor MK. Attitude of Palestinian Nursing Students Toward Caring for Dying Patients. J Holist Nurs. 2015;34(2):193-199.
19. Chen Y-C, Del Ben KS, Fortson BL, Lewis J. Differential Dimensions of Death Anxiety in Nursing Students with and without Nursing Experience. Death Studies. 2006;30(10):919-929.

20. Xu F, Huang K, Wang Y, Xu Y, Ma L, Cao Y. A Questionnaire Study on the Attitude towards Death of the Nursing Interns in Eight Teaching Hospitals in Jiangsu, China. Biomed Res Int. 2019;2019:1-8.
21. Ross MM, McDonald B, McGuinness J. The palliative care quiz for nursing (PCQN): the development of an instrument to measure nurses' knowledge of palliative care. J Adv Nurs. 1996;23(1):126-137.
22. Frommelt KH. Attitudes toward care of the terminally ill: an educational intervention. Am J Hosp Palliat Care. 2003;20(1):13-22.
23. Frommelt KH. The effects of death education on nurses' attitudes toward caring for terminally ill persons and their families. Am J Hosp Palliat Care. 1991;8(5):37-43.
24. Dimoula M, Kotronoulas G, Katsaragakis S, Christou M, Sgourou S, Patiraki E. Undergraduate nursing students' knowledge about palliative care and attitudes towards end-of-life care: A three-cohort, cross-sectional survey. Nurse Educ Today. 2019;74:7-14.
25. Zhou Y, Li Q, Zhang W. Undergraduate nursing students' knowledge, attitudes and self-efficacy regarding palliative care in China: A descriptive correlational study. Nurs Open. 2021;8(1):343-353.
26. Grubb C, Arthur A. Student nurses' experience of and attitudes towards care of the dying: A cross-sectional study. Palliat Med. 2016;30(1):83-88.
27. Arslan D, Akca NK, Simsek N, Zorba P. Student nurses' attitudes toward dying patients in central Anatolia. Int J Nurs Knowl. 2014;25(3):183-188.
28. Hagelin CL, Melin-Johansson C, Henoch I, Bergh I, Ek K, Hammarlund K, et al. Factors influencing attitude toward care of dying patients in first-year nursing students. Int J Palliat Nurs. 2016;22(1):28-36.

Original Article

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Role of Social Support in Improving Quality of Life among Myanmar Women Migrant Workers in Central and Northern Thailand: Implications for Community Nursing

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Abstract

Background: Social support and quality of life (QoL) are crucial for the well-being of individuals. Myanmar women migrant workers in Thailand represent a vulnerable population, yet there are limited studies on social support and QoL among these migrants.

Methods: This cross-sectional study investigated associations between social support and QoL among Myanmar women migrant workers in central and northern Thailand through multistage sampling using a structured questionnaire. Social support was measured using the Medical Outcome Study Social Support Survey, and QoL was assessed using the WHOQOL-BREF. Multiple linear regression was analysed to find the association between social support and QoL, adjusting for sociodemographic variables.

Results: Among 575 participants, they had an average overall social support score of 61.73 ± 16.47, with low support = 24.35%, moderate support = 46.43%, and high support = 29.22%. The average overall QoL score was 90.54 ± 13.23. Higher social support was positively associated with QoL (B = 4.781 for moderate support and B = 9.721 for high support, $p < 0.01$). Higher education and easier access to emergency finances were also positively associated with QoL.

Conclusion: Tailored social support interventions are recommended to enhance QoL among Myanmar women migrant workers in Thailand. Community nurses play a critical role in these interventions by providing education, facilitating access to resources, and fostering supportive networks.

Keywords: Social support, Quality of life, Myanmar women migrant workers, Thailand, Community nursing

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Introduction

A migrant worker is "a person who migrates from one country to another intending to be employed other than on her own account."[1] Thailand has an estimated 4 to 5 million international migrant workers, including approximately 2.3 million from Myanmar, the largest migrant worker population.[2-4] Among them, about 1.5 million are women, predominantly residing in central and northern Thailand, significantly contributing to the country's economic growth.[5-7] Despite their contributions, many Myanmar migrant workers, particularly women, are employed in low-skilled sectors and receive wages below the minimum standard.[4]

Quality of life (QoL) is a multidimensional concept that reflects an individual's perception of their physical health, psychological well-being, social relationships, and environmental circumstances.[8] It is frequently used to assess well-being in vulnerable populations, such as migrants and refugees.[9-11]Social support, comprising tangible, emotional, and affectionate support, as well as positive social interactions, acts as a buffer against stress, enhances coping mechanisms, and fosters resilience.[12] This, in turn, positively influences life satisfaction and well-being.[9,13,14]

Previous studies highlight that Myanmar women migrant workers face numerous challenges, including discrimination, exploitation, and limited access to essential services, which can adversely affect their QoL.[15,16] Research underscores the importance of social support in enhancing QoL among migrant populations, with positive social relationships significantly improving QoL.[9,10,14,17] However, studies specifically addressing the social support and QoL of Myanmar women migrant workers in Thailand remain limited.

This study aims to investigate the associations between social support and QoL among Myanmar women migrant workers in central and northern Thailand. By identifying the impact of social support on QoL, our findings are expected to provide valuable insights for community nursing. These insights can inform targeted interventions and policies to improve the well-being of Myanmar women migrant workers, addressing a crucial aspect of nursing education and practice by enhancing the understanding of social determinants of health in migrant populations.

Methods

Study area and population

This study used multistage sampling method with the first stage – selection of provinces with estimated higher populations of Myanmar migrant workers at by purposive sampling(Table 1),[5] and the second stage – recruitment of participants in each province by a snowball sampling method. This approach was effective given the irregular migration patterns and lack of population data. The study included female migrants who were 18 years or older, of Myanmar nationality, had resided in the study areas for at least one year, and were employed in Thailand. Women who met these criteria and were willing to participate were included, while those in Thailand for reasons other than work or who did not complete the interview were excluded.

Sample size

The sample size for this study was determined based on the analysis of continuous data using multiple linear regression. A pilot study was conducted to assess the QoL of Myanmar women migrant workers in Thailand. The sample size calculation considered a small effect size of 0.05, a power of 0.9, 12 predictor variables, and a significance level of 0.05.[18]The calculated sample size was 448 participants. After adding 25% of non-response rate, the sample size became 560 participants.

Measurement tools

Social support was measured by the Medical Outcome Study (MOS) Social Support Survey,[12] which has been validated and widely used in previous studies measuring social support. It includes 19 items across four domains: emotional, tangible, affectionate, and positive social interaction. As all items are positively phrased, higher scores indicate greater social support with responses of 1 = none of the time, 2 = a little of the time, 3 = some of the time, 4 = most of the time, and 5 = all of the time. Each domain score was calculated as mean of subscale items and overall score was determined by summing item scores. Since our data had non-normal distribution, the median

score was calculated and the data was categorized into three groups: low support (≤ 25th percentile), moderate support (25th percentile - 75th percentile), and high support (≥ 75th percentile).This instrument had high inter-item reliability(Cronbach's α = 0.92) in this study.

The WHOQOL-BREF was used to measure the QoL. This instrument is validated across diverse populations and has demonstrated robust psychometric properties. It consists of 26 items that assess four domains: physical health, psychological health, social relationships, and environment. Each item is rated on a 5-point Likert scale, reflecting participant's perceived QoL over the past two weeks. The raw score of overall QoL ranges from 26 – 130. Domain scores were calculated and transformed to a score of 0 – 100, higher scores indicate a better QoL.[19] Cronbach's α of this tool was 0.89 in this study.

Data Collection

The researcher and five female native Myanmar research assistants, each with at least a bachelor's degree and experience conducting research in this population, collected data province by province throughout 2023. The research assistants received standardized training on research protocols, cultural sensitivity, research ethics, and interview techniques before data collection. We collaborated with local Myanmar migrant organizations to recruit the participants. Each participant received a brief explanation of the research, and we obtained verbal informed consent. Participants were then screened and interviewed face-to-face in a private, safe location, ensuring confidentiality.

Statistical analysis

The outcome variable was "QoL", a continuous variable. The main independent variable was "social support," categorized as low, moderate, and high. Sociodemographic characteristics of the women: age, education level, marital status, occupation, area of residence, monthly income, alcohol drinking, access to emergency finance, duration of living in Thailand, had husband/partner or not, and husband/partner's characteristics: education level and occupation were included as covariates.

Categorical variables were described by frequency and percentage (%). Continuous variables were described by mean and standard deviation (SD). Multiple linear regression was analysed to investigate the associations between social support and QoL, adjusting sociodemographic covariates. Assumptions of linear regression: linearity, homoscedasticity, normality of residuals, and the absence of multicollinearity, were checked and no issue was found. This study used a two-tailed significance level (α) of less than 0.05.Data analyses were conducted by STATA version 17.0 (Stata Corporation, College Station, Texas, USA).

Results

Sociodemographic characteristics of the participants

There were 575 Myanmar women migrant workers. The average age was 32.6 years old, with 34.61% having a primary school education and 8.35% having college or university education. Most women were employed in manual labour (88.87%) and 45.91% were married. Access to emergency finances varied from easy (34.78%) to very difficult (20.35%). Details in Table 2.

Social support

The average score for overall social support was 61.73 ± 16.47, with 24.35% reporting low support, 46.43% moderate support, and 29.22% high support. The average domain scores were 3.14 ± 0.93 for emotional support, 3.36 ± 1.03 for tangible support, 3.40 ± 1.15 for affectionate support, and 3.32 ± 1.10 for positive social interaction(Table 3).

QoL

The average score for overall QoL of the women in this study was 90.54 ± 13.23. For each domain, the average score was 68.06 ± 14.97 for physical health, 58.93 ± 17.23 for psychological health, 64.74 ± 16.61 for social relationships, and 58.40 ± 14.13 for environment(Table 4).

The association between social support and QoL

There were significant associations between social support and QoL. Women who reported moderate social support had a 4.781 higher QoL score, and those with high social support had a 9.721 higher QoL score compared to those with low social support. Women with a college or university

education had a 7.788 higher QoL score than those with no education. Compared to women who found emergency finance very difficult, those who found it difficult, easy, or very easy had higher QoL scores. The scores were 3.151 for difficult, 4.835for easy, and 8.577 for very easy (Table 5).

Table 1: Study area of this study

Regions of Thailand	Provinces
Central region	Bangkok
	Samut Sakhon
Northern region	Tak
	Chiang Rai

Table 2: Sociodemographic characteristics of the participants (n=575).

Sociodemographic characteristics	Number	Percentage
Age (years)		
Mean (SD): 32.60(9.28)		
Education level		
No education	42	7.30
Primary school	199	34.61
Middle school	171	29.74
High school	110	19.13
College or University	48	8.35
Postgraduate	5	0.87
Marital status		
Single	182	31.65
Cohabiting	85	14.78
Married	264	45.91
Divorced or separated	27	4.70
Widowed	17	2.96
Occupation		
Unemployed	49	8.52
Manual	511	88.87
Non-manual	9	1.57
High-level Professionals	6	1.04
Area of residence		
Bangkok	222	38.61
Samut Sakhon	157	27.30
Chiang Rai	89	15.48
Tak	107	18.61
Monthly income (THB)		
Less than 9,000	270	46.96
9,001–18,000	290	50.43
18,001–27,000	11	1.91
Above 27,000	4	0.70
Alcohol drinking		
Never	385	66.96
Occasional	186	32.35
Frequent	4	0.70
Regular		
Emergency finance		
Very difficult	117	20.35
Difficult	150	26.09
Easy	200	34.78
Very easy	108	18.78
Duration of living in Thailand (year)		
Mean (SD): 5.66 (4.82)		
Currently have a partner		
No	125	21.74
Yes	450	78.26
Had ever had partner		
No	25	4.35
Yes	550	95.65
Education level of partner/husband (n=550)		
No education	47	8.17
Primary school	151	26.26
Middle school	179	31.13
High school	141	24.52
College or University	29	5.04
Postgraduate	3	0.52
Occupation of partner/ husband (n=550)		
Unemployed	53	9.22
Manual	478	83.13
Non-manual	13	2.26
High-level Professionals	6	1.04

Table 3: Social support among the participants (n=575).

Social support	Number	Percentage
Overall social support score		
Low	140	24.35
Moderate	267	46.43
High	168	29.22
Mean (SD): 61.73 (16.47)		
Domains		
Emotional support		
Low	156	27.13
Moderate	248	43.13
High	171	29.74
Mean (SD): 3.14 (0.93)		
Tangible support		
Low	146	25.39
Moderate	224	38.96
High	205	35.65
Mean (SD): 3.36 (1.03)		
Affectionate support		
Low	141	24.52
Moderate	203	35.30
High	231	40.17
Mean (SD): 3.40 (1.15)		
Positive social interaction		
Low	140	24.35
Moderate	219	38.09
High	216	37.57
Mean (SD): 3.32 (1.10)		

Table 4: QoL of the participants (n=575).

	Mean ± SD	minimum – maximum	Q2 (Q1 – Q3)
Overall QoL	90.54 ± 13.23	30 – 129	91 (81 – 99)
Physical health	68.06 ± 14.97	0 – 100	71.43 (60.71 – 78.57)
Psychological health	58.93 ± 17.23	0 – 100	62.50 (50.00 – 70.83)
Social relationships	64.74 ± 16.61	8.33 – 100	66.67 (58.33 – 75.00)
Environment	58.40 ± 14.13	6.25 – 100	59.38 (50.00 – 68.75)

Table 5: The association between social support and QoL by multiple linear regression.

Factors	Unstandardized		Standardized	P-value	Collinearity	
	B	SE	Beta		Tolerance	VIF
Social support						
Low	Ref.					
Moderate	4.781	1.405	0.179	0.001	0.566	1.77
High	9.721	1.573	0.332	<0.001	0.540	1.85
Age (years)	-0.068	0.071	-0.048	0.335	0.637	1.57
Education level						
No education	Ref.					
Primary school	2.916	2.474	0.104	0.239	0.199	5.04
Middle school	3.747	2.615	0.128	0.153	0.195	5.14
High school	3.390	2.820	0.099	0.230	0.229	4.36
College or University	7.788	3.547	0.158	0.029	0.300	3.34
Postgraduate	6.993	17.820	0.045	0.695	0.121	8.26
Marital status						
Single	Ref.					
Cohabiting	-0.759	2.113	-0.021	0.720	0.476	2.1
Married	-1.511	1.689	-0.057	0.371	0.390	2.56
Divorced or separated	-3.189	2.761	-0.052	0.249	0.780	1.28
Widowed	6.504	3.628	0.084	0.074	0.704	1.42
Occupation						
Unemployed	Ref.					
Manual	0.699	2.235	0.017	0.755	0.548	1.83
Non-manual	4.524	6.758	0.043	0.503	0.378	2.65
High-level Professionals	-14.495	11.252	-0.103	0.198	0.243	4.11
Area of residence						
Bangkok	Ref.					
Samut Sakhon	0.844	1.432	0.028	0.556	0.688	1.45
Chiang Rai	0.387	1.726	0.011	0.823	0.693	1.44
Tak	1.589	1.776	0.046	0.371	0.587	1.7
Monthly income (THB)						
Less than 9,000	Ref.					
9,001–18,000	1.881	1.229	0.071	0.126	0.736	1.36
18,001–27,000	3.686	4.226	0.039	0.383	0.793	1.26
Above 27,000	11.332	10.737	0.063	0.292	0.444	2.25
Alcohol drinking						
Never	Ref.					
Occasional	-2.125	1.202	-0.074	0.078	0.880	1.14
Frequent	7.056	6.409	0.045	0.271	0.936	1.07
Regular						
Emergency finance						
Very difficult	Ref.					
Difficult	3.151	1.585	0.104	0.047	0.569	1.76

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Easy	4.835	1.537	0.173	0.002	0.517	1.93
Very easy	8.577	1.888	0.246	<0.001	0.532	1.88
Duration of living in Thailand (year)	-0.007	0.119	-0.003	0.951	0.828	1.21
Currently have a partner						
No	Ref.					
Yes	2.305	1.871	0.067	0.219	0.533	1.88
Education level of partner/husband						
No education	Ref.					
Primary school	2.655	2.457	0.089	0.280	0.231	4.33
Middle school	1.847	2.434	0.065	0.448	0.213	4.69
High school	0.994	2.571	0.033	0.699	0.220	4.54
College or University	-2.632	4.124	-0.044	0.524	0.327	3.06
Postgraduate	-4.065	17.160	-0.022	0.813	0.174	5.75
Occupation of partner/ husband						
Unemployed	Ref.					
Manual	0.307	2.146	0.008	0.886	0.530	1.89
Non-manual	-1.482	5.569	-0.017	0.790	0.388	2.58
High-level Professionals	9.790	8.702	0.076	0.261	0.340	2.94

Notes: (F (36, 513) = 3.56, Prob > F = 0.001, R-squared = 0.1997 and Adj. R-squared = 0.1435)

Discussion

Our study identified the extent of social support and level of QoL among Myanmar women migrant workers in central and northern Thailand. Additionally, we investigated the associations between social support and QoL among these women.

Social support encompasses moral and material assistance, provided by individuals within a social network which can enhance an individual's self-esteem, improving their ability to cope with negative emotions, and improve their mental health, thereby contributing to a better QoL.[20] Myanmar women migrant workers in this study reported higher scores of social supports in affectionate and tangible support. Varying levels of social support were also found among migrant workers in China.[9]Similarly, a study among migrants in Singapore found that social support varied significantly, related to socioeconomic conditions.[21]However, Myanmar migrant workers in Thailand often face challenges accessing social protection programs due to legal status, language barriers, and lack of awareness. Improving awareness is crucial to facilitate access to social support services for this vulnerable population.[22]

The average overall QoL in this study was 90.54 ± 13.23, similar to previous studies among Myanmar migrant workers in Thailand.[17, 23] It is higher than the QoL reported among migrant workers in Bangladesh (78.9 ± 9.7).[24] However, our domain scores were lower than the domain scores of female migrant domestic workers in Singapore.[25] Variations in results across studies are in fluenced by the contextual and sociodemographic characteristics of the populations. In our study, Myanmar women migrant workers generally had a moderate to higher QoL compared to those in Bangladesh, though their domain scores were lower than those in Singapore.

Confirming the researchers' hypothesis, the findings showed a significant positive association between social support and QoL: higher social support was associated with better QoL. This aligns with previous studies among migrant worker populations, including Myanmar workers in southern Thailand and migrant workers in China, which found that good social relationships were associated

with better QoL.[9,10,14,17]Social support encourages healthier behaviours, buffers the adverse effects of stress, and increases social interactions, which help reduce negative emotions and promote better utilization of healthcare services resulting in better wellbeing.[26,27,28] These phenomena demonstrate how social support can enhance QoL.

In this study, higher education was associated with a higher QoL, consistent with previous research among migrant workers.[29] Higher educational attainment often leads to better job opportunities, higher income, and improved working conditions, which significantly contribute to enhanced QoL. Educated individuals tend to have better knowledge and practices regarding health and wellness, contributing to better health outcomes.[30] Education also fosters critical thinking and problem-solving skills, valuable in overcoming migration challenges.[31] Additionally, easier access to emergency finance was associated with higher QoL, supported by previous findings that higher socioeconomic status positively impacts QoL.[32,33]

Our study demonstrates several strengths. Snowball sampling allowed access to a hard-to-reach group, and we could provide valuable insights on the specific impact of social support on the QoL of Myanmar women migrant workers in Thailand. However, using non-random sampling method may introduce sampling bias, affecting representativeness. The cross-sectional design limits the ability to infer causality between social support and QoL. Additionally, relying on self-reported data may introduce accuracy issues and biases although we maintained participant's confidentiality by encouraging honesty and accurate reporting.

Implications for Community Nurses

Our findings have significant implications for community nurses who play a crucial role in connecting migrant workers with healthcare services and facilitating access to social support programs. Community nurses can educate Myanmar women migrant workers about available social protection programs and advocate for policy changes to address language barriers and legal status. Their role in providing culturally sensitive care and fostering trust within migrants' community is vital for effective implementation of tailored support programs. Accordingly, community nurses can help improve the QoL of migrant workers.

Conclusion

Social support positively affects the QoL among Myanmar women migrant workers in Thailand. Lower education level and difficult financial situations showed negative effects on their QoL. Tailored programs that enhance social support, promote education, and improve access to financial resources are essential. We recommend future longitudinal and experimental studies for in-depth investigations of these relationships.

Declarations

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Conflict of interest: The authors declare that there is no conflict of interest.

Ethical approval: The study was approved by the Research Ethics Review Committee at Chulalongkorn University in November 2022 (certificate of approval No. 221/65).

References

1. International Labour Organization. *International Labour Conference; Report III (1B): Migrant Workers*. 1999; Available from: https://www.ilo.org/public/english/standards/relm/ilc/ilc87/r3-1b2.htm.
2. International Labour Organization, *TRIANGLE in ASEAN Quarterly Briefing Note: Myanmar*. 2022.
3. Sarapirom, K., P. Muensakda, and T. Sriwanna, *Lifestyles of Myanmar migrant workers under Thai socio-cultural context: A challenge of state management in the future.* Interdisciplinary Research Review, 2020. 15, Number 5: p. 8 -15
4. International Organization for Migration, *ASSESSING POTENTIAL CHANGES IN THE MIGRATION PATTERNS OF MYANMAR MIGRANTS AND THEIR IMPACTS ON THAILAND*. 2013, InternationalThe International Organization for Migration, Country Mission in Thailand.
5. International Organization for Migration, *FLOW MONITORING SURVEYS: INSIGHTS INTO THE PROFILES AND VULNERABILITIES OF MYANMAR MIGRANTS TO THAILAND (ROUND THREE)*. 2019: Bangkok, Thailand.
6. International Organization for Migration, *ASSESSING POTENTIAL CHANGES IN THE MIGRATION PATTERNS OF MYANMAR MIGRANTS AND THE IMPACTS ON THAILAND: SUPPLEMENTARY REPORT*. 2016: Bangkok, Thailand

7. United Nations Development Programme, *Seeking Opportunities Elsewhere: Exploring the lives and challanges of Myanmar migrant workers in Thailand*. 2023: Bangkok Thailand.
8. World Health Organization. *WHOQOL: Measuring Quality of Life*. 2012; Available from: https://www.who.int/tools/whoqol.
9. Yang, Y., et al., *Social support and quality of life in migrant workers: Focusing on the mediating effect of healthy lifestyle.* Front Public Health, 2023. 11: p. 1061579.
10. Cho, H.-J., K. Kang, and K.-Y. Park, *Health-related quality of life of migrant workers: a systematic literature review.* BMC Public Health, 2023. 23(1): p. 1004.
11. Promphakping, B., et al., *Quality of life of Myanmar Migrant Labours in Samutsakorn Thailand.* KKU International Journal of Humanities and Social Sciences, 2019. 9(3): p. 20-44.
12. Sherbourne, C.D. and A.L. Stewart, *The MOS social support survey.* Soc Sci Med, 1991. 32(6): p. 705-14.
13. Bedaso, A., et al., *The direct and mediating effect of social support on health-related quality of life during pregnancy among Australian women.* BMC Pregnancy and Childbirth, 2023. 23(1): p. 372.
14. Kong, L.-N., et al., *Relationship of social support and health-related quality of life among migrant older adults: The mediating role of psychological resilience.* Geriatric Nursing, 2021. 42(1): p. 1-7.
15. Chuemchit, M., et al., *Discrimination and violence against women migrant workers in Thailand during the COVID-19 pandemic: A mixed-methods study.* PLoS One, 2024. 19(5): p. e0300388.
16. Khai, T.S. and M. Asaduzzaman, *I Doubt Myself and Am Losing Everything I Have since COVID Came’—A Case Study of Mental Health and Coping Strategies among Undocumented Myanmar Migrant Workers in Thailand.* International Journal of Environmental Research and Public Health, 2022. 19(22): p. 15022.
17. Hnuploy, K., W. Laohasiriwong, and K. Sornlorm, *Influence of Mental Health and Social Relationships on Quality of Life among Myanmar Migrant Workers in the South of Thailand.* Indian Journal of Public Health Research & Development, 2020. 11(1).
18. Soper, D.S., *A-priori sample size calculator for multiple regression [Software].* Avaliable from http://www danielsoper com/statcalc (20/11/2017), 2015.
19. World Health Organization, *PROGRAMME ON MENTAL HEALTH: WHOQOL User Manual*, ed. D.O.M.H.A.P.O.S. ABUSE. 2012, Geneva.
20. Rüesch, P., et al., *Occupation, social support and quality of life in persons with schizophrenic or affective disorders.* Soc Psychiatry Psychiatr Epidemiol, 2004. 39(9): p. 686-94.
21. Saparamadu, A.A.D.N.S., et al., *Low-wage migrant workers during coronavirus disease 2019: a social determinants analysis.* Journal of Public Health Policy, 2021. 42(3): p. 452-464.
22. Mon, P.T. and A. Pienkhuntod, *An Assessment of Myanmar Migrant Workers' Access to Social Insurance Programs During the Covid-19 Pandemic in Khon Kaen, Thailand.* Journal of Public Administration, Public Affairs, and Management, 2023. 21(2): p. 201-201.
23. Tongprasert, M., P. Hongsranagon, and P. Havanond, *Factors Related with Health-Related Quality of Life for Adult Myanmar Migrant Workers in Muang District, Chiang Rai Province, Thailand: A Cross-Sectional Study.* Journal of Health Research, 2010. 24(Suppl. 2): p. 71-76.
24. Islam, M., et al., *Health-related Quality of Life Among Adult Migrant Garment Workers in Dhaka City.* Bangladesh Medical Journal, 2014. 40: p. 14-17.
25. Anjara, S.G., et al., *Stress, health and quality of life of female migrant domestic workers in Singapore: a cross-sectional study.* BMC Women's Health, 2017. 17(1): p. 98.
26. Yang, L., et al., *Self-management behavior among patients with diabetic retinopathy in the community: a structural equation model.* Quality of Life Research, 2017. 26(2): p. 359-366.
27. Wu, M., et al., *Association between social support and health-related quality of life among Chinese rural elders in nursing homes: the mediating role of resilience.* Quality of Life Research, 2018. 27(3): p. 783-792.
28. Lin, Y., et al., *Factors influencing utilization of primary health care by elderly internal migrants in China: the role of social contacts.* BMC Public Health, 2020. 20: p. 1-10.
29. Xing, H., et al., *Well-being and health-related quality of life in new-generation migrant workers in Zhejiang province, China.* Health and Quality of Life Outcomes, 2019. 17(1): p. 119.
30. Li, C., *Education, Social Mobility and Quality of Life*, in *The Quality of Life in Contemporary China*, P. Li, Editor. 2022, Springer Singapore: Singapore. p. 41-59.
31. Burton-Jeangros, C., et al., *The well-being of newly regularized migrant workers: Determinants of their satisfaction with life as compared to undocumented migrant workers and regular local residents.* Comparative Migration Studies, 2021. 9(1): p. 42.
32. Li, D., X. Yang, and G. Zou, *Ambition or comparison? Socioeconomic status and wellbeing differences between local and migrant workers.* PLoS One, 2023. 18(7): p. e0289092.
33. Keyvanara, M., et al., *Study of the relationship between quality of life and socioeconomic status in Isfahan at 2011.* J Educ Health Promot, 2015. 4: p. 92.

Original Article

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A Qualitative Study to Explore Survivors' Experiences in the Implementation of Covid-19 Primary Prevention Efforts in Aceh Province

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Abstract

Background: Primary prevention plays an important role in preventing the occurrence of a disease or other health problems including Covid-19. The purpose of this study was to explore the experiences of Covid-19 survivors in implementing primary prevention efforts for Covid-19.

Research Method: This Qualitative study used a phenomenological descriptive design. The Study participants comprised Covid-19 survivors in the capital of Aceh Province, Indonesia. Data were collected using demographic data sheets, Covid-19 primary precaution questionnaires, interview guidelines, field notes, and voice recording devices. Data analysis employed a qualitative data analysis technique.

Results: The study shows two main themes regarding Covid-19 survivors' experiences in implementing primary prevention efforts for Covid-19: knowledge about primary prevention efforts for Covid-19, and; obstacles in implementing Covid-19 primary prevention (e.g., use of masks, washing hands, physical distancing, etc)

Conclusion: Covid-19 primary prevention implementation can have both positive and negative experiences for survivors (people). Health professionals should consider these in their intervention programs.

Keywords: Covid-19, Survivors' Experience, Primary Prevention Efforts

Introduction

The SARS-CoV virus continues to undergo a mutation process that makes it so contagious, and has caused the Covid-19 pandemic. This poses a risk to society because patients who are in the incubation period and misdiagnosed negatively can spread the virus[1]. On May 5, 2023, the World Health Organization (WHO) revoked the Public Health Emergency of International Concern (PHEIC) status

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for COVID-19. Even though the pandemic emergency status has been lifted, the government still prioritizes preparedness and vigilance. WHO emphasized the need for a transition period for long-term handling of Covid-19[2].

Policies related to various transmission prevention initiatives have been issued by governments worldwide. The use of masks is one of the initiatives that has been accepted by the whole world. In this regard, the WHO and the US Centers for Disease Control (CDC) advise the general public to use cloth masks, and several countries (including Indonesia) have adopted this recommendation[3]. Masks have been proposed as a way to limit community transmission by asymptomatic carriers or at least clinically undetected infected patients, which may be a major factor behind the rapid spread of Covid-19[4].

Medical surgical masks and N95s can protect the wearer from various infections or the possibility of transmitting infections. These results appear to be consistent, so they can be used by health care workers to protect against respiratory infections[5]. Preventive measures are key to implementation in health services and communities, especially in vulnerable ages who are at high risk and with comorbid diseases such as hypertension. Avoiding touching the eyes, nose and mouth, and practicing coughing or sneezing etiquette by covering the nose and mouth with the upper arm inside is important, as is wearing a mask and keeping a distance (at least 2 meters) from others[6].

Seeing the situation of rapid and deadly growth of COVID-19 cases, prevention efforts must be carried out quickly and precisely. Prevention can be done through primary prevention, secondary prevention and tertiary prevention. Primary prevention is action taken before a health problem occurs. Primary prevention can be done with health promotion and self-protection. Secondary prevention is action taken after a health problem occurs. Secondary prevention emphasizes efforts to find health problems and treat early. Tertiary prevention is action taken after a health problem is resolved by preventing recurrence and disability. Given that there is no cure to kill the coronavirus, primary prevention is the most appropriate to do[7].

Primary prevention is a way to form a healthy society. A healthy community is characterized by its ability to carry out prevention efforts and to improve health status through community organizing efforts. Organizing efforts can be done by improving environmental sanitation, eradicating infectious diseases, individual hygiene education, and developing social engineering[8].

According to WHO, the confirmed incidence of Covid-19 in the world in 2023 was 762,201,169[9]. In Indonesia, the incidence of Covid-19 reached 6,751,662 positive confirmed cases, 6,584,006 confirmed recovered from Covid-19, 161,057 confirmed deaths, and 6,599 positive cases[10]. In Aceh Province, Covid-19 reached 44,885 confirmed positive, 42,603 confirmed recovered, 2,269 confirmed deaths, and 13 cases who were undergoing treatment. Throughout 2023, there will be no additional new cases of Covid-19 in Aceh[11].

Vaccines are a way to actively increase a person's immunity to an antigen (from germs, viruses or bacteria) so that if later exposed to the same antigen (germ), the person already has antibodies so that disease does not occur. The goal is to prevent the occurrence of certain diseases in a person[12]. A survivor is a person who experiences an event or disaster firsthand and manages to survive[13].

This research was conducted to examine the experiences of Covid-19 survivors who carried out primary prevention before being infected with the Covid-19 virus.

Research Methods

The study was qualitative, and used a phenomenological descriptive design. The study population involved Covid-19 sufferers in Aceh Province. Key participants were Covid-19 survivors with several inclusion criteria including having received at least one Covid-19 vaccination and implemented other primary preventions before their Covid-19 diagnoses were identified; having Covid-19 primary prevention screening scores over 63; being able to communicate verbally well and being willing to share their experiences; aged between 18 to 60 years, and; physically and spiritually healthy.

Data was collected through in-depth interviews from October 2023 to December 2023. Data collection

tools included demographic data sheets, Covid-19 primary precaution questionnaires, interview guidelines, field notes, and voice recording devices.

Data were analyzed using a qualitative data analysis technique of Miles and Huberman, including data condensation, data display, drawing, and verifying conclusions.

Results

Study Participants

Eight of the 26 Covid-19 survivors selected for the study were involved as samples because data saturation was reached with the eight participants. Characteristics of the study participants are described in Table 1 as follows.

Table 1: Characteristics of Participants

No	Age (years)	Sex	Education	Year of disease infected
1	28	Female	Senior High School	2020
2.	29	Male	Diploma 3	2021
3	34	Female	Senior High School	2020
4	42	Male	Bachelor Degree	2020
5	23	Male	Senior High School	2020
6	34	Female	Bachelor Degree	2021
7	33	Male	Senior High School	2020
8	50	Female	Bachelor Degree	2020

Table 1 shows that the participants aged between 23-50 years, half of them were female and had senior high school education backgrounds, and the vast majority were infected with Covid-19 in 2020.

Two main themes regarding participants' experiences with the implementation of Covid-19 primary prevention are identified: (1) Participants' knowledge about Covid-19 primary prevention, (2) Obstacles experienced by participants in implementing Covid-19 primary prevention, with some sub-themes.

Knowledge about Covid-19 Primary Prevention

Most of the participants have good knowledge about Covid-19 primary prevention. The participants can describe primary prevention efforts for Covid-19 correctly: "*The primary prevention that I know is the main prevention, yes, usually masks, hand washing, vaccines, avoiding crowds and crowds*" (Participant 1, aged 28 years). "*Primary prevention is the main form of prevention that the government recommends us to do*" (Participant 8, aged 50 years).

Obstacles in the Implementation of Primary Prevention for Covid-19

Participants describe some problems experienced in the implementation of Covid-19 primary prevention, include in wearing masks, washing hands, maintaining distance, using vaccines, and avoiding crowds.

Discomfort in the use of masks

Five of the eight participants felt discomfort when using masks such as skin irritation, dyspnea, and unrecognizable face. Two of these participants describe their experiences as follows: "*Using a mask for the first time is a bit uncomfortable because you are not used to it, feel short of breath, and the skin is irritated, people also don't know us, we also don't know people so we don't dare to reprimand". (Participant 6, aged 34 years). "Yes, if before getting Covid, the mask pack was uncomfortable, then the feeling of breathing was a bit poor, continuing to talk like it was clear that we were talking because it was covered with a mask, that was the experience of the mask pack."* (Participant 8, aged 50 years)

Obstacles in handwashing

Seven of the eight participants said sometimes difficult to implement hand washing because the handwashing facilities were not always available.

Examples of how the participants describe their experiences are as follows: "*If we wash our hands, it's difficult if we leave the house besides a place to eat. If a place to eat has indeed been provided with a place to wash hands, yes, but if we don't go to a place to eat, it's a bit difficult…, there are not many places to wash hands first at the beginning of Covid*". (Participant 1, aged 28 years). "*When we want to wash our hands, it's hard to get water in my place, so when sometimes we have done something to wash our hands, it's very difficult to water, there are no facilities available*". (Participant 2, aged 29 years).

Discomfort in taking the vaccine

All participants felt discomfort when getting vaccinated, especially about possible adverse effects of the vaccine. Examples of how the participants describe their experiences are as follows: "*Often get information that vaccines can be paralyzed or sickly if there is pain can get worse*". (Participant 3, aged 34 years). "*I get a lot of negative information about vaccines that can cause people to fear vaccines for example such as vaccines can cause paralyzed, swelling above the upper shoulder arm (participants show their vaccinated hands), bruises…" (participants laugh)*". (Participant 5, aged 23 years).

Discomfort in implementing social distancing behaviors

Five of the eight participants felt discomfort when implementing social distancing for social or cultural reasons. Examples of how the participants describe their experiences are as follows "*Keeping a distance is difficult because there are neighbors because they are too familiar so it is a bit difficult to keep their distance. That is limited, it cannot be implemented properly*". (Participant 1, aged 28 years). "*That's why we have tried to keep our distance, only what other people who don't want to keep their distance from us, let alone men, yes, they often don't care what is implemented by the government*". (Participant 6, aged 34 years).

Discomfort in applying crowd avoidance behavior

Six of the eight participants felt difficulty in implementing crowd avoidance behavior for several social purposes. Examples of how the participants describe their experiences are as follows: "The unpleasant experience while avoiding the crowds is not good, our activities are already limited, which is not fun, yes, there are usually activities we can rush to places or what, like going to a game place with family, tourist attractions for holidays can no longer be done during Covid." (Participant 4, aged 42 years). "That's why we have tried to keep our distance, only what other people who don't want to keep their distance from us, let alone men, yes, they often don't care what is implemented by the government". (Participant 6, aged 34 years).

Discussions

The perception of the public that considers Covid-19 as something very dangerous or vice versa is inseparable from the social construction that has been built. In this case, community groups have adjusted their outpouring of their stance to the existing social reality, namely the process of adjustment between themselves and the world outside them. However, self-adjustment to the world outside of himself is carried out by adapting related to habits and so on in the midst of social reality in the form of the Covid-19 pandemic[14]

Covid-19 spreads contagious, which refers to an infection that spreads rapidly in a tissue. This form of spread, interconnected elements in a network can transmit infections to each other. The term contagious is not limited to diseases, but can metaphorically spread from one individual to another[8].

Social distancing is the concept of maintaining a safe distance from other humans of at least two meters to reduce and even break the chain of transmission of Covid-19[15]. The purpose of implementing social distancing is to reduce the possibility of physical contact between infected people and uninfected people so as to minimize the transmission of disease. Social distancing can also be done without having to shake hands, just wave or greet by raising both hands or give greetings by raising both hands when meeting other people[16].

Covid-19 can be transmitted from person to person through the spit of the sufferer when speaking. One way to prevent is the use of masks as one of the effective methods in preventing the COVID-19 virus that enters through the nose and mouth. The use of masks is the simplest and cheapest but very effective way to prevent the transmission of the virus[17]

Additionally, the WHO's recommendation in dealing with the Covid-19 outbreak is to wash hands regularly. This is because Covid-19 can be transmitted when holding the mouth or nose without washing hands first after touching objects that are splashed with saliva of Covid-19 patients and close contact with Covid-19 patients such as shaking hands18. Hand washing is not recommended using water alone. Although water is known as a universal solvent, it cannot eliminate Covid-19 and cannot release dirt and grease when washing hands. The correct recommendation for washing hands is to use soap and water or hand sanitizer[19].

Getting vaccinated is a preventive measure that people can take to avoid contracting Covid-19 and transmitting Covid-19 to others. While safe and effective vaccines are good prevention tools, it's important to still take other precautions such as wearing masks, maintaining hand hygiene, maintaining physical distance from others, and avoiding crowded and poorly ventilated places[20].

Conclusions

Primary prevention of Covid-19 is very important. Perception and attitude have an important role in behavior and are a benchmark for a person's awareness. If a person has a poor or bad perception, it will have an impact on their behavior and a good perception and positive attitude greatly affect community actions in suppressing the spread of the outbreak by practicing real activities to reduce the risk of contracting such as complying with Covid-19 prevention protocols. Furthermore, the inconvenience in carrying out primary prevention of Covid-19 makes it impossible to carry out total or comprehensive prevention so that people who have carried out primary prevention are still infected with Covid-19.

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Ethical Clearance: Ethical approval was received from The Research Ethics Committee of The Nursing Faculty of Universitas Syiah Kuala with approval number 112014201123 dated December 14, 2023.

References

1. Handayani, D., Hadi, D. R., Isbaniah, F., Burhan, E., & Agustin, H. Corona Virus Disease 2019. Indonesian Journal of Respirology. 2020. 40(2), 119–129.
2. Covid-19 go.id. WHO Revokes COVID-19 Pandemic Emergency Status (internet). 2023 (5 May 2023). Available from: https://covid19.go.id/
3. WHO. All about masks in the context of COVID-19. (internet). 2021. Available from: https://www.who.int/emergencies.disease/novel-coronavirus-2019/advice-for-public/ when-and-how-to-use masks?adgroupsurvey=%7 Badgroupsurvey%7 D&gclid=CjwKCAjw586hBhBrEiw AQYEnHcc EarJ1DVvL SzJcbq1uDFoJ0C1Hhx MpsQGQ2xAPSb6Z1ewj Ng4U0BoCb8EQAvD_BwE
4. Chen, K. H., & Yuen, K. Y. COVID-19 epidemic: Disentangling the re-emerging controversy about medical facemasks from an epidemiological perspective. International Journal of Epidemiology. 2020. 49(4), 1063–1066.
5. Atmojo, J. T., Iswahyuni, S., Rejo, R., Setyorini, C., Puspitasary, K., Ernawati, H., Syujak, A. R., Nugroho, P., Putra, N. S., Nurrochim, N., Wahyudi, W., Setyawan, N., Susanti, R. F., Suwarto, S., Haidar, M., Wahyudi, W., Iswahyudi, A., Tofan, M., Bintoro, W. A., ... Mubarok, A. S. The use of masks in the prevention and handling of Covid-19: rationality, effectiveness, and current issues. Avicenna: Journal of Health Research. 2020. 3(2), 84–95.
6. Wulandari, A., Rahman, F., Pujianti, N., Riana Sari, A., Laily, N., Anggraini, L., Ilham Muddin, F., Muhammad, A., Yulia Anhar, Vina Azmiyannoor, M., & Bima Prasetio, D. The Relationship of Individual Characteristics with Knowledge of Coronavirus Disease 2019 Prevention in the Community in Pungging Mojokerto District. Sentani Nursing Journal. 2020. 4(1), 46–51.
7. Sontiva, Nessa, Rahayuwati, L., & Lukman., M. Perception of Tanjungsari High School Students Towards Primary Prevention of Cervical Cancer. 2019. 1, 67–74.
8. Fitriasari, N. Primary Prevention Forms a Healthy Society in the Covid-19 Era. SALAM: Journal of Social and Cultural Syar-I. 2020. 7(12), 1233–1246.
9. WHO. Coronavirus disease (COVID-19) pandemic. (internet). 2023. Available from: https://www.who.int/emergencies/diseases/novel-coronavirus-2019?adgroupsurvey=%7Badgroupsurvey%7D&gclid=CjwKCAjw586hBhBrEiwAQYEnHTR3Ai6KqmpaoiOJ0MI4joc-g9V_FD778c1VqEFIEkn4bznABRtYGBoCzQgQAvD_BwE

10. Covid-19 Handling Task Force. Data on the spread of covid 19 in Indonesia. (internet). 2023. Available from: https://covid19.go.id/id/peta-sebaran
11. Aceh Responds to Covid-19. Covid-19 Info. (internet). 2023. Available from: https://covid19.acehprov.go.id/
12. Tamara, T. Overview of Covid-19 Vaccination in Indonesia in July 2021. Medula. 2021. 11(1), 180–183
13. Husein, D. G. Self Concept of Covid-19 Survivors. Widya Komunika. 2021. 12(2), 30.
14. Rahmawadi, I., Lalu Muhammad Alditia, Ahmad Abdan Syukron, Lili Kurnia Sapitri, Hafizah Awalia. Public Perception of Covid-19 Prevention and Handling Efforts in East Lombok Regency, Syntax Admiration Journal. 2022. 3(3).
15. Setiawan, Y. I. S, Determination of Regional Quarantine according to the Legal View of Positivism in the Context of Prevention and Eradication of the Coronavirus Disease (Covid)-19 Pandemic, OSF Preprints. 2020
16. Kresna, Arief and Ahyar, June, "The Effect of Physical Distancing and Social Distancing on Health in a Linguistic Approach," Journal of Syntax Transformation. 2020. 1(4), 14–19.
17. Buana, D. R. "Analysis of the Behavior of Indonesian People in Facing the Corona Virus (Covid-19) Pandemic and Tips for Maintaining Mental Well-Being." Greetings: Journal of Social and Cultural Syar-I. 2020. 7(3), 217-226.
18. Rohmah, N. N. "Social Media as an Alternative Media for the Benefits and Satisfaction of Information Needs during the Global Covid 19 Pandemic (An Analysis Study of Uses And Gratification Theory)." Al-I'lam: Journal of Islamic Communication and Broadcasting. 2020. 4(1), 1–16
19. R. CM., Susilo, A., Wijaksono, C., Santoso, WD., Yulianti, M., Kurniawan, H et al. "Coronavirus Disease 2019: A Review of the Latest Literature," Indonesian Journal of Internal Medicine. 2020. 7(1): 45–67
20. CDC. COVID-19 Overview and Infection Prevention and Control Priorities in non-U.S. Healthcare Settings. (internet). 2021. Available from: https://www.cdc.gov/coronavirus/2019-ncov/hcp/non-us settings/overview/index.html

Original Article

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Impact of COVID-19 Pandemic Self-restraint on College Students' Mental Health: A Longitudinal Survey of the Second and Third Waves

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Abstract

Purpose: The purpose of this study was to investigate the effects of the COVID-19 pandemic on mental health in students at university.

Method: 1880 students from university were surveyed. Survey period: July-August 2020

Demographic factors were used department, grade, gender, age. Mental health factors (PHQ-9 Japanese version, GAD-7 Japanese version, IES-R) were used. Decreased motivation to learn, loneliness: Japanese version UCLA loneliness scale was used.

Results: As a result of the survey, in (July-August), 737 patients (123 males and 614 females) were recovered (recovery rate 40.9%). As a result, in terms of gender difference, males had a higher total of "loneliness" than females and had a higher total of PTSD and "invasive symptoms". Students whose parents corresponded to corona had high "anxiety" and "depression". Students who felt rumors had high scores for "PTSD," "depression," "anxiety," and "loneliness." Students "seeking support" also scored higher on PTSD, depression, anxiety, and loneliness. Those who were "not very careful" about infection control were more likely to be depressed than those who were "careful", and those who were "quite careful" were less motivated to learn. Family structure and parental profession have no effect. In addition, the relationship between each psychiatric symptom (PTSD, depression, anxiety disorder) and "loneliness" and "motivation to learn" was examined using covariance structure analysis. When the model was examined, the models of "loneliness" ⇒ "decreased learning motivation" ⇒ "PTSD" ⇒ "depression" and "anxiety" were verified. In other words, it was shown that it is important to deal with "loneliness" to improve mental health and learning motivation during the COVID 19 pandemic.

Conclusion: At the time of the COVID-19 pandemic, college students may be high-risk persons with mental health problems.

Keywords: Japanese university student, COVID-19, Mental health, Longitudinal study, Self-restraint life

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Introduction

In December 2019, the first case of pneumonia caused by a novel coronavirus was reported in Wuhan, China. Subsequently, the World Health Organization declared a "public health emergency of international concern" on January 30, 2020, owing to the spread of coronavirus disease 2019 (COVID-19) both domestically and internationally, and new pneumonia cases associated with COVID-19 were reported.[1] As of June 27, 2022, 9,253,386 cases of COVID-19 and 31,126 deaths were reported in Japan.[2]

In response, universities have been forced to implement social distancing measures and to shift to online classes. Furthermore, its impact on the mental health of university students has been reported. Internationally, students have been identified as a high-risk group for mental health issues.[3] Cao et al.[4]investigated the psychological impact of COVID-19 on university students in China and found that fear of infection and academic anxiety significantly affected mental health. Elmer et al.[5] focused on university students' social networks and mental health, analyzed changes during the pandemic and suggested that social restrictions impacted mental health. Wang et al.[6] examined immediate psychological responses and associated factors among university students in China during the early stages of COVID-19. They found that uncertainty and stress had a direct impact on mental health. Son et al.[7] investigated the impact of COVID-19 on the mental health of university students in the United States and observed that financial anxiety and interruption of in-person classes affected their mental well-being.

In Japan, Takahashi et al.[8] examined the impact of the COVID-19 outbreak on the mental health of Japanese university students, suggesting that anxiety about the infection and restrictions on in-person classes affected their psychological health. Masuda et al.[9] reported on the relationship between stress and psychological health among nursing students during the COVID-19 pandemic.

University students have faced various issues unique to the remote learning format during the COVID-19 pandemic, such as the need for adequate communication environments for online classes, confusion about the new online learning format, and the burden of excessive assignments and information processing. These factors are presumed to affect mental health. In addition, the pandemic has led to restrictions on on-campus access, reducing opportunities for social interaction and communication with friends. Adolescent university students are particularly prone to feelings of loneliness. Ochiai[10] stated that loneliness is an inevitable feeling associated with the discovery of the self and a fundamental emotional experience during adolescence. Therefore, social distancing and online classes during the COVID-19 pandemic may have exacerbated feelings of loneliness among university students. Ohue[11] conducted a cross-sectional study on the impact of the second wave of the COVID-19 pandemic on the mental health of university students and demonstrated that increased loneliness led to decreased motivation to learn and deteriorating mental health. However, Wang and Cheng[12] pointed out several issues with cross-sectional surveys, such as "temporal ambiguity," "common method variance," "sampling bias," and "lack of follow-up." Thus, Ohue's[11] study has these limitations, indicating the need for longitudinal research.

Purpose

The relationship between the passage of time and mental health among university students during the COVID-19 pandemic has not yet been clarified. Therefore, this study conducted a longitudinal survey during the second and third waves of COVID-19 to examine the impact of the pandemic on university students' mental health.

Methods

Survey Participants

The survey targeted 1,880 students from various university departments and graduate schools, including the Department of Modern Business, Department of Nutrition Management, Department of Health Systems, Department of Nursing, Department of Social Welfare, Department of Child Welfare, Department of Early Childhood Education, Graduate School of Nursing, Graduate School of Modern Business, and Graduate School of Economic Information.

Survey Period

Second wave: July to August 2020

Third wave: December 2020 to January 2021

Research Design

The longitudinal study approach was used.

Survey Content

- Demographic Factors: Questions included department, academic year, sex, age, family structure, whether parents or relatives were treating COVID-19 patients, support needs, and infection prevention measures.
- Depression Assessment: The Patient Health Questionnaire-9 (PHQ-9, Japanese version), developed by Kroenke et al.[13] and translated by Muramatsu[14], revised by Muramatsu et al.[15], was used to diagnose and assess the severity of depression. It comprises nine items rated on a four-point scale from "0" (not at all) to "3" (nearly every day) over the past two weeks, with higher scores indicating more severe depression.
- Anxiety Assessment: The Generalized Anxiety Disorder-7 (GAD-7, Japanese version), developed by Spitzer et al.[16], translated by Muramatsu et al.[17], and revised by Muramatsu[14], was used to evaluate generalized anxiety symptoms. It uses a four-point scale from "0" (not at all) to "3" (nearly every day), with higher scores indicating higher anxiety.
- Trauma Experience Assessment: The Impact of Event Scale-Revised (IES-R, Japanese version) by Asukai et al.[18] was used to measure post-traumatic stress disorder (PTSD) symptoms. The 22-item self-report questionnaire assesses symptoms like intrusion (seven items), avoidance (eight items), and hyperarousal (seven items) over the past week on a five-point scale, with higher scores indicating more severe symptoms.
- Academic Motivation and Class Motivation Decline: Subscales from the Motivation Decline Scale developed by Shimoyama[19] comprised 10 items rated on a five-point scale. Higher scores indicate greater declines in motivation.
- Loneliness: The UCLA Loneliness Scale, developed by Russell et al.[20] and translated into Japanese by Kudo and Nishikawa,[21] consists of 20 items rated on a four-point scale from "1. always" to "4. never," with higher scores indicating greater loneliness.

Permission was obtained using the PHQ-9 and GAD-7 scales. The IES-R can be used without permission for research purposes.[22]

Survey Method

The survey was conducted online using the university's website and email system to ensure the security of the educational information system.

Analysis Method

We calculated the number and percentage of basic attributes of the participants.

We used t-tests to identify significant differences in mental health symptoms (PTSD, depression, and anxiety), "loneliness," and "academic motivation" between the second and third waves.

We conducted a covariance structure analysis to examine whether "loneliness" and "decline in academic motivation" during the second wave (Time 1: July to August 2020) affected mental health during the third wave (Time 2: December 2020 to January 2021). Model fit was assessed using X^2, GFI, AGFI, and RMSEA, using a model similar to Ohue's[11] cross-sectional survey. The hypothesis model considered the impact of "loneliness" leading to a "decline in academic motivation" (Time 1) and subsequent "PTSD," "depression," and "anxiety" (Time 2; Figure 1). The analysis used the cross-lagged effect model to examine interactions between variables over time, evaluated with GFI and RMSEA, considering GFI ≥ .80 and RMSEA ≤ .10. All analyses were conducted using SPSS Windows software version 19.0 and AMOS version 19.0.

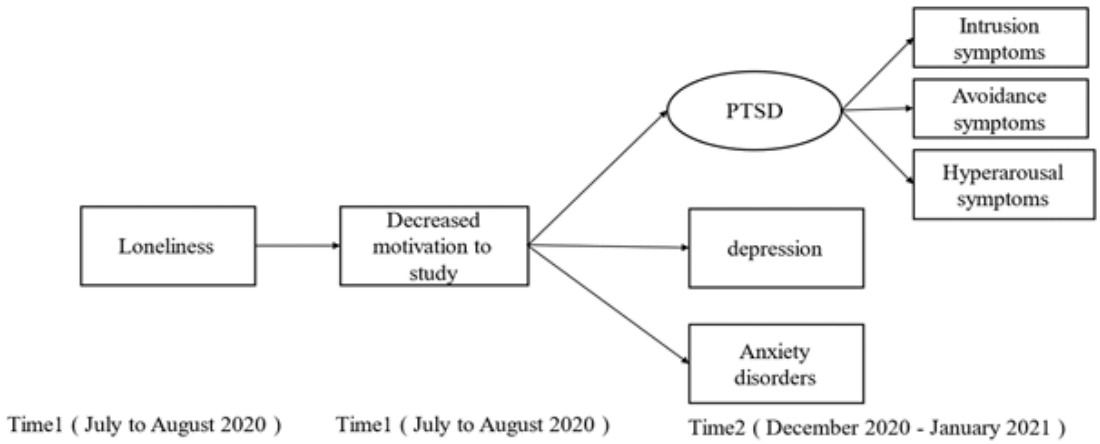

Figure 1: Hypothetical model

Ethical Considerations

This study was approved by the Ethics Committee of the Hyogo University (No. 20003). Written requests were made to the administrators of the research facilities for consent. Participants were informed that participation was voluntary, that they could withdraw at any time without disadvantage, and that their data would only be used in this study. Data confidentiality and privacy were ensured through statistical processing, using code numbers to prevent personal identification.

Results

Demographic Factors (Table 1)

The survey was conducted from July to August (first wave) and received responses from 737 students (123 male and 614 female participants) for a response rate of 40.9%. The second survey, conducted from December to January (third wave), received 235 responses (30 male and 205 female participants), with a response rate of 13.05%. The analysis focused on 189 students (21 male and 168 female participants) who responded to both surveys. The participants comprised 106 first-year, 33 second-year, 39 third-year, and nine fourth-year students.

Table 1: Demographic Factors

	N	%
Gender		
Male	21	11.1
Female	168	88.9
Department		
Modern Business Department	14	7.4
Nutrition Management Department	28	14.8
Health Systems Department	7	3.7
Nursing Department	62	32.8
Social Welfare Department	14	7.4
Child Welfare Department	17	9
Early Childhood Education Department	44	23.3
Year		
Freshman	106	56.1
Sophomore	33	17.5
Junior	39	20.6
Senior	9	4.8

Continue.....

Age		
18 years old	43	22.8
19 years old	73	38.6
20 years old	40	21.2
21 years old	13	6.9
22 years old	5	2.6
23 years old	1	0.5
24-57 years old	7	3.6

Examination of Differences in Longitudinal Survey Scores(Table 2)

A t-test was conducted to compare the scores of each subscale between the second and third waves. Significant increases were observed in PTSD ($t = 1.84$, $p < 0.05$), overall academic motivation ($t = 3.68$, $p < 0.01$), and class motivation ($t = 3.03$, $p < 0.01$). While no significant differences were found for the other items, average scores were decreased.

Table 2: Longitudinal survey results for each scale

		2nd Wave		3rd Wave			
		M	**SD**	**M**	**SD**	**t**	**P**
IES-R	PTSD Total	25.45	18.19	22.04	18.08	1.84	0.05
	Intrusion symptoms	8.87	7.07	8.02	6.56	1.2	0.23
	Avoidance Symptoms	10.31	7.48	9.14	7.5	1.5	0.13
	Hyperarousal symptoms	6.27	5.34	5.66	5.21	1.11	0.27
GAD-7	anxiety	4.83	4.5	4.25	4.34	1.29	0.20
PHQ-9	Depression	5.25	4.93	5.05	5.28	0.37	0.71
UCLA loneliness scale	Loneliness	39.85	9.73	39.91	9.89	0.06	0.96
Motivation to learn	Decreased motivation to learn	13.77	2.06	13.62	2.37	0.63	0.53
	Decreased motivation to teach	8.28	2.99	7.4	2.61	3.03	0.00
	Total decline in motivation to learn	22.05	3.73	20.44	4.73	3.68	0.00

Longitudinal Model of University Students' Mental Health During the COVID-19 Pandemic

A cross-lagged effect model in covariance structure analysis was employed to examine whether "loneliness" and "decline in academic motivation" during the second wave affected mental health during the third wave. The second wave (July to August 2020) was designated as Time 1, and the third wave (December 2020 to January 2021) as Time 2. The hypothesis model was verified ($X^2[26] = 80.690$, GFI = 0.91, AGFI = 0.84, RMSEA = 0.10) (Figure 2). The hypothesized model of "loneliness" leading to a "decline in academic motivation" (Time 1) and subsequently affecting "PTSD," "depression," and "anxiety" (Time 2) was validated. All the path coefficients were significant.

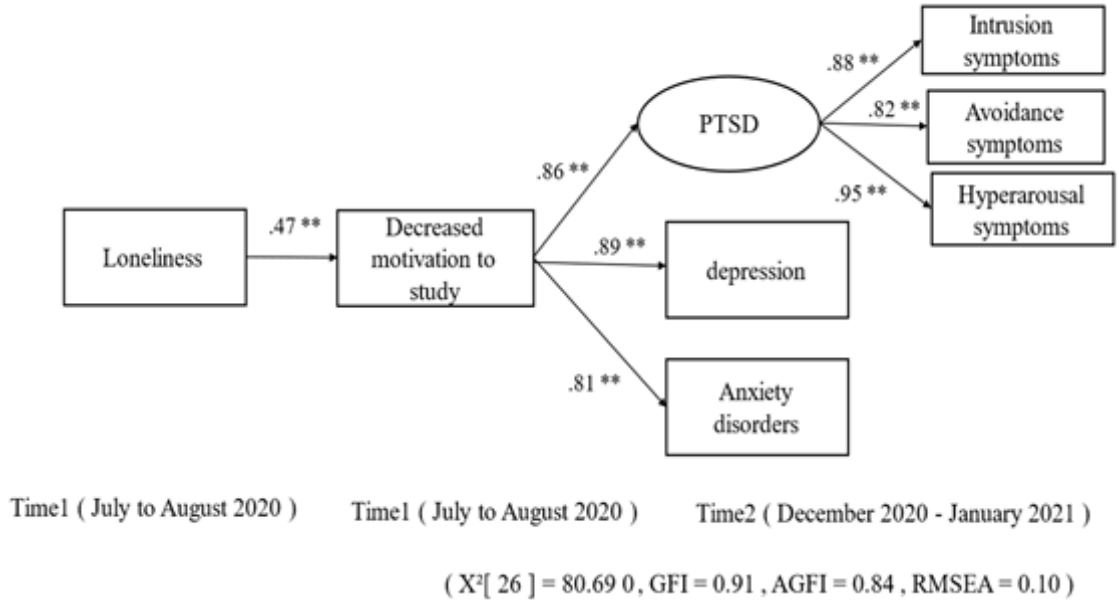

Figure 2: Longitudinal model of mental health among university students during the pandemic

Discussion

This study investigated the impact of the COVID-19 pandemic on the mental health of students at University A by conducting longitudinal surveys during the second and third waves of COVID-19 infections. The longitudinal survey results revealed significant decreases in PTSD, overall academic motivation, and class motivation. This indicates that PTSD and decline in academic motivation were higher during the second wave than during the third wave. Ohue[11] conducted a cross-sectional study during the second wave, examining the impact of lockdown measures during the COVID-19 pandemic on the mental health of university students. This suggests that the pandemic-induced lockdown affected university students' mental health. Our study confirmed significant increases in PTSD and an overall decline in academic motivation and class motivation. In Hyogo Prefecture, where the university is located, states of emergency were declared twice: first from April 7 to May 31, 2020, and second from January 8 to March 18, 2021. During the second wave, there was no state of emergency, as in April-May, meaning that the second wave was when anxiety and fear of the pandemic could easily be heightened due to the end of the emergency declaration. This may explain the higher PTSD scores observed in the second wave. Moreover, the shift to online classes has brought about various challenges, such as the need to establish an adequate Internet environment, initial confusion with online learning, the burden of numerous assignments, and information processing. These issues are likely to have contributed to the decline in academic motivation. Ohue's[11] cross-sectional study concluded that "loneliness" impacted mental health adversely. Our study validated a model where "loneliness" and "decline in academic motivation" during the second wave affected mental health during the third wave. This suggests that the lockdown during the pandemic decreased both loneliness and academic motivation, subsequently affecting mental health. Therefore, appropriate early interventions for "loneliness" during the COVID-19 pandemic are crucial for improving mental health. Addressing loneliness is essential, as it could decrease motivation and interest, potentially lowering academic performance and engagement.

Regarding the longitudinal model of mental health of university students during the COVID-19 infection, a model was verified in which "loneliness" in the second wave ⇒ "decreased motivation to learn" ⇒ "PTSD," "depression," and "anxiety" in the third wave. In other words, it was shown that responding to "loneliness" in the early stages is essential for improving mental health during the COVID-19 pandemic. This suggests that the self-restraint lifestyle

due to the state of emergency declaration promotes "loneliness" and decreases motivation to learn. It has been suggested that the loneliness associated with online classes affects this finding. In addition, since "loneliness" also leads to a decrease in students' motivation to learn, it is thought that intervention in loneliness will be the key during the COVID-19 pandemic. As loneliness increases, students find it challenging to be motivated or interested, which may decrease their motivation to learn. If this continues, it may negatively affect academic engagement and grades. It has also been suggested that loneliness may cause a decrease in motivation to learn, which may further lead to mental health problems, such as PTSD, depression, and anxiety. This result was consistent with the findings of previous studies. For example, Smith et al.[23] suggested that social constraints may cause college students to experience feelings of isolation, which may lead to academic impact and mental distress. Additionally, studies such as Jones et al. [24] have pointed out that increased loneliness among college students is associated with increased remote learning and social constraints. Addressing this may lead to improved motivation to learn and mental health. During the COVID-19 pandemic, increased social constraints and remote learning may have increased loneliness. It has been found that increased loneliness reduces individual psychological stability and stress tolerance, making people more susceptible to mental health problems. Self-restraint due to the COVID-19 pandemic increases loneliness and affects mental health and learning motivation. Interventions to prevent loneliness are essential during a pandemic.

Conclusion

The longitudinal model for university students' mental health during the COVID-19 pandemic was validated, showing that "loneliness" during the second wave led to a "decline in academic motivation," which in turn affected "PTSD," "depression," and "anxiety" during the third wave. This highlights the importance of addressing early "loneliness" to improve mental health during the COVID-19 pandemic. The state of emergency and the subsequent lockdowns during the pandemic heightened "loneliness" and decreased academic motivation. It was suggested that loneliness associated with online classes affected students. Furthermore, "loneliness" has been linked to a decline in academic motivation, making interventions targeting loneliness crucial during the COVID-19 pandemic. Increased loneliness can lead to decreased motivation and interest among students, potentially lowering their academic engagement and performance. Continuing this trend could adversely affect academic efforts and grades. Additionally, a decline in academic motivation caused by loneliness can lead to PTSD, depression, and anxiety.

Limitations and Future Directions

This study was limited to students from a single university, which may not provide universal data. Future studies should include multiple universities to gather more comprehensive data. Collaboration with university health centers is necessary to provide mental health support.Online lectures have been conducted during the COVID-19 pandemic. Online lectures are insufficient in Japan, and face-to-face classes are the norm. As a result, university professors teaching at universities were confused about introducing online lectures amid the chaos of the COVID-19 pandemic, and many lectures were one-sided. It is believed that the lack of interaction among university students is a factor in their increased sense of loneliness during the COVID-19 pandemic. In the future, using "breakout rooms" and other methods to deepen active interaction between students, even in online lectures, will be necessary. Reducing "loneliness" during the COVID-19 pandemic is essential for improving students' mental health and academic motivation. Intervention studies are needed to explore whether alleviating loneliness can enhance academic motivation and mental health during the pandemic.

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References

1. World Health Organization. Statement on the second meeting of the International Health Regulations (2005) Emergency Committee regarding the outbreak of novel coronavirus (2019-nCoV). Published January 30, 2020. Accessed February 2, 2020. Available from: https://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(2019-ncov)
2. Ministry of Health, Labour and Welfare. Current situation of the novel coronavirus infection and the response of the Ministry of Health, Labour and Welfare (as of June 27, 2022). Available from: https://www.mhlw.go.jp/stf/newpage_26465.html
3. Zhai Y, Du X. Addressing collegiate mental health amid COVID-19 pandemic. Psychiatry Res. 2020;288:113003. Available from: https://doi.org/10.1016/j.psychres.2020.113003
4. Cao W, Fang Z, Hou G, Han M, Xu X, Dong J, Zheng J. The psychological impact of the COVID-19 epidemic on college students in China. Psychiatry Res. 2020;287:112934.
5. Elmer T, Mepham K, Stadtfeld C. Students under lockdown: Comparisons of students' social networks and mental health before and during the COVID-19 crisis in Switzerland. PLoS One. 2020;15(7).
6. Wang C, Pan R, Wan X, Tan Y, Xu L, Ho CS, Ho RC. Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. Int J Environ Res Public Health. 2020;17(5):1729.
7. Son C, Hegde S, Smith A, Wang X, Sasangohar F. Effects of COVID-19 on college students' mental health in the United States: Interview survey study. J Med Internet Res. 2020;22(9).
8. Takahashi A, Kitagawa S, Sasaki T, et al. Impact of COVID-19 outbreak on the mental health of university students. J Psychiatr Ment Health Nurs. 2021;29(2):85-92.
9. Masuda H, Takahashi C, Hiraoka R, et al. Study on stress and mental health of nursing students during the COVID-19 pandemic response period. J Nurs Univ Jpn. 2021;44(1):37-45.
10. Ochiai Y. The structure of loneliness in adolescence. Tokyo: Kazama Shobo; 1989.
11. Ohue T. Impact of self-restraint by COVID-19 pandemic on mental health in university students—COVID-19 Cross-sectional survey during the second wave in Japan. Hyogo Univ J. 2024;30:157-166.
12. Wang X, Cheng Z. Cross-Sectional Studies: Strengths, Weaknesses, and Recommendations. Chest. 2020;58(1S). doi: 10.1016/j.chest.2020.03.012.
13. Kroenke K, Spitzer RL, Williams JB. The PHQ-9: validity of a brief depression severity measure. J Gen Intern Med. 2010; 16:606-613.
14. Muramatsu K. Japanese version of Patient Health Questionnaire (PHQ-9, PHQ-15) and Generalized Anxiety Disorder-7: up to date. Niigata Seiryo Univ Grad Sch Clin Psychol Res. 2014; 7:35-39.
15. Muramatsu K, Miyaoka H, Kamijima K, et al. Performance of the Japanese version of the Patient Health Questionnaire-9 (J-PHQ-9) for depression in primary care. Gen Hosp Psychiatry. 2018; 52:64-69.
16. Spitzer RL, Kroenke K, Williams JB, Lowe B. A brief measure for assessing generalized anxiety disorder: The GAD-7. Arch Intern Med. 2006; 166:1092-1097.
17. Muramatsu K, Muramatsu Y, Miyaoka H, et al. Validation and utility of a Japanese version of the GAD-7. Jpn J Psychosom Med. 2010;50(6):166.
18. Asukai N, Kato H, Kawamura N, Kim Y, Yamamoto K, Kishimoto J, et al. Reliability and validity of the Japanese-language version of the Impact of Event Scale-Revised (IES-R-J): Four studies on different traumatic events.
19. Shimoyama H. A study on apathy in male university students. Res Educ Psychol. 1995; 43:145-155.
20. Russell D, Peplau LA, Ferguson ML. Developing a measure of loneliness. J Pers Assess. 1978; 42:290-294.
21. Kudo R, Nishikawa M. A study on loneliness (I): Examination of the reliability and validity of the loneliness scale. Exp Soc Psychol Res. 1983; 22:99-108.
22. Tokyo Metropolitan Institute of Medical Science. PTSD Symptom Scale. Available from: https://mentalhealth-unit.jp/research/ptsd
23. Smith KE, Norman GJ, Decety J. Increases in loneliness during medical school are associated with increases in individuals' likelihood of mislabeling emotions as negative. Emotion. 2020. Available from: https://doi.org/10.1037/emo0000773
24. Jones D, Jopling K. Lessons from lockdown: Conversations through COVID-19. Campaign to End Loneliness. 2021. Available from: https://www.campaigntoendloneliness.org/wp-content/uploads/Conversations-through-Covid-19-final-1.pdf

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The Association between Moderate Physical Activity and Stress in Thai Older Adults with Hypertension

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Abstract

Background: Hypertension is a serious health concern for Thailand's aging population. Although moderate physical activity is beneficial to physical and mental health, there are limited studies to specifically examine the relationship between physical activity and stress among older adults with hypertension in Thailand.

Methods: This cross-sectional study was conducted from December 2022 to June 2023 through face-to-face interviews by questionnaires. Multiple logistic regression was employed to investigate the associations between moderate physical activity and stress.

Results: The study included 203 older adults with hypertension. The majority of the participants were female (78.82%) and aged over 69 years (69.46%). Moderate physical activity was reported by 36.45%, while 10.34% experienced stress. Older adults with hypertension who engaged in moderate physical activity were 93% less likely to experience stress compared to those who did not (AOR=0.07, 95% CI: 0.01 - 0.98, p=0.048). Additionally, those who graduated higher education level were less likely to experience stress.

Conclusion: Moderate physical activity and a higher education level were associated with a lower experience of stress among older adults with hypertension. Healthcare professionals should incorporate physical activity and stress management strategies into their care plans for older adults with hypertension. Encouraging and promoting physical activity and educational opportunities are important to reduce stress levels in seniors with hypertension.

Keywords: Moderate Physical activity, Stress, Older adult, Hypertension

Introduction

Global demographic trends indicate a rapid increase in the older population. The proportion of individuals aged 60 and above will rise from 12% in 2015 to 22% by 2050. Notably, this phenomenon of population aging is accelerating in developing countries. By mid-century, it is estimated that two-thirds of the world's population over 60 will reside

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in low- and middle-income nations.[1,2] Thailandis experiencing a demographic shift characterized by a growing elderly population. In 2022, senior citizens comprised 19% of the population, with a projected increase to 31.4 percent by 2042. Notably, one-quarter of all older adults are expected to reside in Thailand's northern region.[3]Older adults are more likely to be affected by the phenomenon of multimorbidity.[4]

Hypertension is a major global health issue with a high and increasing prevalence. An estimated 1.28 billion adults aged 30–79 years worldwide have hypertension, most (two-thirds) living in low- and middle-income countries.[5]Around 25% of Thai adults have hypertension, or raised blood pressure.[6] The primary mechanism driving hypertension in older adults is vascular aging, which leads to endothelial dysfunction and arterial stiffening.[7] Uncontrolled or untreated hypertension can lead to a wide range of serious and potentially life-threatening complications, including heart disease, kidney disease, stroke, and cognitive decline.[8,9]

Around 14% of adults aged 60 and over live with a mental disorder. These mental health conditions account for 10.6% of the total disability burden among older adults.[10] Depression and anxiety are particularly common mental health issues associated with hypertension in this age group.[11] However, stressful events and chronic hypertension can lead to negative emotions, which further complicate hypertension management and treatment outcomes.[12] This highlights the significant concern of stress in older adults, as it can negatively impact both their physical and mental health.[13,14] In addition, there is a growing elderly population, high blood pressure (hypertension), and mental health issues were also increased. These problems can worsen each other, leading to a poorer quality of life, less successful treatment, and even a higher risk of death.[11]

Physical activity, defined as any bodily movement that expends energy, offers substantial physical and mental health benefits. Approximately one-third (31%) of the global adult population, which equates to around 1.8 billion people, is physically inactive.[15] Physical activity demonstrably improves physical and mental health by contributing to the prevention of non-communicable diseases, reducing symptoms of mental health conditions.[16–20] The Thai government, through a collaborative effort between multiple ministries and agencies, has launched the National Plan to Promote Physical Activity (2018-2030) and its Action Plan (2018-2020) to encourage an active lifestyle among the Thai population.[21,22] The studies found that the prevalence of physical activity varies across countries. Such Thai older adults in Ayuttaya engaged in moderate-intensity activities(48.7%)[23] and Phitsanulok(23.7%).[24] According to the World Health Organization guidelines, older people should do moderate-intensity aerobic activity for at least 150 minutes each week, or alternatively, 75 minutes of vigorous-intensity activity.[25]

While hypertension is a significant health concern for Thailand's aging population, theprevalence of hypertension among Thai older adults has continued to rise. Several studies have demonstrated that moderate physical activity can help reduce blood pressure and enhance the mental health of older adults. However, few studies of specific association between physical activity and stress in older adults with hypertension exist are limited. This study aims to investigate the association between moderate physical activity and stress in Thai older adults with hypertension. The findings could have important implications for the development of more comprehensive hypertension management strategies.

Methods

Research Design

A cross-sectional study

Population

Older adults diagnosed with hypertension in Lomkao, Phetchabun Province, Thailand.

Sample sizeand sampling techniques

Sample size calculations were conducted for both simple and multiple logistic regression models. For the simple model, where the overall event rate (P) was 0.18, the proportion of the sample with engaged moderate physical activity(B) was 0.5, the event rate for older adults with hypertension who did not engage in moderate physical activity (P1) was 0.09, and the event rate for those who did (P2) was 0.26, a total sample size of 152 was determined. To control for potential confounding factors, a multiple logistic

regression analysis was employed. Using a multiple correlation coefficient of 0.5 to estimate the influence of covariates, the required sample size increased to 203 participants.[26]

A systematic sampling approach was employed to select participants. This study recruited elderly participants residing within the research area for a minimum of one year. Inclusion criteria specified participants aged 60-80 who could communicate in Thai. Participants with severe mental health conditions or significant physical limitations were excluded.

Measurement tools

The study used three parts of questionnaires to gather data from participants: Individual Characteristics: This section included seven questions on gender, age, educational level, sufficient income, employment, living arrangements, and caregiver.

Depression Anxiety Stress Scale-21 (DASS-21): This self-report measure assessed three negative emotional states: depression, anxiety, and stress. It contained 21 items reflecting the participants' experiences over the past week. Responses were rated on a four-point Likert scale (0 = did not apply to me at all; 3 = applied to me very much).[27] The stress section (Items 1, 6, 8, 11, 12, 14, and 18) was scored as "no" (0 to 7) or "yes" (8 to 42).

International Physical Activity Questionnaire-Short Form (IPAQ-SF): This instrument assessed physical activity levels in various daily life domains, including leisure time, domestic and gardening activities, work-related activities, and transport-related activities. It inquired about walking, moderate-intensity, and vigorous-intensity activities. Physical activity was scored in minutes per week or categorized into low, moderate, and high levels. Moderate physical activity was calculated using Items 3 and 4.[28]

Data Collection

We conducted the data collection from December 2022 to June 2023 by face-to-face interviews. The researcher provided a one-week training program to the research assistants (five geriatric care workers) which covered the study protocol, interviewing techniques, and participant selection criteria. Before the interview, each participant provided written informed consent following a detailed explanation of the study's goals, procedures, possible outcomes, and their rights to decline participation. Participant information confidentiality was prioritized, and participants were informed that they could withdraw from the study any time.

Statistical analysis

Descriptive statistics were employed to depict the characteristics of participants. In the case of categorical variables, the distribution was presented as frequency and percentage (%). In the case of continuous variables, the distribution was presented as means and standard deviations (SD).

We used STATA version 17 for data analysis. Categorical data was summarized using frequencies and percentages, while continuous data was described by means and standard deviations. Multiple logistic regression investigated the associations between moderate physical activity and stress adjusting for confounding variables; the adjusted odds ratio (AOR) and 95% confidence interval (CI) were presented. A significant level of 0.05 was used for all statistical tests.

Ethical considerations

The study was approved by the Institutional Review Board (IRB) at Phetchabun Hospital (IEC-20-2565) on November 9, 2022.

Results

Demographic Characteristics of Older Adults with Hypertension

The study included 203 older adults with hypertension. The mean age of the participants was 68.42 years (SD = 4.82). Most were female (78.82%) and over 69 years old (69.46%). The majority had higher primary school education (51.23%), sufficient income without savings (40.39%), and were employed (81.28%). Most lived with others (93.10%) and had a caregiver (72.91%) (Table 1).

Moderate Physical Activity and Stress Levels

Of the older adults with hypertension, 63.55% did not engage in moderate physical activity, while 36.45% did. The mean number of days per week of

moderate physical activity was 1.46 days (SD = 2.28). The mean duration per week was 84.83 minutes (SD = 173.71). Additionally, 89.66% did not experience stress in the past week, while 10.34% did (Table 2).

Associations between Moderate Physical Activity and Stress

Older adults with hypertension who engaged in moderate physical activity were 93% less likely to experience stress compared to those who did not (AOR=0.07, 95% CI: 0.01 - 0.98, p=0.048). Those who graduated from primary school (AOR=0.01, 95% CI: 0.01 – 0.04, p<0.001) and higher than primary school (AOR=0.01, 95% CI: 0.01 – 0.12, p=0.002) were less likely to experience stress compared to those with no education. (Table 3)

Table 1: Demographic characteristics of the participants

Demographic characteristics(n=203)	Number	Percentage
Gender		
Male	43	21.18
Female	160	78.82
Age (years)		
≤69	62	30.54
>69	141	69.46
Mean(SD)	68.42 (4.82)	
Min - Max	60 - 79	
Educational level		
No education	18	8.87
Primary school	81	39.90
Higher than Primary school	104	51.23
Sufficient income		
Not sufficiency	62	30.54
Sufficiency without saving	82	40.39
Sufficiency and saving	59	29.06
Employment		
Unemployed	38	18.72
Employed	165	81.28
Living arrangement		
With other (partner, family, relatives, friend, etc.)	189	93.10
Living alone	14	6.90
Caregiver		
No	55	27.09
Yes	148	72.91

Table 2: Moderate physical activity and stress of the participants

Moderate physical activity and stress (n=203)	Number	Percentage
Moderate physical activity		
No	129	63.55
Yes	74	36.45
Days per week		
Mean (SD)	1.46 (2.28)	
Min-Max	0 -7	

Continue.....

Minutes per week		
Mean (SD)	84.83 (173.71)	
Min-Max	0 - 700	
Stress		
No	182	89.66
Yes	21	10.34

Table 3: The association associations between moderate physical activity and stress

Factors	n= 203	Stress		COR	AOR	95% CI	p-value
		n	%				
Gender							
Male	43	6	13.95	Ref.	Ref.		
Female	160	15	9.38	0.64	0.29	0.05 – 1.61	0.158
Age (years)							
≤69	62	6	9.68	Ref.	Ref.		
>69	141	15	10.64	1.11	0.83	0.13 – 5.36	0.848
Educational level							
No education	18	16	88.89	Ref.	Ref.		
Primary school	81	3	3.70	0.01	0.01	0.01 – 0.04	<0.001
Higher than Primary school	104	2	1.92	0.01	0.01	0.01 - 0.12	0.002
Sufficient income							
Not sufficiency	62	18	29.03	Ref.	Ref.		
Sufficiency without saving	82	2	2.44	0.06	0.75	0.06 – 10.02	0.830
Sufficiency and saving	59	1	1.69	0.04	0.65	0.01 - 28.94	0.824
Employment							
Unemployed	38	12	31.58	Ref.	Ref.		
Employed	165	9	5.45	0.13	0.33	0.05 – 2.16	0.247
Living arrangement							
With other (partner, family, relatives, friend, etc.)	189	20	10.58	Ref.	Ref.		
Living alone	14	1	7.14	0.65	0.22	0.01 – 27.79	0.538
Moderate physical activity							
No	129	18	13.95	Ref.	Ref.		
Yes	74	3	4.05	0.26	0.07	0.01 - 0.98	0.048

Note: COR: Crude odds ratios,AOR:adjusted odds ratio, and CI: Confidence interval

Discussion

The study provided valuable insights into the relationship between physical activity, stress, and demographic factors in older adults with hypertension which is particularly relevant, as this group often faces both physical and psychological challenges. We found that engaging in moderate physical activity and having higher education levels were associated with lower stress.

Our findings on the prevalence of moderate physical activity (36.45%) align with previous research in various locations, such as Beijing, China (78.57%)[29], Demak Regency, Indonesia (60.3%)[30], and Ayuttaya, Thailand (48.7%)[23]. However, variability

was observed in other studies, for example, national surveys in the US showed participation rates ranging from 27.3% to 44.3%[31], while Phitsanulok, Thailand reported 23.7%[24], Cawang, East Jakarta Indonesia reported 17.6%[32], and Northern Ireland reported 10%.[33] Participants in our study engaged in an average of 84 minutes of moderate physical activity per week which is below the recommended 150 minutes of moderate-intensity or 75 minutes of vigorous-intensity activity per week for substantial health benefits.[25,34] Only 10.34% of participants reported experiencing stress in the past week, consistent with the rate among hypertensive patients in a primary care clinic in Malaysia (13.9%).[35] The "district health system" in Lomkao, which promotes health, disease prevention, environmental health, and community participation, might have influenced our study results.

Our findings indicated that older adults with hypertension who engaged in moderate physical activity were less likely to experience stress. The findings were supported by studies conducted in Texas, which highlighted the effectiveness of engaging in more light physical activity for managing stress among older adults.[36]Furthermore, these studies confirmed the effect of moderate physical activity in reducing stress for older adults in Brazil.[37]Consistent with a systematic review that demonstrated that exercise interventions effectively reduced psychological stress in adults aged 50 and older.[38] Combining stress management techniques with exercise programs may further reduce stress levels.[39]Moreover, the results of our study indicated that higher education levels were also associated with lower stress. This aligns with previous studies showing that higher education is related to better mental health and psychological well-being in older adults.[37,40,41] Education may empower older adults to maintain resilience and effectively cope with challenges of aging.[42]

The strengths and limitations

The study's findings provided unique and robust evidence supporting the positive impact of moderate physical activity on stress reduction in older adults with hypertension, particularly in this population experiencing "complete aging society" areas. However, the geographically specific sample limited generalizability to other populations or cultural contexts. Moreover, due to the cross-sectional study, causal relationship couldn't be determined, and the assessment period for data collection was short.

Implications for Community Nurses

Healthcare providers should prioritize integrating evidence-based physical activity and stress management interventions into comprehensive care plans for older adults with hypertension. Nurses can play an essential role by promoting specific, moderate-intensity physical activities such as walking, tai chi, or resistance training, to reduce stress levels among senior populations affected by hypertension. Collaborating with social workers or mental health professionals can address underlying stressors, facilitating a comprehensive approach to hypertension management.

Recommendations

Healthcare providers should develop, implement, and encourage participation in physical activity programs specifically designed for older adults with hypertension, such as low-impact aerobics, chair exercises, or walking groups. The government and stakeholders should provide funding and support for the creation and maintenance of senior centers with exercise facilities and promote walkable communities with parks, sidewalks, and safe pedestrian crossings. Future research should examine the long-term impact of physical activity on stress management and overall well-being. Expanding research to other levels of physical activity will help understand how different types of exercise impact stress levels, providing a holistic picture of long-term stress and its connection to physical activity habits.

Conclusion

The present study underscored that moderate physical activity and higher educational levels were associated with lower stress in older adults with hypertension. Healthcare providers should encourage hypertensive patients, especially older adults, to adopt moderate physical activity routines. Community programs promoting physical activity for seniors should be expanded. Additionally, future research should explore the mechanisms of the long-term impact of physical activity on stress.

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Declarations:

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References

1. World Health Organization. Ageing and health. Published October 1, 2022. Accessed July 11, 2023. https://www.who.int/news-room/fact-sheets/detail/ageing-and-health
2. Affairs UND of E and S. World Population Ageing 2019. United Nations; 2020. doi:10.18356/6a8968ef-en
3. Department of Older Persons. Situation of The Thai Older Persons 2022. Foundation of Thai Gerontology Research and Development Institute and Institute for Population and Social Research, Mahidol University; 2023. https://thaitgri.org/?wpdmpro=situation-of-the-thai-older-persons-2022
4. Rodrigues LP, Rezende AT de O, Moura L de AN e, et al. What is the impact of multimorbidity on the risk of hospitalisation in older adults? A systematic review study protocol. BMJ Open. 2021;11(6):e049974. doi:10.1136/bmjopen-2021-049974
5. World Health Organization. Hypertension. Published March 16, 2023. Accessed July 17, 2024. https://www.who.int/news-room/fact-sheets/detail/hypertension
6. Reducing cardiovascular disease (hypertension and sodium). Accessed July 17, 2024. https://www.who.int/thailand/activities/reducing-cardiovascular-disease
7. Benetos A, Petrovic M, Strandberg T. Hypertension Management in Older and Frail Older Patients. Circulation Research. 2019;124(7):1045-1060. doi:10.1161/CIRCRESAHA.118.313236
8. Ahuja R, Ayala C, Tong X, Wall HK, Fang J. Public Awareness of Health-Related Risks From Uncontrolled Hypertension. Prev Chronic Dis. 2018;15:E40. doi:10.5888/pcd15.170362
9. Masenga SK, Kirabo A. Hypertensive heart disease: risk factors, complications and mechanisms. Front Cardiovasc Med. 2023;10:1205475. doi:10.3389/fcvm.2023.1205475
10. World Health Organization. Mental health of older adults. Published October 20, 2023. Accessed March 25, 2024. https://www.who.int/news-room/fact-sheets/detail/mental-health-of-older-adults
11. Turana Y, Tengkawan J, Chia YC, et al. Mental health problems and hypertension in the elderly: Review from the HOPE Asia Network. J Clin Hypertens (Greenwich). 2021;23(3):504-512. doi:10.1111/jch.14121
12. Gan Q, Yu R, Lian Z, Yuan Y, Li Y, Zheng L. Unraveling the link between hypertension and depression in older adults: a meta-analysis. Front Public Health. 2023;11. doi:10.3389/fpubh.2023.1302341
13. Gore R. The Impact of Stress on Older Adults and Tips for Managing It. Published January 16, 2024. Accessed July 17, 2024. https://www.hebrewseniorlife.org/blog/impact-stress-older-adults-and-tips-managing-it
14. Seangpraw K, Auttama N, Kumar R, Somrongthong R, Tonchoy P, Panta P. Stress and associated risk factors among the elderly: a cross-sectional study from rural area of Thailand. F1000Res. 2020;8:655. doi:10.12688/f1000research.17903.2
15. World Health Organization. Physical activity. Published June 26, 2024. Accessed July 17, 2024. https://www.who.int/news-room/fact-sheets/detail/physical-activity
16. Saqib ZA, Dai J, Menhas R, et al. Physical Activity is a Medicine for Non-Communicable Diseases: A Survey Study Regarding the Perception of Physical Activity Impact on Health Wellbeing. Risk Manag Healthc Policy. 2020;13:2949-2962. doi:10.2147/RMHP.S280339
17. DHULI K, NAUREEN Z, MEDORI MC, et al. Physical activity for health. J Prev Med Hyg. 2022;63(2 Suppl 3):E150-E159. doi:10.15167/2421-4248/jpmh2022.63.2S3.2756
18. Masanovic B, Akpinar S, Halasi S, Stupar D, Popovic S. Editorial: Physical activity as a natural cure for non-communicable diseases. Front Public Health. 2023;11:1209569. doi:10.3389/fpubh.2023.1209569
19. Mahindru A, Patil P, Agrawal V. Role of Physical Activity on Mental Health and Well-Being: A Review. Cureus. 15(1):e33475. doi:10.7759/cureus.33475
20. Schuch FB, Vancampfort D. Physical activity, exercise, and mental disorders: it is time to move on. Trends Psychiatry Psychother. 2021;43(3):177-184. doi:10.47626/2237-6089-2021-0237
21. World Health Organization. Thailand's physical activity drive is improving physical health. Accessed July 17, 2024. https://www.who.int/southeastasia/activities/thailand-s-physical-activity-drive-is-improving-physical-health

22. Topothai T. Thailand Physical Activity Strategy 2018-2030: Challenges and Recommendations for Improved Implementation. Journal of Health Science of Thailand. 2021;30(6):1153-1164.
23. Ethisan P, Somrongthong R, Ahmed J, Kumar R, Chapman RS. Factors Related to Physical Activity Among the Elderly Population in Rural Thailand. J Prim Care Community Health. 2017;8(2):71-76. doi:10.1177/2150131916675899
24. Kitreerawutiwong N, Keeratisiroj O, Mekrungrongwong S. Factors That Influence Physical Activity Among Older Adults Living in Rural Community in Wangthong District, Phitsanulok, Thailand. Sage Open. 2021;11(4):21582440211061368. doi:10.1177/21582440211061368
25. World Health Organization. Promoting physical activity. World Health Organization - Regional Office for the Eastern Mediterranean. Accessed July 17, 2024. http://www.emro.who.int/health-education/physical-activitiy/promoting-physical-activity/What-is-the-recommended-amount-of-exercise.html
26. Hsieh FY, Bloch DA, Larsen MD. A simple method of sample size calculation for linear and logistic regression. Stat Med. 1998;17(14):1623-1634. doi:10.1002/(sici)1097-0258(19980730)17:14<1623::aid-sim871>3.0.co;2-s
27. Depression Anxiety Stress Scale-21 (DASS21). Addiction Research Center. Accessed March 11, 2024. https://arc.psych.wisc.edu/self-report/depression-anxiety-stress-scale-21-dass21/
28. International Consensus Group. International Physical Activity Questionnaire - Short Form. Published online 1998. https://youthrex.com/wp-content/uploads/2019/10/IPAQ-TM.pdf
29. Miao H, Li J, Weng X, et al. Impact of physical activity on the prevalence of hypertension among the older adults in Beijing communities. Advances in Health and Behavior. 2019;2(1):41-48. doi:10.25082/AHB.2019.01.003
30. Soesanto E, Khoiriyah K, Handayani IF. Description of Physical Activities in the Elderly with Hypertension in PosbinduSumber Sehat, Demak Regency. Open Access Macedonian Journal of Medical Sciences. 2021;9(T4):194-198. doi:10.3889/oamjms.2021.5759
31. Keadle SK, McKinnon R, Graubard BI, Troiano RP. Prevalence and trends in physical activity among older adults in the United States: A comparison across three national surveys. Prev Med. 2016;89:37-43. doi:10.1016/j.ypmed.2016.05.009
32. Suling F, Rantung N, Gowa M, Lumaksono M, Widihastuti W, Suling T. 63. Effect of Physical Activity on Hypertension in the Geriatric Population at Cawang, East Jakarta. Journal of Hypertension. 2023;41(Suppl 2):e15. doi:10.1097/01.hjh.0000935632.19879.e5
33. O'Doherty M, Cunningham C, Neill RD, Tully MA. The association of resilience and physical activity in older adults: cross-sectional analyses from the NICOLA study. J Public Health (Berl). Published online May 15, 2024. doi:10.1007/s10389-024-02274-3
34. CDC. Physical Activity for Adults: An Overview. Physical Activity Basics. Published February 21, 2024. Accessed July 17, 2024. https://www.cdc.gov/physical-activity-basics/guidelines/adults.html
35. Loke WH, Ching SM. Prevalence and factors associated with psychological distress among adult patients with hypertension in a primary care clinic: A cross-sectional study. Malays Fam Physician. 2022;17(2):89-98. doi:10.51866/oa.131
36. Leger KA, Charles ST, Brown CJ, Fingerman KL. Physical Activity and Daily Stress Processes in Older Adulthood. J Gerontol B Psychol Sci Soc Sci. 2023;78(1):20-29. doi:10.1093/geronb/gbac113
37. Figueira HA, Figueira OA, Figueira AA, Lyra da Silva CR, Figueira JA, Martin Dantas EH. Association of Stress with Healthy Aging, the Role of Physical Activity. OBM Geriatrics. 2022;6(4):1-10. doi:10.21926/obm.geriatr.2204219
38. Churchill R, Teo K, Kervin L, Riadi I, Cosco TD. Exercise interventions for stress reduction in older adult populations: a systematic review of randomized controlled trials. Health Psychol Behav Med. 10(1):913-934. doi:10.1080/21642850.2022.2125874
39. Stults-Kolehmainen MA, Sinha R. The Effects of Stress on Physical Activity and Exercise. Sports Med. 2014;44(1):81-121. doi:10.1007/s40279-013-0090-5
40. Kao IC, Chang LC. Long-term effects of leisure education on leisure needs and stress in older adults. Educational Gerontology. 2017;43(7):356-364. doi:10.1080/03601277.2017.1299447
41. Belo P, Navarro-Pardo E, Pocinho R, Carrana P, Margarido C. Relationship Between Mental Health and the Education Level in Elderly People: Mediation of Leisure Attitude. Front Psychol. 2020;11:573. doi:10.3389/fpsyg.2020.00573
42. Brinkhof LP, Chambon M, Ridderinkhof KR, et al. Resilience Among Older Individuals in the Face of Adversity: How Demographic and Trait Factors Affect Mental-Health Constructs and Their Temporal Dynamics. Clinical Psychological Science. Published online August 11, 2023:21677026231190294. doi:10.1177/21677026231190294

Original Article

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Education Empowerment: Transformation of Parenting Style with Incidence of Stunting. A Cross Sectional Analysis in One Island, Indonesia

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Abstract

Childhood Stunting is a condition of failure to thrive in children under five as a result of chronic malnutrition so that children become too short for their age. Parenting is an important component that should not be disregarded in the pursuit of better nutritional status, since it has an indirect impact on nutritional. This study aims to determine the relationship between family parenting and the incidence of stunting in Simeulue Island Aceh, Indonesia. This study applied a cross-sectional design involving 86 people who were taken by proportional sampling. Chi-square test showed a relationship between permissive parenting and experienced stunting (p-value, 0.001), a relationship between authoritarian parenting and experienced stunting (p-value, 0.000), and a relationship between democratic parenting with experienced stunting (p-value, 0.002). Therefore, it is expected that respondents, namely families of toddlers, will provide good parenting to toddlers so that they will increase the growth and development of toddlers to prevent stunting.

Keywords: Family Parenting; Stunting ; Island ; Children

Introduction

The success of a nation's development is highly dependent on the success of a nation that can prepare quality human resources. To prepare quality human resources, one of the government's efforts is to solve nutritional problems in toddlers. Toddlers are babies under five years old, of course, become the next

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generation of the nation which is expected to become quality human resources in the future. Healthy children are the base for a healthy nation. Children are quite vulnerable at this growing age and hence are prone to fall victim to many diseases, thus affecting their normal growth and development[1.19]

Nutritional problems can be characterized by the number of cases of malnutrition in children under five. One of the nutritional cases that can occur in children under five is *stunting.* Globally in 2010 the prevalence of *stunting* in the world was 26.1%.cases of *stunting* most The prevalence *stunting* in children in the world decreased in 2015 by 23.2% and was followed in 2017 to 22.2%. The world estimates that *stunting* will reach 21.8% or 142 million by 2020.[2]

World Health Organization (WHO) places Indonesia as the third country with the highest prevalence of *stunting* in Asia. The prevalence *stunting* nationally in Indonesia has increased from 27.5% in 2016 to 29.6% in 2018. The prevalence *stunting* in children under five in Indonesia then decreased in 2019 by 27.6%. The Nutrition Status Monitoring (PSG) data for the last three years noted that the prevalence of *stunting* had increased from 27.5% in 2016 to 29.6% in 2018.[3]

Based on data from the Aceh Provincial Health Office, the percentage of *stunting* in children under five has increased from 2017 by 35.7% to 37.3% in 2018. Meanwhile, in 2019 the number of *stunting* was 104 people the incidence of *stunting* decreased by 34.2%[4]. Then in 2020 in January-September the number of children under five with *stunting* was 138 people (65.7%)[12] . One of the regencies that is in second place out of 23 regencies/cities in Aceh that is experiencing *stunting* is Simeulue district. Then according to the Simeulue District Health Office, in 2018 the number of *stunting* in Simeulue Island was 40.2% and increased in 2019 by 67%. Thus, it is necessary for government efforts to reduce the incidence of *stunting* in Aceh, especially in Simeulue Island.[5]

Problem in children under five is the impact of nutrition during the first thousand days of life. This causes impaired physical development, resulting in a decrease in cognitive and motor abilities. children *Stunting* have an average *Intelligence Quotient* (IQ) score of eleven points lower than the average IQ score for normal children. Developmental disorders develop in children due to malnutrition, if they do not get intervention early on, which will continue into adulthood.[7]

Simeulue Island is the most remote island in Indonesia as a maritime country, has abundant fishery wealth, its marine products can even reach 13 thousand tonnes per year[20]. But the incidence of stunting is increasing, this condition is feared to cause physical development disorders, decreased cognitive and motor abilities, the average Intelligence Quotient (IQ) score is eleven points lower than the average IQ score of normal children[6.7].

This condition is thought to be closely related to the role of education in changing or improving parenting styles related to preventing stunting is still not optimal. so that parenting patterns directly affect nutritional status, this needs to be considered and should not be ignored in efforts to improve children's nutritional status.[3.15]

Kinds of parenting styles, namely permissive parenting, authoritarian parenting and democratic parenting, these three parenting styles have a role in influencing children's behavior. Permissive parenting that emphasizes the freedom of children and tends not to pay attention to it. The authoritarian parenting style is applying rules and restrictions to toddlers, without giving children freedom. In addition, democratic parenting that gives freedom to children and tends to have an influence on children's behavior, namely children tend to carry the authority of parental authority.[9]

Factors that are not good parenting in the family is one of the causes of nutritional problems such as *stunting.* Parenting includes the ability of families to provide time, attention and support in meeting the physical, mental and social needs of children who are growing in the family. Parenting for children is manifested in several ways in the form of breastfeeding, complementary foods, psychosocial stimulation, hygiene/*hygiene practices,* environmental sanitation, care for sick children and patterns of seeking health services. Habits that exist in the family such as feeding, psychosocial stimulation, hygiene/ *hygiene*, environmental sanitation and utilization of health services have a relationship with the incidence of *stunting*.[1]

Parenting in the family in the form of feeding habits, parenting habits, hygiene habits and the habit of getting health services are related to the incidence of *stunting* under five. Thus, it is necessary to improve good family parenting patterns to reduce the incidence of *stunting* in toddlers[11,18]. Based on the above problems, researchers need to analyse the role of education in changing or improving parenting styles related to the incidence of stunting and statistically measure the relationship between parenting styles and the incidence of stunting.

Research Method

This research is a quantitative research, namely research based on the philosophy of positivism to examine a particular population or sample by collecting data using instruments, the data analysis is statistical. The design used in this research is descriptive correlation with a *cross sectional research approach.*

The population in this research were all toddlers aged 1-5 years in the working area of the Simeulue Island Aceh Indonesia, totaling 636 people. The samples was obtained using Slovin's formula with a margin of error of 10%, resulting in a total of 86 samples. They were taken from 18 villages using proportional sampling.

The data collection instrument in this research used a questionnaire sheet. Data analysis used *chi square* with 95% confidence level. The decision of the *chi* square consists of Ha (alternative hypothesis), that is, if p < (0.05), it means that there is a significant relationship between the dependent variable and the independent variable. Then H0 (zero hypothesis) that is, if p (0.05), it means that there is no significant relationship between the dependent variable and the independent variable.Data Analysis make use of IBM SPSS Version 23 was utilized to analyze the data.

Results

The results of this study showed that most respondents were aged 1-3 years (76.7%), male (54,7%), normal incident stunting 47.7%), not good permissive parenting pattern (58.1), not good authoritarian parenting (53.5%) and not good democratic parenting pattern (62.8%). The following is an explanation of the demographic data of the respondents in Table 1 :

Table 1: Characteristic Respondents (n=86)

Characteristic Respondents	**f**	**%**
Age		
(1-3 years)	66	76.7
Toddler (4-5 years)	20	23.3
Gender		
Male	47	54.7
Female	39	45.3
Incident *Stunting*		
Normal	41	47.7
Short	39	45.3
Very short	6	7
Permissive		
Good	36	41.9
Not good	50	58.1
Authoritarian		
Good	40	46.5
Not good	46	53.5
Democratic		
Good	32	37.2
Not good	54	62.8

Bivariate analysis using the Chi-Square test shows a relationship of Parenting Style incident *stunting*between permissive parenting(P value, 0.001), authoritarian parenting (P value, 0.000) and democratic parenting (P value, 0.002). Bivariate analysis is further explained in Table 2:

Table 2 : The Relationship of Permissive Parenting, Authoritarian Parenting, and Democratic Parenting with *Stunting* in Toddlers in Simeulue Island Aceh, Indonesia (n=86)

Parenting Style	Incidence Stunting								P Value*
	Normal		Short		Very short		Total		
	f	%	f	%	f	%	f	%	
Permissive Parenting									
Good	32	88.9	4	11.1	0	0	36	100	0.001
Not good	9	18	35	70	6	12	50		
Authoritarian Parenting									
Good	32	80	7	17.5	1	2.5	40	100	0.000
Poor	9	19.6	32	69.6	5	10.9	46		
Democratic Parenting									
Good	31	96, 9	1	3.1	0	0	32	100	0.002
Not good	10	18.5	38	70.4	6	11.1	54		

Note : *) *Chi Square Test*

Discussion

Relationship between Permissive Parenting Patterns and *Stunting*

The analysis results show a significant relationship between permissive parenting and the incidence of *stunting* in children under five in the working area of the Simeulue Island Aceh Indonesia (*p-value* = 0.001). *Stunting* as a condition of malnutrition related to the nutritional status of children under five. Nutritional status is indirectly influenced by various factors such as food availability which is influenced by economic factors and parenting patterns. Parenting patterns directly affect nutritional status, so parenting needs to be considered and should not be ignored in an effort to improve nutritional status, especially for toddlers so that *stunting*[6].

Permissive parenting is where guardians feel they do not care and tend to donate openings and wide flexibility to their children. It is characterized by the opportunity given to children to act concurring to their own wishes. Children don't know whether their behavior is right or off-base since guardians never legitimize or fault. As a result, children carry on concurring to their claim wishes. Another circumstance in this child rearing design is that children are free to act and do as they wish.[13]

Permissive parenting behavior in children is as a rule given conflictingly with the rules that have been connected and employments bribes such as blessings in case the caregiver's wishes are satisfied. In expansion, caregivers deliver children more opportunity than duty and results of their behavior. Lenient children's individual characteristics are ordinarily forceful, incapable to participate with others, and troublesome to alter. As a result, children carry on agreeing to their claim wishes which can lead to hindering [11].

Individuals with a permissive parenting style often allow their children to chew until they are full before eating. This tendency often leads to children delaying or even ignoring mealtimes[21]. In this case nurses need to educate parents with "Set Clear Rules" Authoritative parents have clear household rules. They make sure children know their expectations in advance and explain the reasons behind the rules. So instead of saying, "Eat because I said so," say, "Eat so you can help your body and brain grow." When your child understands the safety concerns, health hazards, moral issues, or social reasons behind your rules, they will develop a better understanding of life. They will also be more likely to follow the rules when you are not there to enforce them.

This study found an association between permissive parenting and the incidence of stunting in toddlers. In this research, mothers who provided poor permissive parenting tended to experience more *stunting* , as many as 35 respondents (70%). This

is because the act of permissive parenting in which families tend to give freedom to toddlers without applying a sense of responsibility. Caregivers tend to give freedom and pay less attention to toddlers such as the toddler's diet where children are free to choose the desired food ingredients and adjust the schedule and frequency of eating according to the child's wishes.

Then the caregiver gives the toddler the freedom to maintain his personal hygiene such as playing outside the house in a dirty environment. The more often caregivers provide permissive parenting that is not good above, it will have an impact on bad habits carried out by toddlers. These bad habits can have an impact on impaired growth and development of toddlers such as the emergence of *stunting*.

Relationship between Authoritarian Parenting Patterns and *Stunting*

The analysis results show a significant relationship between authoritarian parenting and the incidence of *stunting* in children under five in the working area of the Simeulue Island Aceh Indonesia (*p-value* = 0.000).

Based on authoritarian parenting theory, every word, statement, and wish is used as a standard (rule) that the child must follow.Authoritarian parenting is a way of educating children by parents by setting their own rules and boundaries that absolutely must be obeyed by children without compromise and taking into account the child's circumstances. It is the parents who have the power to determine everything for the child and the child is only the implementing object. If the child argues, the parents will not hesitate to give punishment.[14]

Authoritarian parenting has the potential to form various habits in children, such as sacrificing the child's ability to recognise hunger and fullness because of the meal schedule that is always determined by parents, the child is obese or malnourished, has no enthusiasm for food or eating activities, and the child becomes increasingly anxious when meal time is approaching[21]. In this case nurses need to educate parents with 2 (two) things, namely, (1) listen to children: be a good listener, giving positive attention to their children will be very helpful in preventing behavioural problems, especially changes in children's appetite. (2) recognise children's emotions: Authoritative parents recognise their children's feelings. They help children label their emotions and they teach them to recognise how their feelings affect their behaviour. So, next time when your child is upset, avoid minimising his feelings by saying, "It's no big deal," or "Stop crying. There's no reason to be upset." To them, it might be a big deal. Validate their emotions by saying, "I know you're really sad right now." Then, "Let's enjoy this meal dear, so you can grow up big and smart".

Authoritarian parenting is also one of the most important forms of parenting in children's growth and development. Authoritarian parenting behavior in children is usually given with certainty by following all the rules set by the caregiver regardless of the child's condition. In addition, the caregiver has the power to determine everything for the child and give punishment if the child does not want to obey his orders. Children who get authoritarian parenting tend to have a doubtful nature, and experience a decline in cognitive function. As a result, children will experience growth and development disorders such as *stunting*.[10,11].

This study found an association between authoritarian parenting and the incidence of stunting in toddlers. In this research, mothers who provided unfavorable authoritarian parenting tended to experience more *stunting*, as many as 32 respondents (69.6%). This is because the actions of authoritarian parenting in which the family tends to provide rules according to the wishes of the caregiver regardless of the child's condition. Then the caregivers tend to regulate and make their own decisions, such as the toddler's diet where the caregiver chooses the food ingredients and regulates the child's eating schedule and frequency, regardless of the child's condition. If the child does not follow the rules of the caregiver, the caregiver will punish the toddler. Children who get an authoritarian parenting style that is not good tend to experience mental disorders that can inhibit their growth and development, causing *stunting*.

According to Ramadhani et al, authoritative parenting may influence optimal nutritional status and the risk of stunting in toddlers is very low, whereas authoritarian and permissive parenting may influence poor nutritional status and cause a high risk of stunting in toddlers.

The Relationship between Democratic Parenting Patterns and *Stunting*

The analysis results show a significant relationship between democratic parenting and the incidence of *stunting* in children under five in the working area of the Simeulue Island Aceh Indonesia (*p-value* = 0.002).Based on the theory of democratic parenting is a combination of permissive and authoritarian parenting with the aim of balancing thoughts, attitudes and actions between children and parents. Democratic parenting is characterized by parental recognition of children's abilitiesand able to develop control over their own behavior with good things[12,14]. Democratic parenting is also one of the most important forms of parenting in the child's growth and development process so that *stunting*. Democratic parenting behavior for toddlers is usually given by aligning the interests of the caregivers and the interests of the children.[11.16].

This research is in line with research conducted by Bella in 2020, where the results of the bivariate analysis obtained *p-value* = 0.000 ($p<0.05$), which indicates that there is a significant relationship between democratic parenting patterns and the incidence of *stunting* in children under five from poor families. This shows statistically that mothers with poor democratic parenting habits for their toddlers have a 5.71 times greater tendency to have *stunting* than mothers with good democratic parenting habits for their toddlers.

This study found an association between democratic parenting and the incidence of stunting in toddlers. In this research, mothers who provided poor democratic parenting tended to experience more *stunting,* as many as 38 respondents (70.4%). This is due to the action of democratic parenting in which families tend to align the interests of caregivers and the interests of toddlers. Caregivers give tolerance to toddlers when they make mistakes and provide education to toddlers so they don't make mistakes again. Caregivers work more closely with toddlers to achieve a good goal. In this case, caregivers tend to organize and make decisions with toddlers such as eating schedules and the amount and amount of food consumed. In addition, caregivers tend to guide children to adopt good behavior[17]. However, in this research there are still many caregivers who are not good at providing democratic parenting to toddlers. Thus it will have an impact on growth and development disorders of toddlers which can cause *stunting.*

The role of parents in parenting children, especially stunted children, is very important. A tentative hypothesis that can be proposed is that if the parenting of parents (especially mothers) is poor, especially in terms of child feeding, it will affect the prevalence of stunting. When a mother in her twenties is malnourished, even during pregnancy and breastfeeding, her child's body and brain will suffer greatly. In this case, nurses need to educate parents by providing full support that children with stunting are also gifts from God, and it is the responsibility of parents and the family environment to provide time, attention, love, and support.

Conclusion

Based on the results of the research conducted by the researchers incidence of *stunting* in toddlers in the working area of the Simeulue island Aceh, Indonesia, it can be concluded that: the relationship between permissive parenting, authoritarian parenting, democratic parenting and the incidence of *stunting*. This can be a recommendation for community and health centers to increase education empowerment as transformation of parenting style with incidence of stunting.

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References

1. Yazew T. Risk Factors of Stunting and Wasting among Children Aged 6-59 Months in Household Food Insecurity of Jima Geneti District, Western Oromia, Ethiopia: An Observational Study. Journal of nutrition and metabolism, 2022, 3981417. https://doi.org/10.1155/2022/3981417

2. Gebreayohanes, M., & Dessie, A. Prevalence of stunting and its associated factors among children 6-59 months of age in pastoralist community, Northeast Ethiopia: A community-based cross-sectional study. 2022. PloS one, 17(2), e0256722. https://doi.org/10.1371/journal.pone.0256722
3. Indonesian Health Profile. Indonesian Health Profile.2019. Jakarta: Ministry of Health RI
4. Aceh Provincial Health Office.Aceh Health Profile.2018. Aceh: Aceh Health
5. Office Simeulue District Health Office. Simeulue Health Profile. 2020. Simeulue: District Health Office
6. The Ministry of Health of the Republic of Indonesia. Short Toddler Situation.2016. Jakarta: Ministry of Health RI
7. Indra, J., & Khoirunurrofik, K. Understanding the role of village fund and administrative capacity in stunting reduction: Empirical evidence from Indonesia. 2022. PloS one, 17(1), e0262743. https://doi.org/10.1371/journal.pone.0262743
8. Panjaitan, R. Parenting Patterns and Nutritional Status of Toddlers in Pollung District, Humbang Hasundutan Island in 2011. University of North Sumatra
9. Hurlock, E, B. Developmental Psychology: An Approach Throughout the Life Span. 2011. Jakarta: Erlangga
10. Rahmayana. Relationship between Mother's Parenting Patterns with Stunting Incidents in Children aged 24-59 months at Posyandu Asoka II Coastal Area, Barombong Village, Tamalate District, Makassar City, 2014. Al Sihah: Public Health Science Journal 6(2) : 424-436.
11. Bella, Dwi, F. The Relationship between Family Parenting Patterns with Stunting Toddlers Incidence in Poor Families in Palembang. 2020. Faculty of Public Health, Sriwijaya University, Indralaya Ogan Ilir
12. KBBI. Understanding Parenting.2018. Jakarta: Big Indonesian Dictionary
13. Dariyo, A. Psychology of Child Development in the First Three Years. 2011. Bandung: PT. Refika Aditama
14. Djamarah, S, B. Parenting Parenting and Communication in the Family. 2014. Jakarta: Rineka Cipta
15. Uwiringiyimana, V., Osei, F., Amer, S., & Veldkamp, A. Bayesian geostatistical modelling of stunting in Rwanda: risk factors and spatially explicit residual stunting burden. 2022. BMC public health, 22(1), 159. https://doi.org/10.1186/s12889-022-12552-y
16. Wulandari, R. D., Laksono, A. D., Kusrini, I., & Tahangnacca, M. The Targets for Stunting Prevention Policies in Papua, Indonesia: What Mothers' Characteristics Matter?.Nutrients, 2022. 14(3), 549. https://doi.org/10.3390/nu14030549
17. Thurstans, S., Sessions, N., Dolan, C., Sadler, K., Cichon, B., Isanaka, S., Roberfroid, D., Stobaugh, H., Webb, P., & Khara, T. The relationship between wasting and stunting in young children: A systematic review. 2022. Maternal & child nutrition, 18(1), e13246. https://doi.org/10.1111/mcn.13246
18. Ayuningtyas, D., Hapsari, D., Rachmalina, R., Amir, V., Rachmawati, R., & Kusuma, D. Geographic and Socioeconomic Disparity in Child Undernutrition across 514 Districts in Indonesia. Nutrients, 2022. 14(4), 843. https://doi.org/10.3390/nu14040843
19. Akshay Indrabhan Javare, Vaidyanathan R., Vaibhav Bhosale. A Study to Assess the Point Prevalence of Selected Health Problems among Schooler Children in Tribal Region of Akole Taluka Maharashtra. IJONE [Internet]. 2020 Apr. 30 [cited 2023 Nov. 20];12(2):1-5. Available from: https://medicopublication.com/index.php/ijone/article/view/3920
20. Garmabrata, G. This Is The Abundant Potential Wealth of Simeulue Aceh. [Internet]. 2018 Apr. 13 [cited 2023 Nov. Available from: https://www.liputan6.com/news/read/ 3452324/inilah-potensi-kekayaan-berlimpah-yang-dimiliki-simeulue-aceh
21. Callahan, A. (2013). What's Your Feeding Style (Fearless Feeding Review and Giveaway) The Scienceof Mom

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