

The Nursing Research Landscape in Malaysia: A Scoping Review of Trend and Gaps in Literature (2010-2019)

(Landskap Penyelidikan Kejururawatan di Malaysia: Kajian Skop Trend dan Jurang dalam Sastera (2010-2019))

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Abstract

Globally, there is a growing emphasis on the direct implementation of research findings to daily practice and their seamless incorporation into routine nursing care. This emphasis stems from the realisation that evidence-based practise is essential to enhancing patient outcomes and advancing the nursing profession. Consequently, the imperative to conduct nursing research has emerged as a key priority. Hence, this study examines the nursing research landscape in Malaysia. This scoping review was conducted in accordance to the Arksey and O'Malley's seminal framework utilising three (3) electronic databases (PubMed/MEDLINE, ScienceDirectand CINAHL) for journal articles published between 2010 to 2019. Systematic searches yielded 949 articles for preliminary reviewand after removing duplicates and irrelevant publications, 42 articles were included for final analysis and interpretation. In general, the majority of the reviewed articles were published in the nursing management category (28.6%)and 30.9% were descriptive cross-sectional designs. In addition, the majority of examined articles (97.6%) were written by authors affiliated with the Ministry of Educationand 78.6% of the reviewed articles utilised nursing models or theories as their theoretical framework. Furthermore, the majority of reviewed articles address the improvement of nursing service and recommend prioritising incentives and comfortable work environments, as well as incorporating education on patients' transitional experiences and increasing the quantity of critically ill patient-related content in nursing curricula. The nursing research landscape in Malaysia is characterised by richness and diversity; however, more research activities on the identified gaps are encouraged. Moreover, given the diversity of research topics and methodologies, nursing research in Malaysia has the potential to make significant contributions to the nursing profession and healthcare in general. Future efforts should focus on updating searches to study research trends across the pre-pandemic, during-pandemicand post-pandemic periods. These studies should also prioritize the inclusion of local journal publications, such as the Malaysian Journal of Nursing, to ensure a comprehensive and detailed examination of the country's evolving research landscape.

Keywords: *Nursing Research; scoping review; Malaysia*

Abstrak

Di peringkat global, terdapat penekanan yang semakin meningkat terhadap pelaksanaan terus penemuan penyelidikan kepada amalan harian dan penggabungan lancarnya ke dalam penjagaan kejururawatan rutin. Penekanan ini berpunca daripada kesedaran bahawa amalan berasaskan bukti adalah penting untuk meningkatkan hasil pesakit dan memajukan profesion kejururawatan. Akibatnya, keperluan untuk menjalankan penyelidikan kejururawatan telah muncul sebagai keutamaan utama. Justeru, kajian ini mengkaji landskap

penyelidikan kejururawatan di Malaysia. Kajian skop ini telah dijalankan mengikut rangka kerja seminal Arksey dan O'Malley menggunakan tiga (3) pangkalan data elektronik (PubMed/MEDLINE, ScienceDirect and CINAHL) untuk artikel jurnal yang diterbitkan antara 2010 hingga 2019. Carian sistematik menghasilkan 949 artikel untuk semakan awal dan selepas dialih keluar pendua dan penerbitan yang tidak berkaitan, 42 artikel telah disertakan untuk analisis dan tafsiran akhir. Secara amnya, majoriti artikel yang disemak diterbitkan dalam kategori pengurusan kejururawatan (28.6%) dan 30.9% adalah reka bentuk keratan rentas deskriptif. Di samping itu, majoriti artikel yang diperiksa (97.6%) ditulis oleh pengarang yang bergabung dengan Kementerian Pendidikan dan 78.6% artikel yang disemak menggunakan model atau teori kejururawatan sebagai rangka kerja teori mereka. Tambahan pula, majoriti artikel yang disemak menangani peningkatan perkhidmatan kejururawatan dan mengesyorkan memberi keutamaan kepada insentif dan persekitaran kerja yang selesa, serta menggabungkan pendidikan tentang pengalaman peralihan pesakit dan meningkatkan kuantiti kandungan berkaitan pesakit yang sakit kritikal dalam kurikulum kejururawatan. Landskap penyelidikan kejururawatan di Malaysia dicirikan oleh kekayaan dan kepelbagaian; walau bagaimanapun, lebih banyak aktiviti penyelidikan mengenai jurang yang dikenal pasti adalah digalakkan. Lebih-lebih lagi, memandangkan kepelbagaian topik dan metodologi penyelidikan, penyelidikan kejururawatan di Malaysia berpotensi untuk memberi sumbangan besar kepada profesion kejururawatan dan penjagaan kesihatan secara amnya. Usaha masa hadapan harus menumpukan pada mengemas kini carian untuk mengkaji trend penyelidikan merentas tempoh pra-pandemi, semasa-pandemi dan selepas-pandemi. Kajian-kajian ini juga harus mengutamakan kemasukan penerbitan jurnal tempatan, seperti Jurnal Kejururawatan Malaysia, untuk memastikan pemeriksaan menyeluruh dan terperinci mengenai landskap penyelidikan negara yang berkembang.

Kata kunci: Penyelidikan Kejururawatan; semakan skop; Malaysia

INTRODUCTION

Over the past century, the role of nurses has significantly expanded, with nurses now employed in diverse settings, ranging from hospital wards to home healthcare and laboratories. Nurses are accountable for delivering safe, effective care, which significantly impacts patient outcomes (MacArthur, Hill & Callister 2014). Beyond delivering quality care, it is imperative for nurses to integrate research findings into clinical practice. This integration enhances resource efficiency, eliminates unnecessary practices and leads to improved nursing care and better patient outcomes (Hansen & Severinsson 2009; Kim et al. 2017; Melnyk et al. 2014).

Nurses worldwide play a pivotal role in advancing evidence-based practice through research (Tingen, Burnett, Murchison & Zhu 2009). Sustaining efficient nursing care aligned with evidence-based tenets requires nurses to engage in continuous research across all phases of the nursing process: assessment, diagnosis, planning, implementation and evaluation. This ongoing research helps build a scientific framework applicable to real-world situations (Conn 2005). Moreover, integrating research findings into practice not only improves the quality of care but also fosters the personal and professional growth of the nursing profession (Yanagawa et al. 2014; Niederhauser & Kohr 2005).

Globally, nurse researchers contribute to advancing nursing care, shaping health policies and

developing a robust body of knowledge, providing the scientific basis for nursing practice (American Association of Colleges of Nursing, 2006). The importance of nursing research has been widely recognized for its role in improving nursing practice and education, fostering professionalism and supporting evidence-based practice (Tingen et al. 2009). The *World Health Organization's (WHO) Global Strategic Directions for Strengthening Nursing and Midwifery 2016-2020* further underscores the importance of promoting research and evidence-based strategies in nursing and midwifery. Various studies emphasize the importance of addressing research gaps and establishing strategic priorities to strengthen the evidence base for nursing practice (Borbasi et al. 2002; Ozsoy 2007; Hackmann 2000; Khalaf 2013; Iversen et al. 2016; Sun & Larson 2015).

While global nursing research has advanced rapidly, the state of nursing research in Malaysia presents unique challenges. For instance, a study by Nor et al. (2021) found that only 40.3% of nurses at a single tertiary public hospital in Malaysia expressed interest in clinical research, with just 31.5% having prior research experience. These findings highlight the need to encourage greater participation and capacity building among Malaysian nurses in research initiatives.

Assessing the contributions of nurse researchers in Malaysia is critical for establishing strategic research priorities and identifying gaps. Despite the global push for evidence-based practice, there is limited publicly available information on the state

of nursing research in Malaysia. This lack of data underscores the need for a more comprehensive understanding of nursing research activities in the country to guide the development of strategic priorities and inform national research initiatives.

To address these gaps, a scoping review of nursing research in Malaysia is essential. Such a review would provide an overview of the current evidence base and identify areas requiring further exploration and investment. By mapping the existing research landscape, this study can guide future research initiatives, support strategic decision-making and optimize healthcare resource allocation. Furthermore, findings from this review will provide policymakers and healthcare leaders with critical insights into Malaysia's nursing research landscape. This knowledge can inform evidence-based policy decisions, enhance clinical practice guidelines and drive national research initiatives and funding priorities. Ultimately, the review will contribute to strengthening the nursing profession in Malaysia and improving healthcare delivery across the nation.

METHODOLOGY

Scoping review are conducted to explore the existing literature on nursing research in Malaysia which was drawn upon Arksey and O'Malley's seminal framework for scoping reviews, along with recent updates to the framework (Levac, Colquhoun & O'Brien 2010; Arksey & O'Malley 2005). The framework provides guidance on various aspects which includes identifying the research question, searching for relevant studies, selecting studies for inclusion, charting the data and collating and summarising the narrative report of all the results. This scoping review report adhered to the requirements stipulated by PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist, which originated from the Joanna Briggs Institute's guidance for scoping reviews (Joanna Briggs Institute 2011; Tricco et al. 2018).

Identifying the research questions

Nursing research is a systematic objective process that analyses important phenomena in nursing including practice, education and administration (Nieswiadomy & Bailey 2018). This scoping review aimed to examine the existing published literature on nursing research in Malaysia from 2010 to 2019, by Malaysian nurses. The research questions of this scoping review are:

1. What are the research publications on nursing in Malaysia during the period from 2010 to 2019?

2. What are the gaps in Malaysian nursing research publications during the same period of time?

Search strategy and study selection

Population, Concept and Context (PCC) in accordance to the framework of this scoping review are: (1) research articles authored by Malaysian nurse(s); (2) research articles related to nursing research from 2010 – 2019; and (3) original research articles (any methods) and review articles indexed in PubMed/MEDLINE, ScienceDirect and CINAHL. In an attempt to find the maximum number of articles, the search terms were kept as broad as possible and were also tailored to suit the individual interface of the electronic databases used. The search terms applied were 'research priorities', 'nursing research', 'nurse researchers', 'nursing administration research', 'nursing education research', 'clinical nursing research', 'nursing practice', 'nursing care studies' and 'Malaysia' (Harwood et al. 2019; Garcia et al. 2015). English language filter was applied and other search filters were avoided to ensure that studies using diverse research methodologies were included. Titles that were irrelevant to the research questions of this study and inaccessible full-text were excluded from this scoping review. In addition, author was determined if he/she is a nurse via the available academic information in journal or verification via the provided affiliation information in journal.

Synthesising the data from each included study

Upon completion of the search process and retrieval of the relevant studies, the titles and abstracts of all citations were screened by HJ, KJ, HMR, NKB. Subsequently, RH, KHY, LWH, NLMD, KSY, CG, SM and NR extracted relevant information such as year of publication, research topic, study design, author's affiliation, source of funding and theoretical (or conceptual) framework from the included studies into a Microsoft Excel 2010 data extraction sheet. Detailed screening of the titles and abstracts were completed in the first stage of the review to select articles that fulfilled the inclusion and exclusion criteria. Subsequently, full-text of included articles were retrieved and relevant data extracted into data extraction sheet. In cases where there were uncertainties or conflicting opinions/ results, the reviewers engaged in discussions with another authors RAS, NSEM and SZSAY to clarify their reasoning for the inclusion/exclusion of a paper and its relevance to the study. A final decision for each selected article was made in consultation with the entire team of authors; and to ensure the quality of the screening process, all articles were evaluated

by at least two sets of reviewers (Levac, Colquhoun & O'Brien 2010; Arksey & O'Malley 2005).

Collating, summarizing and reporting the results

The variables that were extracted in this review include a list of general and methodological characteristics of the study which are based on scoping review recommendations, prior nursing research reviews and research questions that were specifically posed by this review (Borbasi et al. 2002; Garcia et al. 2015; Sun & Larson 2015; Armstrong et al. 2011). All research articles were subcategorised into nursing management, nursing education and general nursing; and subsequently classified into various categories as listed in Table 1.

Research registration and ethical approval

This study is registered with National Medical Research Register (NMRR-20-1413-55700) which

is exempted from ethical review by Medical Research & Ethics Committee (MREC) because it does not involve any human subjects.

RESULTS

Overview of study selection

The present systematic scoping review screened a total of 949 articles from electronic databases, consisting of 815 articles from PubMed/MEDLINE, 129 articles from ScienceDirect and 5 articles from CINAHL. After eliminating 55 duplicates, 894 abstracts were subjected to a screening process. Subsequently, 856 articles were excluded based on predefined inclusion and exclusion criteria, such as not being related to nursing research and not involving Malaysian nurses. This scoping review included a total of 42 articles. The selection process and the reasons for exclusion are shown in Figure 1.

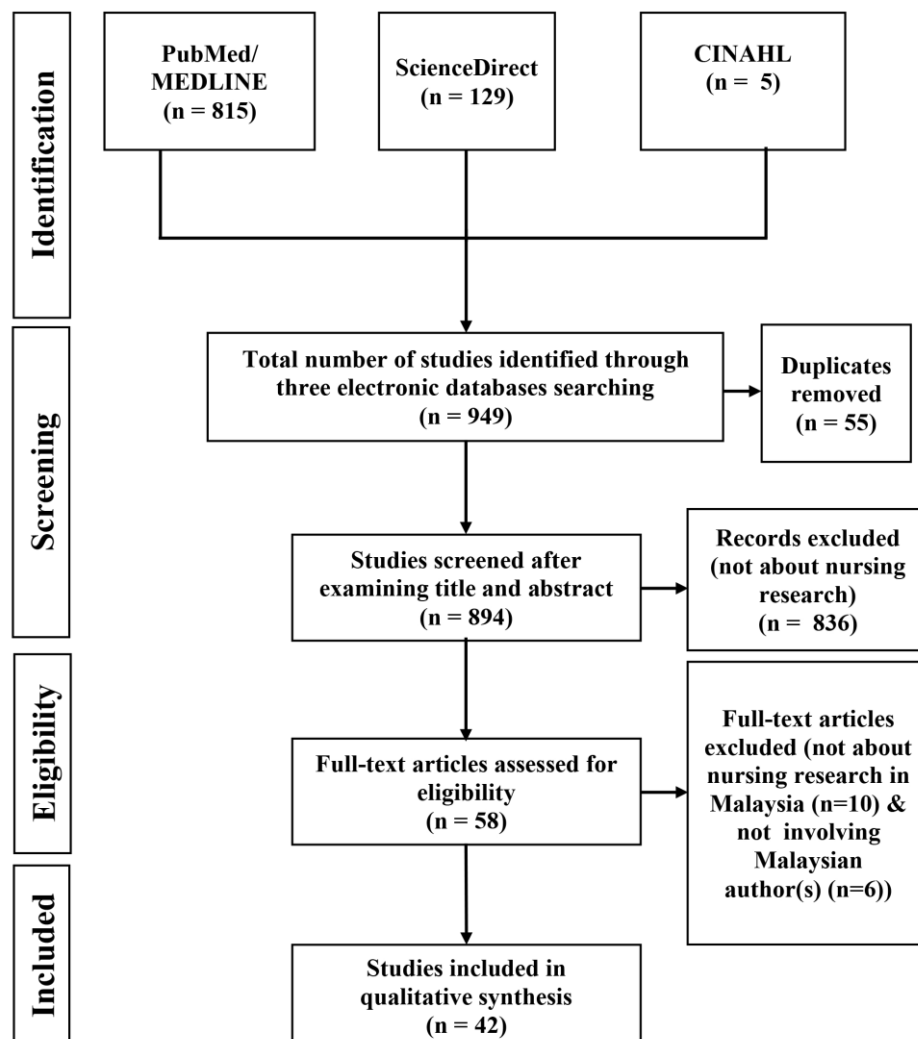


Figure 1 Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram for scoping review on the landscape of nursing research in Malaysia from 2010 – 2019

Selected nursing research studies

The included 42 published nursing research studies conducted in Malaysia over a decade-long period were classified into five categories, including the year of publication, research topic, study design, author affiliation and source of funding (Table 1). Present findings showed an increase in the total number of published articles from 2010 to 2019, with 26 (61.9%) published during 2015 to 2019 and 16 (38.1%) during 2010 to 2014. In addition, nursing management was the most frequently studied research topic, accounting for 12 (28.6%) of the articles, while descriptive cross-sectional studies were the most commonly used study design, comprising 13 (30.9%) of the studies. The authors of 97.6% of the studies were affiliated with the Ministry of Education Malaysia (MOE) and intramural grants were the most common source of funding, accounting for 81% of the studies receiving funding. The types of theoretical frameworks utilized in nursing research studies conducted in Malaysia are presented in Table 2, with 78.6% of the articles employing nursing models or theories as their theoretical framework. Table 3 presents a detailed summary of the selected studies, with the 2 most recent publications focusing on systematic reviews. This emphasis on systematic reviews underscores the growing proficiency and understanding of Malaysian nurses in utilizing systematic review methodologies. The ability to conduct systematic reviews demonstrates their commitment to synthesizing evidence and identifying knowledge gaps, which are critical for advancing evidence-based nursing practice. Moreover, it highlights the increasing importance placed on methodological rigor within the Malaysian nursing research community, aligning with global standards for research quality. Expanding the scope of such reviews to include interdisciplinary and cross-cultural perspectives could further enhance the impact and applicability of their findings across diverse healthcare settings.

Table 1 Characteristics of journal articles included in the review

ITEMS	NUMBER OF ARTICLES, n (%)
Year Published	
2010-2014	16 (38.1)
2015-2019	26 (61.9)
Research Topic	

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Nursing management	12 (28.6)
Nursing education	9 (21.4)
Mental health	7 (16.7)
General nursing	5 (11.9)
Adult health	4 (9.5)
Geriatric	2 (4.8)
Non nursing	1 (2.4)
Child health	1 (2.4)
Community health	1 (2.4)
Study Design	
Descriptive cross-sectional	13 (30.9)
Literature review and discussion	8 (19.0)
Qualitative phenomenological	5 (11.9)
Qualitative focus group discussion	3 (7.1)
Descriptive	2 (4.8)
Descriptive/correlational	2 (4.8)
Descriptive-comparative	2 (4.8)
Survey	2 (4.8)
Methodological and/or instrument development	
A quasi-experiment	1 (2.4)
A true experiment	1 (2.4)
Action method	1 (2.4)
Author's Affiliation	
Ministry of Education Malaysia (MOE)	41 (97.6)
Combination of Ministry of Health Malaysia (MOH) & MOE	1 (2.4)
Source of Funding*	
Intramural	17 (81.0)
Extramural	4 (19.0)

*21 studies did not receive fund or funding information is unavailable.

Table 2 Type of theoretical framework of the published nursing research in Malaysia from 2010 – 2019 analysed in this scoping review

FRAMEWORK	NUMBER OF ARTICLES, n (%)
Nursing Models or theories	33 (78.6)
Hermeneutic phenomenology of Heidegger	5 (11.9)
Non-nursing model or theory	4 (9.5)

Table 3 Details of published nursing research in Malaysia from 2010 – 2019 analysed in this scoping review.

#	AUTHOR(S), YEAR	TITLE	AIM	CONCLUSION
1.	Abas, Z.A., Ramli, M.R., Desa, M.I., Saleh, N., Hanafiah, A.N., Aziz, N., Abidin, Z.Z., Shibghatullah, A.S., Rahman, A.F.N.A. and Musa, H., 2018.	A supply model for nurse workforce projection in Malaysia.	To offer an understanding of the importance of utilizing a simulation model, specifically System Dynamics, in predicting the supply of registered nurses for health workforce planning policy. The paper aims to shed light on the potential benefits of using this approach to inform and guide nursing workforce policies and decision-making.	The simulation results from this study offer valuable insights for policymakers, as it enables them to conduct what-if analyses and explore various scenarios. The study proposes recommendations to address the nursing deficit. It is worth noting that the simulation model results will be utilized in the next phase of the Needs-Based Nurse Workforce projection project. The significance of this study lies in its potential to enhance planning and policymaking by providing more accurate predictions for nursing workforce requirements.
2.	Abdollahimohammad, A., Jaafar, R. and Rahim, A.F.A., 2014.	Similarities and differences in cultural values between Iranian and Malaysian nursing students.	To identify and to compare the cultural values of nursing students in Iran and Malaysia.	The authors suggest that academics should recognize the differences in cultural values, particularly in the power distance index, to prevent misunderstandings and promote effective teaching and learning environments.
3.	Abdullah, K.L. and Chan, C.M., 2018.	A systematic review of qualitative studies exploring peer learning experiences of undergraduate nursing students.	To gather and analyse qualitative evidence on peer learning experiences of undergraduate nursing students, in order to gain an understanding of their perceptions of these experiences.	The findings of this review indicate that undergraduate nursing students perceive peer learning experiences to be valuable for both personal and professional development and they contribute to the learning process necessary for becoming a professional nurse.
4.	Ahayalimudin, N., 2013.	Bridging evidence-based research of the Cochrane Nursing Care Field and emergency practitioners.	This is a Guest Editorial article on Bridging evidence-based research of the Cochrane Nursing Care Field and emergency practitioners.	Author hoped that in the near future there will be more systematic reviews related to emergency nursing care published in both the Cochrane Library and International Emergency Nursing journal. This will motivate emergency practitioners to be involved and utilize research findings for the improvement of emergency nursing practices based on sound evidence.
5.	Alkhalwaldeh, J.F.M.A., Soh, K.L., Mukhtar, F.B.M. and Ooi, C.P., 2020.	Effectiveness of stress management interventional programme on occupational stress for nurses: A systematic review.	To assess the efficacy of stress management intervention programs in reducing occupational stress among nurses.	The paper indicates that stress management intervention programs have the potential to be effective. Further well-designed randomized controlled trials are necessary to confirm their efficacy. The findings have important implications for nursing management, as the implementation of stress management interventions within healthcare organizations can aid nurses in reducing occupational stress and enhancing their coping strategies for managing stress.

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#	AUTHOR(S), YEAR	TITLE	AIM	CONCLUSION
6.	Atarhim, M.A., Lee, S. and Copnell, B., 2019.	An exploratory study of spirituality and spiritual care among Malaysian nurses.	To investigate the views of Malaysian nurses regarding spirituality and spiritual care and to explore potential associations between their perceptions and socio-demographic factors.	The study revealed notable variations in mean scores for spirituality and spiritual care among nurses with different educational backgrounds. A positive correlation was observed between the respondents' perceptions of spirituality and spiritual care. Although nurses displayed favourable perceptions of spirituality in nursing care, the majority felt the need for further education and training regarding the spiritual aspects of care, particularly in the context of the patient's culture.
7.	Atefi, N., Abdullah, K.L. and Wong, L.P., 2016.	Job satisfaction of Malaysian registered nurses: A qualitative study.	To investigate the factors that contribute to feelings of job satisfaction and job dissatisfaction among registered nurses in Malaysia.	Nurse leaders should prioritize providing incentives, ensuring comfortable work environments and addressing issues that impact nurses' job satisfaction.
8.	Beng, T.S., Chin, L.E., Guan, N.C., Yee, A., Wu, C., Pathmawathi, S., Yi, K.T., Kuan, W.S., Jane, L.E. and Meng, C.B.C., 2015.	The experiences of stress of palliative care providers in Malaysia: A thematic analysis.	To investigate the stress experiences of 20 palliative care providers at the University Malaya Medical Centre in Malaysia.	The analysis resulted in the conceptualization of a total care model for occupational stress in palliative care. This model can be used to guide the development of interventions for preventing and managing stress in the field of palliative care.
9.	Che, C.C., Chong, M.C. and Hairi, N.N., 2018.	What influences student nurses' intention to work with older people? A cross-sectional study.	To evaluate the inclination of student nurses to work with elderly patients and to identify the factors that predict their intentions to work with this demographic.	The results of this nationwide study indicated that nursing students in Malaysia have a moderate level of interest in working with older adults. The findings suggest a need to implement educational programs that foster positive attitudes towards caring for older adults and strengthen students' intentions to work in this field.
10.	Chong, L. and Abdullah, A., 2017.	Community palliative care nurses' challenges and coping strategies on delivering home-based pediatric palliative care: a qualitative study.	To investigate the experiences of community palliative care nurses who provide home care to children.	The findings of this study highlight the importance of incorporating paediatric palliative care education and communication skills training into all healthcare undergraduate programs. Healthcare organizations should provide support to address the specific needs of community palliative care nurses to enhance job satisfaction and retention. Furthermore, it is crucial to establish standards for current and new palliative care services to ensure the provision of high-quality paediatric palliative care.
11.	Chong, M.C., Francis, K., Cooper, S. and Abdullah, K.L., 2014.	Current continuing professional education practice among Malaysian nurses.	To investigate the current practices and future requirements for Continuing Professional Education (CPE).	The study's findings revealed that the participants recognized the significance of future CPE activities for their career advancement. While mandatory continuing professional education (MCPE) is crucial in promoting nurses' skill and knowledge enhancement, the authors suggest that policy makers and nurse leaders responsible for continuing professional development in healthcare facilities should plan CPE activities that cater to the registered nurses' (RNs) requirements rather than solely fulfilling organizational obligations.

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#	AUTHOR(S), YEAR	TITLE	AIM	CONCLUSION
12.	Chuan, O.L. and Barnett, T., 2012.	Student, tutor and staff nurse perceptions of the clinical learning environment.	The purpose of this exploratory study was to describe and compare the perceptions of the clinical learning environment (CLE) among student nurses, staff nurses and nurse tutors and to identify the factors that either facilitated or hindered student learning in the CLE.	The study found that participants had an overall positive perception of the CLE, although significant differences in 5 out of 6 subscales were identified among student nurses, staff nurses and nurse tutors. The most positively perceived component of the CLE for students and their tutors was “supervision by clinical instructors,” while staff nurses reported more positively on the learner friendliness of the CLE compared to students or tutors. Factors that facilitated student learning included positive attitudes towards student learning from both students and staff nurses, a variety of clinical opportunities, sufficient equipment and adequate time to perform procedures. Factors that hindered student learning included an overload of students in the clinical unit, busy wards and students being treated as workers.
13.	Das, S., 2011.	Commentary regarding Severinsson E. Discovering the value of research supervision.	Author commented on Guest Editorial “Discovering the value of research supervision” in Nursing & Health Sciences.	Author suggested for medical fraternity members to actively include competent nurses in research supervision.
14.	Daud, A., Shahadan, S.Z., 2017.	Association Between Body Mass Index and Cardiometabolic Risks Among Malay Obese Adults.	To describe the prevalence of cardiometabolic risk factors among adults with class I and class II obesity. This study also aimed at evaluating the relationship between BMI level and cardiometabolic risk.	There is a positive correlation between waist circumference and hs-CRP with BMI level. Waist circumference, total cholesterol level and hs-CRP are higher among obese adults and lastly, obese males had larger waist circumference and obese females had higher hs-CRP levels. These findings will be able to contribute to future policies in managing cardiometabolic risk factors among obese adults.
15.	Du, S., Cao, Y., Zhou, T., Setiawan, A., Thandar, M., Koy, V., Nurumal, M.S.B., Anh, H., Kunaviktikul, W. and Hu, Y., 2019.	The knowledge, ability and skills of primary health care providers in SEANERN countries: a multi-national cross-sectional study.	To assess the capacity of primary healthcare (PHC) providers in countries belonging to the Southeast and East Asian Nursing Education and Research Network (SEANERN).	The results of the study indicated that the general capacity perceived by PHC providers themselves was relatively low and unevenly distributed. To address this issue, SEANERN can collaborate with its members to develop feasible, culturally appropriate and practical training plans to provide appropriate education and training to PHC providers.
16.	Elias, S.M., Petriwkyj, A., Scott, T., Neville, C. 2018	Spiritual reminiscence therapy for older people with loneliness, anxiety and depression living in a residential aged care facility, Malaysia: A qualitative approach.	To evaluate the experience of spiritual reminiscence therapy (SRT) among elderly with loneliness, anxiety and depression and acceptance of SRT in a Malaysian population.	The authors found that SRT was able to establish a social connection and a shared identity, especially in the multiethnic and multi-religious Malaysian population. These findings also showed that cultural adaptation can be promoted via spiritual group activities.

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17.	Eskandari, F., Abdullah, K.L., Zainal, N.Z., Wong, L.P., 2016.	Incidence Rate and Patterns of Physical Restraint Use Among Adult Patients in Malaysia.	To calculate the incidence rate of the use of physical restraints in adult inpatients in a Malaysian hospital and its pattern of usage.	The results of this study demonstrated the rate on physical restraints use and its patterns of usage. The use of alternative methods and appropriate application of the restraints will have an impact on the rate and pattern of physical restraints use. The authors plan to develop and implement an education program based on this study results with the aim of enhancing the level of nursing care provided in a healthcare centre.
18.	Ghawadra, S.F., Abdullah, K.L., Choo, W.Y. and Phang, C.K., 2019.	Mindfulness-based stress reduction for psychological distress among nurses: A systematic review.	To examine research that employed interventions based on Mindfulness-Based Stress Reduction (MBSR) for the purpose of reducing psychological distress among nurses.	The findings suggest that the adapted or brief versions of MBSR hold promise in reducing psychological distress among nurses. However, future research should involve randomized controlled trials with a larger sample size and follow-up studies to further investigate the effectiveness of MBSR interventions in reducing psychological distress. There should be a focus on developing innovative and effective ways of delivering MBSR to nurses.
19.	Ghawadra, S.F., Abdullah, K.L., Choo, W.Y. and Phang, C.K., 2019.	Psychological distress and its association with job satisfaction among nurses in a teaching hospital.	The aim of this study was to determine the prevalence of psychological distress among nurses in a teaching hospital in Malaysia and to investigate its correlation with job satisfaction.	The findings of this study indicated that the prevalence of stress, anxiety and depression was high among nurses in the teaching hospital in Malaysia. The results showed that stress and depression were significantly associated with lower levels of job satisfaction among the nurses.
20.	Hadwan, M., Ayob, M., Sabar, N.R. and Qu, R., 2013.	A harmony search algorithm for nurse rostering problems.	This study explores the research concerns regarding the optimal parameter configurations in Harmony Search Algorithm (HSA) and the practical application of HSA for efficiently addressing intricate Nurse Rostering Problem (NRP).	The results of the proposed HSA demonstrated its effectiveness in solving complex NRPs, surpassing the current state-of-the-art meta-heuristic algorithms in the literature. New lower bounds were also obtained for some instances, further highlighting the potential of the HSA algorithm for solving optimization problems.
21.	Hassan, H., Marzuki, M., Abdullah, N.A., Mat, S., Letchimi, P.S., Packiavathy, R.R. and Suhaimi, F.H., 2012.	Diagnosing the problem of traditional model of teaching and learning Medical Science subjects in a Nursing Program of UKM.	This study aimed to investigate the challenges that nursing students encounter in learning anatomy, physiology and biochemistry subjects throughout their course of study.	The study found that students' Cumulative Grade Point Average (CGPA) and factors such as having a guide book, a well-structured lectures timetable, good quality lectures and learning package were significantly associated with better learning outcomes in physiology and biochemistry subjects.
22.	Jarrar, M.T., Rahman, H.A., Minai, M.S., AbuMadini, M.S. and Larbi, M., 2018.	The function of patient-centred care in mitigating the effect of nursing shortage on the outcomes of care.	The aim of this study was to investigate whether patient-centeredness mediates the relationship between nursing shortage and quality of care (QC) and patient satisfaction (PS) in the medical and surgical wards of private hospitals in Malaysia.	The study highlights the role of patient-centeredness in reducing the adverse impact of nursing shortage on quality and patient safety outcomes in Medical and Surgical Wards of private hospitals in Malaysia. This finding suggests that hospital managers and policymakers should prioritize maintaining sufficient nursing staff levels and fostering a patient-centred culture to promote high-quality and safer care delivery.

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#	AUTHOR(S), YEAR	TITLE	AIM	CONCLUSION
23.	Kaur, D., Sambasivan, M. and Kumar, N., 2015.	Impact of emotional intelligence and spiritual intelligence on the caring behaviour of nurses: a dimension-level exploratory study among public hospitals in Malaysia.	The aim of this study is to investigate how individual factors, such as emotional intelligence (EI) and spiritual intelligence (SI), influence the caring behaviour of nurses.	<p>The study discovered that certain dimensions of spiritual intelligence, such as critical existential thinking and transcendental awareness, have a significant impact on the assurance of human presence dimension of caring behaviour among nurses.</p> <p>Personal meaning production and conscious state expansion dimensions of spiritual intelligence have significant impacts on the perception of emotion and managing own emotions dimensions of emotional intelligence.</p> <p>The managing own emotions dimension of emotional intelligence has a significant impact on respectful deference to others and assurance of human presence dimensions of caring behaviour among nurses.</p> <p>These findings can be utilized to inform the recruitment and education of nurses.</p>
24.	Khuan, L. and Juni, M.H., 2017.	Nurses' opinions of patient involvement in relation to patient-centred care during bedside handovers.	To investigate the views of Malaysian nurses regarding the involvement of patients in bedside handovers and to determine whether such involvement reflected patient-centred care.	<p>To promote patient-centred care and enhance patient involvement, nurse educators in hospital settings must modify nursing education to prioritize the development of communication skills required for effective nurse-patient partnerships.</p> <p>This necessitates the creation of guidelines for patient involvement that align with patient-centred values, which should be formulated based on the feedback and input of ward nurses.</p>
25.	Lee, P.Y., Khoo, E.M., Low, W.Y., Lee, Y.K., Abdullah, K.L., Azmi, S.A. and Ng, C.J., 2016.	Mismatch between health-care professionals' and patients' views on a diabetes patient decision aid: a qualitative study.	To investigate the perspectives of patients and healthcare professionals (HCPs) regarding the information required in a patient decision aid (PDA) designed to assist patients with type 2 diabetes mellitus (T2DM) in making informed decisions about insulin initiation.	Including issues related to the psycho-social impact of treatment can be an essential component when developing a patient decision aid to address the concerns of patients and provide a holistic approach to treatment decision-making.
26.	Ludin, S.M., 2018.	Does good critical thinking equal effective decision-making among critical care nurses? A cross-sectional survey.	To investigate the potential impact of critical care nurses' critical thinking disposition on their clinical decision-making skills.	<p>Although this study provides initial evidence of a relationship between critical care nurses' critical thinking disposition and clinical decision-making skills in a single hospital, it is limited in scale.</p> <p>Future research should use the same measurement tools to examine this relationship in various clinical settings with a larger sample size.</p> <p>Additionally, the perceived high level of critical thinking and decision-making among critical care nurses warrants further investigation.</p>
27.	Ludin, S.M., Arbon, P. and Parker, S., 2013.	Patients' transition in the intensive care units: concept analysis.	The objective of this paper is to examine the literature on the concept of transition for critically ill patients in the Intensive Care Unit, with a focus on the role of Intensive Care Unit nurses.	Given the potential impact of nurses' understanding of critically ill patients' transition on the quality of care provided in the Intensive Care Unit, it is important to conduct further research that specifically examines nurses' comprehension of this concept and its potential implications.

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28.	Ludin, S.M., Parker, S. and Arbon, P., 2014.	A survey of Malaysian Critical Intensive Care Unit (CICU) nurses' awareness of patients' transition experiences (PE) and transitional care practice (TCP).	To investigate the level of awareness among CICU nurses in Malaysia regarding patients' experiences during the transition period and their practices related to transitional care.	The study suggests that CICU nurses in Malaysia require targeted education on patients' transitional experiences and transitional care practices. This education can enable them to provide appropriate care and support during the transition process. Specifically, public hospital nurses require more attention and training in this area. Nursing schools are also recommended to integrate more content related to critically ill patients' transitional experiences into their curriculums to prepare future nurses for this important aspect of patient care.
29.	Ludin, S.M., Rashid, N.A., 2018.	Functional Outcomes and Health-Related Quality of Life After Severe Traumatic Brain Injury: A Review.	This review article aimed to appraise the available literature regarding functional and health related quality of life (HRQOL) outcomes in patients with severe traumatic brain injury	Based on the available literature, majority of the studies have similar outcomes, plateauing starts within 6 to 12 months post traumatic brain injury (TBI), there is impact on quality-of-life post TBI that is not influenced by the severity of injury and these studies are commonly conducted in Western countries. The authors opine that there is a role for further studies assessing functional outcomes and quality of life post TBI in order to equip healthcare practitioners in Malaysia with evidence regarding baseline status of these patients.
30.	Ludin, S.M., Rashid, N.A., Awang, M.S., Nor, M.B., 2018.	Functional Outcomes 6 Months After Severe Traumatic Brain Injury Following Admission Into Intensive Care Unit: A Cohort Study in Two Tertiary Hospitals.	This study's objective was to evaluate the functional levels of patients post severe traumatic brain injury within 6 months of discharge from the hospital.	The authors conclude that the two important predictors of the outcome are the length of stay in the intensive care unit and duration the patient was on ventilator support. They suggest a more holistic approach to evaluating the functional outcome post severe brain injury as many factors contribute to it.
31.	Marzuki, M.A., Hassan, H., Wichaikhum, O. and Nantsupawat, R., 2012.	Continuing nursing education: best practice initiative in nursing practice environment.	The objective is to investigate the importance of Continuing Nursing Education (CNE) within the Nursing Practice Environment (NPE).	The study found that the most highly rated aspect among nurses in the Nursing Practice Environment was "Nursing Foundations for Quality of Care", with 314 (79.5%) nurses strongly agreeing that Continuing Nursing Education (CNE) programs are crucial. The study concludes that CNE programs are a valuable initiative for encouraging lifelong learning and professional growth in the nursing field.
32.	Mohamed, C.R., Nelson, K., Wood, P. and Moss, C., 2015.	Issues post-stroke for Muslim people in maintaining the practice of salat (prayer): A qualitative study.	The aim of this study is to identify the educational needs of stroke patients and their caregivers in Malaysia, as well as to report on the specific needs related to salat (prayer) as identified by stroke patients and their families.	It is crucial for nurses to provide culturally sensitive care by recognizing and addressing stroke patients' and their caregivers' prayer needs. This includes assessing and supporting them in their prayer practices and educating them about the potential cognitive, rehabilitation and psychological benefits of prayer and recitation of the Holy Qur'an. By doing so, nurses can contribute to better patient outcomes and promote the delivery of holistic care.

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33.	Mohamed, Z., Newton, J.M. and Lau, R., 2014.	Malaysian nurses' skin care practices of preterm infants: Experience vs. knowledge.	The main objective of this study was to investigate the impact of Malaysian nurses' perceptions, knowledge and experiences in preterm infant skin care practices using a descriptive research approach.	The authors suggest that providing clear, clinical, evidence-based guidelines and continuing nursing education on relevant topics related to preterm infants' care can equip nurses with the necessary knowledge and skills to provide optimal care.
34.	Othman, N. and Nasuridin, A.M., 2013.	Social support and work engagement: A study of Malaysian nurses.	The study investigated the extent to which social support from supervisors and co-workers can affect work engagement.	Nurses' work engagement is significantly influenced by the support they receive from their supervisors.
35.	Panduragan, S.L., Abdullah, N., Hassan, H. and Mat, S., 2011.	Level of confidence among nursing students in the clinical setting.	The objective is to assess the confidence level of nursing students in the clinical setting to determine their ability to carry out their duties competently.	The study found that a majority of the nursing students, specifically 90.5% (n=171), lacked confidence in providing and managing care for patients in the clinical setting. To improve this, the nursing curriculum should be restructured to include more student-centred study activities that could potentially boost students' confidence levels.
36.	Saidi, S., Milnes, L.J. and Griffiths, J., 2018.	Fatalism, faith and fear: A case study of self-care practice among adults with Type 2 diabetes in urban Malaysia.	The objective of this study was to investigate self-care behaviours and self-care support among individuals with Type 2 diabetes in urban areas of Malaysia.	This study shed light on the experiences of individuals with Type 2 diabetes in Malaysia, including their understanding of the disease and the self-care strategies they use. The study also examined the support provided by healthcare professionals for self-care and identified areas for improvement in diabetes management in Malaysia.
37.	Sharif-Abdullah, S.S.B., Chong, M.C., Surindar-Kaur, S.S., Kamaruzzaman, S.B. and Ng, K.H., 2016.	The effect of chlorhexidine in reducing oral colonisation in geriatric patients: a randomised controlled trial.	This study aimed to assess the impact of chlorhexidine compared to standard oral care on elderly inpatients without teeth.	According to the study, chlorhexidine 0.2% was found to be effective in reducing oral colonization in edentulous geriatric inpatients, making it a recommended option for oral hygiene due to its ease of use and cost-effectiveness.
38.	Sharif, S.P., Mostafiz, I. and Gupta, V., 2022.	A systematic review of structural equation modelling in nursing research.	This paper aims to systematically review nursing research studies that utilize Structural Equation Modelling (SEM) as a statistical technique to examine complex relationships among variables.	The studies reviewed in this systematic review lacked sufficient information regarding the various steps involved in conducting SEM analysis. This highlights the need for more comprehensive reporting of SEM analyses in nursing research. The review also identified several weaknesses and areas for improvement in future empirical SEM studies, such as the need for larger sample sizes, better model fit evaluation and more rigorous testing of causal relationships.

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39.	Singh, B., Chong, M.C., Zakaria, M.I.B., Cheng, S.T., Tang, L.Y. and Azahar, N.H., 2016.	Assessing nurses' knowledge of Glasgow coma scale in emergency and outpatient department.	To investigate the level of knowledge and competency of staff nurses who work in the Emergency and Outpatient Departments in evaluating the Glasgow Coma Scale (GCS).	In summary, this study reinforces the significance of having adequate knowledge and proficiency in evaluating the GCS level.
40.	Subramanian, P., Choy, K.L., Gobal, S.V., Mansor, M. and Ng, K.H., 2013.	Impact of education on ventilator-associated pneumonia in the intensive care unit.	The main objective of this study was to explore the impact of nurse-led education on two factors: (a) the knowledge of and adherence to ventilator care bundle (VCB) practices among intensive care unit (ICU) nurses and (b) the reduction of ventilator-associated pneumonia (VAP) rates following the intervention.	The study's results indicate that nurse-led education on VAP and VCB led to a significant improvement in ICU nurses' knowledge and adherence to VCB practices and this was linked with a decrease in VAP incidence among ICU patients receiving mechanical ventilation. The authors suggest that educating anaesthetists, nurses, physiotherapists and other healthcare providers in the critical care setting on the latest knowledge and evidence-based VCB guidelines for VAP prevention should be considered.
41.	Suhaila, O. and Rampal, K.G., 2012.	Prevalence of sexual harassment and its associated factors among registered nurses working in government hospitals in Melaka State, Malaysia.	This study aims to determine the frequency of sexual harassment experienced by female registered nurses employed in government hospitals located in Melaka, Malaysia. The research aims to identify the various factors that contribute to sexual harassment incidents in the workplace.	This study revealed a high occurrence of sexual harassment in the workplace among registered nurses, with the victims' self-perception profiles being the primary contributing factor to the issue. It is crucial to address sexual harassment in the workplace seriously, as the effects are not only felt by the victims themselves but also by their families, colleagues and patients under their care. Therefore, hospital managements should take necessary measures to manage and prevent the reoccurrence of this problem in the future.
42.	Wan Chik, W.Z., Salamonson, Y., Everett, B., Ramjan, L.M., Attwood, N., Weaver, R., Saad, Z. and Davidson, P.M., 2012.	Gender difference in academic performance of nursing students in a Malaysian university college.	To investigate disparities in academic achievement among nursing students of different genders, while also determining whether language use and professional identity played a role in explaining these differences.	In developed countries, men make up a minority of the nursing workforce, accounting for less than 10% and in some developing countries, the percentage is even lower. Encouraging academic assistance for male nursing students could potentially boost the number of male registered nurses in the profession.

DISCUSSION

Nurses involvement in research

Based on our findings, the majority of published papers (n=41) were authored by nurse academicians affiliated with universities. Despite the larger number of nurses in the healthcare workforce where approximately 50.7% of them were nurses (Ministry of Health Malaysia, 2016). While the low number of nurse research could be due to our limitations in searching method, the low output may be attributed to various obstacles faced by nurses in the clinical environment, such as limited research funding, lack of supportive infrastructure, lack of mentorship and guidance and the possibility of leaving research work unpublished due to inadequate manuscript support (Leach 2006; Nagy et al. 2001; Olade 2004). Moreover, the perception among nurses that research is not considered an integral component of their professional responsibilities may dampen their interest in conducting research, as reported by Nor et al. (2021). It was observed that a 74.1% of the respondents in a cross-sectional study conducted in Nigeria exhibited a tendency to solely pursue research activities in order to meet the requirements for certification or degree completion; and their finding suggests that the motivation to actively participate in research among these nurses was primarily driven by external factors rather than intrinsic interest or personal drive (Oluwatosin 2014).

Priority in the specific field of nursing research

It is easily noticeable that all these nursing research publications are mostly related to either nursing education or nursing management. This can be attributed to several factors such as funding availability, practicality for nursing practice, high demand and opportunities for theory development and interdisciplinary collaboration. For instance, nursing education and management are crucial for the advancement of healthcare and as such, funding agencies may prioritize research in these areas (National Academies of Sciences, Engineering and Medicine 2021). Moreover, nursing practice requires practical and applicable solutions, which can be easily implemented and integrated into daily routines, making education and management research particularly relevant (Brown et al. 2010). Additionally, nursing is a demanding profession which requires managing multiple responsibilities, including patient care, communication and documentation (Yen et al. 2018). As such, nursing management research is needed to ascertain effective strategies to manage the high demands of nursing practice. Finally, nursing research often

utilizes interdisciplinary approaches and nursing education and management provide opportunities for theoretical development and collaboration with other healthcare professionals (Institute of Medicine (US) Committee on Enhancing Environment for Health Care in Nursing 1995).

Priority in the study design of nursing research

It is evident that a considerable proportion of nursing research publications employ a descriptive cross-sectional approach (n=13), which can be either a quantitative or a qualitative study. Qualitative research is an appropriate methodology for the understanding of perceptions that directly influence health-related behaviour, medical procedures and health outcomes (Miles & Huberman, 1994). Additionally, a qualitative study utilizes an inductive approach to analyse and interpret data, which is different from the deductive approach employed in quantitative research. Thus, research requiring an inductive approach for data analysis should ideally adopt a qualitative study design.

Nursing research commonly encompasses the study of health-related behaviour, which are subjected to the influence of various factors such as meanings, interpretations, social and cultural norms and human perceptions. To properly understand these phenomena, a suitable research design should be able to investigate the processes and worldviews of the people involved and a qualitative study design is well-suited for this purpose. A qualitative study can identify as many themes as possible from the data and perform a thematic analysis of the data using flexible and useful research tools (Melnik et al. 2014). Thematic analysis involves a thorough search for common threads throughout the interview process, making it suitable for examining the behavioural aspects of nursing care (Braun & Clarke 2006).

Phenomenology is a study design that was reviewed (n=5) in this study. Phenomenological studies are designed to elucidate the personal experiences and perceptions of participants with regards to various concepts, making in-depth interviews the most suitable data collection tool (Creswell 2018). Researchers employ descriptive methodologies to elucidate the individual experiences of participants, subsequently undertaking a comprehensive phenomenological psychological reduction of the unprocessed data. This analytical process aims to comprehend and interpret each specific case within the broader context of the overall experience (Giorgi 2014). Phenomenology is well-suited for nurse researchers because it addresses a specific focus on the detailed description of an individual's experience in the world.

Nursing interventions involve complex interactions between component parts and produce a range of possible and variable outcomes in the target population. Nurses deliver interventions within complex organizational structures using a range of psychological, social and physical behaviours, making the design and conduct of intervention studies in nursing challenging (Richards & Borglin 2011; Seers, 2007). Therefore, many nurse researchers seem more inclined to conduct observational studies rather than experimental testing of nursing interventions.

Priority in the type of theoretical framework/ paradigm for nursing research

In nursing literature, theories and models are often utilized to explain phenomena and interactions. When conducting nursing research, the incorporation of a theoretical or conceptual framework aligns new research topics and ideas with existing knowledge within the chosen framework. In recent years, nurse researchers have increasingly turned to phenomenology as a research approach, in contrast to traditional quantitative approaches, which some scholars have criticized as inadequate for studying human life experiences, a major focus of nursing practice. One type of phenomenological approach, hermeneutic phenomenology, incorporates both descriptive and interpretive elements. Heideggerian Hermeneutic Phenomenology, for example, has found widespread use in qualitative research, particularly in health and social sciences, as well as nurse-led clinical research (Omery 1983).

Type of theoretical framework of published nursing research in Malaysia

The present scoping review reveals that a significant proportion of nursing research conducted in Malaysia has been grounded in nursing models or theories. This finding is highly encouraging and motivational for the nursing profession in Malaysia, as it aligns with the fundamental goal of nursing practice, which aims to identify the scientific knowledge that underpins the day-to-day activities of this profession (Bond et al. 2011).

Synthesised nursing research in Malaysia and its gaps

The collection of studies analysed in this research covers various aspects of nursing, including the importance of competent nurses in research supervision, addressing sexual harassment in the workplace and promoting continuing professional education. The significance of stress management intervention programs, mindfulness-based stress

reduction and nurse work engagement is also highlighted. Additional topics covered are effective communication skills for patient-centred care, spirituality and spiritual care in nursing and the potential impact of nurses' understanding of critically ill patients' transition. In addition, authors recommend the development of culturally appropriate and practical training plans to provide appropriate education and training to primary healthcare providers. Moreover, other studies in nursing have explored topics such as the impact of nurses' understanding of critically ill patients, work engagement, total care model for occupational stress, patient decision aid, oral hygiene, paediatric palliative care, peer learning, type 2 diabetes self-care, nursing shortage, statistical modelling, nursing curriculum, nursing practice environment, learning outcomes, spiritual and emotional intelligence, culturally sensitive care for stroke patients and critical thinking disposition. These studies provide recommendations that include prioritizing incentives, comfortable work environments and education on patients' transitional experiences, as well as integrating more content related to critically ill patients into nursing curriculums (Sowtali 2019; Javadi Bashar 2019; Sivasangari et al. 2015).

In addition, the analysed studies highlight significant progress in nursing research across diverse topics; however, key gaps remain that warrant further attention. One prominent area is the limited emphasis on clinical nursing research. While many studies focus on theoretical frameworks or generalized interventions, there is a critical need for research that directly informs clinical practice and provides actionable strategies for improving patient outcomes. Clinical nursing research is vital for translating evidence into bedside care, ensuring that nursing interventions are grounded in robust, practical findings that address patient needs in real-world settings. Additionally, there is insufficient research targeting specialized areas such as acute care, geriatrics and critical care, which are increasingly relevant as Malaysia faces an aging population and rising prevalence of chronic diseases.

Apart from that, another gap is the lack of interdisciplinary studies that integrate nursing with other healthcare fields. Collaboration between nursing, medicine, public health and allied health sciences can foster holistic solutions to complex healthcare challenges, such as improving care coordination, addressing mental health issues and managing chronic diseases. For instance, interdisciplinary research could explore innovative care models for palliative care or develop technology-enhanced solutions for remote monitoring of patients. Expanding the scope of research beyond traditional nursing boundaries will enable a more

comprehensive approach to healthcare delivery and policy development.

Strengths and limitations of this scoping review

The primary advantage of this scoping review lies in its thorough exploration of both PubMed/MEDLINE and CINAHL databases, which together serve as a crucial and comprehensive source of published nursing research in Malaysia. PubMed/MEDLINE is recognized as the leading bibliographic database of the National Library of Medicine, encompassing various domains such as medicine, nursing, veterinary medicine, dentistry, preclinical sciences and the healthcare system. On the other hand, the CINAHL database offers a comprehensive and reliable compilation of scholarly works pertaining to the field of nursing and related healthcare disciplines. Consequently, by searching both PubMed/MEDLINE and CINAHL databases, this scoping review maximizes the scope and breadth of the identified literature.

Nevertheless, this scoping review does have its limitations. As one of the inclusion criteria for this scoping review is publication by an indexed, peer-reviewed journal; hence it will not be able to retrieve any research that are published in nonindexed journals. It is therefore both probable and likely that this scoping review may not display the full spectrum of published nursing research in Malaysia over the period from 2010 to 2019. In addition, this scoping review does not compare between the quality of published articles. Instead, it merely retrieved the published research articles which reported on nursing research conducted in Malaysia. Furthermore, as it merely aims to explore the publication trend of nursing research in Malaysia within a specific time period of 2010 to 2019; it does not assess the impact of nursing research on the implementation of nursing policy, promoting nursing education and enhancing role development for the nursing profession within Malaysia. In addition, author was determined if he/she is a nurse via the available academic information in journal or verification via the provided affiliation information in journal.

CONCLUSION

In conclusion, addressing the research gaps within Malaysia's nursing landscape is crucial for enhancing nursing practice and shaping evidence-based policies. By leveraging the diversity of research topics and methodologies, future studies can provide valuable insights to drive improvements in patient care and healthcare delivery. These findings have the potential to guide national research initiatives and inform funding priorities,

ensuring that Malaysia's nursing research continues to contribute meaningfully to the advancement of the nursing profession and the overall healthcare system.

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CONFLICTS OF INTEREST

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REFERENCES

- American Association of Colleges of Nursing. 2006. *AACN Position Statement on Nursing Research*. AACN, Washington, DC. Retrieved from <http://www.aacn.nche.edu/Publications/positions/NsgRes.htm>. (Accessed on???)
- Arksey, H. & O'Malley, L. 2005. Scoping studies: Towards a methodological framework. *International Journal of Social Research Methodology: Theory and Practice* 8(1): 19–32.
- Armstrong, R., Hall, B. J., Doyle, J. & Waters, E. 2011. Cochrane Update. 'Scoping the scope' of a Cochrane review. *Journal of Public Health (Oxford)* 33(1): 147–150.
- Bond, A. E., Eshah, N. F., Bani-Khaled, M., Hamad, A. O., Habashneh, S., Kataua, H., Al-Jarrah, I., & Maabreh, R. 201). Who uses nursing theory? A univariate descriptive analysis of five years' research articles. *Scandinavian Journal of Caring Sciences* 25(2): 404–409.
- Borbasi, S., Hawes, C., Wilkes, L., Stewart, M. & May, D. 2002. Measuring the outputs of Australian nursing research published 1995–2000. *Journal of Advanced Nursing* 38(5): 489–497.
- Braun, V. & Clarke, V. 2006. Using thematic analysis in psychology. *Qualitative Research in Psychology* 3(2): 77–101.
- Brown, C. E., Ecoff, L., Kim, S. C., Wickline, M. A., Rose, B., Klimpel, K. & Glaser, D. 2010. Multi-institutional study of barriers to research utilisation and evidence-based practice among hospital nurses. *Journal of Clinical Nursing* 19(13-14): 1944–1951.
- Conn, V. S. 2005. Nursing intervention research. *Western Journal of Nursing Research* 27(3): 249–251.
- Creswell, J. W. 2018. *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (5th ed.). Sage Publications Ltd. London, United Kingdom.

- Garcia, A. B., De Bortoli Cassiani, S. H. & Reveiz, L. 2015. A systematic review of nursing research priorities on health system and services in the Americas. *Revista Panamericana de Salud Pública/Pan American Journal of Public Health* 37(3): 162–171.
- Giorgi, A. 2014. An affirmation of the phenomenological psychological descriptive method: A response to Rennie (2012). *Psychological Methods* 19(4): 542–551.
- Hackmann, M. 2000. Development of nursing research in Germany in the European context. *International Journal of Nursing Practice* 6(5): 222–228.
- Hansen, B. S. & Severinsson, E. 2009. Dissemination of research-based knowledge in an intensive care unit: A qualitative study. *Intensive and Critical Care Nursing* 25(3): 147–154.
- Harwood, L., Wilson, B., Pye, D. & Stroud, N. 2019. Evidence-Based Reviews: Trends in Nephrology Nursing. *Nephrology nursing journal: journal of the American Nephrology Nurses' Association* 46(2): 249–259.
- Institute of Medicine (US) Committee on Enhancing Environment for Health Care in Nursing. 1995. *Nursing Education and Professional Development*. Pope, A. M., Snyder, M. A., & Mood, L. H. (Eds.). National Academies Press (US). Washington (DC).
- Iversen, M. M., Graue, M., Leksell, J., Smide, B., Zoffmann, V., & Sigurdardottir, A. K. 2016. Characteristics of nursing studies in diabetes research published over three decades in Sweden, Norway, Denmark and Iceland: A narrative review of the literature. *Scandinavian Journal of Caring Sciences* 30(2): 241–249.
- Javadi Bashar, F. 2019. Assessing attitudes towards knowledge and use of evidence-based practice among nurses working in a teaching hospital in Kuala Lumpur. *International Journal of Education & Literacy Studies* 7(1): 25–30.
- Joanna Briggs Institute. 2011. *Joanna Briggs Institute reviewers' manual (2008 ed.)*. Adelaide: The Joanna Briggs Institute.
- Khalaf, I. 2013. Development of nursing research in Jordan (1986–2012). *International Nursing Review* 60(4): 461–468.
- Kim, S. C., Ecoff, L., Brown, C. E., Gallo, A. M., Stichler, J. F., & Davidson, J. E. 2017. Benefits of a regional evidence-based practice fellowship program: A test of the ARCC model. *Worldviews on Evidence-Based Nursing* 14(2): 90–98.
- Leach, M. J. 2006. Evidence-based practice: A framework for clinical practice and research design. *International Journal of Nursing Practice* 12(5): 248–251.
- Levac, D., Colquhoun, H., & O'Brien, K. K. 2010. Scoping studies: Advancing the methodology. *Implementation Science* 5: 69.
- MacArthur, J., Hill, G., & Callister, D. 2014. Professional issues associated with the clinical research nurse role. *Nursing Standard (Royal College of Nursing (Great Britain):1987)* 29(14): 37–43.
- Melnyk, B. M., Gallagher-Ford, L., Long, L. E., & Fineout-Overholt, E. 2014. The establishment of evidence-based practice competencies for practicing registered nurses and advanced practice nurses in real-world clinical settings: Proficiencies to improve healthcare quality, reliability, patient outcomes and costs. *Worldviews on Evidence-Based Nursing* 11(1): 5–15.
- Miles, M. B., & Huberman, A. M. 1994. *Qualitative Data Analysis: An Expanded Sourcebook* (2nd ed.). Sage Publications. Beverly Hills, CA.
- Ministry of Health Malaysia. 2016. *Health Facts*. Planning Division, Health Informatics Centre. MOH/SRAN/17.16(AR).
- Nagy, S., Lumby, J., McKinley, S. & Macfarlane, C. 2001. Nurses' beliefs about the conditions that hinder or support evidence-based nursing. *International Journal of Nursing Practice*, 7(5): 314–321.
- National Academies of Sciences, Engineering and Medicine; National Academy of Medicine; Committee on the Future of Nursing 2020–2030. *The Future of Nursing 2020–2030: Charting a Path to Achieve Health Equity*. Flaubert JL, Le Menestrel S, Williams DR, Wakefield MK, editors. National Academies Press (US). Washington (DC).
- Niederhauser, V. P. & Kohr, L. 2005. Research endeavours among paediatric nurse practitioners (REAP) study. *Journal of Pediatric Health Care* 19(2): 80–89.
- Nieswiadomy, R. & Bailey, C. 2018. *Foundations of Nursing Research* (7th ed.). Pearson Education Inc. New York.
- Nor, S. R., Bujang, M. A., Hong, L. W., Khee, H. Y., Sopian, R. A., Musa, N. S., Omar, M. I. & Jamalludin, H. R. N. 2021. Factors influencing nurses' participation in clinical research: A cross-sectional survey in Hospital Putrajaya, Malaysia. *The Malaysian Journal of Nursing (MJN)* 12(4): 60–71.
- Olade, R. 2004. Evidence-Based Practice and Research Utilization Activities Among Rural Nurses. *Journal of Nursing Scholarship* 36(3): 220–225.
- Oluwatosin, A. 2014. Conduct and utilization of research among nurses at federal capital territory Abuja, Nigeria. *Journal of Nursing Education and Practice* 4(7): 139–147.
- Omery, A. 1983. Phenomenology: A method for nursing research. *Advances in Nursing Science* 5(2): 49–64.
- Ozsoy, S. A. 2007. The struggle to develop nursing research in Turkey. *International Nursing Review* 54(3): 243–248.
- Permarupan, P. Y., Al Mamun, A., Samy, N. K., Saufi, R. A. & Hayat, N. 2020. Predicting nurses' burnout through quality of work life and psychological empowerment: A study towards sustainable healthcare services in Malaysia. *Sustainability* 12(1): 388.
- Richards, D. A. & Borglin, G. 2011. Complex interventions and nursing: Looking through a new lens at nursing research. *International Journal of Nursing Studies* 48(5): 531–533.
- Seers, K. 2007. Evaluating complex interventions:

- Guest editorial. *Worldviews on Evidence-Based Nursing* 4(2): 67–68.
- Sivasangari, S., Krishnan, S., Thandapani, R., Rostenberghe, H. & Berahim, A. 2015. Clinical decision making in nursing care: Evidence-based practice and seniority. *International Journal for Quality Research* 9(1): 77–88.
- Sowtali, S. N. 2019. Projection of nursing profession in Malaysia: Where we are and what need to be improved. *Nursing and Healthcare International Journal* 3(1): 1–6.
- Sun, C. & Larson, E. 2015. Clinical nursing and midwifery research in African countries: A scoping review. *International Journal of Nursing Studies* 52(5): 1011–1016.
- Tingen, M. S., Burnett, A. H., Murchison, R. B. & Zhu, H. 2009. The importance of nursing research. *Journal of Nursing Education* 48(3): 167–170.
- Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., Moher, D., Peters, M. D. J., Horsley, T., Weeks, L., Hempel, S., Akl, E. A., Chang, C., McGowan, J., Stewart, L., Hartling, L., Aldcroft, A., Wilson, M. G., Garritty, C., Lewin, S., ... Straus, S. E. 2018. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Annals of Internal Medicine* 169: 467–473.
- Yanagawa, H., Takai, S., Yoshimaru, M., Miyamoto, T., Katashima, R. & Kida, K. 2014. Nurse awareness of clinical research: A survey in a Japanese University Hospital. *BMC Medical Research Methodology* 14: 85.
- Yen, P. Y., Kellye, M., Lopetegui, M., Saha, A., Loversidge, J., Chipps, E. M., Gallagher-Ford, L. & Buck, J. 2018. Nurses' Time Allocation and Multitasking of Nursing Activities: A Time Motion Study. *AMIA Annual Symposium Proceeding*: 1137-1146.