

Addressing Registered Nurse Retention and Attrition in Thailand Hospitals: An Integrative Review

Author

Phakdeechanuan, Kirana, Kellett, Ursula, Henderson, Saras, Corones-Watkins, Katina, Saito, Amornrat, Thiangchanya, Pratyanan

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Abstract:

Thailand is one of the Southeast Asia countries that has been significantly impacted by Registered Nurse (RN) workforce shortages. This integrative review aims to critically analyse factors influencing the attrition and retention of RNs practicing in Thailand's hospital sector. The databases searched included CINAHL (via EBSCOhost), EMBASE, Nursing Allied (via ProQuest), Ovid, Scopus, Web of Science, and Medline. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) were utilised to record the search strategy findings in compliance with the review standards, while the Mixed Methods Appraisal Tool (MMAT) was used to appraise quality. Sources for review totalled 35, using quantitative methods (n=30), qualitative methods (n=3), and mixed methods (n=2). Thematic analysis revealed factors that challenge RNs' job motivation fueled by a lack of autonomy, a loss of confidence and sense of competence, and negative workplace relations with co-workers, resulting in poor job satisfaction. Future research is needed to elicit an understanding of “how” Thai RNs sense of autonomy, competence, and relatedness in their workplace practice provides insight into “why” they choose to remain employed or leave the nursing workforce.

Keywords

Attrition, Hospitals, Registered Nurses, Retention, Thai, Thailand, Turnover

What We Already Know

- The shortage and high turnover of RN staff over many decades have challenged the hospital sector in Thailand.
- Various explanatory factors such as job satisfaction, job stress, burnout, and working environment have been described in quantitative sources associated with RNs' intention to remain or leave their employment.

What This Article Adds

- Little is known about how RNs experience those factors that inflate or deflate intrinsic motivation and promote job satisfaction or dissatisfaction.
- Qualitative insights into RNs experience of their working environment, workplace relationships, and job location provide guidance for the development of strategies and initiatives that have a positive impact on reducing attrition rates and promoting retention of RNs in Thailand's hospitals.

2.1 Introduction

Nursing attrition and shortages are topical issues challenging health organisations worldwide. The World Health Organisation (WHO)¹ reported a global shortfall of 5.9 million nurses. Eighty-nine percent of this shortfall is concentrated in low and lower-middle-income nations in Africa, Southeast Asia, and the Eastern Mediterranean, with nurses accounting for 59% of health professional shortages worldwide.²

Along with other Southeast Asia countries, numerous studies have highlighted the consistent RN shortage in Thailand.³⁻⁶ In 2017, the Thailand hospital sector had a shortfall of 59,509 nurses, with serious attrition problems experienced in the regional and community hospitals.⁷ According to Sirisub et al.⁶, between 6,000 and 7,000 nurses left their jobs in 2017, and this is expected to continue through 2027. In 2023, the hospital sector had a 50,000-nurse shortage, with many RNs communicating their intention to resign.⁸ Srisa-art et al.⁹ reported that 33.6% of 995 nurses working in 47 community hospitals intended to leave their jobs in 2023. A consequence of the nursing workforce shortage in Thailand has been reduced hospital efficiency. This has meant reduced capacity^{5,10} and financial loss^{4-5,10} (i.e., payment of overtime & employment of temporary staff) across the hospital sector. Patient health outcomes are also impacted by the nursing shortage, leading to increased length of stay, decreased bed turnover and revenue.^{3,5,10} The increased workload contributes to nurse burnout and turnover, exacerbating the workforce shortage and increasing recruitment and training costs.¹¹⁻¹³ These factors collectively create financial challenges that severely affect revenue for the Thai hospital sectors.^{3,5,10} This scenario creates an excessive workload for RNs still employed, contributing to burnout and loss of job satisfaction.¹¹⁻¹³

Several Thai-based studies have been conducted over the past decade to identify factors associated with RN turnover to positively influence attrition rates within the hospital sector^{9, 14-16,17} and reverse high RN attrition.^{5,12,17-18} Despite the accumulated research evidence that

identifies factors that contribute to RNs high attrition rates, and given the predicted pessimistic continuing trend of RN turnover, this review aims to critically appraise the existing body of research to elicit guidance in re-thinking the current research focus in this substantive field. An argument is forwarded that supports the qualitative exploration of “how” RNs everyday practical experiences within the workplace can inform “why” they intend to resign. Such insight aims to provide guidance in developing strategies and initiatives that positively influence attrition rates and promote the retention of RN hospital staff in Thailand. Thus, this article uses an integrative review methodology to critically analyse previous empirical literature related to factors that influence the attrition and retention of RNs practicing within the hospital sector of Thailand, published between 2012 and 2023.

2.2 Methods

2.2.1 Search Strategy

The integrative review method was selected to facilitate a comprehensive understanding of the phenomena under investigation that allows for the simultaneous synthesis of qualitative, quantitative, mixed methods studies and grey literature from different research traditions.¹⁹ Based on the five stages in the review process by Whitemore and Knafl (2005)¹⁹, this integrative methodology includes problem identification, literature search, data evaluation, data analysis, and presenting an informed concluding concern. The Preferred Reporting System for Systematic Reviews and Meta-Analyses (PRISMA) was adopted to present the search findings.²⁰

A comprehensive search was performed in August 2022 and was repeated in January 2024, retrieving sources from seven electronic databases and search engines, including CINAHL (via EBSCOhost), EMBASE, Nursing Allied (via ProQuest), Ovid, Scopus, Web of Science, and Medline. Citation searching, snowballing and Google Scholar searches were also performed providing access to additional sources. To create a robust strategy, the review

questions were structured using the Population, Intervention/ Phenomena of Interest, Comparison, and Outcome (PICO) framework.²¹ The review question is what factors are associated with RN retention and attrition in Thailand's hospital sector. The key terms guiding the search strategy were developed with the assistance of university librarians and organised by the PICO framework.

2.2.2 Eligibility and Study Selection

Inclusion and exclusion criteria were based on the concepts studied, target population, health care issue, and sampling frame.¹⁹ The following inclusion criteria were applied. First, only studies with population samples drawn from varying types of RN practice in Thailand's hospitals were included, i.e., ward nurses, head nurses, nurse managers, and nursing administrators. Second, only studies that focused on the phenomena of attrition and retention of RNs were included in the review. Third, quantitative, qualitative, mixed-methods studies published as full-text articles, written in English and Thai, were considered. This strategy was appropriate as the first researcher is bilingual in both languages. Given the language scope, articles published in Thailand from 2012 to 2024 were included because of the importance of focusing on the Southeast Asia Region. Studies excluded related to other healthcare providers (i.e., physicians, assistant/technical nurses, physiologists), book chapters, commentaries, and discussion articles. The overall inclusion and exclusion criteria of this review are presented in Table 1.

“INSERT INCLUSION/EXCLUSION CRITERIA TABLE 1 HERE”

The review process is illustrated in Fig. 1 and guided by PRISMA.²⁰ Initial records were identified through database searches including CINAHL (via EBSCOhost), EMBASE, Nursing Allied (via ProQuest), Ovid, Scopus, Web of Science, and Medline (n = 310). Sixty-one studies retrieved were removed due to duplication, leaving a total of 249 articles, which following title and abstract screening resulted in 210 being excluded for not meeting the inclusion criteria.

Thirty-nine articles underwent full screening with 27 excluded as they did not focus on an RN population and were not primary research sources. The remaining 12 sources were included in this integrative review. Of those 38 additional sources retrieved from citation searching, snowballing and Google Scholar searches, 15 were excluded as they failed to meet the inclusion criteria. Following these refining processes, a total of 35 sources were included in the final review (see Figure 1).

“INSERT PRISMA FLOWCHART HERE – FIGURE 1”

2.2.3 Critical Appraisal and Quality Assessment

The Mixed Methods Appraisal (MMAT) 2018 version was used to appraise source quality.²² In 9 of the 35 sources critically appraised, at least one methodological quality criterion was not met. These 9 studies adopted varying designs, including 5 quantitative non-randomised studies, 3 quantitative descriptive studies, and 1 mixed method study. In the 5 quantitative non-randomised studies, the participants were not representative of the target population^{17,23-25} and did not report whether confounders were accounted for in the design and the analysis.^{23,26} Three descriptive studies had a risk of non-response bias, as indicated by low response rates.²⁷⁻²⁹ One mixed method study did not present the added value of conducting a mixed methods design and did not explain the divergences and inconsistencies between quantitative and qualitative results adequately.³⁰ In addition, the only quantitative randomised controlled trial study did not report whether outcome assessors were blinded to the intervention provided.³¹ In contrast, all quality criteria were met in all the qualitative studies reviewed.

2.2.4 Data Extraction

Data extraction was conducted by the first author and reviewed by all co-authors (see Table 2). Any disagreement in the selection was resolved through group discussion.

“INSERT DATA EXTRACTION TABLE 2 HERE”

2.3 Results

On review of the 35 included studies, there were 30 quantitative, 3 qualitative, and 2 mixed method studies. Most quantitative studies used a non-randomised controlled trial design, including 15 cross-sectional correlation studies, 2 predictive studies, and 1 longitudinal study. There was 1 randomised controlled design, while the remaining 11 studies used a quantitative descriptive design. Twenty-eight reviewed sources aimed to identify factors influencing Thai RNs' intentions to leave or remain in the nursing workforce by employing self-report questionnaires. All 3 qualitative articles used a descriptive design. The 2 mixed-method studies adopted were explanatory sequential designs.

Braun and Clarke's thematic analysis was utilised in this study due to its flexible, systematic, and rigorous approach to analysing qualitative data.³² This approach facilitates the identification of common themes across diverse studies, offers a nuanced understanding of the data, and adapts to various theoretical frameworks, making it well-suited for this integrative study.³² The 6-step approach included (1) familiarisation with data, (2) generation of initial codes, (3) searching for themes, (4) reviewing themes, (5) defining themes, and (6) final analysis.³² Through this process, three main themes emerged: (1) mental health and well-being, (2) the working environment and organisation, and (3) workplace location and job satisfaction.

2.3.1 Theme 1: Mental Health and Well-being

Positive emotions, including happiness at work^{9,13,31} positive psychological capital such as hope, efficacy, resilience, optimism³¹, job satisfaction^{3,5,12,18,24} and high self-esteem²⁴ have been identified as being crucial in influencing Thai RNs intentions to remain in their jobs. RNs with good mental health are in a state of well-being where they have positive psychological conditions, such as self-efficacy, hope, optimism, and resilience, which are associated with higher self-satisfaction, better coping ability, and less stress, influencing their happiness at

work.²⁴ Thai RNs who reported feeling happy at work expressed being satisfied with their jobs and having proactive attitudes at work. Being able to autonomously think, plan, and prepare in advance to improve nursing care quality was clearly defined as an RN's workplace responsibility.^{13,27-28} In this case, RNs' job satisfaction enhanced their self-esteem, motivating them to redesign their jobs fuelled by a personal belief and confidence in their ability to achieve positive patient outcomes and proactive nursing goals.³¹ The ability to develop a passion for one's professional roles and demonstrate quality job performance were deemed important in job satisfaction.^{16,31} In addition, resilience and optimism were shown to be crucial for maintaining excellent mental health, directly related to RNs' abilities to deal with and accept difficult situations at work and cope with unexpected occurrences.³¹ Therefore, nurses with a high level of resilience and optimism were found to be motivated to remain in their jobs and avoided feelings of exhaustion, stress, anxiety, and low mood.^{4,31}

Conversely, several studies identified that those Thai RNs who intended to leave their jobs cited suffering from poor mental health related to their work as the main contributing factor. Kaewboonchoo et al.¹⁶ indicated that nurses were stressed about their jobs due to low self-efficacy and self-esteem. Whilst Jeawkok et al.¹³ found that RNs were unhappy during work due to job insecurity and uncertainty. In addition, Nantsupawat et al.¹⁸ reported that nurses suffered from high levels of emotional exhaustion related to job dissatisfaction and burnout. Moreover, RNs who intended to leave their jobs within 6 months and 2 years cited job dissatisfaction. One of the few qualitative studies in this substantive field by Yuwanich et al.¹³ demonstrated that nurses with job stress reported physical problems such as headaches, stomach aches, discomfort, and unhappiness at work. This impacted on their functional abilities in terms of incomplete nursing care, working slowly, and making errors in the delivery of care.¹³ Negative emotions influenced RNs' perceived inability to manage tasks professionally, leading to low work motivation that eventually justified their reason to resign.^{5,18,26,33-36}

2.3.2 Theme 2: The Working Environment and Organisation

Thai RNs reported limited support from their workplace organisations¹³ that undermined their work autonomy, competence, and relatedness. Such experience negatively impacted their motivation at work. They blamed their low sense of work autonomy on the oppressive professional hierarchy and an organisational structure that did not promote, nor allow them to contribute professional opinions or independently set and achieve nursing goals.¹³ Doctors 'looking down' on nurses and treating them poorly like workplace servants was reported.¹³ In addition, RNs had to manage challenging circumstances without guidance from experienced head nurses or co-workers, which resulted in feelings of uncertainty, fuelling perceptions of low competence.⁹ Conflicts and dissatisfaction were reported as common occurrences when transferring workloads related to patient transfers between departments.¹³ Thus, negative collaboration with co-workers, including doctors, nurses in the same ward, and other wards, contributed to being unhappy at work.^{11,13} Dissatisfaction was compounded as RNs needed to perform multiple roles beyond nursing care, such as being financial consultants for patients families or providing treatment information in place of doctors or pharmacists.^{23,37-38} Sustained work with low autonomy, being overworked, lacking in organisational support and poor relatedness within the working environment contributed to physical exhaustion, eventually leading to burnout.^{16,24,33,39} Such emotional and physical exhaustion fuelled job dissatisfaction and loss of personal happiness, which significantly justified RNs intention to leave their jobs.⁵

2.3.3 Theme 3: Workplace Location

The hospital location near or within the family hometown was identified as an essential factor attracting Thai RNs to work^{5,9,15,40} Kunaviktikul et al.⁴⁰ found that hospitals in the same province as the RN's hometown was a significant factor associated with a positive sense of the working environment and organisation. Similarly, Chaikongkiat's study¹⁵ discovered that 87.3

percent of 248 Thai nurses thought they would like to continue their job because of the hospital location in their hometown. Shorter travel time provided nurses more time to rest, reduced travel costs, and promoted motivation and work satisfaction^{15,40} Maintaining close connections with family were possible when the workplace was close to home.^{5,15,40} High levels of family responsibility,⁴¹ family enrichment,^{6,42} feelings of connectedness external to the workplace⁴⁰ and healthy relationships between family members⁵ were found to be factors that supported a work-life balance important in job satisfaction. Khunthar⁴³ found that nurses despite having a heavy workload were motivated, satisfied, and remained in their jobs if they could maintain a work-life balance.⁴³

2.4 Discussion

This integrative review evaluates 35 studies on nursing attrition and retention in Thailand, uncovering significant insights while highlighting essential gaps in the literature. Despite the extensive body of research, only two out of 35 studies reviewed were conducted across different hospital levels (community, general, and regional) within Thailand's acute care sector.⁴⁴ This limited scope underscores a critical gap in understanding how different hospital settings affect nursing retention. It highlights the need for more inclusive research that spans various types of healthcare facilities. Additionally, the review reveals that most studies employed quantitative descriptive research designs. While these studies are valuable for identifying general trends and factors related to nursing attrition and retention, they often fall short of capturing nurses' nuanced daily experiences.

Rahman⁴⁵ argues that although quantitative studies offer a descriptive 'picture' of the interested phenomena, they do not provide an in-depth understanding of "how" everyday work experience influences "why" RNs decide to remain in their jobs or resign. This gap is particularly critical in the context of significant workforce shortages in Thailand, where a deeper understanding of nurses' work experiences is essential for addressing attrition. To

address this gap, future research must incorporate qualitative methodologies. Qualitative research can offer detailed insights⁴⁶ into nurses' subjective experiences, revealing how various aspects of their work environment impact job satisfaction and retention decisions. This approach will complement the existing quantitative data, providing a more comprehensive view⁴⁶ of the factors influencing nursing retention.

Ayalew et al.⁴⁷ emphasised that improving RNs' overall job satisfaction and motivation can significantly reduce job dissatisfaction and improve retention rates. This review supports this assertion by highlighting key positive factors—such as a supportive work environment, professional autonomy, and collaborative relationships—that enhance job satisfaction and retention.^{11, 13, 18, 48} Jeawkok et al.¹¹ and Yuwanich¹³ found that even though RNs experienced job stress and high workloads, having a good workplace environment, defined in terms of possessing professional autonomy, fuelled motivation, promoted confidence, a sense of competence and fostered job satisfaction. These factors supported feelings of work happiness significantly influencing RNs intention to remain in their jobs.⁹ However, the effectiveness of these factors can vary depending on the hospital context, indicating the need for tailored strategies that address the specific needs of different hospital types to improve nurse retention effectively.

These findings suggest several actionable strategies for hospital administrators and policymakers. Enhancing the work environment, promoting professional autonomy, and fostering a culture of support and collaboration are critical steps in improving job satisfaction and reducing attrition. These insights provide a roadmap for creating work environments that effectively address nurses' unique challenges in various hospital settings. Furthermore, integrating qualitative research into future studies will yield a deeper understanding of how nurses experience their work environments and make career decisions. Such research can help develop more targeted and effective retention strategies that account for the complexities of

nurses' daily realities. This review underscores the importance of understanding key factors influencing nursing retention and the need for a more nuanced approach through qualitative research. By addressing the limitations of current studies and offering practical recommendations, this review contributes valuable insights to the field. It paves the way for future research to improve nurse retention across all hospital settings in Thailand.

2.5 Conclusion

The literature review has identified the three main themes of mental health and well-being, working environment and organisation, and workplace location and job satisfaction, as important in influencing RNs attrition and retention rates in Thailand's hospitals. All themes relate to RNs motivation and satisfaction at work. While RNs with higher levels of self-motivation and self-satisfaction stay on the job, those with lower levels resign. The literature reviewed provides a comprehensive overview of factors that lead to job dissatisfaction and unhappiness in the workplace for Thai RNs. However, most of these research studies are focused on single-site hospitals. There has been limited exploration of factors across hospital levels and contexts, be they urban-based or regionally based workplaces. Few studies explore RNs experience of autonomy, competence, and relatedness, those factors that the published literature identifies in the RNs everyday workplace experience as contributing to job dissatisfaction. Thus, qualitative research design is needed that explores the RN experience of working in multi-hospital sites, across different hospital levels in varying locations (urban, regional and community) with the aim of understanding meaning in RNs everyday work practices. This insight is vital, and never more important in informing positive strategies and initiatives aimed at addressing RN workforce shortages and reversing the loss of the hospital nursing workforce in Thailand.

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2.7 Declaration of Conflicting Interests

The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

2.8 Update of Literature

The literature review will be updated to include relevant articles published up to time of thesis submission.

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Table 1: Inclusion and Exclusion Criteria

Inclusion criteria	Exclusion criteria
Registered nurses: <ul style="list-style-type: none">• ward nurses• nurse managers• nurse administrators	Other healthcare providers: <ul style="list-style-type: none">• doctors• assistants/technical nurse• allied health professionals
Published between 2012 and 2024	Published prior to 2012
<ul style="list-style-type: none">• Full-text articles• English• Thai	<ul style="list-style-type: none">• In a language other than English and Thai
Primary empirical studies: <ul style="list-style-type: none">• qualitative studies• quantitative studies• mixed-methods studies	<ul style="list-style-type: none">• Systematic reviews and secondary literature• dissertations and theses• commentaries and discussion articles

Table 2: Data Extraction

Author(S)/ Year/	Aim	Design/ Methodology	Method	Sample/ Setting	Results/ findings
Abhicharttibutra et. al. (2017) International nursing review	To describe policy-making processes in the first Thai government plan to increase nursing capacity and improve nursing education quality.	A descriptive qualitative study	1. Semi-structured questions 2. Document examination	28 key informants, including 13 involved in PIPDEM N development and implementation, and 15 former nursing faculty and college directors in Thailand, contributed to the study.	<ul style="list-style-type: none"> • Thailand addressed the nursing shortage through the quality of nursing education through the PIPDEM N. • The PIPDEM N's implementation faced challenges due to the Thai economic crisis, inadequate facilities, increased faculty workloads, and insufficient nursing educators. • Providing scholarships and training courses for undergraduates and post-graduates cannot attract Thai nurses to stay in the profession. • Thai nurses must undertake non-nursing tasks like finance, pharmacy, materials management, and laboratory work to combat nursing attrition.
Abhicharttibutra et. al. (2014) Pacific Rim International Journal of Nursing Research	To collect and analyse data regarding the context, processes, actors, and content of the Plan for Increasing Production and Development of Educational Management in Nursing(PIPDEM N), enacted to address nursing shortages in Thailand	An explanatory sequential design mixed method study	1) Semi-structured questions 2) Review documents	28 key informants, including 13 involved in PIPDEM N development and implementation and 15 former nursing faculty and college directors in Thailand, contributed to the study.	<ul style="list-style-type: none"> • The PIPDEM N was the first plan to solve the nursing shortage by increasing the production of Thai RNs. • The PIPDEM N's development was influenced by inadequate nursing graduate production, lack of coordination, unachieved quality in education, national Thai plans, demographic and social changes, and economic growth. • Policy-making processes began with identifying the nursing shortage issue, finding appropriate channels to advance the issue, and making proposals to the Thai Cabinet • Key factors influencing policy development included three nursing deans, the Chair of the Thai Deans’ Consortium for Nursing, the University Affairs Board, the Minister of University Affairs, and the Working Subcommittee
Abhicharttibutra et al. (2022) International Nursing Review	To explore the preferred rewards of registered nurses in rural and remote community hospitals in Thailand	Descriptive Qualitative	In-depth interviews	24 registered nurses 8 community hospitals in Thailand	<ul style="list-style-type: none"> • There were 4 four main preferred reward types, including: 1) Reasonable pay for overtime or working in remote areas.; 2) Good benefits include health benefits, retirement benefits, and improving daily life, such as accommodation, meeting meals, and exercise equipment.; 3) Career development, support from head nurses, and continuing education opportunities.; 4) A positive work environment with outstanding leadership, motivation, encouragement, friendliness, and compliments.

Author(S)/ Year/	Aim	Design/ Methodology	Method	Sample/ Setting	Results/ findings
					<ul style="list-style-type: none"> • The benefits after retirement are the most attractive factor influencing nurses' stay in the profession.
Boondang et al. (2021) Nursing Journal of The Ministry of Public Health	To explore job retention rate, the relationship between personal characteristics, organisational characteristics, and job retention, and the predictive ability of personal characteristics and organisational characteristics in relation to job retention of Generation Y registered nurses in community hospitals in Health Region 4	Cross-sectional study Quantitative	Self-report questionnaires	401 registered nurses Community hospitals in Thailand	<ul style="list-style-type: none"> • Job retention among Generation Y registered nurses is moderate, with personal factors and hospital size being the predictors, while age, service duration, position, income, family, and domicile were not related. • Organisational characteristics had a positive relationship with job retention of generation Y registered nurses, predicting 42% of the variation.
Chaleoykitti and Thaiudom (2017) Journal of Southeast Asian Medical Research	To examine the retention of nurses and the effect of the program on developing positive psychological capital among professional nurses	A randomized controlled trial Quantitative	20 nurses in the experimental group received the psychological capital program provided for 16-hour having class lectures, counselling, and activities.	40 registered nurses 3 regional hospitals in Central Thailand	<ul style="list-style-type: none"> • The retention intention of nurses in the experimental group receiving positive psychological programs was greater than that of the control group with statistical significance. • Pre-experimental: The average retention of nurses in the experimental group and control group were 2.76 and 2.8. • Post-experimental: The average retention of nurses in the experimental group was 3.8, whereas the control group was at 2.97.

Author(S)/ Year/	Aim	Design/ Methodology	Method	Sample/ Setting	Results/ findings
Chaikongkiat (2018) Princess of Naradhiwas University Journal	To examine job retention and factors predicting job retention	Descriptive Quantitative research	Self-report questionnaires	248 registered nurses A regional hospital in Yala province, Southern Thailand	<ul style="list-style-type: none"> • The responsibility to families, houses located near the hospital, and ability to work were the personal factors related to high job retention among nurses. • Characteristics of the organisation, job progression, and employee relationships were the organisational factors related to high job retention among nurses. • Job retention positively correlated with personal factors, including age, income, working duration, hospital location, and family responsibility.
Dechawatanapaisal (2018) Journal of Advanced Nursing	To examine the influence of three factors on turnover intention: leader-member exchange quality, organisational identification and job embeddedness.	Cross-sectional correlational study Quantitative	Self-report questionnaires	1,966 registered nurses 16 general hospitals located in major cities of Thailand.	<ul style="list-style-type: none"> • Leader-member exchange (LMX) quality is positively related to job embeddedness but negatively related to turnover intention ($p < .01$). • Organisational identification and job embeddedness were negatively related to turnover intention. • Organisational identification plays an intermediary role that mediates the relationship between leader-member exchange quality and job embeddedness. • Organisational identification is a predictor of turnover intention, and job embeddedness mediates the relationship between organisational identification and turnover intention
Dechawatanapaisal (2022) International Journal of Workplace Health Manage	To investigate the effects of psychological contract breach on the fit, links, and sacrifice dimensions of job embeddedness as well as the mediating roles of these three subcomponents in the relationships between psychological contract breach and nurses' work attitudes.	Cross-sectional correlational study Quantitative	Self-report questionnaires	591 registered nurses 4 private general hospitals in Northern, Thailand	<ul style="list-style-type: none"> • Psychological contract breach directly and negatively impacts job embeddedness's fit, links, and sacrifice dimensions. • Psychological contract breach indirectly and negatively impacts loyal boosterism via the three mediators of Job embeddedness. • The links and sacrifice were found to mediate the relationship between psychological contract breach and turnover intention.

Author(S)/ Year/	Aim	Design/ Methodology	Method	Sample/ Setting	Results/ findings
Dithisawatwet et al. (2014) Journal of Science Technology and Humanities	To estimate the relationship between workplace violence and intention to leave a nursing career among registered nurses in Thailand	Descriptive Quantitative research	Self-report questionnaires	14,928 registered nurses working in Thailand.	<ul style="list-style-type: none"> • 3.8% of nurses intended to leave the profession within 1-2 years, while 13.6% intended to leave later 2 years. • 6.27 % of nurses who had experienced workplace violence and intended to leave a nursing career more than those who did not have that experience. • Workplace violence was associated with a higher risk of intention to leave a nursing career (p-value=0.012, p-value=0.014), and was a significant predictor of intention to leave a nursing career either within 1-2 years or later among nurses (p-value<0.001, p-value=0.006)
Homsuwan (2017) Journal of Health Research	To determine the rate of turnover intention and associated factors with intention to leave among nurses in Rajavithi Hospital (RJH).	Cross-sectional correlational study Quantitative	Self-report questionnaires	390 registered nurses - Regional hospitals in Bangkok, Thailand	<ul style="list-style-type: none"> • 28.2% of nurses intended to leave the job, 19.7% often thought about leaving, 8.5% always thought, and 55.9 % sometimes thought. • Work department, job achievement, job security, and affective commitment were factors influencing on nurses' intention to leave. • Independent variables such as age, dependent, shift work, congenital disease, recognition, work promotion, policies and administration, interpersonal relations, salary and fringe benefits, personal life, quality of supervision, and internalization of values associated with intention to leave (p<0.05)
Jeawkok et al. (2015) NIDA Development Journal	To describe social phenomena that were causes of professional nurses' retention and intention of resignation to the job of registered nurses at a university hospital in Songkhla province	An explanatory sequential design mixed method study	1. Self-report questionnaires 2. Semi-structured interviews	289 registered nurses (answering questions) 15 informants for interviewing - 5 nurses supervisors - 10 nurses who had resigned. A university hospital in Songkhla province, Southern Thailand	<ul style="list-style-type: none"> • 49.5 % of nurses intended to stay on the job, and 37.7 % intended to leave. • Organisational value, culture, and supervisor support are key factors in retaining nurses, while bad work environments, hard work, and low promotion rates contribute to resignation. • Benefits and remunerations, responsibilities, work security, recognition, and co-worker relationships were the factors or causes for staying on the job.
Kaewboonchoo et al. (2014) Journal of Occupational Health	To evaluate the intent of nurses working at hospitals to continue working and to determine the relationship between	Cross-sectional correlational study Quantitative	Self-report questionnaires	514 registered nurses 4 hospitals - 2 general - 2 regional	<ul style="list-style-type: none"> • 17.5% of nurses had high job stress, and 22.4% had low intent to stay in the profession. • Intent to stay at work was significantly correlated with psychological job demands and social support at work.

Author(S)/ Year/	Aim	Design/ Methodology	Method	Sample/ Setting	Results/ findings
	job stress and intent to stay at work			in the Central region of Thailand	<ul style="list-style-type: none"> Intent to stay at work significantly correlated with supervisor support among the nurses with high-stress jobs and co-worker support in nurses with active jobs.
Khunthar et al. (2012) Nursing Science Journal of Thailand	To determine the predictors of intent to stay among professional nurses at a university hospital	Cross-sectional correlational predictive study Quantitative	Self-report questionnaires	212 registered nurses A university hospital in Bangkok province, Central Thailand	<ul style="list-style-type: none"> 64.74 % and 55.21 % of nurses intend to stay on the job in the next year and the next three years, respectively. Job characteristics were the most influencing factor related to intent to stay among nurses, whereas organisational culture was the lowest. Nurses' intent to stay can be predicted by factors such as welfare services for family members, night shift timing, organisational commitment, work experience, and organisational climate.
Kriwong et al. (2018) Princess of Naradhiwas University Journal	To examine registered nurses' opinions on factors that influence the retention of high-performance nurses in their organisation	Descriptive Quantitative	Self-report questionnaires	273 registered nurses A university hospital in Narathiwat province, Southern Thailand	<ul style="list-style-type: none"> Factors for retention include: 1) career goals, 2) supervisor's report and discussion on nurses' performance for every round of assessment, 3) welfare, compensation, and other environments, feeling secure in their job, and 4) clear communication of organisational goals. The most important factor for the retention of high-performance nurses was the career goals and expectations.
Kensakoo, et al. (2020) Journal of The Department of Medical Services	To study the factors related to the organisation's retention of registered nurses in Prasat Neurological Institute under the affiliation of the Department of Medical Services, Ministry of Public health	Descriptive Quantitative	Self-report questionnaires	162 registered nurses working in the Neurological Institute in Thailand	<ul style="list-style-type: none"> Job satisfaction, organisational culture, and organisational commitment had a positive correlation with the organisation's retention with statistical significance ($r = 637, p < .01$; $r = .416, p < .01$; and $r = .730, p < .01$, respectively).
Kunaviktikul et al. (2015) Nursing & Health Sciences	To identify work-environment preferences of professional nurses working in Thailand relative to	Descriptive Quantitative (DCE methodology.)	Self-report questionnaires	921 registered nurses 12 hospitals - 4 university - 8 private in Thailand	<ul style="list-style-type: none"> Distance, housing, income, benefits, continuing education, and working had a statistically significant contribution to the preferences of professional nurses to work in a hospital ($P < 0.01$). Nurses preferred high-level work settings, hospitals closer to home, and incomes over 50% higher than their basic salary rate.

Author(S)/ Year/	Aim	Design/ Methodology	Method	Sample/ Setting	Results/ findings
	their work settings				<ul style="list-style-type: none"> • A high level of supervision, autonomy, participation, empowerment, and relationship with physicians and other personnel. • Nurses with 1-5 and 6-10 years of experience reported over 50% more income before working in a hospital in their hometown province.
Kunaviktikul et al. (2015) International Nursing Review	To examine extended work hours and its relationship to patient, nurse, and organisational outcomes	A descriptive predictive study Quantitative	Self-report questionnaires	1524 registered nurses 90 hospitals - 51 communities - 30 provincials - 5 regionals - 4 universities in Thailand	<ul style="list-style-type: none"> • The average weekly extended work hours were 18.82 hours, with 80% working two consecutive shifts and 77.04% scheduling their overtime in advance. • Extended work hours positively impact patient outcomes (such as patient identification errors, pressure ulcers, and communication errors) and nurses' emotional exhaustion and depersonalization, while negatively impacting organisational productivity, job satisfaction, and
Muneerat et al. (2019) Journal of Health Science	Assessing the intention to stay in professional nursing in Rajavithi Hospital	Cross-sectional Quantitative	Self-report questionnaires	298 registered nurses A regional hospital in Bangkok province, Central Thailand	<ul style="list-style-type: none"> • Nurses with 72.8% were uncertain to stay in job, 14.1% had no intention, and 13.1% had an intention to stay in job. • Nurses perceived stress from work as follows: 62% had job stress, 17.8 had a high-stress level, and 82.2 had a moderate stress level. • Job-related stress, age, salary, position, experience, and job autonomy influence nursing job intention. Nurses over 40 tend to resign more than those under 39, highlighting career issues.
Nantsupawat et al. (2017) International Nursing Review	To investigate how work environment affects job dissatisfaction, burnout, and intention to leave among nurses in Thailand	A cross-sectional study Quantitative	Self-report questionnaires	1351 registered nurses 5 university hospitals in Thailand	<ul style="list-style-type: none"> • 17% of nurses reported being dissatisfied with their jobs, 51% had high burnout, and 10% expressed intent to leave within a year. • Job dissatisfaction, intention to leave, and emotional exhaustion were significantly lower for nurses who worked in units with better work environments than those who worked in mixed environments. • Better work environments were correlated with lower rates of job dissatisfaction, burnout, and intention to leave.
Ohue et al. (2021) Nursing Open	To examine factors of a hypothetical model related to stressors, burnout, and turnover in nurses from developed and	Cross-sectional correlational study Quantitative	Self-report questionnaires	1275 registered nurses Canada (n= 309), Japan (n = 319), Malaysia(n=242), Thailand(n=211) USA (n = 194) 15 hospitals	<ul style="list-style-type: none"> • Nurses in Japan and Thailand worked the most overtime hours. • Thailand had lower burnout and turnover than other countries and higher professional efficacy than Japan and Malaysia. • Japan and Malaysia scored highest on leaving the job as soon as possible” (p <.01), and Thailand scored highest on staying in the job as long as possible” (p <.01). • Canada and Malaysia had the highest stressors in terms of death and dying.

Author(S)/ Year/	Aim	Design/ Methodology	Method	Sample/ Setting	Results/ findings
	developing countries —Canada, Japan, the United States, Malaysia, and Thailand			(3 hospitals in each country)	<ul style="list-style-type: none"> Exhaustion was the highest in Japan, and cynicism and intention to leave the job were the highest in Malaysia
Palakawong, et al. (2019) Nursing Science, Burapha University,	To examine the work environment, the leadership of head nurses, and the retention of professional nurses at a central hospital in Chachoengsao province	A descriptive correlational Quantitative	Self-report questionnaires	85 registered nurses A central hospital in Chachoengsao province, South-central Thailand	<ul style="list-style-type: none"> Work environment and leadership of head nurses were moderate and positively correlated with the retention of professional nurses ($r (p < .05)$). The level of intention to stay in the nurses' job was moderately high with a good level of work environment and a high level of leadership of the head nurses.
Phuekphan et al. (2021) Pacific Rim International Journal of Nursing Research	To develop and test a model of factors influencing intention to leave nursing in Thailand	Cross-sectional correlational study Quantitative	Self-report questionnaires	405 registered nurses 9 regional hospitals in all regions of Thailand	<ul style="list-style-type: none"> The Intention to Leave Nursing Profession Model (ILNPM) explained 45% of the variance in intention to leave the profession. Burnout was the strongest factor directly and positively influencing the intention to leave through job satisfaction and professional commitment. Work-family conflict and nurse practice environment influenced the intention to leave, indirectly through burnout, job satisfaction, and professional commitment. Job satisfaction indirectly influences the intention to leave through professional commitment, whereas employment opportunity directly influences this.
Phuekphan et al. (2016) Journal of Health Research	To examine the psychometric properties of the Thai version of the Copenhagen Burnout Inventory (T-CBI).	Descriptive Quantitative	Self-report questionnaires	207 registered nurses 3 regional hospitals in Bangkok province, Central Thailand	<ul style="list-style-type: none"> The T-CBI demonstrated good reliability and validity. Cronbach's alpha coefficient of the T-CBI was 0.96, with subscales 0.91, 0.93, and 0.88, respectively. Psychometric properties of the T-CBI demonstrated satisfactory content and constructed validities and internal consistency of the instrument with an alpha coefficient of 0.94.
Pukhuang et al. (2022)	To investigate organisational climate levels, burnout levels, and	Descriptive Quantitative	Self-report questionnaires	209 registered nurses	<ul style="list-style-type: none"> Nurses had a high level of organisational climate, a moderate level of emotional exhaustion, a low level of depersonalization, a high level of personal achievement, and a moderate level of retention.

Author(S)/ Year/	Aim	Design/ Methodology	Method	Sample/ Setting	Results/ findings
Journal of Boromarajonani College of Nursing, Suphanburi	professional nurse retention levels, and the influence of all factors on professional nurse retention in a private hospital chain in Bangkok.			Hospitals in Bangkok province, Central Thailand	<ul style="list-style-type: none"> • Job experience, being part of the organisation, and relationships positively influenced nursing retention. Whereas depersonalization and emotional exhaustion were negative factors. These factors could predict a 36% variance in the retention scores.
Sawaengdee et al. (2016) BMC Nursing	To describes the design and initial findings of the Thai Nurse Cohort Study (TNCS)	A longitudinal design Quantitative	Self-report questionnaires	19,912 registered nurses in Thailand	<ul style="list-style-type: none"> • 1st round: 15.4 % (2,306) of the initial cohort stated intended to leave the job. • 2nd round: The new entry cohort mentioned they intended to leave the job in the next 2 years. • Nurses perceived quality of life was good; 33% had anxiety and depression, and 4% of them had pain and discomfort from working.
Sooksee et al. (2020) Nursing Journal	To explore at work-family enrichment, intention to stay, and its relationship among nurses in private hospitals	Correlational descriptive Quantitative	Self-report questionnaires	155 registered nurses 2 hospitals in Chiang Mai, North Thailand	<ul style="list-style-type: none"> • 54.20% of nurses reported having a moderate level of job satisfaction. • Nurses experienced work-family enrichment at a high level. They recognized that resources gained in their work facilitated their family role at a high level and that resources gained in the family enhanced their work function at a high level. • Nurses intended to stay at work at a high level, and work-family enrichment had a positive significant association with the intention of the nurses to stay at their work (p=0.01)
Srisintorn and Buapeth (2022) Pacific Rim International Journal of Nursing Research	To evaluate the psychometric properties of the Thai the Effort-Reward Imbalance Questionnaire (ERIQ), and its association with psychological health among a group of nurses within a	Cross-sectional correlational study Quantitative	Self-report questionnaires	725 registered nurses A university hospital in Southern, Thailand	<ul style="list-style-type: none"> • 34.5% of nurses had a high job strain score, 27% had a high overcommitment score, 12% had a low reward, and 19.9% had poor psychological health. • Factor analysis showed that effort and reward had two subscales that fit the variables well over a range of goodness of fit indices and had acceptable reliability. • Poor psychological health was associated with high job strain, a high level of over-commitment, a high level of effort, and low reward.

Author(S)/ Year/	Aim	Design/ Methodology	Method	Sample/ Setting	Results/ findings
	university hospital in Southern Thailand				
Sirisub et al. (2019) Nursing research and practice	To estimate the proportion of those RNs who intend to extend their working life and analysed the nursing associations between general characteristics, quality of work life, and job characteristics of the RNs and their intention to work past retirement age	Cross-sectional correlational study Quantitative	Self-report questionnaires	3,018 registered nurses Hospitals in Bangkok, Thailand	<ul style="list-style-type: none"> • 30.5% of nurses intend to stay in the profession after retirement. • Factors associated with the intention to work after retirement are the following: healthy/ workability 1) no shiftwork, 2) good working resources, 3) monthly income of more than 50,000 THB (1,595 USD), 3) did not have family against the extension of working life, and 4) good working resources ($p < 0.01$).
Srisa-art et al. (2023) Journal of Health Research,	To examine and identify the predictors of intention to stay in the profession (ITSP) at Community Hospitals functioning under the Ministry of Public Health, Thailand.	cross-sectional study Quantitative	Self-report questionnaires	955 registered nurses 47 Community Hospitals in 8 different provinces in Thailand	<ul style="list-style-type: none"> • 29.38% of nurses planned to stay in nursing for the next 2-3 years; 33.6% wanted to leave the job, whereas 39.4% wanted to spend the rest of their careers in nursing. • The nurses' characteristics did not have a statistically significant association with ITSP. • The ITSP was significantly influenced by human capital, work happiness, work-life balance, autonomy, and skill variety, explaining 21.4% of the variance in ITSP. • MCs were positively correlated to ITSP ($r = 0.379$, $p < 0.05$) as well as the WCs were positively associated with ITSP ($r = 0.370$, $p < 0.05$).
Sungbun et al. (2023) BMC Nursing	To investigate turnover intention during the COVID-19 pandemic among ED nurses and examine the effect of organizational resources, maladaptive	cross-sectional study Quantitative	Self-report questionnaires	332 registered nurses working in emergency departments Non-red zone (n=208) Dark-red zone (n=114) Hospitals in Thailand	<ul style="list-style-type: none"> • 72.8% of ED nurses in dark-red zone areas desired to leave their organization. • Turnover intention among ED nurses in the dark-red zone group was significantly negatively correlated with motivation ($r = -.525$, $p < .001$) and organization resources ($r = -.157$, $p = .047$). • Turnover intention among ED nurses in the non-red zone group was significantly negatively correlated with age ($r = -.279$, $p < .001$), self-awareness ($r = -.222$, $p = .001$), self-regulation ($r = -.242$, $p < .001$),

Author(S)/ Year/	Aim	Design/ Methodology	Method	Sample/ Setting	Results/ findings
	regulation, and job burnout on nurses' turnover intention				motivation ($r = -.245, p < .001$), social skills ($r = -.258, p < .001$), and organization resources ($r = -.336, p < .001$).
Thirapatsakun et al. (2015) Journal of US-China Public Administration	To apply turnover intention theory to employee turnover intention in a private hospital setting and confirm the validity of the conceptual model	Cross-sectional correlational study Quantitative	Self-report questionnaires	890 registered nurses 44 hospitals in Bangkok province, Central Thailand	<ul style="list-style-type: none"> • The model theory (job demands, work engagement, financial reward, and work schedule flexibility) would enhance an understanding of nurses' turnover intention for employees. • Job demand has a positive effect on an employee's turnover intention ($p < .001$), whereas work engagement and financial reward have a negative effect on it ($P < .05, P < .001$) • Work schedule flexibility positively affects turnover intention when the financial reward is directed.
Thirapatsakun et al. (2015) Universal Journal of Management	To investigate the relationship among job demands, work engagement, and turnover intention in the multiple groups of different levels of perceived organisational support	Descriptive Quantitative	Self-report questionnaires	890 registered nurses 44 hospitals in Bangkok province, Central Thailand	<ul style="list-style-type: none"> • Job demand did have an influence on turnover intention through work engagement. • Work engagement mediated the relationship between perceived organisational support and turnover intentions. • Perceived organisational support had an indirect influence on turnover intention through work engagement but had no moderating impact on the relationship between job demands and work engagement
Thirapatsakun et al. (2014) HRD Journal	To examine perceived organisational support as a possible moderating variable with multi-group equivalent applications for determining a measurement that operates equally across the different	Descriptive Quantitative	Self-report questionnaires	890 registered nurses 44 hospitals in Bangkok province, Central Thailand	<ul style="list-style-type: none"> • Job demand and work schedule flexibility have a positive effect on an employee's turnover intention ($p < .001$), whereas work engagement and financial reward have a negative effect on it ($P < .05, P < .001$) • Job demands negatively influenced turnover intention and were mediated through work engagement ($p < 0.05$). • Perceived organisational support has no moderating impact on the relationships between job demands (JD) and work engagement (WE) ($p < 0.05$).

Author(S)/ Year/	Aim	Design/ Methodology	Method	Sample/ Setting	Results/ findings
	populations of the group in the model approach.				
Theucksuban et al. (2022) International nursing review	To test the causal model of intent to stay in the employment of nurses in regional medical centers	Cross-sectional design Quantitative	Self-report questionnaires	1224 registered nurses Regional hospitals in Thailand	<ul style="list-style-type: none"> • Transformational leadership, co-worker support, professional autonomy, opportunities for promotion, marital status, and job satisfaction positively affected intent to stay. • Job satisfaction was directly affected by the three predictor variables: co-worker support, professional autonomy, and promotional opportunity. • Burnout directly negatively affected intent to stay and could explain 67.5% of the variance in nurses' intent to stay
Yuwanich. et al. (2017) Open Journal of Nursing	To explore nurses' experiences of occupational stress in emergency departments in private hospitals in Bangkok, Thailand	Descriptive Qualitative	Semi-structured interviews	15 registered nurses A general hospital in Bangkok, Thailand	<ul style="list-style-type: none"> • Nurses identified patients' and family members' behaviors as the primary source of stress, followed by an excessive workload. • Conflicts and misunderstandings between nurses and other healthcare professionals were reported as significant stressors in emergency rooms. These issues are related to relations of power and hierarchy in the emergency department. • Nurses struggle with conflicting feelings about whether to leave or stay in the job because of job stress.

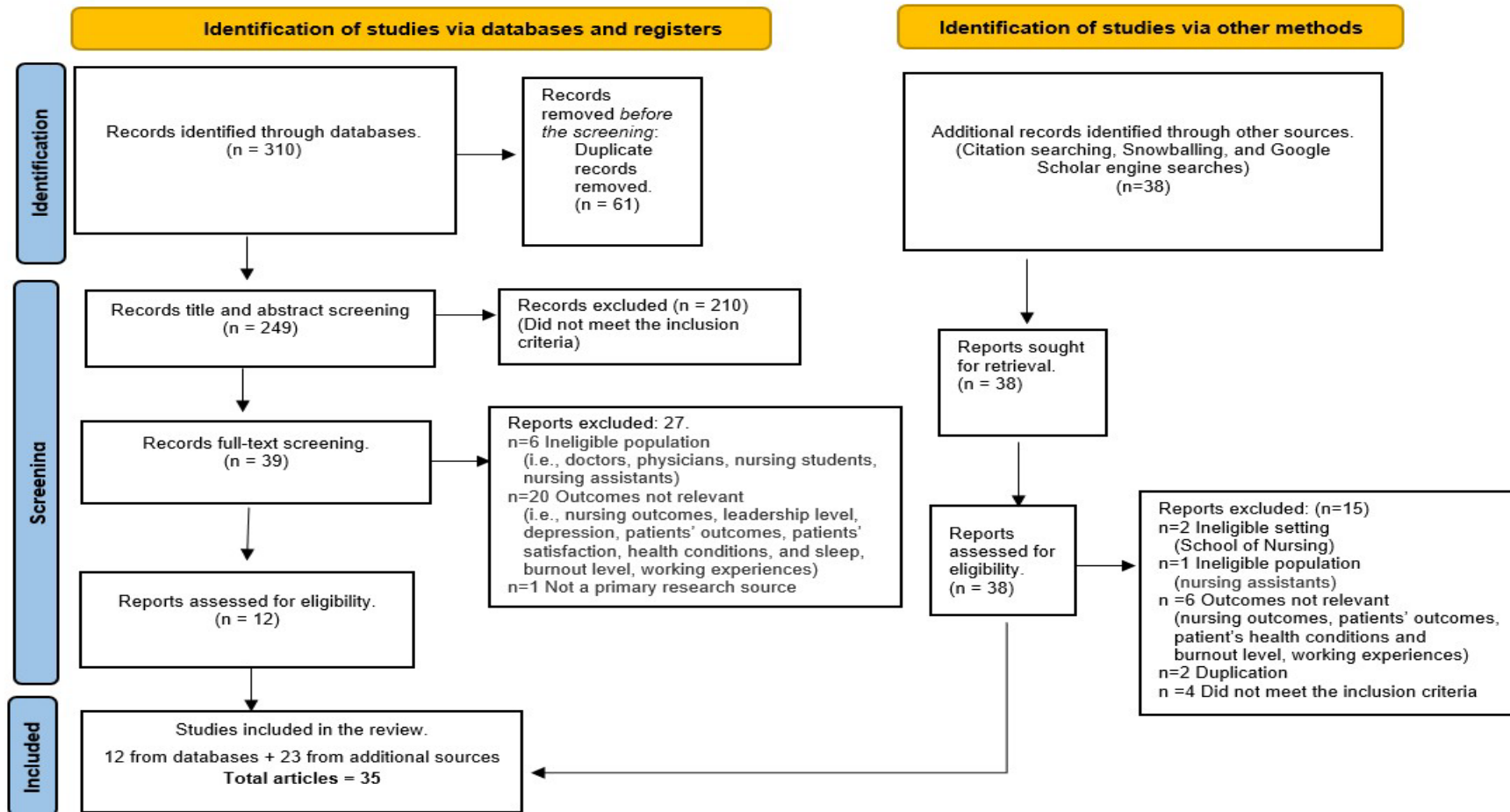


Figure 1: PRISMA Flowchart

Flow diagram of the systematic review process. An adapted PRISMA 2020 flow diagram for new systematic reviews includes searches of databases, registers, and other sources.

