

Registered Nurses' Attitude and Practice Regarding Nursing License Renewal Process: A Systematic Review

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Abstract

Nurses and midwives contribute close to 50% of the global healthcare workforce and are at the frontline of providing nursing care to the public. Hence, nurses must maintain their practice by renewing their license. This systematic review examines the attitude and practice of registered nurses regarding nurse license renewal, and identifies barriers experienced during the renewal process. The search strategy utilized were Google, Google Scholar, PubMed, and EBSCOHost databases using search terms nurse, license, and renewal. Inclusion Criteria include articles published within 10 years, full text, peer reviewed, and in English. Results revealed a total of 10 articles that fit the Criteria. Majority of articles revealed nurses had an overall positive attitude and practice due to the importance of mandatory continuing education as a requirement for license renewal, and a significant relationship between knowledge and practice of checking license status ($p < 0.05$). Barriers were identified as "time constraint", "lack of support" in the workplace, "financial constraints" and "lack of access". Evidence relating to license renewal by payment of fees only was very limited, and further research is needed to develop to better support for registered nurses during the renewal process. Limitations of the review include no access CINAHAL database, and articles with Abstract only, which would have enriched the review. In conclusion, majority of nurses had a positive attitude and practice regarding the renewal of license, and experienced barriers the process.

Keywords: Attitude, Continuing Education, License Renewal Process, Practice, Registered Nurse.

Introduction

Registered nurses are at the frontline of patient care and make up the largest group of healthcare workers globally. According to the World Health Organization (WHO) 2024, nurses and midwives contribute close to half of the global health workforce [1]. Moreover, the International Council for Nurses (ICN) Code of Ethics for Nurses provides a framework for nurses to engage in safe practice through continuing education and authorization to practice [2]. At the 51st Annual General Meeting of the Regional Nursing Body (RNB), nursing leaders and stakeholders focused on strategies to improve nursing and midwifery

education and practice and critically examine the migration of healthcare workers in the Caribbean region [3]. It is therefore important for nurses to provide safe and quality nursing care. Hence, one of the main ways to assure public safety is to maintain a valid nursing license issued by a legal authorizing body. This review seeks to examine the evidence related to registered nurses' attitude and practice regarding nursing license renewal process, and the challenges faced by registered nurses during the renewal process.

Among the Caribbean Community (CARICOM) member states, the General Nursing Council (GNC) is the regulatory body

for nursing education and practice to ensure the safety and protection of the public's health and welfare [4]. However, in the United States, nursing practice is regulated by Boards of Nursing in each state and its affiliated territories [4]. Regulatory requirement such as Continuing Education (CE) or Continuing Professional Development (CPD) credits also varies across states in the U.S., and among other countries [5, 6]. For example, in Alabama, a Registered Nurse must complete 24 hours of continuing education credits and pay a fee of \$ 100 or \$ 203 for single or multistate respectively every 2 years. Colorado, on the other hand, does not require its nurses to engage in any practice or continuing education activities. However, nurses must pay a renewal fee of \$ 108 biennially [6]. Canada requires all nurses to engage in continuing education to maintain competence and for renewal of licensure every 5 years [7]. According to the Canadian Nurses Association, a minimum of 2,925 contact hours must be achieved within the nurse's area of expertise or current practice [8]. Most General Nursing Councils within CARICOM also require continuing education credits for licensure renewal, with similar reports among some African countries such as Ghana, Ethiopia, and Botswana [7]. In the United Kingdom (UK), nurses and midwives must participate in both practice hours and 35 hours of continuing education activities to facilitate revalidation; the registered nurse must complete 450 practice hours, while the midwife completes 900 hours [9]. Some nurses have a positive attitude towards the renewal process as it allows them to improve their competencies, and give them the confidence to provide quality, safe nursing care; they also understand that it is a vital aspect of the renewal requirement [10, 12] and as a lifelong process within the nursing profession [11, 12]. Some nurses engage in additional continuing educational activities to establish and maintain networks with other nursing colleagues [13]. On the other hand, nurses may experience

negative attitudes towards the process due to challenges such as time constraints, inadequate support within the workplace, financial burden and irregular staffing issues [14]. In a study by Brannock & Bradford, registered nurses who are spouses of military personnel faced several challenges related to licensing renewal due to their frequent relocation [15]. Other barriers were categorized as personal, interpersonal, and structural barriers [16]. Additionally, in some regions, there are disparities among nurses' ability to access continuing education activities [17]. In Philippines and Rwanda, nurses were faced with challenges related to availability of continuing professional development opportunities [10, 18]. Another challenge in renewing nursing license is related to the method of delivery of the continuing professional development. While the blended approach was preferred among some nurses, the issue of a stable internet connection and electricity to power devices made engagement difficult [19]. Similar findings were found in a Tanzanian study, where nurses and midwives had challenges with accessing electronic documents to facilitate license renewal [20]. It is also important that an appropriate method to bring awareness and reminders for licensure renewal to be utilized as a means of support from administrators and among colleagues [21].

Justification

This review is important at this time as it will provide greater understanding of renewal requirements for nurses in other countries and reinforces the importance of maintaining the public's safety and quality of care; the review is also justified as it will also identify gaps in the existing literature as well as challenges experienced. Hence, the Two (2) objectives of the review are to identify nurses' attitude and practice regarding license renewal, and identify barriers experienced during the license renewal process.

Method

The review was conducted using Google search engine and a systematic search of research articles in Google Scholar, PubMed, and EBSCOhost databases to select journal

articles as well as grey literature. Data extraction and analysis were conducted using the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta- Analyses) 2020 flow diagram in Figure 1.

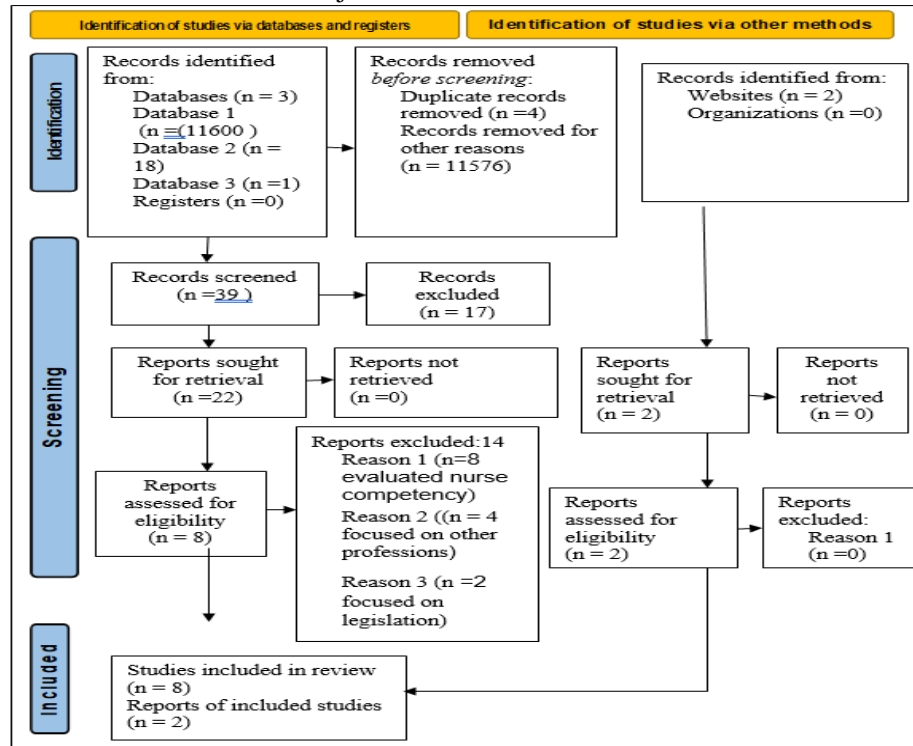


Figure 1. Search Results and Articles Selection using PRISMA Flow Chart

PRISMA outlines the process involved in indentifying, screening and how eligible articles are selected that meet the inclusion and exclusion criteria of Systematic Reviews and Meta- Analysis in different formats [22]. For this systematic review, the databases, registers and other sources format were used. The first level of search was done via Google and was

preliminary to explore the topic; two grey literatures were utilized in this search using the key word nursing license renewal. This was followed by the Google Scholar search using the key terms above, and the inclusion criteria of reviewed articles, and those published in 2014-2024; Table 1. shows the selection criteria for the articles.

Table 1. Selection Criteria for Articles

Criterion	Inclusion	Exclusion
Publication type	Full text, Peer Reviewed, Grey articles (Government, Health agencies)	Articles with Abstract only, other publications such as magazines, Newspapers, Books by individual author
Research Design	Quantitative, Qualitative	Experimental, Clinical trials
Language	English	Other languages such as Chinese, Spanish
Population	Registered nurses, Midwives	Other professionals such as pharmacists
Publication Date	2014- 2024	< 2014

a= Q indicates questions based on the JBI risk assessment (Appendix A).

b=the risk of bias was ranked as high when the study reached up to 49% of “yes” scores, moderate from 50 to 69%, and low, more than 70% of “yes” scores. ‘Y’ indicates yes, N’ indicates no and ‘?’ indicates unclear.

Varghese, et al showed a 78% of respondents had moderate knowledge of CPD, 34% had good practice, 64% poor practice and 1 (2%) did not renew license.

Articles that fit the inclusion criteria were full text, peer-reviewed journals, primary and secondary sources from qualitative and quantitative designs published in English within the last 10 years; this includes grey literature from key healthcare organization, government, and allied groups as well as leaders in nursing due to their role in facilitating continuing education for nurses or making policy regarding nursing administration, education or practice. Studies were excluded because of the following characteristics: if they were not full text or peer- viewed; had Abstract only available; secondary sources published in newspapers, magazines and books by individual author (s); experimental and clinical trials studies; articles published less than 10 years ago as they may not reveal the best evidence [23]. Studies not related to continuing education in nursing as some study subjects were pharmacists and other allied health workers, and those published in other languages such as Chinese and Spanish.

In the EBSCOhost and PubMed databases, an Advanced Search using the previous search term, and incorporated Boolean operators such as nursing license renewal “AND” Attitude “AND” Practice. These journal articles were full text and peer- reviewed during the same period and were published in English using the Academic Search Complete and SmartText options. Duplicate articles and those not related to nursing license renewal were removed. The second level search focused further on articles with similar titles and abstracts. The third step

examined full text and peer reviewed articles; these were analyzed based on the selection criteria were considered for eligibility. The final level of screening determined the eligible articles including grey articles obtained from “Other source” category. The results were organized according to author, year, country, title of the study, methodology to include study designs, setting, sample size, sampling technique, tools used), major findings, and conclusions/recommendations.

Results

A total of 11, 619 articles were initially retrieved during the first step of the systematic search from 3 databases. The first database was Google Scholar which yields 11,600, EBSCOHost- 18 articles, and PubMed 1 article, and 2 grey literatures were retrieved from a Google search. There were 4 articles that were duplicates and 11,596 articles were removed as they were not related to the topic. The remaining 39 articles were screened first by abstracts and title during the 2nd level of analysis, 17 records were removed as they were only available as abstract only and abstract with snippet. In the next level, full text, peer viewed records were screened and 8 records were found to be eligible, 14 did not meet the inclusion criteria as outlined in Table 1; Eight (8) studies looked at nursing competency, 4 records involved other professionals such pharmacist, dentists, not registered nurses and midwives, 2 studies addressed legislation (Board of nursing complaint process and lifting restrictions for APNs during Covid-19). Two (2) grey literatures were also retrieved. Hence, only 10 records were eligible for inclusion in the review using the PRISMA 2020 flow diagram in Figure 1.

The majority (62.5%) of the studies were descriptive research, 2 were mixed methods, 1 meta-analysis and 2 grey literatures provided expert opinion using available evidence. They were published during the period 2014- 2024. Table 2 outlines the summary of the articles

according to author, year, country, titles, methodology, major findings, and conclusions/recommendations.

Table 2. Summary of the Findings

Sl. No.	Author/ Year/ Country	Title of the study	Methodology	Major Findings	Conclusions/ Recommendations
1.	Palma, et al., (2020), Philippines	Continuing professional development: Awareness, attitude, facilitators and barriers among nurses in the Philippines	Descriptive cross-sectional survey design, at Tertiary, teaching and training hospitals, in the city of Iloilo. 237 nurses from 1 private and 1 public hospital were selected through Stratified Random Sampling and the Fishbowl method. Data collected using Questionnaire sections were demographic and work related profile; Awareness of CPD Law and Attitude to the importance of CPD scale, facilitators and barriers to participation in CPD	Results revealed that the Level of awareness and attitude towards CPD: Moderate (M=2.31; SD=.31), were positive about the importance of CPD (M=3.91; SD=.72). Attitude toward CPD importance significantly differed ($p<0.001$) across age group and importance of CPD ($p=.000$) were significantly related to their attitude toward the implementation of CPD. Major facilitators are Awareness that CPD is a requirement for license renewal (90.7%), knowledge that it can help improve skills at work (78.9%), and sponsorship from the organization (62%) and the Major barriers to CPD participation were cost (98.7%), not available to all staff (61.6%), and time-related factors (60.3%).	Offering free CPD activities considered to overcome barriers. Policymakers, program planners, and CPD providers need to develop strategies and activities for CPD based on the needs and motivations of nurses taking into consideration the characteristics of the different generational cohorts.
2.	Varghese, et al., (2021), India	Knowledge and Practice Regarding Renewal of	A descriptive design was adopted. Study was collected at	The majority, 98% agreed that renewal of license was important in their profession.	It is inevitable to gain a nursing license and do its renewal, as it will monitor minimum

		License among Staff Nurses	selected hospital, Chennai, Tamil Nadu, India. A convenient sampling technique was used to select 50 staff nurses. A Self structured knowledge questionnaire- and Practice checklist was used.	Regarding knowledge, the majority of 78% had moderate knowledge. Regarding the level of practice, 64% had poor practice of renewal of license.	competencies and provides assurance to the public that predetermined standards have been met.
3.	Mosol, et al., (2018), Kenya	Factors Influencing Continuing Professional Development for Nurses in Western Kenya	A mixed method approach was adopted. 239 nurses were selected by stratified random sampling, and purposive sampling technique respectively. Data was collected using questionnaires, interviews and Focus Group Discussions (FGD).	Five major factors that influence nurses to participate in CPD were identified such as obtaining additional qualifications, improving their Curriculum Vitae, to be updated with new developments, career progression, networking with other nursing colleagues and to be prepared for mentoring new nurses and students. While Coordinators considered appraisal, promotion, earn CPD points and license renewal.	Individual factors were the most important factors influencing nurses' participation in CPD coupled with professional/organizational needs. CPD for nurses should be jointly planned and implemented by nurses and coordinators of CPD. Individual and professional/organizational motivators of CPD for nurses should be promoted.
4.	Shahhosseini et al, (2014) Iran	The Facilitators and Barriers to Nurses' Participation in Continuing Education Programs: A	An explanatory mixed methods study, Phase 1- a cross-sectional survey of 361 nurses in Mazandaran University of Medical	The mean score of facilitators was significantly higher than the mean score of barriers (61.99 ± 10.85 versus 51.17 ± 12.83 ; $p < 0.001$, $t = 12.23$). Main facilitators of nurses' participation in	Nurses' professional needs should be considered in the development and implementation of educational programs. Increase E-learning and distance education to reduce barriers, and

		Mixed Method Explanatory Sequential Study	Sciences, selected via convenience sampling. A two- part questionnaire was used. Phase 2- qualitative content analysis design, using Purposeful sampling, Semi-structured in- depth Interviews were used.	Continuing Education (CE) were related to updating knowledge, the highest mean score of barriers in three personal, interpersonal and structural domains, were related to Time constraints, Lack of co-workers' support and work commitments.	nurse managers should facilitate nurses' participation in CE
5.	Gakwerere et al, (2024), Rwanda	Access to continuous professional development for capacity building among nurses and midwives providing emergency obstetric and neonatal care in Rwanda	A cross-sectional design was adopted. Random selection of 40 health facilities using a pilot tested questionnaire was used to collect data on updates of CPD, knowledge on EmONC and delivery methods to access CPD.	Respondents with less than 60 CPD credits related to EmONC training were 79.9%. The main areas of skills and knowledge gaps were management of Pre/Eclampsia, Postpartum Hemorrhage, and essential newborn care. Most common methods of acquiring CPD were workshops (43.6%) and online training (34.5%), while 57.0% expressed difficulty in achieving the required CPD credits.	Policy makers need to integrate CPDs for nurses and midwives in policies and strategies and allocate enough resources to ensure systematic implementation. Integrate EmONC into the health workforce capacity building plan at all levels and to make such training systematic and available in multiple and easily accessible formats.
6.	Nyiringango , et al., (2023), Rwanda	Online learning needs, facilitators, and barriers for continuous professional development among	A cross-sectional design study was used. Stratified random sampling was used to obtain 400 participants. A three-part	The majority 97.3% of participants consider the importance of CPD, improving the quality of health service delivery, renewing professional licenses, and seeking opportunities for promotion. 71.6%	There is a need to improve internet access, compatible technology with smartphones, or increase the availability of computers and tablets at health institutions.

		nurses, midwives, and physicians in Rwanda	questionnaire was used.	prefer a blended approach, and 86.5% use smartphones. Identified barriers to online learning are mainly related to the limited online learning experience, access to electronic devices, status of the internet, and access to electric power. The blended approach for CPD delivery is statistically associated with the training received about online learning ($X^2 = 88.390$, $p < 0.001$)	
7.	Mlambo et al., (2021), Jersey	Lifelong learning and nurses' continuing professional development, a meta synthesis of literature	A meta synthesis of qualitative literature was investigated to yield theoretical development. Search included, Medline (OVID), PubMed, and Cumulative Index to Nursing and Allied Health Literature (CINAHL), Web of Science (Clarivate) and ERIC (ProQuest). A total of 25 articles were selected from 1675 records initially identified.	Five (5) themes were found, Organizational culture shapes the conditions, Supportive environment as a prerequisite, Attitudes and motivation reflect nurse's professional values, Nurses' perceptions of barriers and Perceived impact on practice as a core value.	Access to continuing professional development could be made more attainable, realistic and relevant, organizations should adequately fund and make CPD accessible. Nurses should continue to actively engage in CPD to maintain competent practice. Further studies may need to look more closely at how nurses perceive different aspects of funding. CPD programs need to be more accessible and kept interesting by making them more relevant to nurses' practice contexts. Managers need to engage in CPD themselves, demonstrate explicit

					support, and influence policy to create environments conducive to CPD. eLearning approaches could be utilized for education and training.
8.	Makali, et al., (2024), Tanzania	The Role of Nursing Guidelines on Successful License Renewal for Nurses and Midwives in Ubungo District Public Hospitals in Tanzania	A descriptive research design was applied to the public healthcare sector in Ubungo District. 99 nurses were selected using simple random sampling and purposive sampling techniques.	Many nurses and midwives lack easy access to the TNMC guidelines; they are unfamiliar with the new online renewal system. Some respondents have a negative attitude towards the license renewal process. While the online process is improving, older nurses have difficulty using the new system, scarce computers and internet access, and officials in healthcare institutions do not always prioritize the timely renewal of staff licenses.	Need to enhance the license renewal process for nurses and midwives in Ubungo District Public Hospitals by raising more awareness regarding access to the guidelines, and the online license renewal system.
9.	Blindon, (2017), USA	Professional Development Strategies to Enhance Nurses' Knowledge and Maintain Safe Practice	An overview of nursing professional development offers some resources to help individual nurses maintain or enhance their knowledge, skills, and attitudes.	Role-based annual competency assessment, mandatory education, contact hours by an official accrediting body, organizations or health care facilities can also apply for interprofessional continuing education accreditation. Nurses can participate in a process improvement project, create an evidence-based poster, or submit an abstract for a podium	Nurses and the NPD (Nursing Professional Development) specialists are engaging in active learning that helps solidify positive changes and improvements in practice. There are resources that allow nurses to collaborate, solve problems, and learn new information and skills. Ongoing learning can make a tremendous contribution to

				presentation at a local or national conference. Nurses can track their activities electronically or by hard copy or both. Be certain that the source is from a credible and approved source.	perioperative nursing practice and excellent patient care.
10.	Alexander (2021), USA	Using Nursys® as a Primary Source for Licensure Information	Nurses practicing in the US	Nursys is designated by BONs (Boards of Nursing) as a primary source equivalent. NCSBN ID is used during applications without providing personal information. e-Notify licensure update notification system. Certification tracking for licensed students. The need to organize notification of license changes for faculty and clinical preceptors	NCSBN ID numbers and products available on the Nursys platform are important in tracking nurse licensure numbers, modernizing nurse licensure processes, improving efficiency and ultimately protecting public.

Nurses under the age of 45 years made up the bulk of respondents public and private healthcare institution. Females made up the bulk of nurses involved in all the studies in the review. The first objective of the review seeks to identify the attitude and practice of registered nurses regarding licensure renewal. Findings from the systematic review showed that majority of nurses have a positive attitude and practice towards license renewal, as they value the importance of continuing education or continuing professional development as an important aspect of the renewal process. Palma et al [10] revealed 82.4% of the respondents

were females, with 68.8% within the age group 23- 38 years. The majority had moderate positive about the importance of CPD ($M=3.91$; $SD=.72$), 90.7% are aware that CPD is a requirement for license renewal but showed that cost was a barrier (98.7%). They recommended cost effective measures such as offering free continuing education, using in-service training opportunities, and that stakeholders need to develop CPD that is reflective of the needs of the nurses. Attitude towards CPD differed significantly, in relation to age ($p<0.001$); the researchers employed the Tukey procedure to determine that the age

group 20-23 differed significantly in relation to attitude of nurses and the importance of CPD. Moreover, the Risk of Bias (ROB) according to

the Joanna Briggs Institute (JBI) for Critical Appraisal [24], results showed that the article is low in risk as seen in Table 3.

Table 3. Risk of Bias (ROB) using JBI Critical Appraisal Tool for Analytical Cross-Sectional Studies

Authors	Q*1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	%Yes	Risk ^b
Palma, et al., (2020)	Y	Y	N/A	N/A	N	N	Y	Y	83.3	Low
Varghese, et al., (2021)	Y	Y	N/A	N/A	N	Y	U	Y	50	Moderate
Gakwerere et al, (2024)	Y	Y	N/A	N/A	N	N	Y	Y	66.6	Moderate
Viringango, et al., (2023)	Y	Y	N/A	N/A	N	N	Y	Y	66.6	Moderate
Makali, et al., (2024)	Y	Y	N/A	N/A	N	N	Y	Y	66.6	Moderate

^a Q indicates questions based on the JBI risk assessment.

^b the risk of bias was ranked as high when the study reached up to 49% of “yes” scores, moderate from 50 to 69%, and low, more than 70% of “yes” scores. ‘Y’ indicates yes, ‘N’ indicates no and ‘?’ indicates unclear.

Varghese, et al showed a 78% of respondents had moderate knowledge of CPD, 34% had good practice, 64% poor practice and 1 (2%) did not renew license.

However, there was no relationship between practice regarding license renewal and demographic characteristics $p < 0.05$. The JBI score of moderate risk was determined. The authors concluded that having a valid nursing license will maintain public safety by adhering to regulatory guidelines. Mosol et al, and Shahhosseini et al, both utilized a mix methodology; Mosol et al found nurses participate in CPD to obtain additional qualification, improve their Curriculum Vitae (CV), to be updated with new developments, career progression, networking with other nursing colleagues and to be prepared for mentoring new nurses and students (mean < 3),

CPD Coordinators selected staff appraisals and promotions, obtaining CPD credits and renewal of license [13]. While Shahhosseini et al, identified “updating my knowledge” as the main motivator to engage in continuing education but lack of time, and co-worker support and work-related commitments were barriers to participation. They recommended tailoring CPD based on nurses’ need; increase e-learning and those managers need to be more involved in facilitating nurses to attend [16]. The result from the Risk of Bias assessment using the Mixed Method appraisal Tool version 2018, [25] in Table 4 showed that a low risk as both studies used triangulation for data collection content analyses to determine to extract themes for interviews; these include updating information and professional skills and lack of support.

Table 4. Risk of Bias (ROB) using Mixed Methods Appraisal Tool (MMAT) Version 2018

Authors	Q*1	Q2	Q3	Q4	Q5	Q6	Q7	Comments
Mosol, et al., (2018)	Y	Y	Y	Y	Y	Y	Y	Triangulation, multiple logistic regression
Shahhosseini et al, (2014)	Y	Y	Y	Y	Y	Y	Y	Cronbach’s alpha coefficient = 0.92, univariate and multivariate analyses. Content analysis for phase 2

*= Q indicates questions based on the Mixed Methods Appraisal Tool

**= Y indicates yes, N’ indicates no and ‘?’ indicates Can’t tell

Gakwerere et al, showed 79.9% of respondents experienced a CPD gap in knowledge and skills in Emergency Obstetric and Neonatal Care (EmONC). Workshops (43.6%) and online training (34.5%) were the most common form of CPD engagement. The study recommended incorporating EmONC at all levels of the healthcare system to build capacity and promote greater access [18, 19] showed that 97.3% of respondents consider CPD to be important, 71.6 preferred blended learning and 86.5% use smartphones; 28% have fast and stable internet, 57.1% have fast but unstable access, and 14.2% do not have fast and stable access [19]. The second objective identified barriers as reported by nurses; notwithstanding the positive attitude and practices, nurses experienced numerous challenges during the renewal process. These include time constraints, financial challenges, a lack of employer support or a work environment that is reactive rather than proactive, and lack of access due to inadequate technology and internet usage. Makali, et al., also revealed CPD is important for renewal purposes some respondents have difficulty among older nurses, with the online process as it required log in access, lack of computers, limited internet access, completing renewal based on promotion opportunities and that hospital management is not always focused on

renewal, rather on completing task and when malpractice occurs [20]. The ROB scores for majority of these studies were moderate as they were not explicit in showing how confounding variables will be addressed in the study. Mlambo et al identified 5 themes from their meta-analysis; Organizational culture shapes the conditions, Supportive environment as a prerequisite, Attitudes and motivation reflect nurse's professional values, Nurses' perceptions of barriers and Perceived impact on practice as a core value. The study recommended strategies within the workplace to support nurses' participation in CPD; A Low-risk score on the JBI Critical Appraisal for Systematic Reviews. It indicates that the authors followed the guideline correctly to yield yes on all areas on. Results from Blindon and Alexander & Frith recommended nurses to continually check their KASs as it is a personal responsibility, especially among Perioperative nurses. Stakeholders should always be engaged proactively to improve practice, and to streamline the online license process by ensuring the platform is accessible to all nurses to use technology to help track and manage renewal deadlines and other CPD activities [21]. The risk of bias according to JBI critical appraisal for expert opinion showed low risk Table 5.

Table 5. Risk of Bias (ROB) using JBI Critical Appraisal for Expert Opinion

Authors	Q ^a 1	Q2	Q3	Q4	%yes	Risk ^b
Blindon, (2017)	Y	Y	Y	Y	100	Low
Alexander & frith (2021)	Y	Y	Y	Y	100	Low

^a Q indicate questions based on the JBI risk assessment.

^b the risk of bias was ranked as high when the study reached up to 49% of "yes" scores, moderate from 50 to 69%, and low, more than 70% of "yes" scores. 'Y' indicates yes, 'N' indicates no and '?' indicates unclear

Discussion

This systematic review aimed to examine the attitude and practice of registered nurses regarding nurse license renewal process. The objectives focused on identifying the attitude

and practice of registered nurses regarding nursing license renewal, and identify barriers experienced by nurses during the license renewal process. Articles were selected using the PRISMA 2020 flow diagram; 5 studies were descriptive cross-sectional studies, 2 utilized

mixed methodology, 2 were grey literature and 1 a meta-analysis which yield a comprehensive assessment to available evidence. Continuing education yields dual functions; mainly it is a requirement for licensure renewal in most countries, and it facilitates improvement in clinical competency, improve self –efficacy and confidence in the nurse, while assuring public safety as practitioners keep abreast with safe, patient-centered care. Nurses feel motivated and undertake career mobility by taking on leadership roles, and advanced careers. In relation to practice, most nurses demonstrated good practice by engaging in continuing education activities in a variety of formats. The results show that registered nurses have a positive attitude and practice regarding the process of renewing their license. According to the study by Palma et al, the majority, 90.7% of respondents shared the importance of continuing education as a requirement for renewal of license, and a significant relationship ($p<0.001$) between awareness and attitude towards implementation of continuing professional development [10]. This is in keeping with the American Nurses Association (ANA) standards of nursing practice, regarding renewal of license to promote professional knowledge and maintain competencies that are the respective areas of practice [26]. Similar findings were found by Varghese et al, a majority of 98% of the respondents in the study agreed that renewal of their license is important to their profession, while 34% had good practice [12]. This revealed a significant relationship ($p<0.05$) between knowledge and practice of checking license status. However, 64% had poor practice with only 2% who did not renew. Cumulatively, this is a significant finding as it reflects more than half of the respondents demonstrated poor practice. These poor practices are likely related to the challenges experienced in completing renewal requirements, such as participating in continuing education activities [11, 12]. One of the drawbacks in this study is that the qualifiers

for good, poor and no practice were not evident. Nurses engage in continuing professional development activities using a variety of methods and incorporate technology which allows nurses to choose self- paced online activities in order to meet renewal requirements and create reminders of renewal deadlines. These are good practices that will help nurses meet their goals. Mlambo et al revealed 5 main themes [11]; Organizational culture shapes the conditions; this is very important in nursing and emphasizes the concept of lifelong learning to improve personal and professional development. This supports the other theme, Supportive environment as a prerequisite, having a supportive environment has shown to boost staff morale, Moloney et al [27]. Attitudes and motivation reflect nurse's professional values was the other theme identified, and Nurses' perceptions of barriers and Perceived impact on practice as a core value. On the other hand Mosol et al 5 themes focused on the personal characteristics of the nurse and were identified as, "obtain qualifications", "improving CV", "being updated on new development", "career progression" and "networking" as compared to Shahhosseini et al, whose results showed informants main facilitator was to "update my knowledge" [13, 16]. Mosol et al also went on to reveal theses from Coordinators of CPD to include "appraisal" "promotion", "earn CPD points", and "license renewal" [13]. In relation to the objective of identifying barriers experienced by registered nurses, additional findings showed themes such as "time constraints, "lack of co-worker's support" and "work commitments", experienced during the renewal process Shahhosseini et al [16]. Additional descriptions for barriers were classified as "financial constraints", "lack of access", which was due to insufficient access to technological devices such as personal laptops, and internet availability issues. "Lack of employer support was also a challenge in meeting requirements, [18, 19, 20]. The

incorporation of information technology shows the movement towards global standards and practice. However, the training and infrastructure must be available to all nurses to be able to access these services virtually. It was reinforced that it is the nurse's responsibility to ensure all license renewal requirements are met to avoid loss of license, being fined or losing their job; they must be familiar with the laws and requirements to complete the process [7, 14, and 21].

Implication

The review shows that registered nurses have a generally positive attitude regarding nursing licensure renewal process as engagement in CPD is a requirement not only for renewing nursing license, but it also improves nursing practice by maintaining competencies in areas of specialty, and is a guideline outlined by the ICN. However, results also showed that barriers are experienced by nurses such as financial constraints, lack of time and lack of support within the workplace. Hence all stakeholders must work collaboratively to ensure that the best barriers are addressed; these include providing free CPD activities, incorporating in service training, ensuring that internet and technological devices are available for nurses to access online services and established platforms that are user friendly. Also, leaders and managers need to lead by example and create an environment that is supportive. In Small Island Developing State (SIDs) such as St. Vincent and the Grenadines, nursing license renewal does not require evidence of CPD or CE; renewal is annually and a fee is paid according to the level of qualification such as a single trained registered nurse, or a dual qualified nurse e. g a certified midwife. While there may be challenges experienced by the local nurses, there are no empirical data currently to demonstrate this. However, not engaging in CPD may impact on the nurse's knowledge and skills and by extension the

quality of care provided if he/she/they are not proactive. Additionally, many nurses are migration to other Caribbean and North American and England which will impact the delivery of healthcare in the country. It is therefore critical for nurses to renew their licenses and for stakeholders to develop the most appropriate strategies and use the technology that is user- friendly and available to all nurses to reduce barriers and promote adherence to the recommended guidelines. The review highlights several gaps such as examining the attitude and practice for nurses whose credentialing agency or regulatory body does not require mandatory continuing education activities as a requirement for license renewal, whether there are significant differences among the nursing demographics and the renewal practices, and a lack of evidence from the Caribbean context. A limitation to the review impacted on the search strategy as articles with only Abstract may have yielded valuable evidence that would have further enriched the review and access to CINAHL through EBSCOhost was not available, which would have provided more comprehensive access to more nursing and health related literature.

Limitation

A limitation of the review was the inability to access CINAHL database which would have expanded the literature to more nursing and health care data, and articles found with Abstract only, would have provided further evidence to enrich the review.

Conclusion

Nursing license renewal is an important aspect in ensuring that safe and quality care is provided by nurses. Although not all countries require renewal of license after engagement in continuing education or continuing professional development activities, nurses' attitude and practice must be examined to promote best practices and reduce barriers. This

review has shown that majority of nurses understand and value the requirement for renewal of their license, and engage in good practices that enhance their knowledge, competency, and provide an opportunity to advance their career in nursing. However, nurses experienced challenges in meeting the requirement for renewal; the main requirement is evidence of participation in continuing education. There was a paucity of evidence on payment of fees only as a renewal requirement. While this review has reinforced the existing evidence, more research is needed to identify the attitude and practice of registered nurses in environments where continuing education is not mandatory for completion of the renewal process, and to develop strategies that are realistic for both nurses and stakeholders. One of the main roles of nursing regulatory bodies is to maintain the safety of the public by ensuring practitioners are competent and licensed to practice within their jurisdiction. If nurses, including midwives, fail to renew their licenses, this will prevent the nurse from providing care, loss of employment due to inactive license, additional financial burden due to fines and other requirements for renewal

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purposes. Legal implications if the nurse is caught practicing illegally; he/she/ they will be criminally charged and may lose their license all together. Career mobility may also be affected as continuing education and obtaining a valid nursing license are requirements for promotion and advancement in the profession in some countries. For patients and healthcare institutions, the quality care of patient care may be diminished leading to poor health seeking behaviors and practices, longer hospitalization, and increase healthcare costs.

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Conflicts of Interest

There is no conflict of interest declared by the author.

Ethical Approval

Not applicable.

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