Newly Graduate Registered Nurses' Experiences of Transition to Clinical Practice: A Systematic Review

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Abstract New graduate registered nurses encounter many difficulties such as unexpected role, stress and lack of support. Therefore, many of them consider leaving their nursing roles. This systematic review aims to explore the experiences of newly graduate registered nurses about the transition from student nurse to graduate nurse in clinical practice. A qualitative systematic review was conducted using inclusion and exclusion criteria and PRISMA guideline. Twenty-three studies are included in the review and analysed using thematic analysis. The four researchers managed quality appraisal and data extraction. Of 23 studies included in the review, 22 were qualitative studies, and one was mixed methods. Following the thematic analysis, four themes were identified: (i) the impact of the undergraduate experience (ii) mental stress and coping strategies (iii) Existing knowledge of organizational support and (iv) professional accountability and competency. Findings show that newly graduate registered nurses experience high levels of turnover due to work stress, lack of support and inadequate undergraduate preparation. The successful transition is influenced by educational preparation, hospital orientation, and organizational support. Further research is required to explore the experiences of newly graduate registered nurses in developing countries, as there is limited research, which has considered nursing education, healthcare facilities, and cultural influences in these countries. New graduate registered nurses play a significant role in the provision of patient care and enhancing patient safety. This review explored their experiences about the transition from student to registered nurses to recommend comprehensive practical guidelines to support their involvement in patient safety and to provide insight for nurse's leaders to understand the retention issues for new nurses. In addition to helping undergraduate nursing education programs to improve their strategies in preparing graduates for entry into professional practice.

Keywords: newly graduate registered nurse, stress, turnover, support, systematic review

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1. Introduction

Nurses are significant members of any healthcare team and responsible not only for providing comprehensive nursing care to patients but also for patient safety [1]. According to Bureau of Labor Statistics, U.S [2] the registered nursing workforce is the largest employee population in health care, with an expectation that this population will increase from 2.7 million in 2014 to 3.2 million in 2024, an increase of 16% with an average annual income of $69,790. However, the World Health Organisation estimates, that there will be a global shortage of almost 7.6 million nurses by 2030 [3].

According to Benner, P [4], New Graduate Registered Nurses (NGRNs) defined as nurses who enter clinical practice without previous experience of how to manage patient care or to take job responsibility without help and are unfamiliar with organizational procedures, policies, protocols and tools, which used for delivering patient care. However, transitions are a part of life and undoubtedly a part of nursing [5]. Duchscher [6] defines the transition period for NGRNs as a professional socialization process, where they gain the skills, knowledge, and values of the professional nursing culture.

Yet, NGRNs frequently describe the transition from novice to expert, as being characterized by feelings of incompetence, stress and overwhelmed due to increased responsibility. Many describe experiencing difficulties organizing, prioritizing, and delegating their nursing work [7] Additionally, NGRNs often report feeling poorly prepared and frustrated, due to the reality of the work environment not matching their expectations [8,9]. Therefore, the transition from student to registered nurse is a significant personal and professional challenge [10]. Moreover, rather than focusing on improving the quality of patient care, NGRNs generally focus on organizational rules and policy, often making them feel stressed and overwhelmed [11]. Furthermore, NGRNs have reported discrepancies between what they were taught in university and found in the work environment [6,12], in addition to the lack of support from the health care organizations [13]. These issues caused increased stress and were identified as

a reality shock for many NGRNs [14]. Previously, [15] found that reality shock occurred during the transition from student to a registered nurse in clinical practice while investigating the reasons for leaving the nursing profession NGRNs highlighted that when appointed to the workforce they were not prepared for the expected roles [15]. This view was further supported by [16] as NGRNs experienced cultural shock when they left the familiar education system and entered unfamiliar healthcare organizations.

Feelings of vulnerability when starting their careers as NGRNs coupled with limited support from health care organizations and stressful working environment factors contributed to an increase in turnover [17]. The Joint Commission report, undertaken in the United Kingdom (2010) reported that one in four NGRNs plan to leave their first posts within the first 12 months after registration. In Taiwan, NGRNs turnover was found to be 54.8% [18], while in 2015, attrition was reported to be 14.6% in the USA (Solutions, N.N., 2016). This level of NGRN turnover creates a financial burden to both health care organisations and national economies [20]. In Australia, the financial cost of NGRN turnover was estimated to be $40,000 for each NGRN who left the profession [21]. In light of the professional health care and economic cost of NGRN attrition, and the global shortage of nurses in the workforce, it is important to more fully understand NGRNs experience of transition from student to registered nurse to help identify the factors, which may result in individuals leaving the profession and how their concerns can be addressed.

Understanding NGRNs' perceptions and experiences are vital in providing specific guidance to health organizations, necessary to facilitate successful NGRN transition in the workplace, creating an environment that helps NGRN retention and maintains quality patient care. There has been no qualitative systematic review published in the past ten years, which assimilates available data on this issue. To date, there has not been a systematic review exploring the perceptions of NGRNs, Nurse Directors, and Nurse Educators regarding NGRN transition, how Nurse Educators prepare students for transition and how Nurse Directors support NGRNs in their first post to facilitate the transition, aid retention and job satisfaction.

Therefore, this review explores the transition experiences of student nurses to registered nurses from the perspectives of NGRNs, Nurse Directors and Nurse Educators. The review aims to provide a deeper understanding of why NGRNs leave their nursing positions. Recommendations to assist NGRN retention will be outlined.

1.1. Aim

This systematic review aims to explore the experiences of transition from student nurse to registered nurse from the perspectives of NGRNs, Nurse Directors and Nurse Educators.

1.2. Objectives

- To provide a comprehensive international overview of the views and experiences of NGRNs, Nurse Directors, and Nurse Educators

- To gain insight into the challenges facing NGRNs in their transition from student nurse to registered nurse, which may impact their provision of optimal healthcare to patients resulting in them leaving the nursing profession.

2. Methods

A qualitative systematic review was completed to explore the experiences of transition from student nurse to registered nurse from the perspectives of NGRNs, Nurse Directors and Nurse Educators. This systematic review adhered to Systematic Reviews and Meta-Analyses (PRISMA) guidelines [22].

P Population= Newly Graduated Registered Nurses, Nurse Directors, and Nurse Educators from nursing institutes.

I Intervention= the experiences of transition from student nurse to graduate nurse.

C Context= clinical setting

O Outcome= views and experiences

S Study design= qualitative or qualitative component of mixed methods studies

2.1. Review Question

What are the views and experiences of NGRNs, Nurses Director and Nurse Educators from the transition of NGRNs from nursing students to registered nurses in the clinical practice?

2.2. Inclusion and Exclusion Criteria

Utilizing inclusion and exclusion criteria in a systematic review helps to capture all relevant studies of interest [23]. A clear inclusion/exclusion criterion was developed before the main literature search, to exclude any papers which would potentially introduce review bias.

2.2.1. Inclusion Criteria

The eligibility of studies included in this systematic review was informed by the following criteria: study characteristics and participant characteristics.

Study characteristics

The inclusion criteria focused on qualitative research or qualitative elements of mixed methods primary research studies published in English. Studies were included if they focused specifically on views and experiences of NGRNs, Nurse Directors and Nurse Educators regarding the transition of student nurse to graduate nurse in clinical practice. No time limit of publication was determined for included studies.

Participant characteristics

This systematic review included studies involving NGRNs who recently graduated and were in their first post as a registered nurse, Nurse Director participants involved in clinical practice settings and Nurse Educators working in nursing institutions.

2.2.2. Exclusion Criteria

Studies involving the experiences of new employees who were not nursing personnel. Studies involving the experiences of nurses who are not newly graduated and

not in their first post. Studies that have not employed qualitative or mixed methods research approaches. Studies not published in English and those which did not involve NGRNs Nurse Directors and Nurse Educators experiences regarding NGRNs transition.

2.3. Search Strategy

A comprehensive literature search was conducted to source relevant papers related to the review question. This was achieved by searching for as many synonyms and singular/plural variations as possible, as well as applicable subject headings. The search strategy involved high precision MeSH terminology and keywords, to ensure that all relevant studies were captured. Then the Boolean operators "OR" and "AND" were used to combine results. Databases searched included four electronic data databases via the EBSCO host: (MEDLINE, CINAHL, EMBASE and PsycINFO), Cochrane and general BC PubMed. Key terms developed with the assistance of a subject librarian included new nurses combined using the Boolean operator OR: new graduate nurs*, novice nurs*, new nurs*, newly qualified nurs*, newly licensed nurs* with terms which described personal retention, staff retention, nurse retention, job satisfaction, personnel satisfaction, personnel turnover, nurse turnover, burnout, nursing directors, and nursing educators using 'AND'. There were no restrictions on age, gender, or type of qualitative publication.

A grey literature search was undertaken using "Open Grey" which did not yield any new results. Google Scholar and a "hand search" of reference lists of included studies yielded one additional study from Google scholar. Duplicates were screened out using Mendeley software. Because qualitative research titles do not always reflect study content a complete screening of each study was performed. Studies with ambiguous titles and studies addressing the review topic were both selected for abstract review. It is important to note that the absence of poor-quality abstracts may delay study identification [24]. A PRISMA flow chart of this process is described in (Figure 1).
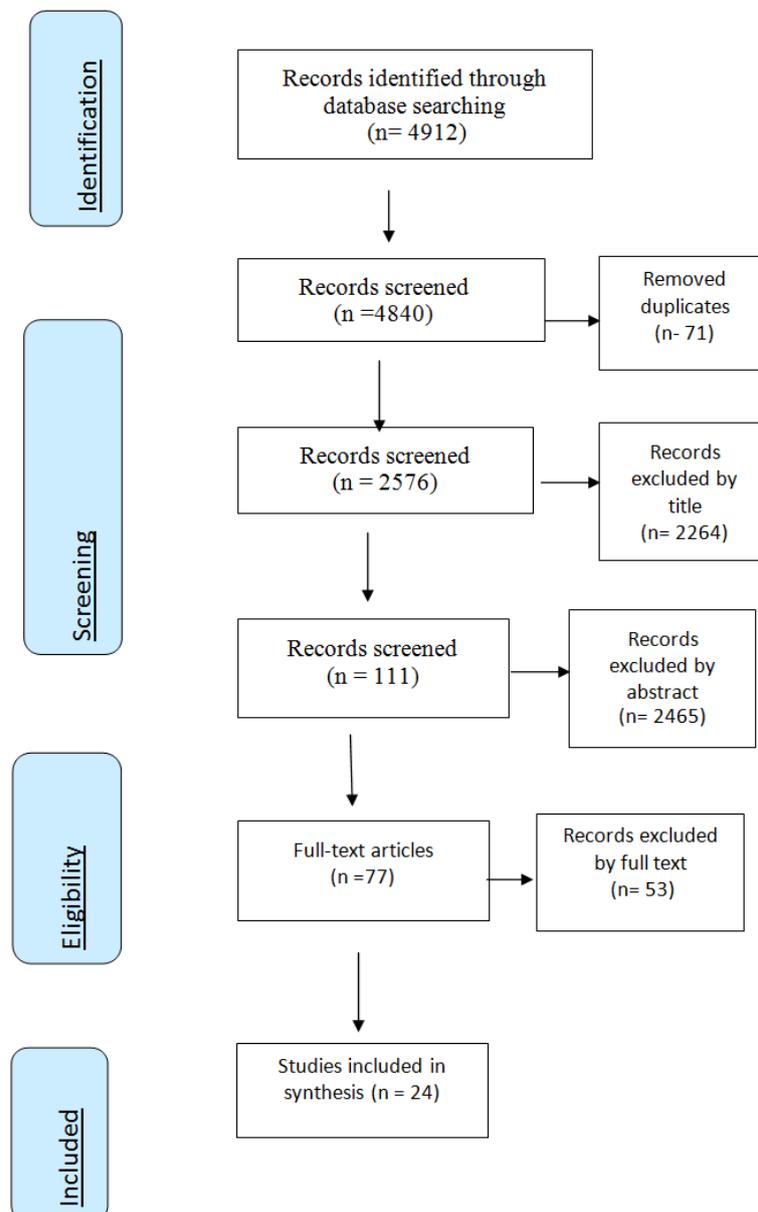

Figure 1. PRISMA flow chart of search strategy and outcome

A PRISMA statement method was used to report search results and facilitate transparency and replicability [22]. The PRISMA flow chart of the search strategy and outcomes is presented in (Figure 1) and illustrates all results from database searches and the process used to select eligible studies for this systematic review. The final search was completed in February 2021. Because this work is part of a PhD thesis, eligibility assessment for all studies was assessed by four independent reviewers.

Searches revealed 4912 hits across all databases. These were screened and irrelevant and duplicate studies were removed, leaving 4840 studies, which were further screened by title and then by the abstract. A total of 77 full-text articles were assessed against the eligibility criteria and a further 53 excluded. This resulted in 24 studies, which were included and assessed by quality appraisal (see Figure 1). Mendeley software was used to store data collected, as it is suitable for documenting the process and for making the creation of reference lists for the final report easier [23].

3. Quality Appraisal

All studies selected for the review were critically appraised utilising the Critical Appraisal Skills Programme (CASP) tool, to ascertain credibility, objectivity, and significance of studies. The CASP was employed to provide an evidence-based framework for reviewing included studies, by applying the same questions to each selected study. The ten CASP questions were given scores; zero, one or two out of a possible total of twenty. If the question contained limited information, a score of Braun, V. and Clarke, V. [26] zero was awarded; when a moderate amount of information was provided the question was allocated a score of one, a score of two was awarded when a question the information clearly addressed [25]. The CASP checklist consists of ten criteria related to methodological quality. A total score was calculated by summing "yes" items and giving each study a score between zero and 20. Studies scoring 17 or above were considered as having a high methodological quality. Studies scoring between 14 and 16 were considered as having limited methodological quality. Studies scoring below 14 were considered as having poor methodological quality. However, all identified studies were considered eligible for the review as they met the review inclusion criteria. The researcher was assisted by the supervisory team in critically appraising included studies, to reduce the risk of bias and to help resolve any difficulties or areas of ambiguity. The thematic analysis model was utilized to analyse data contained within the included studies.

Data extraction

Data were extracted from the 24 studies, which met the inclusion criteria for the review. All 24 studies used a qualitative design, with one study using a mixed-methods design [27]. Data were extracted from selected studies and inserted into a standardized data extraction format adapted from the framework by [28], (see Table 1). Data in Table 1 was extracted using the following headings: author/date, location, aim, participants, research design, main findings, and CASP scores. Data was carefully extracted from each

of the 24 studies by the author and was subsequently reviewed by three reviewers, to help improve rigour and reduce any bias [29].

4. Data Analysis

The data analysis and synthesis process involved the identification of themes to help answer the review question. In this review, the [26] thematic analysis model was used to provide a systematic approach to organize, analyse and present the qualitative data from different literature sources. Data in this review was obtained from qualitative research studies and a qualitative element of mixed-method study, which focused on the experiences of NGRNs, Nurse Directors and Nurse Educators. Therefore, the thematic analysis facilitated the categorization of the experiences of NGRNs transition. Data was divided using codes, which were then merged to create subthemes and major themes. Studies were coded and organized according to the themes, which were verified and approved by the review team [30].

5. Findings

5.1. Overview of the Included Studies

The literature search identified 24 studies that were considered suitable for inclusion in the systematic review, see PRISMA flow diagram (Figure 1). CASP tool applied to ensure rigour for selected studies, and this resulted in 21 studies meeting the validity criterion [27,31-48] (see Table 1). Although studies by [9,49,50] had low scores in the quality appraisal, implying limited validity, they were included in this review, because of their potential to add valuable insights into the review results (see Table 1).

5.2. Quality Appraisal Outcome

Six studies achieved a high-quality score: [27,32,34,39,41,42]. Fifteen studies obtained a score between 14 and 16 and were considered to have limited methodological quality: [8,12,31,33,35,36,37,38,40,43,45,46,47,48]. Three studies achieved a low-quality score: [9,49,50].

5.3. Study Design

Twenty three of the 24 studies used a qualitative research design; [8,9,12,31-50], while one study adopted a mixed methods research design [27].

5.4. Geographical location

It included studies, which reflected research in several geographical locations. Ten studies were conducted in the USA [8,31,33,35,38,42,44,47,49,50], while 4 studies were undertaken in Australia; [27,40,41,43], and 4 in Canada; [9,32,37,48]. Two studies were conducted in Ireland [12,39] and the following countries had one study each; the UK [36], Denmark, [45], Singapore [46], and Swaziland [34].

Table 1. Papers Included in the Review (n=24)

Author/ date: location of the author	Aim	Participants	Research design	Main findings	CASP scores out of 20
Duchscher, (2001) Canada	To help nurse administrators improve their understanding of recruitment and retention of NGRNs	NGRNs (n=5)	Qualitative; semi-structured interview	NGRNs demonstrate low self-confidence, stress, fear from physicians, feeling of disappointment and detachment when they find nurses doing procedures different from what they have been learnt, feeling unwelcomed from senior staff, and feeling overwhelming.	12
Paech, (2002) Australia	To examine the NGRNs lived experience and provide an understanding of this process for nurse educators and managers to be aware and responsive to the needs of NGRNs.	NGRNs (n=9)	Qualitative; unstructured interviews	NGRNs felt overwhelmed by the work required.	17
Ebright et al., (2004) Indiana, USA	To recognize NGRNs performance in miss/adverse-event situations in Acute-care settings using a human performance framework.	NGRNs (n=12)	Qualitative; semi-structured interviews	Supporting NGRNs in the workplace and promoting their progress from beginner to expert nurse, is essential to recruit and retain them and provide safe and quality patient care.	14
Waite, (2004) Philadelphia, USA	To explore the transition and the experiences of NGRNs working in mental health services	NGRNs (n=15)	Qualitative; in-depth interviews	Linking educational experiences to practice was insufficient. Successful support for NGRNs in the first months of professional practice might be useful in increasing retention and positively assist in the transition from student to NGRN	15
Jackson, (2005) UK	To explain NGRNs experience of a good day and explain how a good day made them feel about nursing.	NGRNs (n=8)	Qualitative; unstructured interviews	The feeling of job satisfaction comes from knowing the patient from both a personal and clinical condition; NGRNs strive to develop a level of care and competence. The team works had a significant impact on NGRNs day.	16
Mooney, (2007) Ireland	To explore NGRNs perceptions of their preparation to be a registered nurse and to develop understandings into the post-registration experience.	NGRNs (n=12)	Qualitative; semi-structured interviews	NGRNs have unmet clinical needs during their undergraduate study which, if fulfilled, would benefit them following registration and may improve job satisfaction and retention in the workplace.	16
O'Shea and Kelly, (2007) Ireland	To identify the lived experiences of NGRNs in clinical placement, during the first six months after registering	NGRNs (n=10)	Qualitative; in-depth interviews	NGRNs described their clinical experiences as stressful. This is due to the new role and lack of skills. In addition to the allocation of students. Feeling valued and the financial reward was identified as positive aspects of the new role	17
Simons and Mawn, (2010) Massachusetts, USA	To explore bullying stories among NGRNs based on actual or observed experiences	NGRNs (n=184)	Qualitative; mail survey with an open-ended question	Bullying exists in the work environment have a negative effect on the health and well-being of NGRNs and is associated with job satisfaction, performance, and retention.	14
Banks and Bailey, (2010) Mississippi, USA	To examine NGRNs decisions about the nursing profession and identify the factors that influence their decision to remain in nursing as a career	NGRNs (n=14)	Qualitative; semi-structured interviews	To improve the retention of NGRNs in the nursing profession, it is necessary to create a work environment that is consistent with their cultural values, beliefs, and lifestyles.	16
Wright et al., (2011) Canada	To examine the key aspects of successful experience in mental health care from the perspective of NGRNs working at the mental care sitting	NGRNs (n=10)	Qualitative, semi-structured interviews	The work environment determines NGRNs satisfaction with their integration experiences. High-quality relationships with patients and team member's support are the motivation of NGRNs to choose careers in mental health. On the other hand, a negative relationship cause NGRNs to experience frustration and disappointment.	16

Author/ date: location of the author	Aim	Participants	Research design	Main findings	CASP scores out of 20
Thomas et al, (2012) Indiana, USA	To examine the NGRNs experience of transition during the first year of clinical practice	NGRNs (n=11)	Qualitative; semi-structured interviews	Orientation programmes and reduction of violence are key strategies for successfully NGRN retention strategies. Preceptors play an important role in guiding and training NGRNs and reducing workplace violence.	15
Pinchera, (2012) Massachusetts, USA	To understand the experience of NGRNs	NGRNs (n=5)	Qualitative; observation and unstructured interviews	There is a need for strategies to support a successful transition. Results highlight areas where senior nurses can help NGRNs adapt to the demands of the nursing profession. NGRNs pay particular attention to specific patient situations.	17
Maddalena et al, (2012) Canada	To investigate the factors affecting the quality of working life of the NGRNs	NGRNs (n=10)	Qualitative; semi-structured interviews	NGRNs experience sources of stress, including difficult personalities, inadequate support, and horizontal violence from nurses and physicians. These factors are exacerbated by staff shortages and heavy workloads. Supportive environments and guidance are key factors for a successful transition	16
Clark and Springer, (2012) Boise State, USA	To Explore the life experiences and job satisfaction of NGRNs during their first year of practice	NGRNs (n=37)	Qualitative; focus groups interviews	The presence of supportive mentors and senior nurses and the sense of importance on the part of the health care team have contributed to NGRNs job satisfaction and the general commitment to the profession.	12
Ostini and Bonner, (2012) New South Wales, Australia	To examine NGRNs experiences of transition to the RN role in a rural context.	NGRNs (n=5)	Qualitative; semi-structured interviews	The use of support programs helps to ease the transition of NGRNs.	15
Thrysoe et al., (2012) Denmark	To gain insight into the interaction of NGRNs with members of the community of practice (CoP) and how it affects their participation	NGRNs (n=9)	Qualitative; observation and interviews	Shared social and professional interest, recognition, and a higher level of dialogue and cohesion within the COP members have enabled NGRNs to better experience feeling valued and a greater sense of security.	15
Saghafi et al, (2012) New South Wales, Australia	To examine NGRNs experience at starting time and after two to three years of clinical practice in the critical care setting	NGRNs (n=10)	Qualitative; semi-structured interviews	The interpersonal relationships experienced by NGRNs in ICU have a significant impact on their professional development, job satisfaction, and retention.	16
Dlamini et al., (2014) Swaziland	To examine stakeholder's perception of how NGRNs cope and perform at the clinical practice and what are the factors that affect their clinical competence.	31 participants. Nurse Educator (n=6), Head Nurses (n=6), Nurse Leader (n=4), NGRN (n=15)	Qualitative approach: focus group and semi-structured interviews	Despite NGRNs felt that they are ready to learn and be qualified in practice, stakeholders were not feeling confident in their readiness to work. The factors behind that were inadequate education preparation and lack of support from health organization.	18
Parker et al., (2014) New South Wales, Australia	To understand the NGRNs experiences and identify factors that impact their transition, satisfaction, and retention	NGRNs (n=55)	Mixed method cross-sectional design; qualitative finding from focus group interviews and survey comments	It is imperative to develop and test a set of evidence-based methods that will allow nurses to have more options to establish methodological approaches that will allow reasonable and appropriate supervision of NGRNs in the future.	17
Wahab et al., (2017) Singapore	To examine the NGRNs perspectives of resilience and the barriers and facilitators in building resilience.	NGRNs (n=9)	Qualitative; focus group interviews	Increasing the resilience and support and reduces the stress of NGRN required to increase NGRNs retention and job satisfaction.	16
Brown et al., (2018) Indiana, USA	To explore NGRNs lived experiences	NGRNs (n=12)	Qualitative; in-depth interviews	The orientation programme has been recognized as helping to prepare the NGRN for their first year care.	11

Author/ date: location of the author	Aim	Participants	Research design	Main findings	CASP scores out of 20
Dames, (2019) Canada	To gain insight into the interaction of the factors that facilitated and impeded NGRNs to thrive upon entry into practice.	NGRNs (n=8)	Qualitative; in-depth interviews	Stressors begin in undergraduate experience making high turnover between NGRNs. Congruence and compassion were identified as important factors that acted as a work stress prevention for NGRNs.	17
DeGrande et al., (2018) Texas, USA	To gain insight into NGRNs experiences in the adult intensive care unit and went through their transition from novice to competent.	NGRNs (n=11)	Qualitative; semi-structured interviews	Early contact with different clinical situations, increase resilience, encourage teamwork and mentoring some strategies that help to ensure a successful transition and retention of NGRNs	16
Oneal et al., (2019) Washington, USA	To explore the transition of NGRNs into practice concerning the framework of total work, safety, and health	NGRNs (n=34)	Qualitative; semi-structured interviews and focus groups interviews	Factors at home and work affect NGRNs wellbeing such as physical and mental health problems, lack of support at work and alteration in family and friends' relationships which could lead to turnover.	14

5.5. Participants and Sample Size

In total 526 participants were sampled across the 24 studies ranging from 5 to 184 participants. All studies described the NGRN transition from student to registered nurse. One study only explored Nurse Directors and Nurse Educators experiences of the transition of NGRNs [34].

5.6. Main Findings

This systematic review aimed to identify and critically analyse research literature that examined the views and experiences of transition for NGRNs. Following analysis of all included studies, three main themes emerged: (i) Existing knowledge of organizational support, (ii) The impact of stress, (iii) Education preparation.

5.6.1. Existing Knowledge of Organizational Support

Organizational support was identified in studies as a major theme. Of the 24 included studies, 20 studies highlighted organizational support provided to NGRNs as a significant factor in influencing retention, [8,9,27,31,33-40,42,43,45-50]. Seven studies reported that orientation programmes were an important health care organizational support resource for NGRNs during the transition [8,9,34,39,40,47,49]. In a semi structured interviews conducted by [8] in Indiana in the United State of America (USA) with NGRNs' (n=11) examined the experience of transition during the first year of practice. The study found that orientation programmes were a positive experience for participants, as it helped them to become familiar with health care organisational rules and policies and increased self-confidence [8].

However, two studies reported that orientation programmes did not provide the necessary support to NGRNs [37,38]. Semi structured interviews conducted in Canada by [37] aim to investigate the factors which affected the quality of working life of NGRNs, (n=10). The study findings reveal that some healthcare organizations did not support NGRNs during their transition. Additionally, the lack of support was evidenced by the overly long job application process for NGRNs and inadequate follow-up after their appointment, lack of performance evaluation, inadequate orientation and mentoring, feeling undervalued and limited access to continuing education opportunities, which affected their transition and were identified as areas requiring attention if retention rates were to be improved [37].

Four studies reported that being motivated and recognized were important support factors for NGRNs [27,31,39,42]. In an observational and unstructured interview conducted in Massachusetts in the USA by [42] with five NGRNs reported that NGRNs felt motivated and satisfied when they were appreciated by patients and their families or achieved a positive outcome for their efforts and important support to them and helps them continue to work in nursing [42]. However, semi structured interviews conducted by [9] in Canada with five NGRNs identified how participants had feelings of isolation and vulnerability due to a lack of support. Study findings reported that NGRNs felt easily distracted, were not given enough time to complete their work, received limited support from colleagues and preceptorship during the transition [9]. Similarly, a mail survey with open-ended questions conducted with 184 NGRNs by [44] in Massachusetts in the USA reveals that NGRNs often felt unfairly treated and report that punitive actions were often taken against them by their administration. Duty shifts, patient assignment and workload, the use of sick leave and vacation time for work were the main challenges that NGRNs encountered that impeded transition [44]. In a study conducted in Swaziland by [34] with 31 participants comprising a sample of NGRNs, Nurse Directors and Nurse Educators found that NGRNs experienced limited support from health care organization as they left them to manage units as if they are being tested rather than welcomed and supported by orientation programme.

In 12 studies positive relationships with colleagues was reported to have a significant impact on NGRN retention [8,9,33,36,37,40,41,43,45,48,49,50]. A semi-structured interview conducted in Canada, [48], examined the successful experiences in mental health care from the perspectives of NGRNs (n=10). Wright et al [48] suggest that interpersonal dynamics between team members and NGRNs could assist in a positive integration experience for NGRNs. Consequently, NGRNs focus on building relationships and became more focused on the quality of patient care [48]. In unstructured interviews conducted by

[36] In the United Kingdom (UK) with eight NGRNs, found that teamwork had a significant impact on NGRN's job satisfaction and retention. This finding was also supported by [45], in an observational and interviews study in Denmark with nine NGRNs reported that a sense of confidence in NGRNs grew when the mutual familiarity increased between them and colleagues in the work environment.

5.6.2. The impact of Stress

Seventeen studies reported that NGRNs experience stress during the transition period from student to registered nurse [8,9,27,31,33,37,39,40,41,42,43,44,46,47,49,50]. Thirteen of these studies reported that NGRNs experience considers stress stemmed from feelings of being overwhelmed due to increased professional responsibilities such as caring for critically ill patients and fear of medication administration [8,9,27,33,37,39,40,41,42,43,46,47,50]. [42] suggest that the nursing profession has significant responsibility as nursing practice goes beyond job completion and has the potential to have a profound effect on patients' lives and their families [42]. On the other hand, in Australian unstructured interviews study conducted by [41] with nine NGRNs reported that medication administration was an important cause of stress in NGRNs due to added responsibility in some NGRNs not yet equipped to cope with this responsibility. In focus groups interviews [50] conducted a study in the USA with 37 NGRNs. The study found stress originated from the fear of causing harm to patients, which might lead to death, while [8] found that the number of patients they were assigned to care for and work allocated to them with little support cause NGRNs feelings of frustration, being overwhelmed, and stressed. Three studies report NGRNs feelings of stress stemmed from the reality shock they face, which affected their transition as registered nurses [33,39,47]. In semi structured interviews with eleven NGRNs conducted in Texas in the USA by [33] reveal that the reality of caring for critically ill patients in the ICU led to uncertainty and subsequent lack of confidence in NGRNs.

5.6.3. Education Preparation

The role of education in the preparation of NGRNs for registered practice was identified as a major theme in 11 studies [8,9,12,27,34,37,38,39,40,42,49]. Seven studies reported that nursing education did not prepare NGRNs for the nursing role [8,9,12,34,38,42,49]. Findings in semi structured interviews with twelve NGRNs conducted by [12] in Ireland reveal nursing education programme content was limited and selective, with learning lacking a focus on important concepts relevant to the future role of NGRNs. Participants in the study indicated that they did not have sufficient clinical experience to prepare for the transition to becoming registered nurses [12]. Dlamini et al [34] reported that Nurses directors believed that NGRNs was not prepared adequately for clinical practice as they lacked the clinical skills and professional attributes that were required for clinical practice.

Three studies reported differences between theory content and work practice in nursing [9,40,49] due to differences between what students learnt in nursing institutions and practice within the workforce. Findings

from in-depth interviews with twelve NGRNs conducted in Indiana in the USA by [49] reveal that while nursing education programmes helped students with basic skills, they still needed to learn more about the profession such as critical thinking skills or thinking under stress. In-depth interviews conducted by [39] in Ireland with ten NGRNs, this research found that although NGRNs did not have difficulties with routine clinical skills such as dressings and the removal of sutures. The NGRNs felt challenged with other non-routine skills such as passing an NG tube and the use of suction due to their lack of skills preparation during their nursing preparation programmes [39]. However, in [34] study most of participants indicated that they need more training on venepuncture, IV therapy and IM injections, which are regarded as routine in clinical practice. NGRNs also believed that the influence of professional role models plays an important role in decisions to remain in nursing [31,38]. Maddalena et al [37] found a positive correlation between student experiences in nursing practice and clinical performance. Study participants indicated that familiarity in the practice setting with nursing staff and feelings of being welcomed reduced stress and helped to ensure positive transition in the workplace [37].

6. Discussion

This systematic review aimed to examine research into the transition from student nurse to registered nurse from the perspectives of NGRNs, Nurse Directors and Nurse Educators. Over a period of 30 years, that the themes found existing knowledge of organisational support, the impact of stress and educational preparation identified that not much at all has changed as similar reasons over these 30 years are in evidence today.

Findings from these reviews suggest that NGRNs report a lack of organizational support [9,33,34,49]. This limited support is reflected by unfair and punitive actions taken against them in the form of duty shifts, patient assignment and workload, and the use of sick and vacation leave, which impedes their transition [44]. This finding is supported by a systematic review of qualitative studies conducted by [51] revealed that limited support, exposure to unprofessional workplace behaviour, full workloads, and responsibilities beyond their skills were described as factors that hampered NGRNs successful integration and transition into the nursing workforce. Similar results have been found in a sample of Canadian NGRNs who expected to "hit the ground running" [52]. The study participants reported that they encounter difficulties in their transition to the profession due to a lack of support from their colleagues and administration. Therefore, several studies reported that health organizations need to follow some strategies to assist in a successful transition for NGRNs [11,53]. Orientation programmes were found to be an important organizational support, which assists the positive transition of NGRNs. Thomas et al [8] reported that NGRNs had positive experiences of orientation programmes. Included studies [8,9,34,39,40,47,49] found that these programmes help to facilitate the transition. For example, by making NGRNs feel familiar with organizational roles and policies and increasing their

self-confidence. This finding is consistent with a study conducted by [54] in China, which reported that orientation programmes help to reduce stress in NGRNs, increase their self-confidence, and impact retention. NGRNs' successful transition support helps retain them in the workforce, thus contributing to the provision of quality patient care.

Additionally, positive work environments and a welcoming attitude from team members were found to be important in assisting NGRNs to develop and become more self-confident, and help ensure retention [48,49]. Similarly, [55] reported that supportive colleagues are a significant factor that helps NGRNs manage the challenges they face during the transition, providing emotional support, advice and helping to ensure collaboration within the healthcare team [55]. Furthermore, Duchscher (2001) found that NGRNs feel isolated and vulnerable, easily distracted, not given enough time to complete their work, and receive limited support from colleagues during the transition period. Similar results have been found in [56], who report that bullying from colleagues might increase NGRNs turnover. [57] report that NGRNs required colleagues' support with team members, helping each other and treating each other with respect. This is supported by [58] who found that a positive work environment leads to a positive impact on NGRNs' quality of life. Therefore, the feelings of their importance and being welcomed within the healthcare organization enhance NGRNs sense of self-worth and commitment and have a positive effect on patient care.

NGRNs consistently indicated experiencing feelings of stress and being overwhelming due to the added responsibility of the registered nursing role [42]. Previous research supports the findings of this review. Additionally, NGRNs feeling stressed due to the new role they have practice in their initial practical experience as staff nurses and their new working environment [54] as well as feelings of fear associated with medication administration increased NGRNs' stress [39,41]. These findings are supported by [59], who conducted a study in Taiwan to explore what stressors NGRNs encounter during their first three months in post. The study reveals that the administration of medication was one of the highest-rated stressors that NGRNs experience during their transition. Therefore, it could be a cause of lacking confidence in NGRNs [42]. These findings confirmed in the study by [60] who acknowledge that limited skills and knowledge could because of a lack of confidence in NGRNs. Whilst, doing harm to patients [50] and excessive workload [61] were other causes for stress in NGRNs.

McCalla-Graham and De Gagne [62] suggested that health care organizations need to improve the quality of clinical practice environments through collaboration with nursing schools and by fostering positive team relationships to help NGRNs overcome work-related stress and reduce the risk of attrition. [63] found that developing socialisation and quality of interactions with work colleagues, helped reduce stress in NGRNs. Additionally [17,64] have found that orientation, preceptorship, and mentorship programmes could help NGRNs overcome stress and increase self-confidence and job satisfaction.

In this review, the educational preparation of NGRNs was investigated, as it is the main pillar that develops students to become competent registered nurses. Several included studies found that NGRNs are not adequately prepared by education programmes for the registered nursing role [9,40,42]. NGRNs consistently report a difference between what they learnt in nursing schools and practice in clinical settings [49]. This finding is confirmed in the literature [6,65], with the suggestion that there is a gap between what NGRNs study in the nursing institutions and what they actually do in clinical practice. NGRNs reported a significant difference between the responsibilities of a registered nurse in relation to patient care and the mainly observational role of nursing students [40]. This resulted in NGRNs feeling overwhelmed and thinking of leaving [6]. Therefore, there is a need to bridge the gap between education and clinical practice by coordination between academe and clinical practice [66]. [67] suggest that to eliminate this gap student nurse should be allowed access to practical healthcare. Maddalena (2012) suggest that the familiarity with practice setting, with nursing staff during student experiences help to ensure a positive transition and reduce stress in the workplace. Similar results have been found in [67] who highlight that hospital training is important for student nurses because it exposes them to the culture of the hospital and the administration work. This might assist in reducing culture shock and help to reduce stress.

7. Strength and Limitation of the Review

This systematic review retrieved published research from six databases (MEDLINE, CINAHL, EMBASE, PsycINFO, Cochrane and general BC PubMed), using a comprehensive search strategy. Besides, a search of grey literature was completed using "Open Grey", Google Scholar and "hand search" of reference lists in included studies. These comprehensive search characteristics are an important strength of this review. The search was guided by independent inclusion and exclusion criteria, which were applied using the PRISMA statement method, with studies, analysed using a quality appraisal tool (CASP). Studies judged eligible for inclusion were assessed using qualitative data synthesis, which was carried out by four independent reviewers. No time limit for the publication of studies was applied to ensure all related studies could be assessed for inclusion in this review.

While no studies could be found explored the Nurse Directors and Nurse Educators' experiences of NGRN transition except one [34] it has been found there was no qualitative systematic review previously completed examined the experiences of the transition of NGRNs to practice from the perspective of NGRNs, Nurse Directors and Nurse Educators' in the last decade. All systematic review stages were completed carefully and systematically, with regular feedback from the supervisory team (MB, KR, and LM).

There are many limitations with this systematic review, which include restriction to studies published in English,

which may have influenced review findings and created bias. All included studies were completed in developed countries (the USA, the UK, Australia, Canada, Ireland, Denmark, and Singapore) a part of one [34] in Swaziland which limits the generalizability of findings to other regions. However, no studies found from developing countries, a part of one [34] in Swaziland, which has its own unique culture, political context and economic issues. The systematic review was limited to qualitative research studies, which may affect the generalizability of review findings. All included studies used small samples, which clearly influences the generalisability of the reported findings.

8. Further Research

Most included studies were completed in developed countries, such as the USA, Australia, and Europe, a part of one [34] in Swaziland with limited research in developing countries. Further research is required to explore if the experiences of NGRNs in the literature are similar to the experience of NGRNs in developing countries, where the nursing education system, healthcare facilities, and cultures are different. Additionally, there has been a dearth of studies in these regions, which have explored the experience of transition from the perspectives of NGRNs, Nurse Directors and Nurse Educators. Therefore, there is a clear need for further research in developing countries to explore this important issue in order to help understand the transition of student nurses and to ensure that registered nurses are retained within health care organisations so that the economic cost of attrition can be reduced, and quality patient care can be achieved.

9. Conclusion

This is the first known qualitative systematic review in the last decade which considers NGRN transition from student to registered nurse. Globally, NGRNs transition is known to be stressful and challenging, due to a range of factors, including insufficient educational preparation, and a lack of organisational and colleague support. These factors lead to stress and self-confidence problems in NGRNs and increase the risk of attrition. NGRNs need to be supported by health care organizations providing orientation programmes to help new nurses become familiar with clinical settings, organizational rules and policies and to allocate them to clinical settings of their preference. Additionally, there is a need to encourage positive work environments provided by supportive staff to help increase NGRNs self-confidence and to ensure they remain in nursing. Within clinical settings, all stakeholders including senior nurses and managers need to implement effective teamwork and healthy working relationships, which will complement the core values of nursing and caring. If these strategies are implemented, NGRNs will be better positioned to successfully continue their careers as registered nurses.

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