Nursing faculty shortage in Canada: A review of contributing factors

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Abstract

Background: Strong nursing faculty is paramount to promote disciplinary leadership and to prepare future nurses for practice. Our understanding of the factors associated with or predictive of nurse faculty retention and/or turnover is lacking.
Purpose: The aim of this review is to identify and synthesize the existing literature on factors contributing to nurse faculty shortage in Canada and implications on nursing practice.
Methods: A scoping review based on the Arskey and O'Malley's five stage framework for scoping reviews was undertaken. Utilising the PRISMA protocol, a comprehensive and structured literature search was conducted in five databases of studies published in English.
Findings: Limited through search inclusion and relevance of research, nine studies out of 220 papers met the criteria for this review and were thematically analyzed. Identified themes were: supply versus demand; employment conditions; organizational support; and personal factors.
Discussion: Impending retirement of faculty, unsupportive leadership, and stressful work environments were frequently reported as significant contributing factors to the faculty shortage.
Conclusions: This scoping review provide insights into how Canada's schools of nursing could engage in grounded efforts to lessen nursing faculty shortage, both nationally and globally. We identified a gap in the literature that indicates that foundational work is needed to create context-specific solutions. The limited studies published in Canada suggests that this is a critical area for future research and funding.

Keywords: nursing faculty shortage, nurse faculty, educator, nursing academic workforce, scoping review, Canada

Introduction

Over the last two decades, there has been a global shortage of nurses in practice and in academia, which is directly impacting the quality and safety of patient care (IOM, 2011). The World Health Organization (WHO) (2020) projects that there will be a global shortage of 18 million healthcare workers by 2030. To meet the demands of health systems nationally and globally, the Institute of Medicine (IOM) (2011) and more recently, the WHO (2020) recommend increasing enrollment of students in nursing programs in order to graduate enough qualified nurses to care for the complex health needs of our aging population, and mitigate the threat of an aging health workforce. However, by increasing enrollment capacity in nursing programs, the demand for nurse educators/faculty has exceeded the supply, and currently, there are not enough qualified nurse academics to educate the next generation of nurses (Gazza, 2019). Studies, particularly in the United States (US) (Gerolamo et al., 2014; Reid et al., 2013), Canada (Allen, 2008; Cash et al., 2009), Australia (McDermid et al., 2012), and the United Kingdom (UK) (Girot & Albarran, 2011) confirm the national shortages of nurse educators/faculty while noting that the issue has not garnered as much attention as the shortage of nurses. Whilst there is confidence in the quality of nurse educators/faculty worldwide, emerging evidence points to a growing crisis in the recruitment and retention of this workforce (Aragon et al., 2020; Nardi & Gyurko, 2013).

Across the globe, nursing faculty shortages exist for varying reasons depending on the geographic region. In developed countries, mostly those located in the northern hemisphere, reasons cited for the shortage include an aging faculty workforce, delay entry and completion of doctoral programs and faculty careers, heavy teaching load, and high educational costs, whereas most countries located in the southern hemisphere struggle with lack of access to graduate education and resources (Rukhol et al., 2009). In the US where this issue has gained the most attention, there are studies acknowledging the increasing demands and constraints placed on nursing faculty (Aragon et al., 2020; Kowalski & Kelley, 2013), and the financial stringency facing universities, forcing them "to do even more with less" (Clinton & Jackson, 2009, p. 6). In Australia, concerns about availability of faculty and limited clinical placements has restricted efforts to expand university training sites for new nurses (Barnett et al., 2008). Similarly, in the UK, there are concerns about faculty being employed as teaching fellows on teaching-only contracts (Girot & Albarran, 2011). In other parts of the globe, the impact of the nursing faculty shortage can be seen in global migration of nurses, lack of funding and poor salaries, increased dependence on contingent faculty, and reduction in full time equivalent faculty positions (Nardi & Gyurko, 2013; WHO, 2020).

The capacity of nursing faculty is heavily influenced by the retirement of existing faculty members, the recruitment of new nursing academics, and the retention of competent faculty (WHO, 2020). Research suggests that the academic workforce shortage will worsen over the next decade if sustainable solutions are not found (Yedidia et al., 2014; Reid et al., 2013). In 2019, the American Association of Colleges of Nursing (AACN) (AACN, 2019a) reported a 7.9% vacancy rate for full-time nursing faculty in the United States (US) and an average of two nursing faculty vacancies per academic institution. Likewise, the Canadian Association of Schools of Nursing (CASN) reported that schools of nursing in Canada are unable to fill 46 nursing faculty positions, representing a vacancy rate of 2%. According to CASN (2018), the replacement pool of qualified candidates is expected to be inadequate if the enrollment in

master's and doctoral nursing programs remains at present levels. Reported barriers to hiring nursing faculty including insufficient funds, unwillingness of administration to commit to additional full-time positions, inability to recruit qualified faculty due to job competition, and lack of qualified applicants available in the geographic region (AACN, 2012; CASN, 2018). Moreover, many nurses with graduate degrees are choosing to forego full-time academic careers in favour of industry positions due to more attractive compensation packages and lesser workplace pressures that are typically associated with academic positions (Cathro, 2011; Poronsky et al., 2012).

Unlike the clinical nursing shortage, the issue of nursing faculty shortage has received little attention (Gazza, 2019; Reid et al., 2013). Although there are a few emerging studies on nurse faculty shortage (Derby-Davis, 2014; Gerolamo et al., 2014), most are related to the US context and very little focus on Canada. In addition, fewer strategies and/or initiatives have been implemented in Canada to address this critical issue (Cash et al., 2009; Tourangeau et al., 2012). To improve the capacity of the nursing workforce in Canada and globally, it is important to identify and understand factors contributing to the nursing academic workforce shortage and to develop innovative strategies to promote faculty recruitment and retention. In the following sections we will explore the predominant/recurrent factors identified in the literature as contributing to the shortage of nurse academics and the implications for nursing education and practice.

Aging academic faculty

The aging nursing workforce has long been a major contributor to the nursing faculty shortage (Poronsky et al., 2012). In recent years, there has been an overall rise in the number of seasoned nursing faculty retiring (Evans, 2018). CASN (2018) reported that 41% of nursing faculty employed full-time in Canada were aged 55 and older, and 21% were over the age of 60 and eligible for retirement. Research shows that many nurses tend to pursue academic positions at an older age than in other academic fields, which leads to shorter academic careers, especially since many retire at an earlier age, usually around 62 years (Yedidia et al., 2014). Senior-level faculty members with their experience, wisdom, intellect, leadership, and many proficient skills, are invaluable assets in academia as they pass on their expertise to the next generation of nurses (Clochesy et al., 2019). However, if not cultivated, the transfer of expertise may be lost after an individual retires.

Undersupply of new faculty

Recruitment of new faculty is paramount to alleviating the ongoing nursing faculty shortage and is recognized by the WHO (2020) as one of the main issues confronting nursing education today. The inadequate supply of master's- and doctorally-prepared nursing faculty challenges the ability of nursing programs to offer graduate degrees which is a requirement for program accreditation and/or approval (WHO, 2020). IOM (2011) recommended that academic institutions should aim to double the number of nurses with a doctorate by 2020 in order to increase the number of nurses available for faculty roles and nursing research – and now in 2020, this goal remains uncertain. In Canada, to become a full-time nursing research faculty member, one typically needs a Doctor of Philosophy (PhD) degree. Doctorally-prepared nurse scientists have the important task of passing on the standards, values, and practices of the nursing profession to the next

generation of nurses, in addition to other expectations, especially when in tenure-earning positions (Clochesy et al., 2019). However, on a global scale, there are far fewer nurses that possess doctoral degrees than there are nurses with baccalaureate or other forms of prelicensure education. This decreases the overall capacity of the profession to prepare the next generation of nurses (WHO, 2020). In Canada, there are a limited number of qualified candidates with masters and doctoral degrees, making many nurses ineligible for many full-time faculty roles (Bartfay & Howse, 2007). Presently, the enrollment of nurses in graduate programs is inadequate to grow the replacement pool of academically qualified faculty to succeed those retiring (CASN, 2018; Evans, 2018).

Transitional challenges and job stress

In addition to the challenges of recruiting nursing faculty, attrition of qualified nursing academics in faculty positions and the enculturation of new faculty are of grave concern (Gazza, 2009). Similar to the experience of a new graduate nurse entering practice, research suggests that the transition from clinical position into the faculty role can be extremely challenging even for an experienced nurse, and many may experience a 'culture shock' (Reid et al., 2013). This is because various aspects of the faculty position including job performance and competencies are vastly different from the clinical setting and from past clinical teaching experiences, and those who take on the role in academia often lack socialization and preparation for the role. New nursing faculty often receive little to no preparation and orientation to the role, and are not adept in managing their teaching, service, scholarship and other responsibilities, which result in the faculty member experiencing role conflict and ambiguity (Bittner & Bechtel, 2017). In other instances, early career nurse educators may become overwhelmed attempting to manage these multiple and simultaneous professional responsibilities while also attempting to attend to their own personal commitments resulting in role strain and threats to their long-term well-being, which reduces their satisfaction and intent to stay in academia (Lee et al., 2017).

Impact of nurse faculty shortage

There is compelling evidence to suggest that the nursing faculty shortages, notably in North America, is a persistent problem that requires tactful and long-term solutions (Nowell et al., 2015). The shortage of faculty in universities and colleges threatens the ability to prepare and graduate sufficient highly-skilled nurses to provide quality care to patients (AACN, 2012; CASN, 2018). Moreover, this shortage has significant implications for continued practice development and is detrimental to sustaining nursing knowledge and limits the influence of nursing research in shaping public health policy and guiding evidence-informed practice (McDermid et al., 2012; WHO, 2020). While there have been studies published that have explored the nursing faculty shortage crisis, these studies have primarily focused on the US with very little known about the issue in Canada. Given this gap in understanding, we conducted a scoping review to systematically map out the research in this area and critical review the state of the science. The objective of this study is to identify the factors that contribute to the nursing faculty shortage in Canada and highlight gaps and areas for future research.

Methods

Design and sample

The design of this scoping review is based on the seminal work by Arksey and O'Malley (2005) and enhancements to this work by Levac et al. (2010). Accordingly, we organized this review into the five-stage methodological framework proposed by Arksey and O'Malley, which we expand upon below.

Stage 1: The first stage of the framework involves identification of a broad, clearly-articulated research question that serves as the basis for the subsequent stages of the review. In this stage, a scope of inquiry (e.g., definition of the concept, target population, and outcomes of interest) is determined to assist in the identification and selection of studies in subsequent stages. The research question we seek to answer in this scoping review is: *What are the factors that contribute to the nursing faculty shortage in Canada?*

Stage 2: This stage of the framework involves balancing the breadth and depth of the scoping review with feasibility. To increase comprehensiveness our search included multiple literature sources. A systematic literature review was conducted in ProQuest, Medline, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Social science, Sociological abstracts, Embase and PsycINFO databases for articles related to nursing faculty in Baccalaureate and graduate nursing programs in Canada published in English between 2000 and January 2020. The search applied a combination of key words/concepts within our research question: "nursing faculty" or "faculty shortage", and "retention". The search terms were chosen to capture the largest number of studies. Definitions used can be found in Box 1. While there may be vagueness in these definitions, they were deemed appropriate due to their broad recognition and frequency of usage in the nursing literature.

Box 1: Key definitions

Nursing faculty	A teaching staff and/or members of the administrative staff who holds an academic rank or position in a nursing school.
Faculty shortage	Insufficient number of qualified faculty members to teach students (*Aiken, 2008*)
Retention	The length of time between commencement and cessation of employment with a particular employer (*Humphreys et al., 2009*)

Stage 3: Inclusion and exclusion criteria were established using an iterative process. Authors agreed on initial selection criteria based on the research question, focusing on primary research on nursing faculty shortage. During the initial search, two authors (S.B. and M.C.) independently screened assigned titles and reviewed abstracts found in electronic databases, documents from citations, and key journals for relevance according to pre-determined inclusion and exclusion criteria. Articles with no abstract or identified as relevant by either reviewer were retrieved for full text review. Table 1 provides a complete list of inclusion and exclusion criteria. We sought

to identify all published articles on nursing faculty in Canada. Once the search was completed, we screened all the publications for eligibility based on relevance by reviewing the title and abstract, followed by full-text analysis, and synthesis process. Papers included qualitative, quantitative and mixed methods studies. We based the review methods on the Preferred Reporting Items for Systematic review and Meta-analysis Protocols (PRISMA-P) 2015 criteria for reporting a scoping review protocol (Moher et al., 2015).

Table 1. Inclusion and exclusion criteria for identifying relevant studies

Inclusion criteria	Exclusion criteria
• Papers published in English	• Papers published in language other than English
• Papers with a focus on retention, recruitment, or experiences of nursing faculty and faculty shortage. Articles that focused on transitional and work-life experiences of nursing faculty development or mentoring	• Papers with a focus on nusing clinical staff shortage
• Papers related to Canada	• Papers not related to Canada
• Peer-reviewed articles (published in the electronic databases described above, indexed journal)	• Papers that were narrative reviews, expert opinion, editorials, letters to the editor, books/book chapters and/or theses
• Papers published in 2000 or later	• Papers published before 2000

Stage 4: Charting data is also an iterative process in that it involves extracting data from the included studies (Levac et al., 2010). Data were extracted from the full-text journal articles by one reviewer (E.C.) using ATLAS.ti 8 based on the aforementioned inclusion criteria and checked by the remaining two authors (S.B. and M.C.). The data extracted directly correspond to our stated research question. A draft analytic frame was developed to document selected studies into an excel spreadsheet, including study characteristics (author, year of publication, methodology, study purpose, sample size, study design, and outcomes), conceptualization of the issue (definitions, theoretical underpinnings/rationale, operationalization of variables, aspects of faculty recruitment and retention) and reported gaps in the literature. Several meetings were held to discuss any need to modify the data extraction until consensus was reached. The characteristics of the studies are detailed in Table 2.

Stage 5: The final stage involved analysis of the data charted, reporting of results, and determining the implications of findings, which was a collaborative process among all authors. The results are reported as a narrative summary of study findings. We begin by describing the type of studies included, followed by a thematic analysis, and conclude with a discussion of the implications of our analysis.

Table 2. Characteristics of study

REF ID	Author	Year	Study objective	Study design	Sample size	Key findings
1	Vandyk, A. et al.	2017	Investigated the outcomes of the nursing faculty shortage in Canadian Schools of Nursing (SON) from a leadership perspective.	Semi-structured interviews	12 English and French speaking deans/directors from Schools of Nursing across Canada	There is an increase demand for new faculty and PhD graduates in SON. Strategies to mitigate the shortage must focus on targeted recruitment of graduates (e.g., growing your own), adjustment of workload and program delivery to meet diverse needs.
2	Kirkham, A.	2016	To gain an understanding of participants' lived experiences related to work environments from a nursing faculty perspective	PAR Photovoice	4 nursing faculty from a college in British Columbia, Canada	Workplace factors that affect nurse faculty retention include having professional autonomy and control over one's work, support, time, physical environments, and collaborative leadership. Main barriers to retention are lack of support, time, resources, and the physical environment.
3	Singh, M. et al.	2016	To explore how organizational culture and the perceived level of psychological and structural empowerment associated with one's work environment impact nursing faculty.	Mixed Methods; Survey and semi-structured interviews	44 nurse educators across Canada were surveyed and 10 were interviewed via telephone	Healthy work environment was identified as critical for successful tenure and to remain in faculty role. Access to resources to support their tenure journey, mentoring and orientation are critical to success of new faculty and job satisfaction. Greater value is placed on research and infrastructure support to enhance research productivity.
4	Tourangeau, A. et al.	2015	To describe work characteristics that nurse faculty report that encourages them to remain in or leave academia; and to determine if there are generational differences among the characteristics selected.	Cross-sectional descriptive survey design	650 nurse faculty from colleges and universities in Ontario, Canada	Main incentives to enticing nurse faculty to stay include supportive director/dean and colleagues, manageable workloads and class sizes, adequate resources, and work/life balance. Disincentives are lack of managerial support unmanageable workloads, poor work environments, exposure to bullying and incivility. Targeted retention-strategies based on generation-specific preferences are needed.

5	Tourangeau, A. et al.	2014	To test a conceptual model of factors influencing nurse faculty members' intent to remain employed.	Cross-sectional survey design	650 nurse faculty from colleges and universities in Ontario, Canada	Factors influencing faculty intent to remain employed included proximity to retirement, colleagial relationships, full-time employment, work–life balance, quality of education, satisfaction with job status, financial assistance/support, access to required human resources and being unionized.
6	Singh, M. et al.	2014	To explore how organizational culture and the perceived level of psychological and structural empowerment are associated with the academic work environment, and to explore the state of mentorship in schools of nursing.	Mixed methods; Online surveys and semi-structured interviews	45 English-and French-speaking nursing faculty/educators across Canada.	Access to empowering work conditions was strongly associated with feelings of meaningful work, competence and autonomy of faculty, and a collaborative culture. A supportive work environment and organizational characteristics were key determinants in participants choosing to stay in a faculty role. Specifically, mentoring supports are needed by new faculty to succeed.
7	Tourangeau, A. et al.	2012	To identify factors related to nurse faculty intention to remain employed.	Descriptive exploratory study	37 participants in 6 focus groups in Ontario, Canada	Faculty members' intention to remain employed was influenced by personal characteristics, work environment and organizational support, job content, and external characteristics. Strategies to address modifiable factors and support non-modifiable factors are suggested to promote retention of nurse faculty.
8	Cash, P. et al.	2011	To deconstruct nurse educators' experience, illuminate what nurse educators think is important to a quality work environment, and offer critical questions that lead to the potential for change.	Mixed methods; Survey and focus groups	115 female nurse educators from 11 schools in British Columbia, Canada	Through deconstruction of the focus group responses, some of the major themes identified were advocacy, the importance of voice, shared leadership, nurse educators' legitimate authority, and respect for respondents' collective wisdom.
9	Cash, P. et al.	2009	To highlight some of the critical issues needing to be addressed to support the recruitment and retention of nurse educators.	Mixed Methods; Survey and focus groups	115 female nurse educators from British Columbia, Canada	Leadership is critical to nurse educators' success, and are substandard in areas such as support, advocacy, curriculum, and pedagogy. Participants identified the need for support, mentorship, guidance, and transparent communication. Also, identified the need to create novel practices to enhance education and faculty scholarship.

Results

Study search and selection

The broader electronic searches yielded a total of 3,103 potentially relevant citations. After removing the duplicates (*n*=1,133), another 1,970 abstracts underwent title review followed by detailed abstract review, and of which, 220 were selected for full-text review. Another 211 articles were excluded following that review and, in the end, 9 peer-reviewed journal articles were included in this study for data extraction and analysis. Of the 9 reviewed studies, three were qualitative studies (e.g., Kirkham, 2016; Tourangeau et al., 2012; Vandyk et al., 2017), two quantitative studies (e.g., Tourangeau et al., 2014; 2015), and four mixed-method studies (e.g., Cash et al., 2009; 2011; Singh et al., 2014; 2016). Most of the empirical studies were small-scale, using qualitative methodologies (n = 4-12) — photovoice, focus groups, interviews and narrative approaches. The quantitative studies were cross-sectional and used mailed survey questionnaire (n = 650) however the studies were from the same dataset, and the remaining four studies used mixed-methods design. The included studies varied in terms of sample size and study design. The distribution of year of publication ranged from 2009 to 2017 but not much variation in terms of the geographic distribution of studies. Most of the studies were conducted in British Columbia and Ontario and only three were cross-country studies. The selection process is illustrated in the flow diagram in Figure 1. The most common reasons for exclusion of an article from the review were that it was not about, or it did not include information about the factors contributing to nursing faculty shortage in Canada.

Quality assessment: Although formal assessment of study quality is generally not performed in scoping reviews (Peters et al., 2017), some claim it should be incorporated in the methodology (Daudt et al., 2013), as assessing study quality will enable us to address not only quantitative, but also qualitative gaps in the literature (Levec et al., 2010). Recognizing the Arksey and O'Malley's framework's inability to provide for an assessment of the quality of the literature (Daudt et al., 2013), our research team is conducting this scoping review as the basis for our next stage of research, and will take measures to address this concern in future studies, including using validated instruments.

Thematic analysis: The included studies were grouped into four categories by the research team, including: **supply versus demand (recruitment and hiring practices); employment conditions; organizational support;** and **personal factors**. The succeeding paragraphs highlight the findings by theme and subthemes.
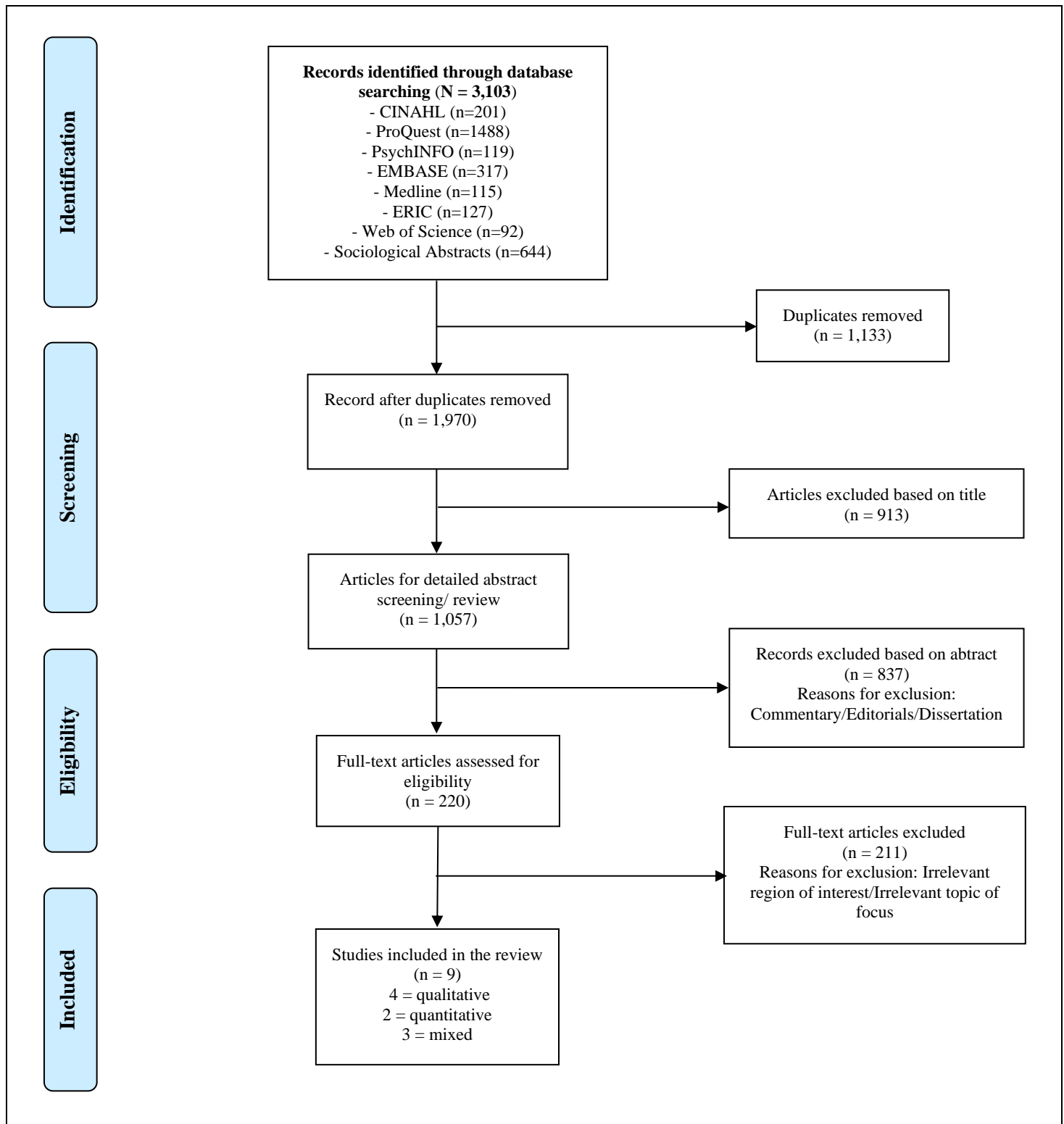
Figure 1. PRISMA Flow Chart; Scoping Review Results

Theme 1- Supply versus demand (recruitment and hiring practices)
Human resource issues including the aging nursing faculty workforce and proximity to retirement are inherent challenges for many academic institutions and a key factor contributing to the nursing faculty shortage, as reported in all the articles in this scoping review. Cash et al. (2011) assert that "aging faculty, and the longer-term consequences of heavy workloads and fatigue, could hasten faculty leaving rates greater than those already predicted" (p. 260). The issue of supply versus demand was frequently reported in the articles. According to Vandyk et al. (2017), there are limited numbers of qualified PhD-prepared faculty available to fill their positions resulting in many unoccupied full-time faculty positions. The immediate and long-term implications of the aging nursing workforce and imminent/impending retirement of senior faculty members creates a demand for qualified applicants. Additionally, the *hiring practices of schools of nursing* (e.g., short-term contracts) were described as potentially undermining some of the efforts in recruiting and retaining new faculty. The limited or absence of full-time work opportunities and dissatisfaction with job status has negative implication on yearly turnover. In a study of 650 Ontario nursing faculty members, Tourangeau et al. (2014) found that nursing faculty were generally satisfied with job status, and that when faculty preference for working full-time and/or part-time was congruent with their current employment status, they are more likely to remain employed. However, Vandyk et al. (2017) found that academic leaders often struggle to recruit new faculty and in particular, part-time faculty because they often "lack knowledge about pedagogy, are reluctant to enforce failing grades, and have low institutional commitment" (p. 10).

Theme 2 - Employment conditions
Although the nursing faculty shortage is a multifaceted problem, employment conditions are cited in eight of the nine articles reviewed for this scoping review as one of the main factors contributing to the crisis. Employment conditions include the physical working environment, workload, organizational policies, and working relationships, all of which are most important in fostering organizational commitment, faculty success, and satisfaction in the workplace (Singh et al., 2014; Tourangeau et al., 2014, 2015). Two subthemes that emerged from the theme were: heavy workload and poor workplace culture.

Notably, heavy workload was cited in all nine articles as a significant issue impacting faculty members ability to maintain work-life balance, and a strong motivating factor for faculty wanting to leave their job. Singh et al. (2014) found that only 18% of nursing faculty were satisfied with their workload. Faculty workload generally consists of teaching, research and service activities to the organization. However, most reported being assigned many other responsibilities beyond their regular workload that impacted their teaching, graduate student and junior faculty mentoring, and scholarship. One nursing faculty reported, "*well, we feel that we're under-resourced. If I can make that point fairly clear, that we are sort of operating with what I would say is insufficient full-time faculty resources to contribute to all of our programming needs*" (Vandyk et al., 2017, p. 6). The absence of sufficient administrative support contributes to a further increase in the workload of an already overworked nursing faculty member (Cash et al., 2011; Tourangeau et al., 2014), and maybe limits their ability to pursue and engage in teaching and scholarship activities and opportunities (Cash et al., 2011; Singh et al., 2014). Other common stressors idendified include unrealistic expectations and prevailing competitive environment, lack of autonomy, and incivility, all of which contribute to faculty dissatisfaction. The extremely competitive environment has been related to feelings of isolation (Tourangeau et

al., 2012), and disenchantment (Cash et al., 2009) contributing to rise in turnover intentions. As one nursing faculty shared:

> *The biggest challenge of adjusting to academia is the competitiveness. I have been in other environments where it was not like that. When you come up in a system where completion is the key word, that's how you've learned to survive, then to turn that off, or not perpetuate it: Well, I have to pay my dues so they have to pay their dues? It's breaking that cycle.* (Singh et al., 2016, p. 5)

The workplace culture also plays an important role in how faculty members feel and respond to their work. Lack of autonomy in the workplace and various forms of workplace incivility have been cited as factors that could increase faculty members' intent to leave their current employment (Cash et al., 2009; Singh et al., 2016; Tourangeau et al., 2015). For instance, some faculty were deeply frustrated with the work environment and felt it was unhealthy and did not promote cohesion and trust among colleagues. Faculty incivility was commonly reported as a rising issue in the academic environment as many nursing faculty members reported feelings of being devalued, threatened and intimidated at work (Cash et al., 2011; Kirkham, 2016; Tourangeau et al., 2012; 2015). Cash et al. (2011) found that faculty members feel devalued when they are assigned teaching assignments that do not match their expertise.

Theme 3 - Organizational support

Another common theme identified in all of the articles for this scoping review was lack of support from deans/directors for teaching, research and scholarly activities. Support in the form of time and resources are important for fostering positive faculty relationships, career development, managing workload, and maintaining work-life balance (Cash et al., 2011; Kirkham, 2016; Tourangeau et al., 2014). Singh et al. (2014) reported that half of their respondents felt that they did not have enough support to succeed in the academy. Lack of collegial support, as well as inadequate support from the organization have been associated with nursing faculty's intention to leave their job (Cash et al., 2011; Kirkham, 2016; Tourangeau et al., 2012; 2015). In the absence of adequate support to perform their responsibilities, Cash et al. (2009) suggested that nursing faculty "are working under conditions that are less desirable than they would like them to be" (p. 387).

A subtheme that derived was the lack of mentoring of nursing faculty members especially those transitioning from practice into academia. Although the value of mentoring has been explored extensively in the literature, mentoring practices was reported as lacking in the articles reviewed for this review. Cash et al. (2011) quoted a participant in their study as saying, *"a built in [sic] mentorship opportunity has been missed by those in our administration"* (p. 260). Newer faculty were aware of the value of engaging in mentoring relationships, and there were those who had to seek and create such opportunities on their own (Cash et al. 2011). One faculty member stated:

> *Newer faculty such as myself [sic] have had to create [mentoring] opportunities for we know that this is important and a historical and cultural component of our curriculum and program will be lost and forgotten, along with all of the hard work. I am concerned that ground will be lost.* (Cash et al. 2011, p. 260).

As part of an ongoing onboarding process, a comprehensive orientation and a formal mentoring

program needs to be put in place help new faculty understand and meet the research and scholarship expectations of their role (Singh et al., 2014; Tourangeau et al., 2012).

Theme 4 - Personal factors
Beyond the organization, individual/personal factors which are attributes of the faculty member's life including career aspirations, personal accomplishment, and demands of family, play an important role in faculty members' work-life balance and may affect their satisfaction and/or intention to remain employed in the academy (Cash et al., 2011). Tourangeau et al. (2014) assert that lack of financial support and/or protected time for faculty members to pursue doctoral education may be contributing to fewer number of nurses with PhDs and PhD-prepared candidates available to fill tenure-track nursing faculty positions in Canadian universities. Further, Vandyk et al. (2017) reported that "participants in their study felt graduate education should be more accessible" (p. 6) – having off campus PhD program options – and increase funding as well as better support for school-life balance including flexibility for students. Nurses' decision to pursue a faculty position is greatly influenced by their family obligations/circumstances, relationships, and health status (Cash et al., 2011; Tourangeau et al., 2012; 2014).

Discussion

To the best of our knowledge, this scoping review is the first review of its type to explore the range of factors contributing to the nursing academic workforce shortage in Canada and strategies that focused on the Canadian context. The findings from this review are reflected in the nursing literature across a number of foci including working conditions and human resource issues. Consistent with our findings, Bozeman and Gaughan (2011) found that characteristics of work including hours spent on teaching, research and grant writing, colleague interactions, and collaboration had significant impact on tenure-track and tenured professors' job satisfaction. In particular, heavy workload and long hours were cited as key sources of faculty dissatisfaction and influencers on how a faculty member feels about their work and intent to stay or leave academia. Reportedly, nursing faculty were working in excess of 50 hours per week resulting in nearly half being dissatisfied with their jobs and 25% considering leaving (Kaufman, 2007). Faculty members were doing their work outside of the regular, 40-hour workweek and experienced the spillover effect: '*I try to squeeze*' with '*the thing that gets squeezed*' (Kuntz, 2012, p.777). While the views on workload may differ from person to person, the process and development of a faculty workload formula requires equitable distribution across faculty with varying types of appointments (e.g., tenured, tenure-track, non-tenure track), and deans/directors of nursing schools should make adjustments that are realistic and equitable to encourage collaboration and shared job expectations. For instance, in the context of the coronavirus disease 2019 (COVID-19) pandemic, faculty are more pressed with added responsibility (WHO, 2020), and as online/web-based learning increases, faculty workload is likely to increase as faculty are expected to spend a great deal of the time attending to student needs in the absence of face-to-face interactions (Anderson & Avery, 2008; WHO, 2020). Therefore, the added responsibility should also be taken into consideration in assigning workload.

Our findings add to current understanding of the need for supportive academic work environments to foster open communication, trust, and create bonds/relationships and positive socialization (Candela et al., 2013; Kuehn, 2010; Mintz-Binder & Fitzpatrick, 2009). Administration/leadership support is especially important to the success of new and mid-career faculty. Support from dean/directors with research activities including grant writing has been shown to increase productivity, influence promotion and tenure (Candela et al., 2015), and increase retention (Kirkham, 2016). Tourangeau et al. (2015) assert that one of the biggest disincentives for nursing faculty to stay employed was "experiencing bullying, belittling and other types of incivility in the workplace" (p. 1026), which has adverse effects on faculty morale. To improve faculty morale, satisfaction, productivity, and retention, academic administrators should lead by example and pay close attention to the dynamics in the workplace and create a workplace culture that supports and fosters inclusivity and respect among faculty members staff and students (Casale, 2017; Thomas, Bantz, & McIntosh, 2019).

It was evident in this scoping review that improving the work environment alone may not be enough to change practice, and thus, a multifaceted, capacity-building approach is needed to support practice change, including the provision of ongoing support and mentorship especially among those transitioning from practice to academia. Mentoring, both formal and informal, have been found to be an effective retention strategy as it decreases the severity of role conflict and ambiguity and stress especially for new and novice faculty (Kinser et al., 2019). Formalized mentorship programs, such as mentor-protégé programs provide opportunity for seasoned faculty to share their knowledge and experience with new nursing faculty (Roughton, 2013). Research has shown that informal mentoring relationships have greater benefit and impact on nursing faculty's intent to stay in academia; however, more research is required in this area (Garbee & Killacky, 2008; Jeffers & Mariani, 2017). Regardless of whether the mentoring relationship is formal or informal, the quality of the relationship is essential for successful mentorship outcomes and the matching of individuals should be based on demographics, skills, and abilities (Nowell et al., 2017). Kinser et al. (2019) postulated that in assigning mentors, deans/directors should take into account personality traits as poor matches between the mentee and mentor may create frequent issues resulting in short-term coaching rather than long-term career development. To capitalize on the full benefit of mentoring, employers should create supportive work environments that foster open communication, collegial relationships and collaboration among faculty. Although preparing junior nursing faculty for their new roles is of paramount importance to promote job satisfaction and reduce attrition, ongoing mentoring and career planning through academic institutions is rather a more effective way to retain early academics and advance midcareer scholars (Hershberger et al., 2018; Kinser et al., 2019).

In a context where there is an aging professoriate and increasing need to retain employed faculty, strategies that look beyond short-term measures are essential to the viability of the profession. Due to the limited supply of PhD-prepared faculty, deans/directors must explore effective succession planning measures that focuses on long-term retention efforts as the way forward in mitigating the effects of nursing faculty retirements. Various strategies should be explored including utilizing the expertise of experienced faculty in order to retain faculty in the long-term. For instance, a phased in retirement option, or opportunities to engage in part-time work should be implemented to entice retiring/retired faculty members to remain longer and mentor less-experienced colleagues (Vandyk et al., 2017). This may be a mutually beneficial approach for

both the nursing school and the retiring faculty. Attention should also be paid to the employment status – whether full-or part-time – of current faculty and their desired employment as a tangible strategy to promote faculty retention and attract potential nurses in academia. Some faculty members may feel precarious as a result of the contractual nature of part-time work, and may, therefore, desire a permanent full-time position that guarantees a stable income (Tourangeau et al., 2014). Additionally, compensation (e.g., financial) has been an area of contention for faculty members, which is often reported to be significantly lower than what is offered in industry (Fang & Bednash, 2014; Smeltzer et al., 2016). This is an issue that nursing schools will need to address, within the limits allowed by faculty unions or associations whenever applicable, if they are to recruit and retain the best nursing faculty who can contribute to the growth of their institution.

Schools of nursing should to consider creative ways of removing the barriers that limit the school's ability to increase its enrollment including offering flexible course delivery models (e.g. asynchronous facilitation) for clinical staff in graduate programs (Smeltzer et al., 2016). In Canada, the hiring of Doctor of Nursing Practice (DNP)-prepared faculty has been suggested as an approach to address the nursing faculty shortage. The DNP is an American practice doctorate credential and is the desired level of preparation for advanced practice nurses in the US (AACN, 2019b). Recently, the University of Toronto introduced its Doctor of Nursing (DN) program that "focuses on developing skills in translating research into practice… advancing nurse education and scholarship," (2020, para. 1) placing emphasis on producing graduates who can assume leadership roles within healthcare organizations and nursing education. Historically, the DN was designed in the US to be "a more purely practice-focused doctorate" but, as of 2004, was phased out following AACN's endorsement of the DNP as the sole practise-focused doctorate (Reid Ponte et al., 2015, p. 348). With the re-introduction of these educational credentials, nursing school leaders may need to engage in serious conversations on the role of nurses in possession of these educational credentials in the academy, as these can impact "nursing's continued advancement as a profession" (Reid Ponte et al., 2015, p. 352). Other strategies could include hiring PhD candidates and qualified PhD-holders from other disciplines to teach non-nursing courses to teach in non-nursing and non-tenure roles in Canada (Vandyk et al., 2017), as this cohort have potential to contribute new and innovative ideas that may bring change and growth to the institution (Tourangeau et al., 2015). Although not new to nursing education, the hiring of PhD-prepared faculty from other disciplines to fill non-tenure or tenure track positions has gained wider acceptance in the US in recent years (Algase et al., 2020). With this said, caution should be exercised as these approaches may require further discussion depending on the circumstances of individual institutions as the practice of supporting staff within an institution to pursue their graduate education in-house may pose ethical and practical concerns. Furthermore, as noted by Algase et al. (2020), while there is a need to acknowledge the significant contributions of interdisciplinary scholars and scientists in the growth of the profession and discipline of nursing, hiring them in tenure track positions within schools of nursing "may threaten the integrity of our discipline" (p. 5).

Lastly, our findings showcased the unique role that personal factors play in influencing nurse faculty recruitment and retention, as it may either hasten or delay decisions of staff nurses from entering academia and/or an experienced faculty to retire (Kirkham, 2016). Although gender was not overtly discussed in any of the reviewed articles, gender-based stress factors are important to

address because nursing is a predominantly female-dominated profession and most female academics tend to deal with stress differently (Simon et al., 2019). It is a widely held view that gender differences play important role in faculty work-life and research productivity, and therefore, addressing the gender-based stress factors and issues during the recruitment process and post hire may provide a unique insight and a useful extension to existing research (Counter et al., 2020). Past studies (Jolly et al., 2014; Simon et al., 2019) found that female academics experience more stress from high expectations, teaching responsibilities, time constraints and general stress compared to men. In particular, non-tenured faculty members appear to experience the most stress and full professors experience the least stress (Cama et al., 2016). Efforts must be made on the part of managers and administrators of schools of nursing to address factors directly and indirectly related to faculty work-life, including family obligations, managing household responsibilities, and health concerns (Jolly et al., 2014). Promoting work-life balance is vital for recruiting new nurse academics (Smeltzer et al., 2016), as flexible and accommodating schedules may be seen as an incentive to secure employment and improve retention.

Other gaps and/or seemingly missed opportunity for improving the nursing faculty shortage crisis is the lack of diversity among faculty within schools of nursing. Studies show that diversity in the pool and ranks of nursing faculty has not kept up with the increasingly diverse student and nursing populations (AACN, 2019a; IOM, 2011; Salvucci & Lawless, 2016; Zajac, 2011) and that more educators of underrepresented groups are needed. Currently, the number of underrepresented and diverse students within schools of nursing outnumber the totality of faculty available to act as role models (Alsulami & Sherwood, 2020; Bleich et al., 2014). Studies (Hamilton & Haozous, 2017; Stanley et al., 2007; Whitfield-Harris et al., 2017) suggest that the most direct approach to establishing a setting that improves faculty diversity and retention is to address the fundamental climate of institutional racism and discrimination within schools of nursing by creating an institutional diversity plan designed to guide policies and hiring practices, and fostering a climate that supports faculty and students of various races and ethnicities. Minority faculty have unique experiences and research perceptives, pedagogies, and background experiences to their teaching that ultimately shape the many aspects of their professional careers and interpersonal relationships (Relf, 2016). Therefore, enhancing understanding of the dynamic minority faculty experience is crucial to developing and implementing strategies that will increase diversity within nursing academia and consequently, the entire nursing workforce (Salvucci & Lawless, 2016).

Future directions

Available evidence on factors that contribute to the current nursing faculty shortage may be sufficient to provide direction in addressing the common challenge. However, the findings of this scoping review confirm gaps in our understanding of the unique experiences of faculty and therefore, effective strategies, initiatives, and/or context-specific solutions should be a priority for future research. Understanding the experiences of nursing faculty is a burgeoning area of research and future studies should explore this phenomenon as it critical to achieving a harmonious and productive academic work environment for all faculty and promoting more effective recruitment and retention in the midst of the global faculty shortage (Alsulami & Sherwood, 2020). Future studies should link the evidence on factors relating to the work

environment and recruitment strategies, and the evidence on their impact on job satisfaction and retention, with longitudinal designs needed to understand associations. More research is required to identify both facilitators and barriers to recruiting and retaining early career, and culturally diverse nurse faculty, with the ultimate goal of better supporting them and the next generation of nurse academics.

Strengths and limitations

One strength of this review is the rigorous use of a comprehensive scoping methodology in accordance with a framework by Arksey and O'Malley (2005), which is appropriate for a review when evidence is scarce. Another is the focus on the Canadian context. However, one limitation is that only English language articles were included, which can limit the information available. Canada is a bilingual nation, having both English and French as its two official languages. Also, academics, policymakers, practitioners and service users were not contacted despite recommendations to do so (Levac et al., 2010), due to limited resources.

Conclusion

This review provided insights into how Canada's schools of nursing could engage in grounded efforts to alleviate nursing faculty shortage, both nationally and globally. The literature highlights the need to foster a supportive academic work environment alongside creation of innovative succession planning measures as potential solutions to alleviate the current crisis. More specifically, results of this review can assist academic leaders and administrators in obtaining more resources for faculty development and provide support for collegial relationships among faculty and leadership to better understand faculty members' needs in order to improve retention. While some findings of this study may mirror the situation in the US or some other parts of the globe, caution should be made in making generalizations owing to differences in contextual factors surrounding the issue of nursing faculty shortage, and the broader issue of nursing shortage.

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