

Sources of Stress and Coping Strategies Among Undergraduate Nursing Students Across All Years

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Abstract

Background: Undergraduate nursing students experience high levels of stress during their programs. The literature on their stress is extensive, however, what is less well-known are the specific sources of stresses for students in different years of study.

Purpose: The aim of this study is to understand nursing students' sources of stress and coping strategies in each year of study.

Method: A transversal descriptive qualitative study was used. A sample of 26 undergraduate students attending a university in Montreal, Canada were recruited and participated in a semi-structured interview. Data were analysed using inductive thematic analysis.

Results: The sources of stress differed according to year of study and related significantly to the specific novelty of that year. For first-year students, their stress was related to their academic courses. High clinical performance expectations and a lack of time for their personal lives was a main source of stress for second-year students. The prospect of graduating and transitioning into the work environment caused stress for students in their final year. Students across all years of study utilized similar coping strategies.

Conclusion: The findings suggest that interventions can be developed to address the sources of stress experienced by nursing students in each year of study.

Keywords

Educators, nurse education, professional nursing/nursing education/nursing administration, qualitative approaches

Background and purpose

Nursing is one of the most stressful and challenging professions worldwide (Ching et al., 2020; Rayan, 2019). More so than other health-related disciplines, it has been well-established that nursing students experience higher levels of stress than other non-nursing university students (Ching et al., 2020; Tharani et al., 2017). As they advance through their programs of study, nursing students are required to meet multiple theoretical and clinical requirements, giving rise to their stress. In the classroom, students learn and develop relevant knowledge to provide care for their patients by learning about the nursing theory and principles. In the clinical environment, students apply theoretical principles learned in the classroom and 'learn by doing'. By experiencing the real work environment, they learn required psychomotor

skills and become socialized into the professional nursing role (Durgun Ozan et al., 2020). Although clinical education provides rich opportunities to gain hands-on experience, the clinical component of nursing education has been identified as providing the highest source of stress for nursing students (Ching et al., 2020; Y ksel & Bahadir-Yilmaz, 2019). Other sources of stress exist as well, including from academic and personal sources

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(Tharani et al., 2017). These sources of stress impact academic performance and personal well-being, both physically and psychologically (Beanlands et al., 2019; Ching et al., 2020). Coping mechanisms are necessary for managing stress and preventing its adverse outcomes (Labrague et al., 2017).

Although all university students experience academic stress, what is unique to nursing education is the practice-based component of the program, with the combination of both academic and clinical courses providing major stress for students (Bartlett et al., 2016; Chernomas & Shapiro, 2013). As a result, nursing students are considered a high-stress exposure group (Beanlands et al., 2019; Olvera Alvarez et al., 2019). Stress is defined as “a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her own resources and endangering his or her well being” (Lazarus & Folkman, 1984, p. 19). Stress can be absolute such in the case of a real threat or danger, or it can be relative and be based on the interpretation of an individual (Lupien et al., 2007). Thus, stress is often a highly individualised response to the environment that varies person to person (Fink, 2016). When an individual is unable to cope with these demands, the imbalance gives rise to stress (Cox, 1978). Within this body of literature, there are three main sources of stress, herein referred to as stressors, experienced by many nursing students: academic, clinical, and personal.

Academic stressors

Nursing programs are competitive and challenging, with programs of study expanding their content (Turner & McCarthy, 2017). This newfound reality reflects the changes the field of nursing has undergone in the past few decades. Nursing education has moved away from ‘learning on the job’ with traditional apprenticeship models of education towards university-based programs. Current curriculums have increased content, including theoretical content to reflect and meet the needs of the increased professionalization of nursing, including its scope of practice (He et al., 2018; Tharani et al., 2017). Furthermore, nurses are providing increasingly complex care for patients, influenced by a growing and aging population, increased comorbidities, shorter lengths of stays and decreasing fiscal budgets and human resources. These factors require nursing education models to adapt and equip their students with the tools to approach the changes the profession is facing (He et al., 2018). As a result, intensive theoretical hours, busy daily schedules with many different lectures, and long studying hours for course work were cited as academic stressors for nursing students, particularly for first-year students (Edwards et al., 2010; Milton-Wildey et al.,

2014). Other sources of academic stress include questioning during lecturing, worrying about testing and evaluation, meeting deadlines for assignments and fear of failure (McCarthy et al., 2018; Pulido, 2012, Shaban, 2012, Turner & McCarthy, 2017). Similarly, research with university students from other disciplines also identified a number of similar academic stressors such as performance pressure, high workload, self-confidence, interpersonal difficulties with instructors, and time constraints (Bedewy & Gabriel, 2015; Reddy et al., 2018).

Clinical stressors

Clinical learning is at the heart of nursing education as it provides rich opportunities to gain hands-on experience and develop essential nursing skills, with programs requiring a minimum number of hours to complete before graduation (McCloughen et al., 2020). However, the clinical component of nursing education results in the highest levels of stress for students with past research consistently showing that nursing students experience moderate to severe levels of stress during clinical practice (Labrague et al., 2017; Pulido-Martos et al., 2012; Timmins et al., 2011). The clinical environment for students can be very stressful with cited sources of stress such as demonstrating technical skills, unpredictability, the fear of making mistakes or harming a patient, lack of knowledge about patient medical conditions, and being witness to the death and suffering of patients (Admi et al., 2018; Ching et al., 2020; Pulido-Martos et al., 2012; Timmins et al., 2011). Furthermore, unfamiliar environments, new role expectations, feeling unprepared, high workloads and patient care responsibilities all contribute to psychological distress (Kaihlanen et al., 2020; Labrague et al., 2017).

Another important factor about the clinical environment is the relationships with members of the health institution (McCloughen et al., 2020). An unfriendly clinical environment occurs when students experience peer pressure and are ignored or are disregarded by nursing staff (Labrague et al., 2017; Reeve et al., 2013). Being intimidated or feeling unwelcomed in this environment can lead to feelings of decreased sense of belonging (McCloughen et al., 2020). A decreased sense of belonging has been associated with feelings of anger, distress and detachment among nursing students (Admi et al., 2018; Chernomas & Shapiro, 2013; Pulido-Martos et al., 2012). Problematic interpersonal relationships with clinical preceptors and instructors influences whether student clinical experiences are perceived as either positive or negative (Grobecker, 2016). Conversely, a sense of belonging and positive relationships with the nursing colleagues, especially their preceptors, positively impacts student motivation, learning, confidence and self-concept (Grobecker, 2016).

Personal stressors

Although all university students will face personal stressors during their studies, these factors are particularly relevant for nursing students. The literature has found that nursing students, compared to other university students, are more non-traditional, as they are older, married with families and already hold employment positions in their field (Bartlett et al., 2016; He et al., 2018; Turner & McCarthy, 2017). Reflecting this reality, recent research has identified financial problems and difficulties balancing one's homelife and schoolwork as the top sources of personal stress in nursing students (Pulido-Martos et al., 2012; Timmins et al., 2011). As most nursing students maintain part-time employment positions while studying, the responsibilities of their job is also a major source of additional stress (Timmins et al., 2011). Furthermore, many nursing students are older and have children. Stress levels have been found to be highest among female and married participants as they had multiple family and other household responsibilities (Chernomas & Shapiro, 2013; Rayan, 2019). Whether the nursing students have part-time employment or children at home, the high demands of nursing educational programs impact their ability to have a fulfilling social life, most students report having no or little opportunities for leisure time (Chernomas & Shapiro, 2013; Pulido-Martos et al., 2012).

Impacts of stress on well-being

Stress can have some positive influence on individuals by providing motivation to complete assignments and study for their exams. For instance, stress has been shown to have a positive impact on performance and memory but up to a certain point after which it becomes harmful (Lupien et al., 2007). There is extensive research showing that excessive levels of stress can have profound emotional, cognitive and physiological consequences (Ching et al., 2020; Lim et al., 2010; McCarthy et al., 2018; Pulido-Martos et al., 2012). This is cause for concern when studies show that approximately 70% of nursing students report high levels of psychological distress (Salvarani et al., 2020). High stress can have physiological consequences such as nausea and vomiting, irritability, dizziness, perspiring and crying, as well as psychological consequences such as depression, anxiety, low levels of self-confidence, poor concentration and loss of motivation and ability to focus (see Donovan et al., 2013; Mark & Smith, 2012). Depression prevalence was found to be at 26% among nursing students, according to one review (Tung et al., 2018). Stress, depression and anxiety can interfere with learning and affect academic and clinical performance (Chernomas & Shapiro, 2013). Studies have also shown that experiencing high

levels of stress is associated with low academic success, lower levels of well-being and decreased quality of life (Ching et al., 2020; Durgun Ozan et al., 2020; Icaro et al., 2018). High levels of stress among nursing students have also been associated with a host of unhealthy behaviours such as alcohol and drug dependence, sleeping disorders and suicide (e.g., Boulton & O'Connell, 2017; Hawton et al., 2002; Nair et al., 2016; Xiong et al., 2021).

It is important to note that the effects of stress on nursing students is also impacted by other life stressors, such as personal, social and environmental factors that may have been experienced in earlier life or during school (Olvera Alvarez et al., 2019). Furthermore, students who experienced depression, anxiety, or high levels of stress prior to beginning their nursing education are more likely to experience higher levels of stress than other students (McCarthy et al., 2018).

Chronic stress experienced during school does not end when newly graduated nurses enter the workforce. Psychological distress is also a common experience for nurse professionals for which new nurses are at the greatest risk (Olvera Alvarez et al., 2019). Experiencing stress in the workplace affects attention, memory, increases the risks of making medication errors or missing life-threatening signs and symptoms (Olvera Alvarez et al., 2019). More long-term consequences of occupational stress include higher risks for depression, burnout, and physical health problems such as obesity and cardiovascular disease (Olvera Alvarez et al., 2019). Occupational stress has serious consequences for the nursing profession, impacting intention to stay and turnover rates (Kaihlainen et al., 2020). A large Canadian study including hospitals from 10 provinces representing over 345 sites with nurses reporting an average of 15 years of nursing experience found that the mean nursing turnover rate was 19.9% (O'Brien-Pallas et al., 2010). A study in Quebec showed that 49% of participants intended to leave their current nursing position, with 10% indicating they intended to quit the profession altogether (Lavoie-Tremblay et al., 2011). This last study showed no difference between new nurses and more experienced nurses. However, a study specifically with new nurses showed even worse trends in intentions to quit, with 61.5% of new nurses questioned intending to leave their current employment positions (Lavoie-Tremblay et al., 2008). Furthermore, 12.6% of new nurses intended to quit the nursing profession altogether (Lavoie-Tremblay et al., 2008).

Coping strategies

Coping with stress involves the cognitive and behavioural efforts that are made to reduce the external and internal demands being placed on the individual. Lazarus and

Folkman's theory (Biggs et al., 2017; Lazarus & Folkman, 1984), the transactional theory of stress and coping, suggests that individuals are constantly appraising their environment to detect stressors which, when detected, generate emotions that motivate the initiation of coping strategies. When successful, the coping strategies elicit a favorable outcome but when unsuccessful they lead to distress. In their study, Ching et al. (2020) recommended to offer interventions to enable nursing students to fit actively into the clinical environment. They suggested to encourage nursing students 'engagement in reflection to facilitate self-awareness and to encourage flexible use of personal and external resources (Ching et al., 2020).

It has been well-established that university nursing students experience high levels of stress during their studies, from demanding academic courses to the anxieties faced in clinical internship to their personal obligations at home. What is less well-known however is whether stress levels and sources of stress experienced by nursing students vary according to which year they are currently completing (Ribeiro et al., 2020). Given the different requirements that each year of nursing education presents, it is important to better study sources of stress and coping strategies across all years of study. To the best of the authors' knowledge, no qualitative study has explored this issue.

A qualitative design would allow for a richer understanding of the different experiences of nursing students involved in a specific nursing program and would permit a better comparison between the three years of the program. Therefore, this study was undertaken to explore students' understanding of their source of stress and coping strategies in each year (Year 1 or U1, Year 2 or U2 and Year 3 or U3) of their undergraduate nursing program at a university in Montreal, Canada. The program at this particular university extends over three years (including summer sessions) with general and professional courses in each year and equips students with the expertise and confidence to effectively deal with complex and contemporary nursing issues. The program ends with a five-week clinical placement that can be completed internationally.

Student involvement is a cornerstone of the program. In addition to classroom lectures, students study in small learning groups of six to eight people, working closely with professors to examine, in critical and creative ways, the many facets of nursing in today's society. Furthermore, with their first nursing course, they gain hands-on experience and knowledge in a affiliated teaching hospital or centre, where they learn to help people manage health and illness situations.

Year 1: Focused on Health over the lifespan: older adults/newborns

Year 2: Focused on Health and Illness coexisting and learning about Chronic and Palliative Care

Year 3: Focused on Community Health, Critical Care, Ethics and Leadership

Methods and procedures

This transversal descriptive qualitative study was conducted to explore students' understanding of their source of stress and coping strategies in each year of their 3-year undergraduate nursing program at a university in Montreal, Canada. The design was transversal as different students from each year of the program were interviewed, descriptive as the aim was to describe their perceptions, and finally qualitative as semi-structured interviews were used to collect the data. Ethical approval was obtained from the Institutional Ethical Review Committee before commencing the research. Subsequently, consent of voluntary participation was obtained from the participants.

Sampling

All students enrolled in the undergraduate nursing program in September 2019 (N = 300; about 10% males) were approached as potential participants through a presentation of the study in class by the research coordinator in February 2020. A convenience sample was thus used. Interested students were asked to contact the qualitative research assistant by email to know more about the study or agree to participate. A total of 26 students showed interest in participating in the study (U1 n = 8; U2 n = 12; U3 n = 6) and subsequently participated in the semi-structured interviews. All participants were women with an average age of 22 years.

Data collection and analysis

Data were collected from 26 participants using a semi-structured interview guide. Due to the Covid-19 pandemic, all semi-structured interviews were conducted over the phone and were audio-recorded. Sample interview questions included "What are your perceptions of the learning environment of students at this school of nursing", "What have been your current sources of stress and or challenges that impact your well-being this academic year, if any?", and "What strategies helped you to cope with your stressors and or challenges?". Each interview lasted about 30–40 minutes. To ensure participants' comfort and appropriate expression, they were allowed to respond in either French or English, whichever language they preferred.

Data was analysed using inductive thematic analysis as described by Miles et al. (2014). This method of qualitative data analysis involves three concurrent activities including, condensing the data, data display and

verification of the data. Open coding involved the researchers reviewing the interview transcripts closely, line by line, and extracting sections that meet the study objective. Codes were created by condensing the original data and categories were formed by clustering codes, which refer to similar concepts. As a second step, Miles et al. have proposed to create data displays (e.g., graphs, charts) to define key concepts embodied in the analysis to illustrate how the concepts are interrelated. Furthermore, data displays involve the elaboration and verification of the data as a continual process (Miles et al., 2014). To enhance confirmability and trustworthiness of interpretation, a subset of the data was coded and analyzed by two researchers with expertise in qualitative data analysis; consensus around the emerging interpretations was reached among researchers through discussions (Polit & Beck, 2008). Descriptive statistics were generated through Excel based on demographic information provided by participants.

Findings

This section will report the findings related to participants' understanding of their source of stress and coping strategies in each year of their undergraduate nursing program. Three main themes were derived from the analysis: perceptions regarding well-being, perceptions regarding stressors, and perceptions regarding coping strategies.

Perceptions regarding well-being

The first theme pertained to students' well-being. Overall, it appears that students' well-being was greatly impacted in the first year of studies and gradually improved the following years.

Students in year 1 (U1s) felt they experienced a decrease in their well-being due to the difficulties in finding a balance between their personal lives and the academic demands of their nursing courses. Many of the first-year students also had moved out of their family homes, some came from out-of-province or arrived from another country. This transition was a big change in their lives and required a significant period of adjustment, on top of starting their studies.

Okay, so, my perceptions of my well-being right now is worse than my... last year, year zero... and I think it is probably because I'm like uh... in a place by myself and so I have to cook for myself and everything. So that takes time and also the course that I was talking about was nursing and how much harder... and how hard it is to balance that (U1-3)

Overall, students in their second year of study, (U2s) shared that they felt an improvement in their well-being compared to their first year of study. Their prior U1 academic experiences led to a reduction in stress in U2 as they had a better idea of what to expect with their courses.

... because we know what to expect in terms of grade, in terms of workload readings, it's very adaptable and you see what's coming up (U2-1)

Like U2s, U3s also saw an improvement in their well-being over that of their previous year of study, particularly compared to their first year of study. Similarly, U3s reported lower levels of stress as they gained valuable time-management skills and were better able to organize themselves to meet the demands of both their academic and clinical courses.

I would say now it's definitely a lot better. The 1st year was very stressful because we had much more classes and everything is brand, brand new... Managing your time... my time was a lot more difficult. I found it very difficult to do that. Now I find myself a lot more organized. I know like what to prioritize when I have schoolwork to do. And in general, I would say the stress level is a lot less even though it's getting closer to graduation, into my career, I feel like I've learned, and I've gone through like all the stress (U3-2).

Perceptions regarding stressors

The second theme pertained to the stressors students encountered in each year of their nursing studies. Although all students reported a number of stressors, results indicate that the source of stress varies depending on the year of study.

For U1s, the sources of stress are primarily at the academic level including: course workload, meeting multiple and overlapping assignment deadlines and preparing to take examinations. Students also reported feeling immense pressure to achieve high grades and they voiced their anxieties related to the unknowns as nursing was all new to them.

... The 1st year was very stressful because we had much more classes and everything is Brand, Brand new... (U3-2)

So, the challenges that are a source of stress are all of the examinations and all of the assignments that are all at the same time, so you know, it is really like 'ugh'. It is very intense and sometimes it becomes too much to handle, I could say. That's what it is, it is a big source of stress. If not that, it is the constant pressure to

perform as well, it is constant in my life, to always want to achieve high grades, all of that is a stress (U1-8).

For U2s, the stressors are varied and arise from academic, clinical and personal sources. For academic stressors, the workload remains overwhelming to students. For their clinical courses, the stressors are related to the increased expectations to demonstrate their skills. For personal stressors, U2 students felt they did not have enough time for their personal lives.

... Everyone says U2 is a hard year, you know. You have way more classes, you have more expectations... You're no longer fresh, you know. You're no longer like when you're in U1, for example, when you make a, let's say, medication error, it's not as bad as when you make one now, right?... And then you have 2 days of clinical instead of 1 day when you were in U1 so, there are more workdays, more hours, you're more tired. (U2-12)

... sometimes [clinical] instructors have higher expectations where they think that you should be doing certain tasks, or you should be knowing certain things, but that we're still students. So sometimes it gets a bit overwhelming... (U2-2)

For U3s, the sources of stress were felt less at the academic and clinical levels and were more related to their upcoming graduation. In preparation for graduation, U3 students experienced stress due to the pressure to achieve a high final grade point average, to look for employment positions and to decide whether to continue studying after graduation. Finally, final year students stressed about preparing to write the Nurse License exam.

... I have anxiety to achieve grades that would allow me to go to the master's level, my anxiety about having to finish just to graduate. Then, I want... I have to find employment... in a way, I can't wait to finish, but I am stress about finding employment. (U3-4)

Well, the transition from going to U3 to being a nurse. So, like just stress about applying to jobs, figuring out how to do the nursing licence exam, that kind of thing. But that's why I did plan doing the Nightingale [a group mentorship program]. (U3-5)

Perceptions regarding coping strategies

Finally, the third theme pertained to students' coping strategies. While well-being and stressors were found to vary between years of study, coping strategies were found to be similar for nursing students in each year of the program.

U1, U2 and U3 students shared similar coping strategies such as strategies focused on talking with others and on sharing their emotions. Talking with nursing students was an especially helpful strategy as their peers understand them as they are all experiencing the same situation.

I think it's just sharing with the people who are in the same situation as you so like Nursing... yeah. Because talking to other people in other programs, they have different lives, like it's very different. (U2-1)

Well, especially when I'm talking to my Nursing peers, it's nice to be able to relate... And when it comes to like Nursing and Nursing like emotions and everything, I can talk to them about it and they understand the stress... (U3-2)

Coping strategies also included taking time to reflect on a stressful situation and recognizing and controlling one's response to that situation.

... Controlling your emotions is very important. For example if we know that someone is approaching the end of life... it may be really hard for us... we feel really, really bad that they're leaving... it is really important like to control that and remember that our profession as a nurse is that we're there to help them as much as we can and not, you know, like cry in front of them because that will make matters worse... yes, I have to be aware of my emotions (U1-3).

To cope with the stresses of their studies, the students took action and improved their organizational skills to better manage the demands of each class.

Oh God. I live for structure. I have like sticky notes all over my laptop of like everything... Then I really keep myself so organized on my laptop; it would take too long to show you, but I have everything organized like colour-coordinated, my notebooks coordinated. I always set alarms for reminders for things (U2-10).

Physical activities were also a form of coping, such as exercising or walking. Similarly, other coping strategies that provided some distraction included taking a step back from their schoolwork and spending more time on leisure activities.

Taking time for myself, like an hour to maybe watch my favorite show or something like those are essential... and the biggest one, for me, 8 hours of sleep needed (U2-10)

... personally I like to meditate. I do yoga ... I think like in terms of the meditation, it helped me

Because it kind of helped to reframe my mindset in a way. And, to put me in a calmer head space and I can more clearly assessed how I'm feeling (U1-11)

Discussion

This study sought to explore the experiences of nursing students at different stages of a 3-year university-level nursing program. Specifically, this study was interested in nursing students' well-being, perceptions regarding stressors as well as their coping strategies and how these differ in each year of their undergraduate programs. Overall, the findings suggest that nursing students well-being is greatly impacted in year 1 and gradually improves over the following years, the sources of stress vary from year to year but that the coping strategies employed are similar for all nursing students, regardless of their year of study. *Nursing students experience of stress*

Although stress experienced by nursing students has been well-documented, what is less known are the specific sources of stress for students according to their year of study. As each academic year of undergraduate nursing programs involve different expectations, it is understandable then that the sources of stress vary according to students' year in the program. The present findings suggest that U1s experience stress due to the novelty of being a university-level nursing student. Some U1s must learn how to live independently and manage their finances for the first time in their lives. Furthermore, all U1s must learn to navigate a new campus, begin their courses and learn new material, all for the first-time. This transitional period has been shown to be a stressful time for all young adults in university, regardless of program (Ícaro et al., 2018) but the present findings adds to this literature by describing the specific experience of nursing students. Specifically for nursing students, the present findings suggest that U1s have more academic stress compared to students in other years of the program due to the need to learn new material, to not knowing what to expect, to high-course workload and to the necessity to manage the deadlines of multiple classes.

In line with the present findings, other studies have also found that stress levels are highest amongst novice nursing students compared to other nursing students in other years of study (Fornés-Vives et al., 2016; Kumar, 2011; Salvarani et al., 2020). Looking more specifically at the causes for their stress, Ribeiro et al. (2020) found that for first-year nursing students, the highest rated stressors were theoretical activities including the difficulty of learning new theoretical content and meeting all

course expectations (Ribeiro et al., 2020). Similarly, Lim's review (2010), suggested that the highest rated stressor for first-year students were the academic courses, rated at 81% by the participants.

For second year students, stress levels remained high due to the increased demands in their clinical courses, specifically due to higher expectations regarding their performances which should be beyond a novice level. A recent study showed that second year nursing students report the highest levels of stress, compared to other years, due to their perception of having inadequate knowledge and skills in their clinical rotations (Admi et al., 2018). However, other studies show that the final year of nursing education is the most stressful year (Edwards et al., 2010; He et al., 2018; Jimenez et al., 2010; Mussi et al., 2019). The high levels of stress experienced by final-year students were attributed to demanding clinical settings that require students to master more challenging technical skills and have more in-depth knowledge about patients' medical conditions. In line with the present findings, another notable source of stress for final-year students was the prospect of graduation and the upcoming transition from being a student nurse to professional nurse (Edwards et al., 2010; He et al., 2018; Timmins et al., 2011). Similar results have been reported in other healthcare fields such as physical therapy, occupational therapy, midwifery, and pharmacy (Afridi & Fahim, 2019; Foster et al., 2018; McCarthy et al., 2018; Webber et al., 2020). For instance, Afridi and Fahim (2019) reported that final year physical therapy students experience higher levels of stress related to academic/performance stressors than first year students. Similarly, Kumar et al. (2019) reported very high level of stress in final-year medical students principally due to academic stressors and fears related to practicing medicine in the real world.

Nursing students' well-being

Regarding the well-being of students, the present findings suggest that students experienced improvements in their well-being in U2 and U3, compared to their first-year of study. They reported that their increase in well-being could be attributed to having gained valuable experience while completing their first year of study. As they encountered new learning experiences, in both their academic courses and clinical internship, they learned how to cope with the academic stressors, learned what to expect in their program and applied their learned coping skills in their next years of study. U3 students, reported having gained more self-confidence and a higher sense of comfort with their knowledge and skills levels. Compared with their first years of study, U3 students reported having improved their organizational skills and learned how to achieve a healthier

balance between their academic and personal lives. These findings are in line with the literature. For instance, Abdal et al. (2015) showed that senior nursing students have moderate to high levels of clinical self-efficacy while another study showed that self-efficacy in last year nursing students is a determinant of their well-being while avoidant coping strategies are negative predictors of their well-being (Gibbons et al., 2011). Thus, it appears that more advanced nursing students have gained valuable confidence in their abilities which is positively impacting their stress levels and their well-being.

Nursing students' coping strategies

A notable coping strategy found in students from all years of the programs was seeking social support. This is a common coping strategy well-supported by the literature. Social support acts as a protective factor for stress, as this strategy can either prevent stress or facilitate a healthy response to the situation (McCarthy et al., 2018). Evidence demonstrates that communicating with others about stressful experiences is positively correlated with well-being and psychological stability (Karaca et al., 2019). For nursing students, they communicate with their families, spouses and instructors (e.g., Crombie et al., 2013; Reeve et al., 2013). However, for many nursing students, the most important source of social support are their nursing peers (Karaca et al., 2019; McCarthy et al., 2018; McCloughen et al., 2020). When communicating with their peers, discussing shared learning experiences was an effective strategy for the emotional management of stress (McCarthy et al., 2018). These informal conversations provide reassurance, comfort and a validation of their feelings as they provide an opportunity and safe space to express their frustrations and concerns (McCloughen et al., 2020). In addition, discussion with peers can also provide solutions to dealing with a stressful situation, as these discussions involve efforts to gain information or emotional support to solve a problem (Lim et al., 2010). This form of coping is called positive problem-solving coping.

Positive problem-solving coping involves developing a strategy to directly address the cause of stress (Labrague et al., 2017; Lim et al., 2010). Another example of this form of coping is self-controlling one's emotions (Lim et al., 2010). Self-controlling refers to regulating one's emotions and actions to the situation. The results of the present study suggest that nursing students in each year of the program utilized positive problem-solving coping strategies to cope with their stress. However, the present findings further suggest that more senior nursing students gained valuable experiences during their first or second year of study which

helped them learned how to employ positive problem-solving coping strategies more effectively. This improved use of problem-solving coping strategies is likely a contributing factor to their increased perceptions of well-being. However, U3s expressed that their high stress levels return as they approached graduation. It seems that a common denominator for the students in all years of the program was that the experiences they describe as stressful were new. For first-year students, it is the entire experience of attending university and learning new nursing content. For second-year students, it is the new heightened expectations to perform in their clinical internship. Finally, for final-year students, it is the prospect of graduating and becoming a professional nurse.

Strengths and limitations

The present study has a number of strengths such as the use of semi-structured interviews to understand the realities of nursing students at each stage of a 3-year university level program. However, the present findings have some limitations that should be underscored. First, there is limited generalization of the present findings because they draw conclusions from a single undergraduate program. Second, a small subset of students from each year of the program were included in the semi-structured interviews. Third, although very informative, the qualitative findings of the present study would benefit from a larger quantitative survey of a larger sample of students. Finally, the present design was transversal as different students from different years were interviewed. Future longitudinal research in which the same students are consulted during each year of the program would be highly beneficial in order to detect changes in stress, well-being and coping strategies. We, however, believe that the present findings are valuable initial data that can provide insights to other nursing institutes in developing their curriculum and initiatives to support students in each year of their program.

Conclusion

A major contribution of the present study is the identification of nursing students' specific sources of stress according to their year of study. Understanding the sources of stress in both clinical and academic settings paves the road to supporting positive and effective coping strategies. Furthermore, understanding the sources of stress in each year supports the development of positive problem-solving coping strategy interventions that can target students in each year. For instance, for final-year students, educators could facilitate a workshop on graduation and provide guidance on looking for employment and writing the licensing exam. More

generalized stress management programs that support other positive problem-solving coping strategies could also be developed for all nursing students, regardless of their year of study. Further research is needed to understand the effectiveness of targeted stress-reduction programs for nursing students according to their year of study. Nursing students are at the onset of their career, a career well-known to be laden with stress. These stressful experiences begin during their educational experience and continue in the professional work environment. The evidence on stress experienced by nursing students is extensive, and the sources of stress found in this study are well-supported by the literature.

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