Perceived challenges of nurse educators while teaching undergraduate nursing students in Pakistan: An exploratory mixed-methods study

Ahtisham Younas[a,b,g,*], Hussan Zeb[c], Shadia Begum Aziz[d], Sedira Sana[e], Jacoline Sommer Albert[e], Inam Ullah Khan[d], Shahzad Inayat[f], Farida Himat Khan[d], Subia Parveen Rasheed[g]

[a] Memorial University of Newfoundland, Canada
[b] DSW The Caregivers, St. John's, Newfoundland, Canada
[c] Saidu Group of Teaching Hospital, Swat, Pakistan
[d] Islamabad Nursing College, Islamabad, Pakistan
[e] College of Nursing and Midwifery, Holy Family Hospital, RMU, Rawalpindi, Pakistan
[f] College of Nursing, Isra University, Islamabad, Pakistan
[g] Shifa College of Nursing, Islamabad, Pakistan

ABSTRACT

Background: Nurse educators are required to equip students with adequate theoretical and practical knowledge to provide effective nursing care. Limited studies have explored educators' challenges while teaching students. Existing studies are limited because of small sample, overreliance on qualitative approaches, and unreliable instruments that have not been tested.
Objectives: To explore nurse educators' perspectives about their clinical and academic teaching, to develop a questionnaire to determine educators' challenges, and to develop a comprehensive understanding of educators' challenges.
Design: A sequential exploratory mixed-methods study.
Settings: Twelve nursing institutions in five cities of Pakistan.
Participants: A purposive sample of 12 educators for interviews and 112 for the survey.
Methods: Semi-structured interviews and survey for data collection and expert consultations for questionnaire development. Thematic analysis for qualitative analysis, descriptive analysis for quantitative, and joint display tables for mixed methods.
Results: Educators experience workload and time constraints and struggle to effectively teach students due to inadequate student-educator ratio; underdeveloped curriculum; inadequate resources; inadequate clinical teaching settings for skills, simulation labs; inadequate professional development opportunities; lack of autonomous decision making; lack of educational, management, and research support from the regulatory bodies; and lack of educational research.
Conclusions: Nurse educators' issues and challenges are persistent and require support from regulatory bodies and educational authorities. There is a need to develop policies to improve teaching and learning conditions for educators, provide them with the opportunities to enhance their own learning, and opportunities to collaborate with other educators in order to better prepare student nurses.

1. Introduction

Nursing practice is intricate and demands nurse educators to equip students with adequate theoretical, practical, and research-based knowledge so that they can provide effective care (Doane and Varcoe, 2015). The World Health Organization (WHO) (2016) outlined eight competencies of nurse educators:

- Applying and integrating teaching and learning theories;
- Developing and implementing nursing curricula;
- Teaching contemporary nursing practice;
- Conducting research and developing nursing knowledge;

---

* Corresponding author at: 174 Patrick Street, A1C 5C4 St. John's, Newfoundland and Labrador, Canada.
  E-mail address: ay6133@mun.ca (A. Younas).

- Communicating, collaborating, and developing partnerships with other health care teams;
- Developing ethical and legal policies and protocols in nurse education;
- Monitoring and evaluating teaching and learning curricula and strategies;
- Advocating for nurses and changing policies.

Becoming competent in these domains, helps educators to prepare graduates who can work effectively in contemporary settings. Educators need to continuously embrace new ideas, revisit curriculum designs, and focus more on student-centered learning (Stanley and Dougherty, 2010). However, studies indicated that educators face several challenges while teaching students and these challenges are contextual (Eta et al., 2011; McAllister, 2011; Jamshidi, 2012; Ndawo, 2015; Råholm et al., 2016). These studies have limitations such as a small sample, data collection instruments with minimal to no psychometric testing, lack of rigour in data collection, analysis, and reporting, and focus on only one specific aspect of teaching. Therefore, this mixed methods study was conducted to explore and to gain a comprehensive and contextual understanding of nurse educators' challenges.

2. Background

Quality education is crucial for preparing competent nurses who can meet the challenges of complex practice (WHO, 2016). Nurse education has been progressing worldwide, but the education system in Pakistan needs developing because of a shortage of masters' and doctorally prepared educators (Awalkhan and Ghani, 2018), poor infrastructure in teaching environments, inadequate teaching learning environments (Meghani and Sajwani, 2013; Victor et al., 2016), and a lack of nurse education based research.

There are 239 recognized nursing institutions (Pakistan Nursing Council, 2018) and only a few institutions have nurse educators with a masters' degree (Huda and Alisbinati, 2015). Most of the educators' hold a bachelors' degree with minimal teaching and research experience. This is a minimal qualification for educators compared to educators in developed countries. Given these issues, the educators teaching at these institutions may find it daunting to meet the WHO competencies and encounter challenges to adequately prepare students for practice and research at national and international levels. Therefore, it is imperative to understand the challenges that they experience while teaching nursing students.

Several quantitative and qualitative studies determined nurse educators' challenges. Eta et al. (2011) conducted a descriptive study of 56 clinical educators in the South West Cameron. In total, 59% educators indicated that they face many challenges, categorized into student and educator related challenges. The frequently reported challenges were students' lack of preparedness for clinical learning (46.4%), students' lack of interest and motivation (46.4%), educators' lack of opportunities to advance personal knowledge and skills (66.1%), and difficulty in clinical teaching and supervision (58.9%). These challenges were attributed to a lack of financial incentives (33.9%), poor health policies (21.5%), rigid and non-supportive hospital administration (17.9%), and inadequate political and government support (12.1%). There were several study limitations such as the use of a small sample size that would have resulted in low statistical power. The researchers collected both qualitative and quantitative data. However, limited information was provided about the rigour of the qualitative phase and the validity and reliability of the questionnaire used in the quantitative phase.

Jamshidi (2012) determined clinical teaching challenges of both nursing students and educators in Iran. They reported several challenges such as theory practice gap (88%), lack of facilities (86%), and conflicts among students, educators, and hospital staff (90%). However, the researchers provided incomplete study description such as no information about the sample size, data collection, and analysis process;

and the validity and reliability of the used questionnaire. Due to the lack of this description, the study's quality was judged to be weak, hence non-generalizable to other settings.

Ndawo (2015) conducted a qualitative study with 20 educators to explore their challenges on the delivery of content laden curriculum at a nursing college in Gauteng, South Africa. The reported challenges included, large class size, lack of student preparedness, lack of student prior knowledge about the subject, and students' negative attitude towards nursing. Nurse education involves teaching of clinical skills, content laden curriculum, as well as values of caring and compassion to students. Therefore, these findings, although rigorous, may not be transferrable to other settings because of the focus on exploring educators' challenges only in terms of content laden curriculum.

Råholm et al. (2016) explored experiences of 18 educators regarding the current role and future challenges in nurse education in four countries (Denmark, Finland, Norway, and Sweden). The educators noted major challenges: a) developing supervision and education by advancing information technology and simulation, b) developing academic and pedagogical competence, and c) tensions between education and practice. The qualitative nature and exclusive focus on academic challenges, makes the findings potentially non-transferrable to other contexts.

Given the limitations and potential generalizability issues of these studies, they may be of more limited use for future policy making. There is a lack of robust quantitative studies to determine nurse educators' challenges. This mixed methods study was designed to address this gap.

3. AIM

The threefold aim was: a) to gain a deeper understanding of the experiences of being a nurse educator in Pakistan, b) to develop a questionnaire to determine nurse educators' challenges, and c) to develop a comprehensive understanding of the challenges faced by nurse educators. The mixed methods question was: *To what extent the qualitative themes concerning nurse educators' challenges and experiences consistent with the quantitative data*?

3.1. Philosophical underpinnings

William James' pragmatism guided this study, which emphasizes a pluralistic ontological and epistemological inquiry. This is well suited for qualitatively driven mixed methods (Johnson et al., 2017). Although Sanders Peirce and John Dewey are known pragmatists, Peirce pragmatism is better suited for quantitatively driven mixed methods and Dewey's pragmatism is better suited for convergent or equal-status mixed methods (Johnson et al., 2007; Johnson et al., 2017). The emphasis in pragmatic mixed methods is on the primary aim of the research rather than the inquiry method (Creswell and Plano-Clark, 2018). Therefore, both qualitative and quantitative approaches were used.

4. Methods

4.1. Design

An exploratory sequential design, comprising three phases, was used as it allows exploration of a phenomenon from participants' perspective and to develop an instrument that "based on the culture and setting of the research participants rather than pulled off the shelf for use" (Creswell and Plano-Clark, 2018, p. 84). The initial qualitative phase was used because: a) no instruments existed to determine educators' challenges, therefore the qualitative findings informed questionnaire development and b) teaching challenges are contextual and are influenced by the nature and structure of nursing institutions, hence the qualitative phase helped to capture these contextual challenges.

Table 1

Qualitative interview guide.

Opening remarks

I would like to thank you for agreeing to share your views about self-awareness and its importance in nursing practice. First of all, please describe your role as a nurse educator?

Questions

1. Please describe your responsibilities as a nurse educator.
2. Please describe the challenges that prevent you from fulfilling these responsibilities.
3. Please describe any challenges that you encounter while applying your theoretical nursing knowledge in teaching nursing students.
4. Please describe any challenges that you encounter while developing course work and implementing it in teaching students.
5. Please describe any challenges that you encounter while teaching nursing practice to students.
6. Please describe any challenges that you encounter while conducting research to inform and improve your ability to teach nursing and to share that research with the nursing community.
7. Please describe any challenges that may prevent you from communicating and collaborating with health care teams and developing a partnership for enhancing nursing students' clinical learning.
8. Please describe any legal and ethical challenges that may prevent you from providing quality nursing education.
9. Please describe any challenges that you encounter while evaluating students' performance and the usefulness of the curricula.
10. Do you participate in making policies for nursing students at your institution? If yes, please describe any challenges that you encounter while developing policies and protocols for nursing students.

4.2. Sample and setting

The study was conducted in 12 public and private nursing institutions in five cities: Rawalpindi, Islamabad, Lahore, Swat, and Peshawar. The target population (N = 180) comprised all nurse educators involved in clinical and classroom teaching. For the qualitative phase, a purposive sample of 12 educators were recruited to ensure greater representation from different subgroups (age, gender, and education level) and five cities. The developed questionnaire was pilot tested with 15 educators from all institutions. The recommended pilot sample is at least 15–30 (Grove et al., 2017). For quantitative surveys, 112 educators from all institutions participated following an open invitation. The sample size calculation was not feasible because of a small population.

4.3. Instruments

The qualitative interview guide was developed based on the WHO competencies (Table 1). The primary questions asked participants to describe any challenges in meeting each competency. Acknowledging that some of the participants may not be knowledgeable about these competencies two questions explored their roles and responsibilities as educators.

4.4. Data collection

The data collection took place from January–February 2018 (qualitative phase I), April–May 2018 (pilot phase II), and July–December 2018 (phase III). For the qualitative phase I, the researchers invited educators to participate in the study through the management of the institutions. The interviews were conducted at the time and place that the participants deemed convenient. The researchers gave written information outlining the purpose and estimated timing of the interview, its recording and transcription, and sharing of the data with the team. The participants were encouraged to ask any questions before, during, and after the interview and were reminded of the right to stop the interview anytime. During the interviews, prompts were used to develop in-depth understanding of the challenges. The interviews were initiated with an overarching question and lasted for 20–25 min.

For the phase II quantitative study, five experienced nurse educators were contacted through email and their responses were sought to evaluate the face and content validity of the developed questionnaire. They were provided with a content validity questionnaire entailing detailed information of the study population and setting, the scale items, categories, a 4-point Likert Scale (1 = not relevant, 2 = somewhat relevant, 3 = quite relevant, and 4 = highly relevant), and two open ended questions: i) Please comment on any of the items which can be revised and rephrased and ii) Please share your views about why any of the items were rated as not relevant. The purpose of this content validity exercise was to judge the relevance, comprehensiveness, and balance of the scale items (Polit and Yang, 2016). After this exercise, some of the participants from the qualitative phase were invited to assess the readability and clarity of the items to their setting. A linguist and a layperson further assessed the readability because having a neutral perspective can provide more insights concerning the used language. The final judgement of the items was made by the team.

For phase III, the quantitative study, a convenient sample was used. An invitation was sent to the nursing institutions through the institutional heads and the educators who agreed to participate contacted the researchers through phone or email. The researchers provided detailed study information to the participants along with a paper based or an electronic questionnaire.

4.5. Data analysis

Thematic analysis was used for qualitative analysis: a) data familiarization and transcription which involves reading and re-reading data, b) initial coding which involves coding at different levels, c) theme search which involves collating relevant codes into potential themes, d) theme review which involves developing thematic maps, e) themes defining and naming, and f) theme finalization. Prior to coding, participants' transcripts were read several times to develop a comprehensive understanding of their responses. In this stage, to ensure credibility, the researchers set aside personal thoughts, ideas, and feelings that may prevent them from gaining a thorough understanding of the responses. Data coding were completed at three levels: line by line reading of the individual transcripts and identifying the key messages of each line (level I coding), reading and analyzing level I codes across transcripts and analyzing for similarities, differences, and patterns and then condensing level I codes into broad codes (level II coding), and condensing level II codes into categories (Level III coding) (Braun and Clarke, 2006). Once coding was completed, to ensure credibility, the categories were applied back to the transcripts to examine the data's consistency with the themes.

Regarding mixed method analysis, building and merging integration techniques were used. Building is an integration approach when one dataset informs the data collection approach for the subsequent phase (Fetters et al., 2013). This approach was used in the qualitative phase and the pilot phases in order to develop the survey. Merging refers to the integration of qualitative and quantitative data at the data analysis level (Fetters et al., 2013). This approach was used at the end of the survey when the interviews and the final survey results were compared. The qualitative themes and the questionnaire items where displayed in joint displays. Joint displays are a visual and tabular presentation of qualitative and quantitative data to illustrate integration and mixed methods conclusions drawn based on the integration. The first joint display showed explicit linkages between the qualitative and quantitative findings and the second display indicated how findings from quantitative phase II are consistent or divergent with the qualitative findings (Creswell and Plano-Clark, 2018).

For phase II and III quantitative studies, the completed surveys were checked for errors; then entered into SPSS 24.0 for analysis. Reliability was assessed using Cronbach's alpha and inter-item-correlations. Validity testing, comprising face and content validity, was performed during the development phase. The questionnaire's readability was assessed using the Flesch Reading Ease level, and the Flesch-Kincaid

Reading grade level (Streiner et al., 2015). For phase III, descriptive analysis was used for the responses.

4.6. Ethical considerations

The ethical approval was obtained from the relevant Ethics Boards and the management of the institutions that did not have an ethics board. These institutions reviewed the research proposal, data collection instruments, consents, and approval letters and granted written permission for data collection. A written informed consent was obtained from the participants. The participants were continuously reminded and informed of their right to review the consent and to withdraw from the study. Strict protocols were set to maintain the confidentiality and anonymity and data access was only granted to the researchers.

4.7. Rigour

The interview guide was developed through detailed discussion between the researchers and critical review and testing by at least five participants. Two researchers independently transcribed and analyzed the data and then compared the categories and themes and discrepancies were resolved. Those researchers who conducted the interviews verified the transcription and the analysis. To ensure rigour for mixed-methods analysis, data integration was made explicit using building and merging integration techniques and developing joint displays (Creswell and Plano-Clark, 2018). Face and content validity and reliability of the questionnaire was ensured with expert consultations and pilot testing. The use of established data analysis processes provides an audit trail, thereby enhancing study rigour (Fetters et al., 2013).

5. Results

5.1. Demographic information

The total population for the study was 180. Of 180 potential participants, only twelve educators (female = 7, male = 5) were interviewed for the qualitative phase I, with an age range of 27–39 years. For pilot quantitative phase II, 15 educators completed the developed survey. For quantitative phase III, 116 educators completed the survey, but four surveys had missing data. Therefore, these surveys were excluded leaving 112 educators (female = 71, male = 41, age μ = 33.84, σ = 12.06). Most of the educators had a Post RN (n = 46), followed by Masters (n = 33), Bachelors (n = 20), and a diploma in nursing (n = 13). The mean years of clinical experience was 3.10 (σ = 1.95) and the teaching experience was 2.35 (σ = 1.46).

6. Phase I: qualitative

Based on qualitative analysis, initially 44 categories were generated from the analysis, which were merged to developed 27 categories collated under seven broad themes.

6.1. Personal challenges

These challenges were related to educators' roles and responsibilities, knowledge, and professional development. Educators describe their challenges in terms of time constraints, workload, and relationship with students, difficulties in grading of assignments, and influence of student gender on their choice of educational methods. For example, one of the educators talked about the professional student-educator relationship.

"One of the challenges that prevent educators from effectively teaching students is the professional relationships. If an educator becomes too friendly with the students, then students have the tendency to stop paying attention to the educators' advice. There should be a professional distance between students and educators, if that distance is not maintained students would not be interested in learning".

6.2. Institutional challenges

Various institutional challenges were highlighted such as lack of authority in developing instructional policies, management-educator conflicts, authoritarian management, lack of managerial support, and lack of collaboration between educators and between different institutions. For example, one of the educators' shared about conflicts:

"The major challenge is the conflict between educators' personal teaching style and expectations from the management. The management should not stop the educators from using a specific teaching style which could prevent educators from fulfilling their responsibilities".

6.3. Challenges in clinical teaching

Educators described their challenges in terms of lack of clinical settings, resources, simulation labs, under developed clinical skills labs, lack of clinical preceptors, mentors, and conflicts with associated teaching hospitals' management. For example, one of the educators discussed about the lack of qualified preceptors:

"The challenge that we face while teaching students in the clinical settings is the lack of qualified preceptors or mentors. Most of the hospital staff are diploma holders and they do not have the skills and knowledge to facilitate nursing students who are doing an honours' degree. The practicing nurses and staff lack education and knowledge about the roles and responsibilities of nursing students, their learning needs, and set different expectations from students which interferes with students' learning".

6.4. Classroom environmental challenges

Educators described the challenges associated with lack of space, crowdedness, inadequate educator-student ratios, power outage issues, and lack of multimedia resources. For example, one of the educators described the issue of educator-student ratio:

"In each classroom, there are almost 60 to 70 students. It is difficult to manage their issues and teach them equally. Of 45 minutes lecture, usually 15 to 20 minutes are spent in maintaining discipline in the class".

6.5. Student-related challenges

Educators described students' lack of motivation, interest, and attitudes towards nursing education as major challenges. They indicated that some students take nursing for granted and show no interest in the theoretical and practical aspects of nursing and some students even lack the basic conceptual knowledge required to understand the nursing concepts. For example, one of the educators' talked about students' interest and attitude in class:

"During classroom teaching, some students create disturbance. These are the students who wanted to become physicians, but they ended up in nursing and have no interest in nursing. These students are irresponsible and also interfere with the learning of other students. So, the challenge is handling these students, and transferring nursing knowledge".

6.6. Ministerial challenges

Educators' described the challenges related to underdeveloped nursing curricula, inconsistencies in the application and implementation of these curricula across institutions, lack of support from nursing regulatory body, and poor nursing image in the country. For example, one of the educators talked about the underdeveloped curricula and the

Table 2
Joint display mapping qualitative themes and categories to the developed questionnaire (integration of phase I & II).

Qualitative theme and categories	Quantitative items
Theme I: personal challenges (8 items)	
Workload and time management (4 items)	The educator does not have enough time to discuss students' issues, the educator is overburdened with workload, the educator finds it difficult to grade group assignments, and educators are required to perform clerical tasks.
Educator- student relationship (1 item)	The overfriendliness of educator with students prevents effective teaching
Personal motivation and learning (2 Items)	The educator lacks personal motivation to effectively teach students & Nurse educators do not engage in their own continuous professional development and education
Teaching-culture-conflict (1 item)	The educator faces cultural challenges while teaching content and skills related to human sexuality
Theme II: institutional challenges (14 items)	
Lack of autonomous decision making (3 items)	The educator has no authority to change institutional teaching and learning practices, the educator has no role in making policies for nursing education, & the educator lacks independent decision making about student teaching.
Roles and responsibilities conflicts (3 items)	The roles and responsibilities of educator are poorly defined, there is a difference between an educator's personal teaching philosophy and the expectations of the management, & educators are required to teach subject matter that does not match their personal interest.
Non-supportive and authoritarian management (3 items)	The management is not supportive of implementation of new pedagogies, the management is not supportive of nursing educational research & the management is authoritarian.
Intra-Inter educators' support & collaboration (2 items)	There is a lack of collaboration between educators in the institution & experienced educators do not support novice educators.
Institutional Constraints (3 items)	The student to educator ratio is too great, the institution does not upgrade the nursing curriculum on a regular basis, & the institution provides no guidance on students' assessment and evaluation.
Theme III: challenges in clinical teaching (9 items)	
Inadequate clinical learning environments (2 items)	There is a shortage of clinical teaching settings & there is a shortage of equipment in clinical settings.
Theory-practice gap (2 items)	There is a gap between what is taught and what is practiced in clinical settings & there is a mismatch between educators' and hospital staff expectations from nursing students during their clinicals.
Mentorship & preceptorship issues (3 items)	There is a lack of preceptors and mentors in clinical settings, the clinical mentors and preceptors are not qualified to facilitate students, & the experienced nurses in the clinical settings are not supportive of nursing students.
Non-supportive hospital management (2 items)	The hospital management of clinical settings is not supportive of student learning & the nursing management are not supportive of students' involvement in nursing care.
Theme IV: classroom environmental challenges (5 items)	
Deficient physical resources (3 items)	There is a lack of physical space, the classrooms are crowded, & there is a lack of multimedia recourses.
Underdeveloped clinical skills labs (2 items)	There is a lack of specialized simulation labs & there is a shortage of mannequins in clinical skills labs.
Theme V: student-related challenges (11 items)	
Student motivation & self-directed learning (4 items)	Students' lack of personal motivation effect their learning, students bunk (skip) classes on regular basis, students do not pre-read the teaching materials, & students do not engage in self-directed learning.
Student learning & nursing image (2 Items)	Students experience inferiority complex because of the poor image of nursing & Students take nursing courses for granted
Student-gender-cultural constraints (2 items)	There is a difference in the learning needs of male and female nursing students & educators face difficulty in teaching students of opposite gender due to cultural factors.
Students' diverse academic backgrounds (2 items)	The different academic backgrounds of students effect their learning & Students lack conceptual understanding of the pre-requisite courses
Lack of extra-curricular activities (1 item)	The management do not arrange extracurricular activities for students.
Theme VI: ministerial challenges (8 items)	
Underdeveloped & inconsistent curriculum (3 items)	The nursing curriculum is inadequate to meet the international nursing standards, the nursing curriculum is not consistent across different institutions, & there is no uniformity in the implementation of nursing curriculum across institutions.
Lack of support and opportunities from regulatory bodies (2 items)	The nursing regulatory bodies provide limited support to educational institutions & there is a lack of opportunities for educators' professional development.
Lack of public respect (1 item)	The public inadequately respect and value the nurses and nursing students.
Shortage of nurse educators (1 item)	There is a shortage of nurse educators to meet the number of nursing students.
Inter-institutional collaboration (1 item)	There is a lack of collaboration among different nursing institutions.
Theme VII: educational research challenges (3 items)	
Limited access to educational and research resources (2 items)	The educators and students have no access to new books & there is no access to scholarly journals.
Lack of educational research (1 item)	There is limited nursing educational research to guide educational practices

role of regulatory bodies:

"The greatest challenge is underdeveloped and incomplete curriculum from the education commission. There have been ongoing changes in the curriculum and educational institutions do not have similar curricula, especially for Post RN nursing programs".

6.7. Educational research challenges

Educators described a lack of educational research to guide practices, lack of funds, and support from institutions, and other related organizations for conducting research, lack of access to scholarly journals, and professional development recourses for educators, and students. For example, one of the educators talked about the lack of funds and support:

"There is no availability of funds for research and institutions do not encourage it".

7. Phase II: development of the questionnaire and pilot testing

Based on the above generated themes, a questionnaire entailing six domains and 58 items was developed (Table 2). Initially 63 items were developed, which were reduced to 58 after content validity testing as these were capturing similar challenges and were deemed redundant. The content validity was calculated using the methods outlined in Polit and Beck (2006). All of the educators on expert panel considered the questionnaire valid to determine educators' challenges by assigning the relevance percentage of 66.6% (4 educators) or 100% (1 educator). The item content validity score ranged from 0 to 1, with 0 being not

relevant at all and 1 highly relevant. The selected items had an I-CVI of 0.3–1, the items with score less than 0.3 were excluded. The Scale-CVI was 1, demonstrating excellent content validity (Polit and Beck, 2006). The linguist and the lay person also find the questionnaire easy to understand. We also assessed the instrument's readability scores using Microsoft Word 2015 built-in readability test and attained a Flesch Reading Ease of 30.9 and a Flesch-Kincaid Reading grade level of 11.4, which are appropriate for participants with college level education (DuBay, 2004). The internal consistency of the questionnaire was calculated using Cronbach's alpha, yielding an alpha of 0.90, indicating excellent value (Polit and Yang, 2016). Due to the exploratory nature and a limited number of nurse educators in Pakistan, we did not perform large scale psychometric testing. The final survey included a response set on a five point Likert Scale (1 = To no extent, 2 = To a little extent, 3 = To some extent, 4 = To a moderate extent, 5 = To a great extent).

8. Phase III: quantitative survey

The survey identified the most common challenges to be ministerial (μ = 3.78, σ = 1.11), educational research (μ = 3.65, σ = 1.18), and clinical teaching (μ = 3.58, σ = 1.18). Among the ministerial challenges the commonly reported challenges were: a lack of opportunities for educators' professional development (μ = 3.87, σ = 1.12) and a lack of respect and value from public for the nurses and nursing students (μ = 3.85, σ = 1.03). Among educational research challenges limited nursing educational research to guide educational practices (μ = 3.71, σ = 1.11) and no access to scholarly journals (μ = 3.69, σ = 1.33) were common. Among clinical teaching related challenges, a lack of preceptors and mentors in clinical settings (μ = 3.79, σ = 1.20) and a mismatch between educators' and hospital staff expectations from nursing students during their clinicals (μ = 3.79, σ = 1.17) were commonly reported (Table 3).

9. Mixed methods findings

Data integration resulted in primarily six confirmed and one expanded finding (Table 4). The confirmed findings included educators' workload and time constraints; student-educator ratio; undeveloped curriculum; inadequate clinical recourses, teaching learning settings and skills/ simulation lab; inadequate professional development opportunities for educators; lack of autonomous decision making; lack of educational, management, and research support from the regulatory bodies; and lack of educational research. The expanded finding included the lack of respect and public image of nursing which influences students' learning in two ways: a) students experience inferiority complex and lose their interest in nursing courses and b) they take nursing courses for granted right from the beginning of their education. This expanded finding also resulted in lack of educational research and funds because the hospitals, most of educational institutions, and regulatory bodies do not expect nurses to conduct research.

Several discordant findings were also identified such as, culture does not prevent educators from teaching students of the opposite gender, educators do not lack personal motivation to teach students, educators finding it challenging to teach subjects related to human sexuality, and lack of physical space and multimedia. However, the confirmed and expanded findings outweigh these discordant findings.

10. Discussion

The study revealed that nurse educators experience a wide array of challenges which prevent them from effectively teaching nursing students in classroom and clinical settings. The core finding is that ministerial, clinical teaching, and educational research related challenges leave educators wondering how to effectively prepare students for clinical practice, while dealing with the tensions within their own

institutions. The lack of support from educational, clinical, and government institutions and inadequate professional development and research opportunities further complicates the situation. This finding is consistent with the previous studies (Eta et al., 2011; Jamshidi, 2012), which also reported a lack of professional development opportunities and clinical teaching related challenges, and inadequate teaching and learning facilities in clinical and educational settings. Educators are expected to prepare competent students for practice, but in the absence of resources and opportunities it seems difficult to foster student learning. Perhaps, the learning of nurse educators is compromised and they would need to upgrade their own knowledge on a continuous basis. Educators who desire to upgrade their educational practices and improve the teaching learning environments through research, limited funds and access to scholarly journals.

Some educators who desire to upgrade the standards of nursing education are constrained by the inadequate student-educator ratio in clinical and classroom settings and lack of autonomy to change teaching and learning pedagogies in their institutions. In fact they are required to follow the authoritarian management who merely forces them to accomplish the task, but provides no upgraded and revised curriculum, access to international scholarly resources, and funds to conduct educational research. Ndawo (2015) also reported similar findings such as inadequate student educator ratio and lack of research opportunities. Therefore, there is need that policies should be developed to help educators conduct clinical and educational research which can help them enhance their own teaching and student learning.

The educators identified the dearth of clinical settings for students' clinical placements, inadequacy of clinical learning environments, and lack of qualified mentors and preceptors to help students during their clinical. This results in further increasing the workload of nurse educators who are then required to supervise a large number of students. Such challenging situations can harm their emotional health leading to stress, burnout and feelings of dissatisfaction for their own performance. Complementing this situation, is the poor nursing image and lack of respect for nurses and nursing students. Perhaps, educators are also required to help students recognize the value of their profession and increase their morale. Given these factors, future research should explore the stress and burnout of nursing educators. Although studies have focused on determining stress of nurses and students, limited attention has been given to educators' stress and burnout. Consistent with Råholm et al. (2016), theory practice gap and mismatch of practitioners' and educators' expectations was noted in this study. This indicates that over the years and across countries, theory practice gap has remained consistent. However, the strategies to manage and bridge this gap are few and far between. Since the gap is mainly attributed to the tensions between academic and practice settings, more continued and collaborative efforts are required to address this gap.

Given the identified challenges, a need exists to develop policies to provide necessary resources and facilities to the educators. Further research may focus on developing and evaluating collaborative policies to help manage these challenges. One of the ways could be increasing collaborations with some established institutions within the country and seeking help from international institutions for the professional development of educators. Collaboration at the national level may help identify qualified preceptors and may promote educational research, thereby improving the quality of nursing education. The educators also identified a lack of collaboration among the nursing institutions. The regulatory bodies need to play an essential role to tackle these challenges and take a step forward to work for the development of nursing as a discipline. If such measures are not taken, the image of nursing would decline further, leading to more challenges for educators and students.
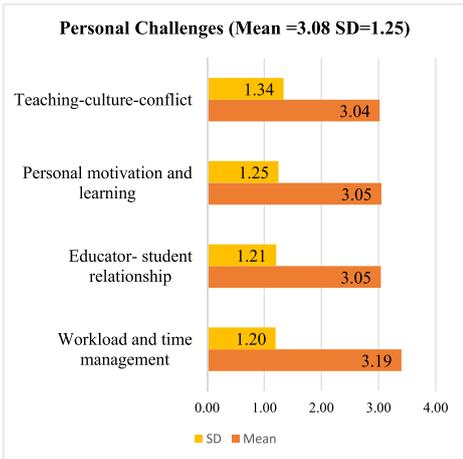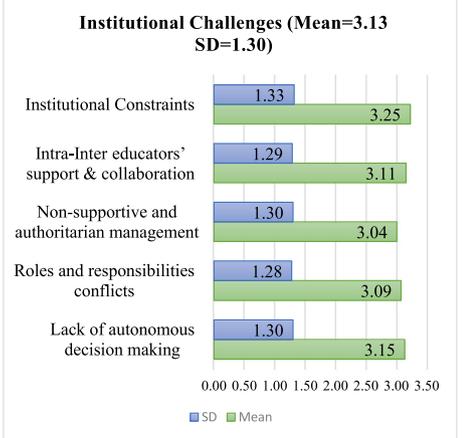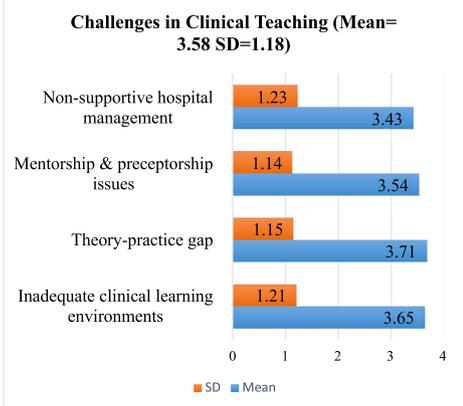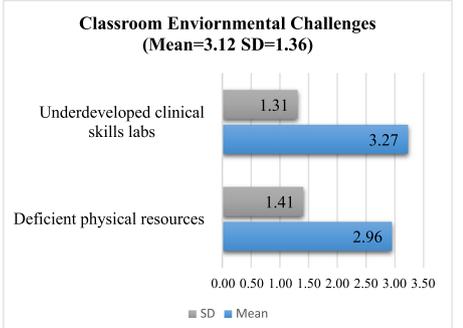
10.1. Limitations

The developed questionnaire was not scrutinized to robust

Table 3

Results of quantitative phase III.

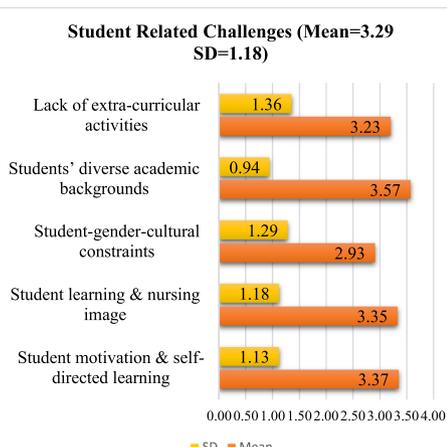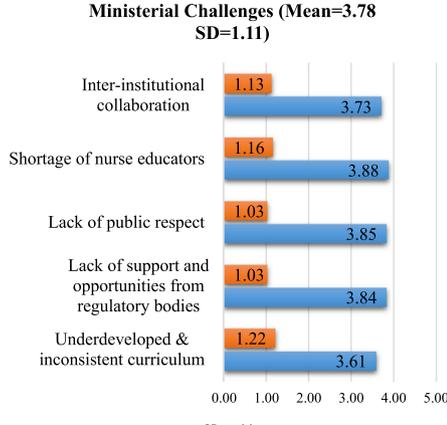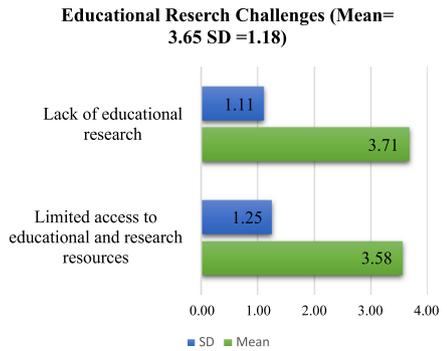| Items	Mean	Median	SD
Personal challenges			
The educator does not have enough time to discuss students' issues	2.94	3.00	1.11
The educator is overburdened with workload	3.54	4.00	1.19
The educator finds it difficult to grade group assignments	2.95	3.00	1.21
The overfriendliness of educator with students prevents effective teaching	3.05	3.00	1.21
The educator lacks personal motivation to effectively teach students	2.79	3.00	1.34
Nurse educators do not engage in their own continuous professional development and education	3.27	3.00	1.19
The educator faces cultural challenges while teaching content and skills related to human sexuality	3.04	3.00	1.34
Educators are required to perform clerical tasks	3.33	3.50	1.31
Institutional challenges			
The educator has no authority to change institutional teaching and learning practices	3.15	3.00	1.27
The roles and responsibilities of educator are poorly defined	3.00	3.00	1.32
There is a difference between an educator's personal teaching philosophy and the expectations of the management	3.13	3.00	1.26
Educators are required to teach subject matter that does not match their personal interest	3.20	3.00	1.31
The educator lacks independent decision making about student teaching	3.04	3.00	1.29
The management is not supportive of implementation of new pedagogies	3.04	3.00	1.30
The management is not supportive of nursing educational research	2.88	3.00	1.36
The management is authoritarian	3.21	3.00	1.25
There is a lack of collaboration between educators in the institution	3.13	3.00	1.27
Experienced educators do not support novice educators	3.10	3.00	1.32
The student to educator ratio is too great	3.43	4.00	1.36
The educator has no role in making policies for nursing education	3.26	3.00	1.35
The institution does not upgrade the nursing curriculum on a regular basis	3.38	3.50	1.40
The institution provides no guidance on students' assessment and evaluation	2.96	3.00	1.25
Challenges in clinical teaching			
There is a shortage of clinical teaching settings	3.68	4.00	1.29
There is a shortage of equipment in clinical settings	3.62	4.00	1.14
There is a gap between what is taught and what is practiced in clinical settings	3.63	4.00	1.13
The hospital management of clinical settings is not supportive of student learning	3.64	4.00	1.27
There is a lack of preceptors and mentors in clinical settings	3.79	4.00	1.20
The clinical mentors and preceptors are not qualified to facilitate students	3.30	3.00	1.15
There is a mismatch between educators' and hospital staff expectations from nursing students during their clinicals	3.79	4.00	1.17
The experienced nurses in the clinical settings are not supportive of nursing students	3.54	4.00	1.07
The nursing management are not supportive of students' involvement in nursing care	3.22	3.00	1.15
Classroom environmental challenges			
There is a lack of physical space	3.06	3.00	1.32
The classrooms are crowded	3.05	3.00	1.51
There is a lack of multimedia recourses	2.78	2.00	1.41
There is a lack of specialized simulation labs	3.26	3.00	1.39
There is a shortage of mannequins in clinical skills labs	3.27	3.00	1.23
Student-related challenges			
Students lack personal motivation effect their learning	3.51	4.00	1.00
Students bunk (skip) classes on regular basis	2.76	3.00	1.33
The different academic backgrounds of students effect their learning	3.68	4.00	0.89
Students lack conceptual understanding of the pre-requisite courses	3.47	3.00	1.00
Students do not pre-read the teaching materials	3.73	4.00	1.11
Students experience inferiority complex because of the poor image of nursing	3.63	4.00	1.18
Students do not engage in self-directed learning	3.48	4.00	1.07
The management do not arrange extracurricular activities for students	3.23	3.00	1.36
There is a difference in the learning needs of male and female nursing students	3.04	3.00	1.28
Educators face difficulty in teaching students of opposite gender due to cultural factors	2.83	3.00	1.30
Students take nursing courses for granted	3.07	3.00	1.19
Ministerial challenges			
There is a shortage of nurse educators to meet the number of nursing students	3.88	4.00	1.15
The nursing regulatory bodies provide limited support to educational institutions	3.82	4.00	1.07
The nursing curriculum is inadequate to meet the international nursing standards	3.60	4.00	1.15
The nursing curriculum is not consistent across different institutions	3.54	4.00	1.24
There is a lack of collaboration among different nursing institutions	3.73	4.00	1.13
There is no uniformity in the implementation of nursing curriculum across institutions	3.70	4.00	1.26
There is a lack of opportunities for educators' professional development	3.87	4.00	1.12
The public inadequately respect and value the nurses and nursing students	3.85	4.00	1.03
Educational research challenges			
There is limited nursing educational research to guide educational practices	3.71	4.00	1.11
The educators and students have no access to new books	3.47	4.00	1.17
There is no access to scholarly journals	3.69	4.00	1.33

Likert Scale: 1 = To no extent, 2 = To a little extent, 3 = To some extent, 4 = To a moderate extent, 5 = To a great extent.

Table 4
Joint display of phase I & phase III results.

Qualitative themes & categories and quantitative data	Qualitative quotes	Mixed methods inferences
Personal Challenges (Mean =3.08 SD=1.25) Teaching-culture-conflict — SD 1.34, Mean 3.04 Personal motivation and learning — SD 1.25, Mean 3.05 Educator- student relationship — SD 1.21, Mean 3.05 Workload and time management — SD 1.20, Mean 3.19	One of the educators talked about time constraint and workload. "Time management is a challenge. If there is unequal distribution of credit hours and one educator is overburdened, then the delivery of teaching content would be difficult. If I would be required to deliver 5 to 6 lecturers a day either in a classroom or clinical settings, it would be really difficult for me."	**Confirmed** Workload and time management were the most reported personal challenges. Educators indicated that they are overburdened because of a large number of students, unequal distribution of teaching and clinical hours, and assignment of the duties which are not included in the job description. Some educators indicated that they are required to deliver 5–6 lectures a day and additionally they often perform clerical tasks.
Institutional Challenges (Mean=3.13 SD=1.30) Institutional Constraints — SD 1.33, Mean 3.25 Intra-Inter educators' support & collaboration — SD 1.29, Mean 3.11 Non-supportive and authoritarian management — SD 1.30, Mean 3.04 Roles and responsibilities conflicts — SD 1.28, Mean 3.09 Lack of autonomous decision making — SD 1.30, Mean 3.15	An educator discussed about lack of autonomous decision making. "Nurse educators' are not given autonomous decision making to develop teaching and learning strategies for their students. Educators are the best people who understand their students, hence it is important that they should be allowed to develop their own strategies and pedagogies to effectively teach students".	**Confirmed** Educators indicated that institutional level constraints such as educator-student ratio, lack of upgraded nursing curriculum, and lack of institutional guidance about student assessment prevents them from effective teaching. Complementing these changes, are the lack of autonomous decision making regarding teaching learning pedagogies, curricula, and course evaluations. It was indicated that the minimum required student-educator ratio is 25:1 in the classrooms, but usually they teach 60–70 students. The ratio is also inadequate in the clinical settings.
Challenges in Clinical Teaching (Mean= 3.58 SD=1.18) Non-supportive hospital management — SD 1.23, Mean 3.43 Mentorship & preceptorship issues — SD 1.14, Mean 3.54 Theory-practice gap — SD 1.15, Mean 3.71 Inadequate clinical learning environments — SD 1.21, Mean 3.65	An educator talked about the lack of teaching institutions for clinical placement of students. "From clinical teaching point of view, students who are studying in colleges which have affiliated teaching hospitals, it is easier to practice their skills. But those who are studying in colleges without teaching hospitals, have to negotiate with private hospitals for their clinical practice. Most of these hospitals do not have adequate clinical resources".	**Confirmed** Educators indicated the lack of teaching hospitals and settings for the clinical placement of students. The available settings are not equipped with adequate resources and there is also an extreme shortage of clinical preceptors and mentors. The concern was raised that the practicing nurses usually have diploma level education and they cannot teach students who are enrolled in a bachelors program. Such incongruities lead to difference in expectations of educators and hospital nurses from students, thereby negatively influencing students' clinical learning.
Classroom Enviornmental Challenges (Mean=3.12 SD=1.36) Underdeveloped clinical skills labs — SD 1.31, Mean 3.27 Deficient physical resources — SD 1.41, Mean 2.96	Another educator described the lack of resources. "There is a huge difference in nurses in Europe and Pakistan. We do not have adequate resources and facilities in nursing college. Even if you provide adequate resources in college and prepare them well for skills, once they enter the hospital, they can't perform those skills, which damages their nursing expertise".	**Confirmed** Educators raised the concerns there is also a lack of resources in classrooms settings and clinical skills labs. There are no simulation labs and some of the available mannequins are either broken or cannot be used for most of the nursing skills. The students cannot practice these skills in classrooms and then upon entering the clinical settings they are not allowed to practice their skills.

Table 4 (*continued*)

Qualitative themes & categories and quantitative data	Qualitative quotes	Mixed methods inferences
Student Related Challenges (Mean=3.29 SD=1.18) Lack of extra-curricular activities — SD 1.36, Mean 3.23 Students' diverse academic backgrounds — SD 0.94, Mean 3.57 Student-gender-cultural constraints — SD 1.29, Mean 2.93 Student learning & nursing image — SD 1.18, Mean 3.35 Student motivation & self-directed learning — SD 1.13, Mean 3.37	Another educator talked about students' lack of conceptual and theoretical knowledge. "One of the major challenges is the education levels of students who enroll in nursing programs. Mostly students who enter nursing lack conceptual and theoretical understanding of the concepts taught during their FSC (First year of college). Therefore, it is challenging to teach them the in-depth concepts of nursing practices and biological sciences. During their FSC they only rote memorize the definitions of different medical terminologies and pay less attention to the conceptual concepts".	**Expanded** Educators indicated that among student related challenges, the lack of knowledge about pre-requisites subjects such as biology, chemistry; diverse academic backgrounds influence student learning. Interestingly, one of the finding in this domain was expanded. During qualitative interviews, two educators indicated that poor nursing image result in inferiority complex of students and thus students take nursing courses for granted. Most of the students join nursing when they fail to enter the medical school. Given this and the value given to the field of medicine, leave students uninterested in the coursework and they merely study nursing to get a job.
Ministerial Challenges (Mean=3.78 SD=1.11) Inter-institutional collaboration — SD 1.13, Mean 3.73 Shortage of nurse educators — SD 1.16, Mean 3.88 Lack of public respect — SD 1.03, Mean 3.85 Lack of support and opportunities from regulatory bodies — SD 1.03, Mean 3.84 Underdeveloped & inconsistent curriculum — SD 1.22, Mean 3.61	An educator talked about the underdeveloped curricula "There are also continuous changes in the admission criteria for nursing schools which is another challenge. Changes includes, removal of art-based subjects, inclusion of biological sciences, and changing the regular nursing program to fast track and so forth. These irregular changes negatively influence students' performance, faculty teaching and educational institutions"	**Confirmed** Ministerial challenges were the mostly commonly reported during the interviews as well as the survey. Educators indicated a lack of public respect and value to nurses and nursing students, which also relates to the poor nursing image and inferiority complex in nursing students. It was indicated that the regulatory bodies provide no professional development, research, and educational opportunities to nurses. The shortage of qualified nurse educators is alarming, also indicated from the demographic findings that there were only 33 masters prepared educators at these institutions. The educators indicated that nursing institutions do not collaborate with one another to improve teaching environments.
Educational Reserch Challenges (Mean= 3.65 SD =1.18) Lack of educational research — SD 1.11, Mean 3.71 Limited access to educational and research resources — SD 1.25, Mean 3.58	An educator indicated the lack of support for research from hospitals and management. "The challenge is that the hospital and institutional authorities are unable to understand nursing research. They are hesitant to collaborate with students and educators. Even nurses in hospital are not cooperative in conducting research with students or for students. The image of nursing plays the biggest challenge in nursing research. The image of nursing is very poor in Pakistan. There is no respect for nurses in our country. If a nurse engages in research, people especially management looked down upon nurses because they don't expect nurses to do research".	**Confirmed** Educators indicated that lack of educational research can be attributed to lack of support from regulatory bodies, lack of funds, lack of access to international journals, and public and hospital management notion that research is not the task of nurses. The job of nurses is merely following doctors' orders and caring for the patients.

psychometric testing because of the lack of study population. Given there are no instruments to determine nurse educators' challenges, this questionnaire can be adapted and further tested in other settings. The use of purposive sample and open invitation to educators could have resulted in self-selection bias. Despite targeting five major cities, the survey sample was small and may limit statistical generalization. However, analytical and theoretical generalizations are plausible, and the findings are useful for global community. Further comparative studies could help explore the differences in educators' challenges in different parts of the world. The educators did not adequately describe the educational research challenges as indicative by only three items in the developed questionnaire. Therefore, future research is needed to explore research related challenges.

11. Conclusion

Nurse educators' issues and challenges in the nursing education environments are persistent and require support from regulatory bodies and educational authorities in Pakistan. However, the remedies to tackle these challenges seem to be limited. There is a greater need to develop reforms and policies to improve teaching and learning conditions for nurse educators, provide them with the opportunities to enhance their own learning, and opportunities to collaborate with other educators so that they are better able to prepare competent nurses. The challenge to develop effective and productive clinical and educational learning environments is persistent in global nursing. Understanding educators' challenges and striving to improve the teaching and learning

facilities could help improve the clinical and educational learning environments.

Author contributions

Conceived the idea **AY** & **SPR**.
Study Design **AY**, **SPR**, & **FHK**.
Data Collection SBA, HZ, SS, JSA, IUK, & SI.
Revisions of data collection tool **SBA**, **HZ**, & **SS**.
Data Analysis **AY**, **SPR**, & **SI**.
Manuscript writing **AY**, **SPR**, & **JSA**.
Manuscript revisions SBA, HZ, IUK, SS, JSA, & SI.
Manuscript revisions for intellectual content **AY**, **SPR**, & **FHK**.

Declaration of Competing Interest

None declared.

References

Awalkhan, A., Ghani, N., 2018. Nursing education in Pakistan, trends and challenges of future. Higher Education Research 3 (1), 6–8.

Braun, V., Clarke, V., 2006. Using thematic analysis in psychology. Qual. Res. Psychol. 3 (2), 77–101.

Creswell, J.W., Plano-Clark, V.L., 2018. Designing and Conducting Mixed Methods Research. 3rd ed. Sage, Los Angeles, CA.

Doane, G.H., Varcoe, C. 2015. How to nurse: Relational inquiry with individuals and families in changing health and health care contexts. Lippincott, Philadelphia, PA.

DuBay, W.H., 2004. The principles of readability. *Online Submission*. Available at 1–73. https://eric.ed.gov/?id=ED490073 (accessed 16 December 2018).

Eta, V.E., Atanga, M.B., Atashili, J., D'Cruz, G., 2011. Nurses and challenges faced as clinical educators: a survey of a group of nurses in Cameroon. Pan African Medical Journal 8 (1), 28. https://doi.org/10.11604/pamj.2011.8.28.467.

Fetters, M.D., Curry, L.A., Creswell, J.W., 2013. Achieving integration in mixed methods designs—principles and practices. Health Serv. Res. 48 (6pt2), 2134–2156.

Grove, S.K., Burns, N., Gray, J., 2017. The Practice of Nursing Research: Appraisal, Synthesis, and Generation of Evidence, 8th ed. Elsevier, St. Louis, MO.

Huda, S.U., Alisbinati, A.S.A., 2015. Nursing Education in Pakistan: challenges and trends in degree program. Int. J. Nurs. Educ. 7 (4), 59–62. https://doi.org/10.5958/0974-9357.2015.00194.4.

Jamshidi, L., 2012. The challenges of clinical teaching in nursing skills and lifelong learning from the standpoint of nursing students and educators. Procedia Soc. Behav. Sci. 46, 3335–3338. https://doi.org/10.1016/j.sbspro.2012.06.062.

Johnson, R.B., Onwuegbuzie, A.J., Turner, L.A., 2007. Toward a definition of mixed methods research. J. Mixed Methods Res. 1 (2), 112–133.

Johnson, R.B., de Waal, C., Stefurak, T., Hildebrand, D.L., 2017. Understanding the philosophical positions of classical and neopragmatists for mixed methods research. KZfSS Kölner Zeitschrift für Soziologie und Sozialpsychologie 69 (2), 63–86.

Meghani, S.R., Sajwani, S., 2013. Nursing: A profession in need in Pakistan. I-Manager's J. Nurs. 3 (3), 1 vailable at: http://imanagernursingjournal.blogspot.ca/2014/04/nursing-profession-in-need-in-pakistan.html.

McAllister, M.M., 2011. Challenges facing nursing education in Australia: two solutions. Journal of Nursing Education and Practice 2 (1), 20. https://doi.org/10.5430/jnep.v2n1p20.

Ndawo, M.G., 2015. Challenges experienced by nurse educators on the delivery of content laden curriculum at a nursing college in Gauteng. Journal of Nursing Education and Practice 5 (11), 103–112. https://doi.org/10.5430/jnep.v5n11p103.

Pakistan Nursing Council, 2018. Revised list of PNC recognized institutions for diploma program, degree program and post basic diploma program. Available at. http://www.pnc.org.pk/PNC_Recognized_Institutes.html (accessed 15 December 2018).

Polit, D.F., Beck, C.T., 2006. The content validity index: are you sure you know what's being reported? Critique and recommendations. Research in Nursing & Health 29 (5), 489–497.

Polit, D.F., Yang, F., 2016. Measurement and the Measurement of Change: A Primer for the Health Professions. Wolters Kluwer, Philadelphia, PA.

Råholm, M.B., Löfmark, A., Henriksen, J., Slettebø, Å., 2016. Nurse education—role complexity and challenges. International Journal for Human Caring 20 (2), 76–82.

Stanley, M.J., Dougherty, J.P., 2010. A paradigm shift in nurse in nursing education: a new model. Nurse Education Perspectives 31, 378–380.

Streiner, D.L., Norman, G.R., Cairney, J., 2015. Health Measurement Scales: A Practical Guide to their Development and Use. Oxford University Press, Oxford, UK.

Victor, G., Ishtiaq, M., Iqbal, N., 2016. Perception of clinical environment among nursing students of a private college of nursing in Pakistan. Medical Channel 22 (2), 33–40.

World Health Organization (WHO) 2016. Nurse educator core competencies. Geneva, Switzerland. Available at: http://www.who.int/hrh/nursing_midwifery/nurse_educator050416.pdf (accessed 12 November 2018).