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RESEARCH ARTICLE

Undergraduate Nursing Student Perspectives About Challenges in Clinical Education in Jordan: A Cross-Sectional Descriptive Study

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Abstract:

Introduction:

Clinical education is an essential element in a baccalaureate nursing program, providing nursing students with the required knowledge, skills, abilities, and attitudes that are required to deliver professional nursing care after graduation.

Objective:

The purpose of this study was to identify the student perceived challenges associated with nursing instruction in the clinical environment.

Methods:

A cross-sectional descriptive design was used to identify the challenges associated with clinical instruction from the nursing students' perspective. Convenience sampling was used to recruit 187 nursing students from three universities in Jordan, including one public and two private.

Results:

The major challenges to clinical education were fear of committing mistakes; lack of facilities for students; lack of knowledge among community and patients about the nursing profession; fear of infection; lack of availability of equipment in the clinical setting; students' lack of preparedness and skills in planning care; and lack of collaboration from clinical staff.

Conclusion:

Identifying the challenges is necessary to formulate strategies to address them, to improve curriculum designed and clinical education for nursing students accordingly.

Keywords: Barriers, Challenges, Clinical education, Nursing education, Sociodemographic, Content validity index.

1. INTRODUCTION

Clinical instruction is an essential component of nursing education as the key arena in which nursing students transition from theory to practice in order to care for patients. Ideally, students need to demonstrate competency in nursing practice while studying supportive learning environments with shared academic and practice partnerships [1, 2]. However, maintaining effective clinical teaching environments remains a major challenge for academic institutions across the world [3].

Major challenges in clinical teaching, as previously reported in the literature, include the problems encountered by nursing students as they work in the clinical setting [4, 5]. The students report inadequate supervision by clinical staff [2]; unsafe clinical placement [6, 7]; insufficient clinical experiences [7]; competition with other health programs for limited practice settings (Copeland, 2020); scarcities of qualified clinical instructors [2, 8, 9]; and heavy clinical instructor workloads [8 - 10]. In addition, the changing nature of the clinical learning environment can produce other problems for nursing students. As a result, identifying the problems commonly encountered by students in the hospital can lead to solutions that result in better learning experiences

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and increased satisfaction with nursing as a profession [5].

There is a relationship between the conditions of the learning environment and the professional development of students. An optimal clinical learning environment positively impacts student learning, while a poor environment can negatively impact professional progress [11, 12]. The unsuitable clinical environment can create some difficulties for nursing students in their professional learning and development [13]. Not recognizing the challenges students encounter in the clinical environment reduces the effectiveness of the educational experience, limits student growth, and negatively impacts the development of professional skills and clinical competencies [14]. Students experiencing an ineffective clinical learning environment are at increased risk of leaving the nursing profession [15]. However, few international studies have focused on identifying the challenges encountered by nursing students in the clinical learning environment. Identifying these challenges is important to improving the quality of a clinical training program.

In Jordan, few studies have explored the general effectiveness of nursing education. In 2012, for example, a qualitative study that explored the experiences of nursing students in their clinical training found a supportive clinical environment, motivation and goal-directed practice, and it further highlighted that the instructor and staff nurse role models were important factors of effective learning. Also, incongruences between the expectations of students, preceptors, instructors, and nursing staff; and the differences between their realities and expectations were identified as central clinical practice challenges [12]. The purpose of this study was to identify the nursing students' perspectives about the challenges they encounter in the clinical learning environment

2. MATERIALS AND METHODS

2.1. Study Design

This study was a cross-sectional descriptive design.

2.2. Setting and Participants

Convenience sampling was used to recruit nursing students who completed the first year of nursing education from three universities in Amman, Jordan, including one public and two private universities. conducted Power analysis was using online G*power sample size to determine the target sample for the study to achieve statistical significance. 187 participants were included in the study (power of .95, type 1 error of 0.01, and a medium effect size of 0.3).

2.3. Data Collection

2.3.1. Instrument

A two-part questionnaire was designed by the researchers for this study. Part one included sociodemographic items (*i.e.* participant age, gender, education, and experience). Part two included items to measure challenges encountered by students in clinical nursing education. The item responses were measured with a 5-point Likert scale [1 - 5] to identify the level

of agreement of participants with each item.

In the first step, item generation, domain determination, and instrument assembly were carried out based on an extensive literature review [2, 3, 9]. In the second step, instrument face validity and Content Validity Index (CVI) were determined by considering the recommendations from an expert panel. The expert panel included two professors specialized in adult health nursing, three professors specialized in clinical practice, and two specialized academics and teaching professors. The experts evaluated each item for relevance and clarity.

The content validity index was calculated for each item by dividing the number of experts who had a rating of either *strongly agree* or *agree* by the total number of raters. Second, the scale CVI was calculated by averaging all item CVIs. Item Content Validity Index (I-CVI) should be 1.00 with 3 to 5 experts, and a minimum of 0.78 for 6 to 10 experts. Moreover, the Scale Content Validity Index (SCVI) should be 0.90 or higher [16]. Based on expert panel recommendations, items 8 and 9 were removed from the original instrument (22 items) because of the low CVI. When these items were removed, the SCVI increased from 0.85 to 0.95, as presented in Table **1**.

2.3.2. Procedures

The principal investigator met with some research assistants to discuss the purpose of the study and the data collection process. Then, the research assistants explained the purpose of the study to the participants before asking them to sign an informed consent form if they agreed to participate. Once the informed consent was taken, the research assistant then asked the participants to complete the questionnaire.

2.4. Ethical Considerations

The study was approved by the Institutional Review Board (IRB) at Applied Science Private University, IRB# 023. The study was anonymous and did not require identifiers from the participants. Data were encoded and entered into a password-protected computer, accessed only by the PI and co-investigators. Hard copies of the questionnaires were stored in a locked cabinet in the PI office for three years. Only aggregate data were used for publication purposes.

2.5. Data Analysis

The date were entered into an Excel spreadsheet to be reviewed. Missing data were addressed and replaced by the mean descriptive statistics and used to describe the basic features of the data in this study. SPSS version 22 was then used to analyze the data. Central tendency measures as response means for each instrument item were used to identify the challenges encountered by students during clinical education. During the analysis process, the research team aggregated the participant responses to each item "strongly agree and agree" as an affirmative statement for challenges encountered in the clinical setting. Similarly, the participant responses "strongly disagree and disagree" were aggregated to indicate few to no challenges encountered in the clinical settings.

Table 1. Content validity index and scale content validity index for suggested challenges of clinical education.

S.No	Item	CVI
1	Lack of availability of equipment in the school	0.86
2	Not clear evaluation criteria	1
3	Not involving students in evaluation	0.86
4	nappropriate training environment	0.86
5	Lack of collaboration between academic and clinical settings	1
6	Long travel time for clinical practice opportunities	0.86
7	Lack of facilities for students	0.86
8	Short training time (Removed in the revised instrument)	0.29
9	Course objectives are not clear (Removed in the revised instrument)	0.43
10	Student's duties in the hospital wards are not clear	1
11	Inconsistency between the theoretical and practical training	1
12	Conflict between goals of training and educational expectations of students and staff	0.86
13	Lack of student skill in planning care	0.86
14	Community and patients lack knowledge about the nursing profession	0.86
15	Lack of student support from teachers	0.86
16	Lack of opportunities to update knowledge and skills	0.86
17	Students' lack of preparedness	0.86
18	Clinical instructors not prepared for clinical teaching	0.86
19	Lack of availability of equipment in clinical setting	0.86
20	Fear of committing mistakes	1
21	Lack of safety precautions	1
22	22. Fear of infection	1
	Total – Initial Instrument (All Items)	0.85
	Total – Revised Instrument (Items 8 and 9 Removed)	0.95

The Cronbach´s alpha for the scale was calculated for all items, and it was equal to 0.882; this is considered an acceptable value, indicating reliability [16].

3. RESULTS

A total of 250 questionnaires were distributed to participants, while 187 completed questionnaires were returned (a response rate of 74.8%). Most participants were female (67.4%), with an average age of 21.5 years enrolled in their second (34.2%), third (32.1%) or fourth (33.7%) year of the nursing program. Approximately half the participants attended private universities and most participants were traditional students "non-bridging", without previous clinical experience outside the university. The demographic data are presented in Table **2**.

From the item response analysis, about half the students noted fear of making mistakes; inadequate facilities for students (*i.e.,* lobby, changing room, break room, and conference room); limited community awareness and patient knowledge about the nursing profession; fear of infection; and lack of equipment in the clinical setting as the most common challenges students encountered. The least commonly cited challenges included clinical instructors not being prepared for clinical teaching; not involving students in their evaluation; and lack of student support from teachers. The data are presented in Table **3**.

Table 2. Demographic characteristics of nursing students.

Variable	N (%) or M±SD
Gender Male Female	61 (32.6) 126 (67.4)
Age (Years) 18-25 26-35 35^{+}	21.5±3.5 166 (88.8) 18 (9.6) 3 (1.6)
Educational Year 2 3 4	63 (34.2) 61 (32.1) 63 (33.7)

(Table 4) contd.....

Variable	N (%) or M±SD
University Type	
Private	103 (55.1)
Governmental	84 (44.9)
Background	
Tawjihi	166 (88.8)
Diploma	21 (11.2)
Previous Clinical Experience	
Yes	47 (25.1)
No	140 (74.9)

Table 3. Most and least identified challenges faced by students.

Item #	Challenge	Agree & Strongly Agree %	Disagree & Strongly Disagree %
		Most Challenges	**Least challenges**
1	Lack of availability of supportive resources in the school	28.4	41.8
2	No clear evaluation criteria	13.3	56.7
3	Not involving students in their evaluation	19.7	59.4**
4	Inappropriate training environment	28.4	48.7
5	Lack of collaboration from staff in clinical setting	23	46
6	Long travel time for clinical practice setting	28.9	40.6
7	Lack of facilities for students (*i.e.* lobby, changing room, break room; conference room)	53.5*	27.8
8	Student's duties in the hospital wards are not clear	21.9	48.7
9	Inconsistency between the theoretical and practical training	30.5	44.4
10	Conflict between the goals of training and educational expectations of students, staff	21.9	47.6
11	Lack of strength students in planning care	31	35.3
12	The community and patients lack of knowledge about the nursing profession	53*	26.7
13	Lack of students' support by teachers	20.8	57.8**
14	The lack of opportunities to update knowledge and skills	31.5	36.9
15	Students' lack of preparedness	25.7	36.4
16	The clinical instructors not being prepared for clinical teaching	15.5	62**
17	Lack of availability of equipment in the clinical setting	41.2*	38.5
18	Fear of committing mistakes	55.1*	21.9
19	Lack of safety precautions	23.5	45.5
20	Fear of infection	46*	25.1

4. DISCUSSION

Consistent with our findings, the most important challenges against clinical education as reported in previous studies included inadequate facilities and poor working conditions, lack of access to conference rooms, non-academic hospitals, limited cases for learning experiences on the nursing units, and poor educational planning [17 - 19]. Similar to this study, nursing students in Botswana reported inadequate organizational support, limited resource**s,** and limited equipment (*e.g.* trolleys) as negative factors in the clinical learning environment [20 - 23]. Also, these challenges resulted in delays experienced in clinical procedures, and other missed learning opportunities. The limited personal protective equipment results in a heightened risk for students' exposure to infectious materials, which produces fear and anxiety (Moyimane *et al.*, 2017).

A challenging atmosphere in the clinical environment for nursing students has negative effects on learning opportunities, reduces learning enthusiasm, and diminishes motivation [24]. Planning to change the bad atmosphere of the clinical environment to provide more comprehensive and germane facilities for nursing students during clinical practice can thus be

effective in creating learning opportunities, providing the safe and desired quality of care, and improving multi-disciplines collaboration [24].

Another challenge reported by students in the current study was the lack of community and patients' knowledge about the nursing profession and role. This result is consistent with previous studies which reported the challenge of a lack of recognition and awareness of the role of nurses among patients and society, in addition to the lack of cooperation from patients and neglecting education and nursing interventions [22, 23]. The following challenges were addressed by students as the most important issues they faced in clinical education: fear of committing mistakes, fear of infection, and lack of availability of equipment in the clinical setting.

Students' fear of committing mistakes and fear of infection might be explained by different reasons, such as inadequate

preparation for entering the clinical environment [24], and insufficient practice and lack of skills before entering the clinical environment. Nursing students learn the fundamentals of nursing in classrooms and school laboratories, and dealing with human beings in the inherently stressful context of health provision increases the emotional stress and fear experienced by students, including fear of acquiring infections and committing mistakes [25]. Related to such feelings, a lack of self-confidence has also been reported as a major cause of fear and anxiety in nursing students [26]. A recent study revealed that nursing students' fear may be related to educators' destructive criticism during clinical procedures or observation by service users (patients and their relatives) [27]. Nursing students' stress and fear for meeting the clinical environment objectives affect their health and interrupt their learning processes [28]. Therefore, to improve clinical education, educators should facilitate simulation and provide constructive feedback to the students, after the procedure and in private. Furthermore, it is highly recommended to avoid the presence of patients' relatives while performing clinical procedures, to help students reduce their fear.

Previous studies showed that inappropriate behavior and lack of collaboration from clinical staff cause a negative attitude and discomfort among students [29], including a lack of appropriate communication between students and clinical staff [30]. Clinical staff can help create a supportive learning environment through a proper relationship with nursing students [21].

The least commonly cited challenges were clinical instructors not being prepared for clinical teaching; not involving students in their evaluation; and lack of student support from teachers. This means that the students were satisfied with their clinical instructors' performance, competencies, and support. In addition, the students verified that the instructors participated in their evaluation process and gave them feedback. These results contradict the previous findings [17], which reported minimum concern from instructors to their students' educational needs and evaluation. The findings of the current study related to this area can be justified by many explanations, such as involving students in their evaluation and having competent and well-prepared clinical instructors. These are considered basic requirements in the education process, and core elements of all national and international accreditation standards followed by most nursing faculties in Jordan.

CONCLUSION

Nursing students should be prepared for clinical practice in positive learning environments with sufficient resources to support active learning. Despite the increased focus on creating positive learning environments, nursing students in Jordan continue to report many challenges that negatively impact their clinical practice experiences. The study provides the baseline information necessary to begin developing improvement strategies. In this regard, qualitative research to further understand the lived experience of the students might be useful to develop targeted interventions to enhance the clinical learning environment.

LIMITATION

This study was conducted at three universities located in Amman, the capital city of Jordan, so, assessing students' perspectives about challenges of clinical education in a baccalaureate nursing program from other universities outside Amman will support the generalizability of the findings. Also, there were no validated instruments available, which is considered a major limitation of this study.

ETHICS APPROVAL AND CONSENT TO PARTI-CIPATE

The study was approved by the Institutional Review Board (IRB) at Applied Science Private University, Amman, Jordan, with approval number: IRB# 023.

HUMAN AND ANIMAL RIGHTS

No animals were used in this research. All human research procedures were followed in accordance with the ethical standards of the committee responsible for human experimentation (institutional and national), and with the Helsinki Declaration of 1975, as revised in 2013.

CONSENT FOR PUBLICATION

The study was anonymous and did not require identifiers from the participants. The research assistants explained the purpose of the study to the participants before asking them to sign an informed consent form if they agreed to participate.

AVAILABILITY OF DATA AND MATERIALS

The data that support the findings of this study will be available from the corresponding author, [G.A.-D.], on special request.

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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