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A cross sectional study on the relationship between nursing students' perception of clinical learning environment and the willingness to care for older adult patients

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ABSTRACT

Background: Considering the increasing population of the older adults, caring for them is one of the challenges of health care systems and this requires highly skilled and expert nurses.

Aim: The main objective of this study was to determine the relationship between nursing students' perception of clinical learning environment and their willingness to care for older adult patients in the future.

Method: 334 nursing students participated in this cross-sectional study. The mean score of nursing students' perception of clinical learning environment and willingness in caring for the older adults and their relationship were evaluated by two questionnaires.

Results: Results showed that there is a significant relationship between nursing students' perception of clinical learning environment and their willingness to care for older adult patients ($P < 0.05$). It was found that by age increasing, students' perception of clinical learning environment increases.

Conclusion: Providing an effective educational environment can be useful in increasing students' perception of the learning environment and their attitudes toward care. This will increase students' willingness in caring for the older adult patients in the future.

1. Background

In recent years, with the increasing older adult populations, care of them is one of the challenges of health care systems that needs special attention (Henriquez, Hyndman, & Chachula, 2019). Considering the physiological changes of aging and the increase in chronic and debilitating diseases, older people need more health services than other age groups (Algozo, Peters, Ramjan, & East, 2016). Although some biological theories about aging consider the beginning of the aging process before birth (Snir, Farrell, & Pellegrini, 2019), from a chronological point of view, the beginning of aging is at the age of 65 (Sadana et al., 2019). Many researches and reported statistics also indicate the high speed of the aging process and the increasing number of older adults in the world (Gaikwad & Shinde, 2019). According to global health statistics, the number of older adults will reach 1.2 billion by 2025 and will reach 2 billion by 2050 (Kalache & Sen, 2017). In Iran, the growth rate

of aging increased from 6.6% in 2002 to 10% in 2012 and it is expected to reach 25.1% by 2050 (Abedi, Mostafavidarani, & Riji, 2010).

At least 90% of all older adults have a chronic disease. The age-related physiologic changes and disabilities lead to hospitalization of the older adults and extensive care is required for them (Michel, 2018). Nurses are members of the health team who are responsible for the care of the older adults and elder care is an important part of nursing professional duties (Khoshab, Nouhi, Targari, & Ahmadi, 2018b; Sauer, Alish, Strausbaugh, West, & Quatrara, 2016). This will increase the need for skilled nurses to care for the older adults (Michel, 2018). The positive attitude of nurses towards the care of the elderly patient can have a great impact on their proper and effective functioning (Kagan, 2019). Studies have shown that nurses' attitudes towards older adult care, begin to develop from a student's college time and are affected by factors such as the atmosphere of learning, educational programs and clinical experiences (Teymourlouy, Seyyedini, Fadaye-vatan, & Omrani, 2019).

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Clinical educational environment is defined as a complex network of forces that affect the outcomes of students' clinical learning (Parsell & Bligh, 2001). Learning of the nursing students occurs more often in clinical settings. Several factors like the quality of instructors' education, the quality of monitoring the learners' learning process, available educational facilities, and the environment's mental atmosphere affect student learning (Baraz, Memarian, & Vanaki, 2015). Since nurses' perception from professional nursing would form during the socialization process in nursing colleges and clinical environments, the clinical education environment is not only an appropriate platform for creating learning opportunities but also plays an important role in students' perceptions in various occupational fields and their professional activities (Bisholt, Ohlsson, Engström, Johansson, & Gustafsson, 2014). Researches have shown for having a better educational environment in nursing colleges and addressing the learning outcomes, educational planners must know students' perceptions of the learning environment (Carlson & Idvall, 2015; Lempp & Seale, 2004). According to Lovell (2005), some of the students have negative attitudes toward the older adults, and this is because of their personal beliefs, values, culture, experience or their observations in clinical setting (Lovell, 2005). Many studies around the world have examined students' perceptions of clinical education environment and have assessed its positive impact. On the other hand, the results of some studies indicate that all clinical settings cannot have the same effect on students' education (Carlson & Idvall, 2015; Gould, Dupuis-Blanchard, & MacLennan, 2015).

The religious values of the care for the older adults, as well as the cultural context, are really invaluable in the care for the older adults in Iran. In Iranian culture, the older adults are respected as saints and they believe that caring for them will increase the good and the blessings in life, but the pool of professionals available to care for the growing population of older adults is insufficient in Iran. This is not due to a lack of nursing school or lack of specialized training in older adults care, but it is because of the nurses' unwillingness to work or continue their education in the field of gerontology (Gheidanzadeh, Baghersad, & Abazari, 2017; Purfarzad, Farmahini Farahani, & Ghorbani, 2014). It should be noted that the bachelor's degree in nursing lasts 4 years (8 semesters) in Iran and specialized courses on aging start from the second semester.

Numerous studies have been conducted on the clinical learning environment, but there was no research on the relationship between clinical learning environments and the willingness to care for older adults. Therefore, researchers aimed to explore the relationship between nursing students' perception of clinical learning environment and their willingness to care for the older adult patients in Iran.

2. Method

2.1. Sample and setting

This is a cross-sectional descriptive study in which the mean score of nursing students' perception of clinical learning environment as well as the mean score of students' willingness in caring for the older adults and their relationship were evaluated in nursing schools in southeast of Iran (Including 9 colleges, 412 students).

Bachelor of nursing in Iran is conducted during a period of 4 years over 8 semesters, and students enter the nursing clinical skills course after the first semester. Therefore, inclusion criteria were studying in the 2nd semester or higher and having no prior history of working with older adults professionally or in a family setting. The sample size eventually reached 334 people (81% response rate). The duration of the study was a period of 6 months from September 2018 to February 2019. During this time, different groups of students were studying in semesters 2, 4, 6 and 8.

2.2. Procedure

After obtaining the code of ethics and adhering to ethical

considerations of the participants and the agency's permission, this research was conducted in the wards of all hospitals affiliated to University of Medical Sciences in Kerman and Sistan and Baluchestan (southeast Iran) where the older adult patients were admitted and nursing students were training in those departments. (gastrointestinal, pulmonary, endocrine, orthopedic, emergency, medical surgical and heart wards). All the hospitals were similar in educational quality rating. Questionnaires were distributed by the researchers in these wards and collected anonymously. Students were free to participate in research and filling out the questionnaires had no effect on their course grades.

Data collection was done by using a brief demographic information questionnaire, Clinical Learning Environment and Supervision questionnaire (CLES) and Elderly Care Awareness Questionnaire (ECAQ).

The CLES questionnaire consists of 34 items in 7 dimensions. Educational environment (9 items), which examines learning situations and educational spaces. The managerial style and leadership (4 items), that is about the activities of managers in educational environment. Nursing assumptions in the department (4 items), which is about the beliefs of nurses and the philosophy of nursing and care. Supervisory relationship (8 items), that is about educational supervisors and their interaction. The role of instructor, and his/her ability to integrate theoretical and practical knowledge (3 items), which examines the relationship between instructor and students and his/her ability to teach. Collaboration between instructor and clinical team (3 items). It is about acceptance of the instructor by staff in clinical learning environment. Collaboration between the clinical team, students and instructor (3 items) that deals with the performance of the student and the instructor in the treatment team. The CLES was first designed by Saarikoski in 2008 to examine clinical education environments (Saarikoski, Isoaho, Warne, & Leino-Kilpi, 2008). The overall score ranges from 34 to 170. The higher scores indicate better learning from the clinical learning environment.

Aday and Campbell's ECAQ was designed in 1995 and has been used in many studies (Aday & Campbell, 1995; Eltantawy, 2013). The questionnaire consists of 12 items. Six positive items about why one intends to care for the older adult patients and six negative items about having no tendency to take care of them. The overall score ranges from 12 to 60. The higher scores indicate more willingness to care for the older adult patients. Both of these questionnaires are graded on a 5-point Likert scale from 1 to 5. Translation permission letter was acquired, and the researchers used it after backward and forward translation and ensuring the validity and reliability of the questionnaires. Translation and psychometric activities were done based on scientific principles. To assess the Face Validity of the questionnaires, they were given to 30 members of the target population and their comments were collected as quantitative (calculate the Impact Score) and qualitative. No score was <1.5 in Face Validity in both questionnaires. At the same time, the questionnaires were given to 15 nursing teachers for Content Validity Index (CVI) and Content Validity Ratio (CVR) and their comments on the questionnaire were taken. After measuring the CVI (the minimum score of 0.78 was considered acceptable), CVR (according to Lawshe's table, an acceptable CVR value for 15 specialists was 0.49) and Cronbach's alpha (above 0.87 for both of them), the reliability and validity of the translated questionnaires was found to be acceptable (Lawshe, 1975).

Data analysis was done by SPSS version 19 using descriptive statistics (frequency, percentage, mean, standard deviation) and inferential tests (Pearson correlation coefficient, Spearman, Mann-Whitney, Wilcoxon, Kruskal-Wallis, due to non-normality of data distribution.)

3. Results

The average age of participants was 21.3 ± 2.33 years old (due to the close age range of the studied students, no age division was reported). The 8th semester students made up the smallest group (11.7%), because nursing students in Iran are free to spend their internship periods at university hospitals in the cities where they live. (Table 1).

Table 1
Distribution of the frequency of demographic characteristics.

N (%)	Variable	
85 (25.5)	Male	Sex
249 (74.5)	Female	
24 (7.1)	Married	Marriage Status
310 (92.9)	Single	
111 (33.2)	2	Semester
93 (27.9)	4	
91 (27.2)	6	
39 (11.7)	8	

The results of the study showed that there is a significant relationship between the mean scores of the perception of the clinical learning environment and the willingness for care of the older adult patients ($r = 0.634$, $P = 0.001$). In examining the dimensions of CLES questionnaire, results showed that there is a significant relationship between willingness for care of the older adult patients and dimensions related to educational environment, managerial style and leadership, role of instructor and his/her ability to integrate theoretical and practical knowledge, and collaboration between the clinical team, students and instructor. As the mean score of each of these dimensions increase, the willingness for caring for older adult patients increases too (Table 2). It should be noted that the highest mean score was for the educational environment (28.97 ± 5.76) and the lowest was for the collaboration between the clinical team, students and instructor (9.50 ± 2.38).

Regarding demographic variables, results showed that there was not a significant difference between the mean score of perception from the clinical learning environment (111.4 ± 14.95) and willingness to care for the older adult patients (36.74 ± 7.54) in both male and female students, married and single students and different academic levels (semester). But as the age increases, the students' perception of the clinical learning environment increases significantly too. It should be noted that statistical analysis showed that age had a significant relationship with each of the seven dimensions of the CLES questionnaire ($P < 0.05$), but it did not affect the willingness for the care of the older adult. Results showed that the most perception of the learning environment was observed for the last semester students and the least perception was for the second semester students. Meanwhile, the most willingness was related to the care of the older adult in the second semester and the least willingness was reported in 6th semester (Table 3).

Table 2
The mean and SD of each dimension of clinical learning environment and supervision questionnaire (CLES) and its relationship with the Elderly Care Awareness Questionnaire (ECAQ).

P value	Statistical test	mean \pm SD	Dimensions
0.001	$r = 0.723$	28.97 ± 5.76	Educational environment
0.001	$r = 0.625$	12.21 ± 3.34	The managerial style and leadership
0.121	$r = 0.131$	12.65 ± 2.46	Nursing assumptions in the department
0.072	$r = 0.152$	27.78 ± 5.43	Supervisory relationship
0.021	$r = 0.594$	11.20 ± 3.99	The role of instructor, and his/her ability to integrate theoretical and practical knowledge
0.087	$r = 0.306$	10.52 ± 2.35	Collaboration between instructor and clinical team
0.001	$r = 0.664$	9.50 ± 2.38	Collaboration between the clinical team, students and instructor.
0.001	$r = 0.634$	111.4 ± 14.95	Total mean score

$r =$ Spearman's rank correlation coefficient.

4. Discussion

The nature of the aging process affects the older adult, the family and, consequently, society in the same way. Meanwhile nurses are responsible for a great deal of older adults' care at health centers and nursing homes and the quality of care for the older adult depends heavily on the carers' interest in their work (Beard & Bloom, 2015). However, statistical resources indicate that in Iran, older adults suffer from lack of expert and trained nurses (Purfarzad et al., 2014), which may be due to the inappropriate attitude of nurses towards caring for the older adults and this attitude has a potentially negative impact on the quality of care provided (Beard & Bloom, 2015; Purfarzad et al., 2014).

The willingness for care of the older adult patients is relevant to the perception of the clinical learning environment. Many studies have shown that the greater the willingness of nurses to care for older adult patients, the greater the quality of care provision, and less nursing errors (Bing-Jonsson, Hofoss, Kirkevold, Bjørk, & Foss, 2016). By improving the perception of the clinical learning environment, the students' tendency to take care of the older adults increased overall. This increased perception was in the dimensions of the educational environment, the managerial style and leadership, the role of instructor and his/her ability to integrate theoretical and practical knowledge, and collaboration between the clinical team, students and instructor.

In this study the role of educational environment on increasing the students' perception of clinical learning environment was remarkable, and acquired the highest score among 7 dimensions. The results of Carlson and Idvall's study (2015) showed that the positive atmosphere of the learning environment has a significant effect on creating a deep perception of that profession (Carlson & Idvall, 2015). The study of Darling et al., (2018) also showed that the preparation of an appropriate educational environment has a significant effect on positive attitude and willingness to care for the older adults (Darling, Sendir, Atav, & Buyukyilmaz, 2018). Despite the confirmation of many researches about the impact of a good and positive educational environment on perception of the educational environment (Carlson & Idvall, 2014; Sanatkhani, Molla, & Akbari, 2012), in Bakhshi, Abazari, & Bakhshialiabad (2013) and Pakpour et al.'s studies (2013), students did not affirm their perception of the clinical education environment (Bakhshi, Abazari, & Bakhshialiabad, 2013; Pakpour, Salami, Magsodi, & Dodangeh, 2013). In assessment of these studies, the reason of different perceptions of the educational environment was related to unsuitable educational spaces of various centers, the disparate dispersion of educational facilities and equipment across the country and cultural differences.

Another important factor influencing perception of the learning environment, was management style and leadership of the manager. Khoshab et al. (2018a), Khoshab et al. (2018b) in two separate studies, identified that one of the important barriers in providing appropriate care is the impact of leadership style and collaboration between the clinical team (Khoshab, Nouhi, Tirgari, & Ahmadi, 2018a; Khoshab et al., 2018b). In this study, students also acknowledged that if they had an effective manager, as well as the proper collaboration and interaction between the team, their perception of the clinical environment would improve and this understanding would lead to better quality of care. In many studies, the relationship between the adoption of proper management practices and the removal of barriers to care is proven. This has led to more effective care with fewer mistakes for the older adult patients (Eltaybani, Mohamed, & Abdelwareth, 2019; Khoshab et al., 2018b).

Many studies in Iran and all over the world indicate a gap between theoretical and clinical education. This gap is due to lack of suitable educational environments, lack of coordination between clinical settings and educational institutions, the lack of clarity of the role of nursing instructors, non-specialized curriculum planning, and traditional practice in clinical settings (Kermansaravi, Navidian, & Imani, 2013; Marañón & Pera, 2015). Another important and influential dimension of the clinical learning environment in this study was "The role of

Table 3

Relationship between demographic characteristics and mean score of perception of learning environment and willingness in caring for the elderly patients.

Willingness to care for the elderly patients			Perception of learning environment			Variable	
P value	Statistical test	Mean \pm SD	P value	Statistical test	Mean \pm SD		
0.581	t = -0.551	36.4 \pm 7.26 37.5 \pm 8.15	0.094	t = -1.65	110 \pm 14.3 124.24 \pm 16.2	Male	Sex
0.333	t = -0.968	37.12 \pm 7.8 35.74 \pm 6.82	0.603	t = -0.52	111.18 \pm 15.32 112.13 \pm 14.7	Female Married	Marriage status
0.779	F = 2	37.26 \pm 7.52 36.93 \pm 5.93 36.16 \pm 8.47 37.81 \pm 4.4	0.065	F = 2	108.17 \pm 14.7 108.72 \pm 13.63 114.9 \pm 24.7 116.4 \pm 11.7	Single 2 4 6 8	Semester
0.887	r = 0.012		0.023	r = 0.792		Age	

t = Mann-Whitney u test.

F = Kruskal–Wallis.

r = Spearman's rank correlation coefficient.

instructor, and his/her ability to integrate theoretical and practical knowledge." Although nursing students spend a significant part of their education in clinical settings and hospitals in Iran, this alone does not guarantee the quality of education (Kermansaravi et al., 2013).

Concerning the relationship between demographic characteristics, only students' age was significantly related to their perception of the clinical environment and as their age increased, their perceptions of the clinical environment increased too. This outcome could be due to greater familiarity with clinical settings in internship periods (7th and 8th semesters) as well as increasing student clinical experiences. In this study, the lowest perception of the learning environment was observed in the second semester students and the highest was related to the last semester, but this finding was not consistent with the results of Carlson et al., (2015) who assessed the age, gender, and experience of caregivers to the older adult patients (Carlson & Idvall, 2015). In the study of Seresht et al., (2006) the results also showed that first semester students had a positive attitude, second and third year students had a neutral attitude, and the last term students had a negative attitude toward older adults' care (Seresht, Ziba, Kermani, & Hosseini, 2006). This discrepancy in the results of different studies reveals the important effects of educational environments on students' perception and learning.

It seems growing older and being experienced causes changes in the system of values and beliefs of students. Perhaps increasing age affects the students' perceptions and the kind of perceptions they have about the realities of the clinical environment. It can be related to the different cultural background of the communities.

The results of Steven's study (2011) in Australia showed that with increasing academic experiences, students' willingness to care for the older adult patient has decreased and students have expressed negative clinical experiences as the most important factor in reducing their willingness for care of the older adult patient (Stevens, 2011). In another study, the difficulty of performing care procedures for the older adult was one of the causes of inappropriate attitudes (Rich et al., 2016).

Religious and cultural beliefs in Iran have led to a positive attitude in the care of the older adult and this group of people has always enjoyed a special status (Musavi, Ravanipour, & Jahanpour, 2015). As the results of this study showed, the willingness in caring for the older adult was high in second-semester students (first year) and this amount was reduced in 4th and 6th semester students (second and third year). Another study in Turkey showed that the older students had the worst attitude to care for the older adult patients (Darling et al., 2018). This could be due to an increase in students' perceptions of clinical education environments and their familiarity with the risks and sensitivities of care of the older adult. However, in other studies, these changes were related to ethnicity (Zisberg, Topaz, & Band-Wintershtein, 2015), sex, and nursing income (Ayoğlu, Kulakçı, Ayyıldız, Aslan, & Veren, 2014). In a systematic review study by Abudu et al., (2019), results showed that nursing students do not have enough knowledge about the care of the older adult patients because they don't acquire it from the educational

environment and have no positive attitude toward older adult care. It should be noted that they had inappropriate attitude about care of the older adult and had less tendency to care for the older adult (Abudu-Birresborn, McCleary, Puts, Yakong, & Cranley, 2019).

The benefits and effectiveness of clinical learning environment are influenced by several factors such as interpersonal relationships, attitudes, physical structure of clinical departments, the clarity of job descriptions, and type of management in hospital wards (Gheidanzadeh et al., 2017).

The findings of this study may be attributed to factors such as beliefs, personal experiences, cultural context, environment, and nursing students' perception of the aging process. This difference in the experiences of caring for the older adults can be based on the nature and mode of clinical experience. It can also explain the impact of different clinical conditions on nurses' willingness to care for the older adult patients. It seems that by establishing effective educational environment, more effective care can be provided for the older adult by presenting an appropriate attitude to the nursing students.

5. Conclusions

Considering the increasing demand of the community to provide care for the growing population of the older adults, it seems that nursing education planners need to consider the positive impact of the clinical environment on the student's willingness to care for the older adult patient. As the perception of the clinical environment affects students' eagerness for care of the older adult patients, it is possible to improve the care of the older adults by improving the conditions of the educational environment, especially the clinical practice. In this regard, educational environment, instructor and his/her abilities are key determinants on the perception of the clinical environment. Therefore, appropriate educational programs (culture-based) and effective educational environments can be effective in improving the perception of the clinical environment and increasing the willingness for care of the older adults. In this regard, the fair distribution of educational facilities can greatly contribute to achieving the desired educational goals.

CRedit authorship contribution statement

Mohammad Sistani Allahabadi: Data curation, Supervision, Formal analysis. **Hadi Khoshab:** Conceptualization, Investigation, Project administration, Supervision, Writing – original draft. **Farzad Esfandiary:** Validation, Visualization, Resources. **Rouhollah Zabolli:** Software, Methodology.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence

the work reported in this paper.

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