

## Clinical learning environments (actual and expected): perceptions of Iran University of Medical Sciences nursing students

Shoaleh Bigdeli<sup>1</sup>, Vahid Pakpour<sup>2</sup>, Maryam Aalaa<sup>3</sup>, Robabeh Shekarabi<sup>4</sup>  
Mahnaz Sanjari<sup>5</sup>, Hamid Haghani<sup>6</sup>, Neda Mehrdad<sup>7</sup>

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### Abstract

**Background:** Educational clinical environment has an important role in nursing students' learning. Any difference between actual and expected clinical environment will decrease nursing students' interest in clinical environments and has a negative correlation with their clinical performance.

**Methods:** This descriptive cross-sectional study is an attempt to compare nursing students' perception of the actual and expected status of clinical environments in medical-surgical wards.

Participants of the study were 127 bachelor nursing students of Iran University of Medical Sciences in the internship period. Data gathering instruments were a demographic questionnaire (including sex, age, and grade point average), and the Clinical Learning Environment Inventory (CLEI) originally developed by Professor Chan (2001), in which its modified Farsi version (Actual and Preferred forms) consisting 42 items, 6 scales and 7 items per scale was used. Descriptive and inferential statistics (t-test, paired t-test, ANOVA) were used for data analysis through SPSS version 16.

**Results:** The results indicated that there were significant differences between the preferred and actual form in all six scales. In other word, comparing with the actual form, the mean scores of all items in the preferred form were higher. The maximum mean difference was in innovation and the highest mean difference was in involvement scale.

**Conclusion:** It is concluded that nursing students do not have a positive perception of their actual clinical teaching environment and this perception is significantly different from their perception of their expected environment.

**Keywords:** Clinical learning environment, Nursing education, Nursing student.

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### Introduction

Nursing education is strongly related to theoretical and clinical teaching. In this regard, Nursing students' clinical experiences is an important element of the nursing pro-

fession (1) as well as clinical teaching which is cornerstone of the nursing education. In this learning environment, students learn how to apply nursing knowledge, nursing skills, patient communication and

1. Associate Professor, Center for Educational Research in Medical Sciences (CERMS), Department of Medical Education, Faculty of Medicine, Iran University of Medical Sciences, Tehran, Iran. sbigdeli@alumni.sfu.ca

2. PhD Candidate of nursing, Hematology and oncology Research center, Students Research Committee, Tabriz University of Medical Sciences, Tabriz, Iran. vahidpakpour@gmail.com

3. Endocrinology and Metabolism Research Center, Endocrinology and Metabolism Clinical Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran. maryam\_aalaa@yahoo.com

4. Faculty Member, MSc in Nursing, Center for Nursing Care Research of Iran University of Medical Sciences, Tehran, Iran. Shekarabi-R@yahoo.com

5. Endocrinology and Metabolism Research Center, Endocrinology and Metabolism Clinical Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran. sanjarim@yahoo.com

6. Faculty Member of School of Public Health, Iran University of Medical Sciences, Tehran, Iran. haghani511@yahoo.com

7. (Corresponding author) Associate Professor, PhD in Nursing. Elderly Health Research Center, Endocrinology and Metabolism Population Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran & Endocrinology and Metabolism Research Center, Endocrinology and Metabolism Clinical Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran. nmehrdad@tums.ac.ir

professionalization (2) and prepare themselves for practice in future workplaces.

In this regard, several studies have shown that the learning environment is a significant component with respect to clinical learning and learning outcomes (3). Throughout nursing history, clinical placements play an essential role in the learning process of nursing students (4). Additionally, nursing students may think that clinical environment is the most influential educational component to acquire nursing knowledge and skills (5). The clinical environment consists of inpatient, hospital outpatient and community settings, which has its specific challenges. Pringle and Green believed that nursing clinical experience is a factor that affects nursing student attribution (6). According to Farnia et al (2005), nursing students look for a favorable learning environment and their perception of the clinical learning environment is different from their perception of the actual learning environment (7). Zuzelo (2001) claimed that the most important step to develop continuing nursing education is to study nursing students' perception and to find the impacts of educational program on bachelor degrees (8). In this regard, Pugnair, et al. (2004) also supposed that assessing students' perception and satisfaction of clinical nursing experience would be essential for nursing faculty, because it gives feedback to students, faculty and school and leads to enhanced educational performance (9). To increase the quality of nursing education programs along with evaluating nursing schools, students' comments should be considered important. Nursing students' perceptions about clinical education has been assessed in different countries (10-14), however, Iranian studies in this field are rare (15).

As a part of their clinical education nursing students participate in new clinical environments to gain clinical experience. Learning in these settings depends on encouraging environment based on psychological and pedagogical aspects (16-17). This is achieved by the teacher-student

connection and considerable learning situations that form a pedagogic atmosphere (16).

One of the most important purposes in clinical education is decreasing the gap between the actual and expected clinical environments that leads to an increased clinical learning performance. Therefore, it is of interest to examine how nursing students perceive clinical learning environments that they are assigned to as parts of nursing education. Hence, this study is an attempt to compare Iran University of Medical Sciences (IUMS) medical-surgical nursing students' perceptions of actual and expected clinical environments.

### Methods

In this cross-sectional study, all sophomores, junior and senior nursing bachelor students studying in the first semester of 2009-10 at IUMS were selected. The inclusion criteria were: to be a student and to spend clinical practice in a medical or surgical ward. Freshman Nursing students were excluded due to lack of enough clinical contact at the time of the study to provide adequate feedback on their clinical experiences. In addition, those students who suffered from chronic or disabling diseases and psychosomatic disorders were excluded from the study. Moreover, participants of the study were informed about the purpose of the study. Then, consent form was secured from each of them. Afterwards, the demographic questionnaire and Farsi version of Clinical Learning Environment Inventory (CLEI) were distributed among all participants at the end of their internship period in medical or surgical wards.

### Instruments

Data gathering instruments were a demographic questionnaire (including sex, academic year, and grade point average), and modified Farsi version of CLEI for Iranian context. The original CLEI (actual and expected) was developed by Chan (18-19) as a 42-item instrument, consisting of 6 scales

with 7 items per each scale. Each positive statement is scored on the basis of a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5), and each invalid response scored 3, whilst negative statements were scored in the reverse manner. By assessing the actual and expected situations, and considering students' perceptions of psychosocial characteristics of the clinical learning environment, this inventory assesses students' perceptions of their expected ideal clinical environment.

The CLEI six domains are personalization, student satisfaction, involvement, individualization, task orientation and innovation (18-19). Individualization reflects the extent to which students are encouraged to make decisions and are treated differently according to their ability or interest. Innovation measures the extent to which clinical teacher or clinician plans for interesting productive learning experiences. Involvement assesses the extent to which students participate actively and attentively in hospital activities. Personalization emphasizes on opportunities for each individual student to interact with the clinical teacher. Task Orientation, however, assesses whether the instructions for hospital activities are clear and well organized. Student Satisfaction in actual form was used to assess the students' level of satisfaction due to their clinical placements (10, 13). An Australian study has identified the validity of the CLEI via Cronbach alpha in which coefficients ranged from 0.73 to 0.84 and 0.66–0.80 respectively for the actual and the expected forms (20).

For the purposes of this study, required permission to use the CLEI was obtained from its original developer through consecutive emails. Then, the CLEI was translated into Farsi and its content validity was checked by 8 experts, the results of which were decided upon on the basis of consensus between two final experts as referees. For this modified Farsi version, the Cronbach's alpha coefficient reliability score was 0.76 and 0.80 for actual and expected forms, respectively.

Thereafter, the study was performed according to the approval of the Center for Nursing Care Research (CNCR), and Ethics Committee of School of Nursing and Midwifery of Iran University of Medical Sciences.

Students were informed that their anonymous responses would be used for further development and planning of hospital placements. It was emphasized that the students' participation in the study was entirely voluntary and that they have the right to refuse to participate or withdraw from the study at any time. Students were invited to complete the questionnaires in privacy, implied consent was assumed when students returned the completed questionnaires in the sealed box provided. It was estimated that students spent approximately 20 minutes answering the two questionnaires.

#### *Statistical Methods*

The data were analyzed using descriptive and inferential statistics (t-test, paired t-test, ANOVA) through SPSS version 16. Kolmogorov-Smirnov test was used to check the normality of data.

T-test was used to compare differences of mean scores in actual and preferred clinical learning environments between males and females. ANOVA was used to compare differences of mean scores in actual and preferred clinical learning environments between age, and grade point average. Paired t-test was used to compare differences of mean scores between nursing students actual and preferred clinical learning environments.

#### **Results**

One hundred thirty three questionnaires were distributed among the participants with a response rate of 95% (127). Of all the respondents, 62.2% were female (79), 64.6% sophomore (82), and 41.7% (53) had grade point average of 14-16 (Table 1).

We examined the mean scores and standard deviations of the CLEI scales. In this regard, in the actual form of the instrument, personalization and innovation scored the

Table 1. Demographic Characteristics of Participants

Variable	n(%)
Sex	
Male	48 (37.8)
Female	79 (62.2)
Student years	
2 <sup>nd</sup> year	82 (64.4)
3 <sup>rd</sup> year	45 (35.4)
Grade average	
Below 14	12 (9.4)
14-16	53 (41.7)
Above 16	39 (30.7)

Table 2. The CLEI assessment scores for IUMS nursing students

Scale	Mean (n=127)		SD (N=127)		Mean difference	p<
	Actual	Preferred	Actual	Preferred		
Personalization	23.65	29.64	5.393	2.770	5.99	<0.001
Student Satisfaction	21.38	30.51	6.715	3.542	9.31	<0.001
Involvement	21.28	24.67	3.428	3.050	3.39	<0.001
Task Orientation	23.15	29.41	4.801	2.957	6.26	<0.001
Innovation	17.20	29.65	5.091	4.003	12.45	<0.001
Individualization	20.35	27.83	5.259	6.124	7.48	<0.001

highest ( $23.65 \pm 5.393$ ) and the lowest means ( $17.20 \pm 5.09$ ) (Table 2).

In the expected form of the instrument, student satisfaction scored the highest ( $30.51 \pm 3.542$ ) and involvement the lowest means ( $24.67 \pm 3.050$ ) (Table 2).

Students had different perceptions about actual and expected clinical learning environments assessed by investigating the differences on related scales of the CLEI actual and expected forms. A paired t-test was used to analyze the paired samples ( $n = 127$ ). The results suggested significant differences ( $p < 0.001$ ) between all the paired scales in the actual and expected forms. In this regard, comparing the mean scores of all scales between expected and actual forms indicated that the mean scores of expected forms were higher than the actual one. The highest mean differences belonged to the innovation ( $12.45 \pm 6.781$ ) and the lowest mean difference was in involvement scale ( $3.39 \pm 4.478$ ) (Table 2).

Results of t-test showed that there was no significant difference among students' perception of the actual environment according to their sex ( $p = 0.096$ ), while a significant difference was seen in two scales of satisfaction and task orientation ( $p = 0.002$ ).

One-way ANOVA results showed significant differences between actual and ex-

pected environments, in all scales for all participants according to their year of study (junior and senior) ( $p < 0.001$ ). While, in an expected environment individualization was the only scale that showed significant difference according to the year of this study ( $p < 0.001$ ). Also, it indicated that in the actual environment, there is no significant difference among students' perceptions of all scales according to grade point average, but in an expected environment the involvement scale showed a significant difference according to the grade point average ( $p = 0.006$ ).

## Discussion

According to the results, the mean scores of actual and expected situations of the clinical learning environment in six domains were different. There was a significant difference between actual and expected environments. In other words, students' expectations of clinical environment were not satisfied and comparing to the experienced clinical education environment they preferred an enhanced educational environment. Chan also confirms this finding (20); however, this result is different from Perli & Brugnonli's findings in which all domains had high score in Italy and their actual and expected situations scored the

same (21).

In this study, the highest and lowest mean scores between actual and expected environments belonged to innovation and involvement domains, respectively. The mean score of the other domains such as student satisfaction, and personalization were situated between the extremes. This shows that the deepest gap was between actual and expected environments in “innovation” domain.

In this regard, innovation could be considered as one of the main drivers of quality teaching improvement and can be spurred by a number of factors (22). On the other hand critical thinking in all health care settings is a skill that develops over time and requires the conscious application of this process (23). Thus, it is concluded that combination of these two essential components in teaching and learning environment will increase the effectiveness of regular methods and leads to increased learning. Other studies in Iranian context by Delaram (24), Pardijani (25), and Rahimi and Ahmadi (26), emphasized that innovation has a critical importance in clinical education of nursing students, however lack of innovation and new technologies are the critical difficulties of clinical education in Iran.

“Student satisfaction of clinical education” was the second domain with significant difference between actual and expected environments. This means that it was not considered in clinical education environments. In another Iranian study, Moattari and Ramezani (27) supported this finding and considered student satisfaction as one of the major components of the clinical education atmosphere. Chan has considered student satisfaction as education outcome and has attracted the attention of nursing authorities and policy makers to this issue (20).

The third difference seen between actual and expected environments was in “individualization domain” which showed that nursing instructors has paid less attention to this issue. Pardijani (25) has considered individual differences and qualifications of

students as the main elements of educational quality improvement.

In individualization domain, students’ independence in clinical decision making was taken into account. Lack of attention into individual differences is one of the weaknesses of clinical education environments that is unable to provide the conditions in which students become fully competent to make independent clinical decisions; this is supported by Hadizadeh et al, in another Iranian study (28).

Zeighami indicated that 76% of students’ dissatisfaction were due to inability to make decisions for proper planning of clinical care of patients(29). Delaram mentioned that 57.1% of nursing students were unable to make independent decisions about patients’ care plan (24).

“Task orientation” was the fourth difference between actual and expected environments that is due to ambiguity of students’ tasks in clinical settings. They perceived task orientation as an important factor that influences the outcomes of their clinical placement. The students perceived the opportunities for themselves to be directly involved with hands-on skills often controlled by clinicians and clinical teachers. It is apparent that the participants have enjoyed applying their learned skills into practice in the clinical environment.

Most importantly, the compliment from clients and clinicians for a well done job were both encouraging and rewarding. This supports the findings of Hart and Rotem which suggested that students enjoy being active and having a proper level of autonomy (30).

Task orientation in the CLEI evaluations, for understanding the extent students know the clinical activities in the ward are clear and well-ordered. Many students perceive clinical experience as anxiety-provoking (31-32). They often, while becoming less worried in clinical environment after few encounters in ward activities (10). To facilitate the beginners to enthusiastically cooperate in ward activities that probably affect the clients health directly, the working



ward staff are supposed to present clear detailed directions for students' safe practice.

Newell, as cited in Harandi et al, mentioned that course objectives provide the opportunity to select teaching-learning activities (33). Yazdankhah also indicated unclear course objectives and tasks as the most important stress inducing factors (34). This study showed that students need to be task-oriented in clinical educational environments.

The fifth difference between actual and expected settings was "personalization", in which instructors have not paid enough attention to students' personality and did not involve them in professional and clinical practice. The actual form reflected that the maximum mean score in personalization is related to the previous support student received. However, the students in clinical environment who felt being supported, respected, and recognized, supported the personalization scale of preferred form by means of allocating high scores (13).

The maximum score in CLEI belonged to the personalization. This scale emphasizes the chance of student to cooperate with clinical educator and clinical staff in addition to concerning student's personal welfare. In each semester, nursing students should be trained for several weeks in hospitals as a clinical environment during the period of clinical placement, nursing students commonly feel vulnerable. It seems that during training period in clinical placement, nurse students are expected to earn respect, support and recognition, which could be a reason for high mean score of personalization in the actual form. It should be mentioned that the higher score for personalization in the preferred form showed that nursing students, in general, require more support, respect and recognition from clinical educator and clinician in the clinical learning environment (10).

Since in Iran nurse students spend a limited time in each ward and because ward rotation interact with different instructors, it seems that they expect a better interaction with their instructors. According to Chan's

description of personalization, from the stand point of 74.1% of students, instructor-student interaction is the strength of clinical education (20). In one Iranian study, this issue and attention to the student's personality were reported as the strengths of clinical education that should be emphasized in educational environments (26). Salmani's study indicated that 78.9% of nursing students considered instructor-student interaction and students' personality at an average point (35). Midwifery students believe that, in most cases, barriers in clinical education are related to instructor's personality (36).

According to the results of this research, students have not assigned a high score to the actual state of "personalization in the clinical setting". Additionally, students stated no satisfaction in students - clinical teacher relationship. This occurred as opposed to varied opportunities available for students to cooperate with their teachers. In this regard, the level of difference between the actual and expected states is "involvement in clinical activities". Consistent with Chan's findings, the lowest difference may be associated with the minimum tendency of students to do clinical activities (10). Students name the following situations as stress inducing: care of a terminally ill patient, time pressure of certain activities, clinical trial evaluations, performance and frequent changes of services/health institutes (37-39), which may be due to students' low expectations to become involved in clinical activities. On the other hand, according to Chan, students believe that after being involved in clinical activities they experience less anxiety and stress in clinical environments (10). This shows that if instructors facilitate involvement of students in clinical activities, there may be a room for students' expectations. Clinical staff must provide clear instructions to render safe care by students that shows the relationship between the two domains, including "students' involvement in clinical activities" and "task orientation in clinical period" in order to facilitate student involvement in ward activities. In general, the

results showed that students' expectation of their involvement in clinical practice is near to the actual status, but to fulfill their expectations in this regard there is a need to take specific steps.

Nursing students have different perceptions of the expected and actual environment in clinical teaching. In other words, students' expectations of the clinical teaching environment have not been fulfilled in any domain. In contrast, students prefer a theoretical teaching environment than a clinical teaching environment that benefits from the highest level scores in all domains. Finally, the results of this study show that nursing students do not have a positive perception of clinical teaching environment and their perceptions of the actual environment is significantly different to their perceptions of an expected environment.

### Conclusion

According to the results of this research, considering students' expectations of clinical teaching environment and decreasing the gap between the actual and expected clinical environments is necessary. In addition, continuous studies on clinical teaching environment evaluation and their results, and to assess clinical instructors' and clinical staff opinions about the clinical teaching environment are recommended.

One of the limitations of the current study was that the participants were selected from one nursing school in Iran. Therefore, the sample may not be representative of Iranian nursing students in general. Accordingly, to generalize the findings should be done cautiously.

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