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ORIGINAL RESEARCH

Undergraduate Nursing Students' Satisfaction of The Clinical Learning Environment in Iraq-Kurdistan.

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ABSTRACT

Background: Clinical nursing education is a valuable element of any nursing program and leads to better prepare nursing with the required skills to provide safe and high quality care.
Objectives: This study aims to assess the level of undergraduate nursing students' satisfaction toward their clinical learning in Duhok City.
Methodology: A cross-sectional descriptive study design used. A convenient sample of 197 male and female undergraduate nursing students from three nursing stages including second, third, and fourth class at the University of Duhok/ College of Nursing. The researchers of the current study adopted the clinical learning environment inventory (CLEI) questionnaire to investigate nursing students' satisfaction of their clinical learning environment (CLE) for the purpose of data collection. The statistical calculations were performed by John's Macintosh Project Product (JMP Pro) 14.3.0. The general characteristics of nursing students were presented in mean and SD. The comparisons of satisfaction score and its dimensions among students with different characteristics were examined in an independent t-test or ANOVA one-way. The null hypothesis was determined in a two-sided p-value <0.05.
Results: The majority of the participants (64.97 %) were female and most of them (36.04 %) were the third class students. Regarding the clinical training and supervision, 64.98 % of them responded that they had one training session a week with their supervisors, 40.61% their last clinical placement was pediatric teaching hospital.
Conclusion: The current study concluded that nursing students were relatively satisfied and responded positively with their CLE based on their experiences from clinical placements

Keywords: Undergraduate, Nursing students, Satisfaction, clinical learning environment.

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INTRODUCTION

Clinical nursing education is a core element of any undergraduate nursing program aimed at preparing nurses for competent practice (Dobrowolska et al., 2015). It leads to better prepare nursing students to function in today's complex health care environment, and prepare them with the required skills to provide safe and high quality care (Masters, 2016). Nursing students achieve their experience through active engagement in actual clinical setting with patients, peers and staff in clinical practice (Stockhausen, 2005). Clinical learning environment (CLE) questionnaire is valuable in the field of development of nursing knowledge, skills, and professional socialization (Nabolsi, Zumot, Wardam, & Abu-Moghli, 2012). Nursing students' satisfaction with their clinical practice is viewed as a fundamental area in the training of nursing students in nursing studies. Both the clinical environment and the clinical educator are regarded as key elements related to their satisfaction by establishing specific academic plans that could improve nursing students' satisfaction with their clinical practice (Fernández-García, Moreno-Latorre, del Carmen Giménez-Espert, & Prado-Gascó, 2021). Thus, carefully understanding of students' satisfaction of their CLE is vital for acquiring the required teaching and learning process (Mokadem, Shimaa, & Ibraheem, 2017). Moreover, maintaining a positive clinical experience for students is regarded as an important measure within organizational strategies to aid recruitment (Lamont, Brunero, & Woods, 2015).

Co-operation between higher education and practice has been considered a significant character to achieve specific learning objectives for students to find appropriate ways for developing competence in each clinical area to which they are allocated (Watkins, 2000). Supporting nurses that work as a tutor to achieve a higher level of nursing competency through evidence based effective clinical nursing education is another essential element to improve both nursing competency for hospital accreditation and to increase the hospital's competitive power. This can be obtained through adequate and continuous organizational support (Kim & Choi, 2019).

The clinical instructors play a key role in the education of nursing students. Their performance is positively related to students' learning experience of most aspects of their clinical and academic learning environment that lead to the positive outcomes of future health care practitioners (Brown, Williams, & Lynch, 2013). Their essential role start with selection of appropriate clinical placement to meet the students' educational requirements. This enhances their sense of responsibility, and provides them opportunities to develop nursing competence (Nabolsi et al., 2012). The value of mentorship supervision and the pedagogical atmosphere have also been considered as the most influential factors in nursing students' satisfaction with their CLE (Papastavrou, Dimitriadou, Tsangari, & Andreou, 2016). Therefore, preparing good clinical instructors, preceptors, and tutors as positive role models for students is crucial in nursing education (Nabolsi et al., 2012). In order to maximize learning experience, understanding students' satisfaction with their CLE is important. Additionally, educational institutions need to provide essential orientation and training courses for their clinical educators (Ramani & Leinster, 2008).

Obviously, factors such as clinical experience and satisfaction affect nursing student attribution, therefore assessing student's satisfaction with their clinical experience is important for nursing faculty to enhance educational performance (Papathanasiou, Tsaras, & Sarafis, 2014). According to the literature, many studies highlighted factors that contribute to positive and significant influences on students' satisfaction regarding their clinical learning strategies including clinical instructors' competency, using feedback strategy, and communication skills (Kelly, 2007). Others important characteristics needed to be

an effective clinical instructor include the ability to develop interpersonal relationships and certain personality traits such as approachability (Collier, 2018). While ability of the clinical instructor to convey knowledge, exhibit enthusiasm, professional behavior, and caring were other key characteristics that influence the clinical experience from the students' perspective (Reising, James, & Morse, 2018). In contrast, some studies reported factors that lead to dissatisfaction among nursing students regarding their CLE and their instructors including evaluation procedures used by their clinical instructors, inappropriateness of clinical field placement (Hakim, 2014), poor supervisory relationship (Pitkänen et al., 2018), and inconsistent training methods by clinical instructors (Mamaghani et al., 2018).

Similar to many other countries worldwide, nursing education in Iraq particularly in Kurdistan Region has undergone changes over the past decades. These include reform from secondary school, high school, and diploma school of nursing to academic university-based education; encouraging and recruitment of larger numbers of students due to lack of academic nurses; shortage of clinical settings and clinical instructors; and development of new simulation-based technologies. Therefore, the present study aimed to examine undergraduate nursing students' satisfaction with their CLE in the College of Nursing / University of Duhok (UoD)/ Kurdistan Region which is vital because bologna and pedagogical strategies have been applied in teaching methods that emphasize on student-centered teaching, competency based assessment, and professionalism of educators in order to graduate qualified and competence nurse.

AIMS OF THE STUDY

This study aims to assess the level of undergraduate nursing students' satisfaction toward their clinical learning in Duhok City.

METHODOLOGY

Study Design and Setting: A cross-sectional descriptive study design was used to investigate the nursing students' satisfaction levels regarding clinical practice in a traditional generic nursing program in the Kurdistan Region. The study was conducted in 2022. The study was conducted at the College of Nursing/University of Duhok. The UoD is regarded as the largest governmental university in Duhok city. The university covers more than 22000 undergraduate and nearly 1000 postgraduate students. The College of Nursing accepts students from different areas of Duhok province. As a result, the study covers the wide perceptions of the students' satisfaction levels of clinical practice in a geographical area.

Study Participants and Sampling: The study population of the current study was convenient sample of the nursing students of the College of Nursing at University of Duhok. The researchers aimed to include all students how had participated in clinical practice in this study. The college has four stages. In this study, students of second, third, and fourth class students who finished at least two clinical rotations in hospital were consented and voluntarily participated in the current study. Since students of the first year have little contact with the clinical practice, they were excluded from the study. A total of 197 students out of 231 students were included (response rate: 85.2%). The remaining 34 students were absent or a few of them were not ready to fill the questionnaire.

Data Collection Tool and Technique:

An official permission was obtained from the Dean of College of Nursing. The scientific committees of the academic institution, University of Duhok granted approval for the study prior to the data collection. The researcher of the current study adopted the clinical learning environment inventory (CLEI) questionnaire to investigate nursing students' satisfaction that was developed by Chan (2001, 2002). Internationally, numerous researchers adopted the CLEI in their research to examine nursing

students' perceptions and satisfaction of their CLI from perspectives of nursing students from different countries (Woo & Li, 2020).

This questionnaire was developed after a thorough retrospective study of the literature on the education environment of the classroom and the CLE. The validity and reliability of the study tool has been tested by the author of the questionnaire after a thorough discussions with experts in the field of nursing education and clinical nursing. To assess the CLEI questionnaire, tow indicators of reliability and validity were used. These indicators were scale reliability and discriminant validity. The findings confirmed the validity and reliability of the CLEI as a tool for assessing nursing students' perception of the hospital education environment, and were affirmed by the values of Cronbach α ranging from 0.73 to 0.84 (D. S. K. Chan, 2003). It is a self-reporting instrument comprised of two sections: The first section is concerned with the socio-demographic characteristics of nursing students, including age, gender, academic year, and clinical training and supervision. The second section was designed to assess nursing students' satisfaction of the clinical learning environment. The CLEI is a 42-item Likert-scale format answered with a 4-point scale of response (strongly disagree, disagree, agree, and strongly agree). Data of this study were scored from 4 to 1. Negative items were reverse-scored so that all items reflected the same direction. This questionnaire included 42 positively or negatively worded items with some items assessing each of six sub-scales: individualization (Seven questions); innovation (Seven questions); student involvement (Seven questions); personalization (Seven questions); task orientation (six questions); and satisfaction (Eight questions).

The reason of the current study was explained to the students in the classroom environment. The questionnaires were delivered by the second author to students. Although the mother tongue of the nursing students was Kurdish, nevertheless, the nursing program in the college was in English and to ensure the validity, the second researcher read and clarified all questions to the students in ordered to get the intended answers. Students filled out the study tool, and the total time required for the questionnaire's completion was 20 minutes. Then the completed questionnaires were collected immediately by the second author.

Ethical considerations:

Approval for the using of classroom time was sought from the classroom faculty members. Informed verbal consent was obtained from all participants prior to data collection. Students were also assured that their participation is voluntary and confidential by requesting them to avoid putting their names on the questionnaire. It was clearly stated that they have the right to withdraw from the study at any time without any negative consequences for their academic achievement.

Statistical Analysis

The general characteristics of nursing students were presented in mean and SD or number and percentage for nominal and continuous variables, respectively. The levels of satisfaction and its dimensions were determined in mean and SD. The comparisons of satisfaction score and its dimensions among students with different characteristics were examined in an independent t-test or ANOVA one-way. The post-hoc comparisons were examined in a Tukey test. The predictors of the total score of satisfaction towards clinical training among nursing students were determined in a standard least square with effect leverage. The null hypothesis was determined in a two-sided p-value <0.05. The statistical calculations were performed by JMP Pro 14.3.0.

RESULTS

Characteristics of the sample: The majority of the participants (64.97 %) were female and most of them (36.04 %) were the third class students. Regarding the clinical training and supervision, 64.98

% of them responded that they had one training session a week with their supervisors, 40.61% their last clinical placement was pediatric teaching hospital. The majority of the students (33%) responded their clinical teachers were always available. Concerning sleeping hours, the majority of the students (64.45%) slept 6-8 hours a day. See Table 1.

Table 2 shows the nursing student's satisfaction level with their CLE and the mean and stander deviation of CLE inventory sub-scales. The study found that the mean value of the overall satisfaction score was 2.49 (SD: 0.25) meant a satisfactory level among students. The most satisfied dimensions of clinical practice were student involvement (Mean [M]: 2.66; SD: 0.32), task orientation (M: 2.62; SD: 0.33), and personalization (M: 2.56; SD: 0.26). The least satisfied dimensions of clinical practice among students were individualization (M: 2.37; SD: 0.36), innovation (M: 2.41; SD: 0.42), and satisfaction (M: 2.44; SD: 0.25; see Table 2).

Table 3 represents distribution of satisfaction of nursing students. Concerning the aspect of individualization, in general, students were dissatisfied and responded disagreed in almost all items except in item No 1 (students are allowed to negotiate their work load in the ward) and item No 2 (It is the clinical teacher who decides the students' activities in the ward?). This means students were not encouraged to make their own decisions and were not treated according to their ability or interest. Regarding innovation scale, that assessed the clinical instructor plans to new interesting and new teaching techniques, and provides a productive clinical experience. Generally, students were dissatisfied in 3 items out of 7 items particularly in item No 13 in which the highest percentage (43.65 %) negatively responded that new ideas are seldom tried out on this ward. Furthermore, all dissatisfied items of this scales were related to innovation rather than productive learning experiences. About student involvement scale that assessed students' participation in activities in the clinical area in active and consistent manner, apparently students were not satisfied in most of the items including item No 15, 16, 17, 18, and 19. The highest percentage (78.17%) of students were agreed and strongly disagreed which was observed in item No 20 (students in this ward pay attention to what others are saying) which means students were keen to learn practice. In item No 17, roughly 62.44% were agreed and strongly agreed that they want to finish clinic soon and not interested in clinic. The scale of personalization that emphasized on the students' opportunities to interact with the clinical instructor, obviously students showed positive perception and were satisfied in all 7 items except item No 28 (the clinical teacher seldom goes around to the ward to talk to students) in which nearly 64.47% of participants responded agreed and strongly agreed about this statement. The scale of task orientation that assessed whether the instructions of hospital activities are well organized and clear to the student. It can be seen clearly that students were satisfied in all items except for item No 32 (workload allocation in this ward is carefully planned) in which 55.84% responded disagreed and strongly disagreed for this item. The last item deals with student satisfaction that assessed the students' level of satisfaction raised from their clinical placements. Obviously, students were dissatisfied in almost all items particularly in item No 37 (this clinical placement is a waste of time) in which 72.09% responded disagreed and strongly disagreed about this item that mean the fieldwork is worthy but there might be a defect in clinical teaching and supervising.

Table 4 demonstrates comparisons of the six CLEI sub-scales among nursing students with different academic years. Concerning individualization score that reflects psychosocial characteristics of the CLE. The results showed that there is a highly significant difference among students (P=0.0002). This indicates agreement and satisfaction in individualization sub-scale of students

and were encouraged to make decisions and treated according to their ability or their interest. Students of the second class showed more agreement and satisfaction compared with students of the fourth class (2nd vs. 4th P=0.0005). Likewise, students of the third class showed more agreement and satisfaction compared with students of the fourth class (3rd vs. 4th P=0.0010).

The results of innovation score that measures to what extent the teacher or clinician plans new interesting and new teaching techniques, and productive learning experiences. The findings revealed that there is a highly significant difference among students concerning academic year with P value <0.0001. Students showed agreement and satisfaction in innovation sub-scale and students were generally satisfied and agreed that the clinical instructors plans new interesting and new teaching techniques, and productive learning experiences. There were discrepancies among students' classes. Students of the second class showed more agreement and satisfaction compared with students of the fourth class (2nd vs. 4th P=0.0001). Similarly, students of the second class showed more agreement and satisfaction compared with students of the third class (2nd vs. 3rd P=0.0010).

The scale of student involvement was used to assess the extent to which students participate actively and consistently in activities in the workplace. The results showed significant difference among students classes (P=0.0040). Students of the second class were more satisfied compared to the students of third class (2nd vs. 3rd P=0.0026).

Students positively evaluated the scale of personalization that focus on the opportunities of the students have to interact with the clinical teacher. The findings revealed highly significant difference among different students classes (P=<0.0001). Students of the second class were more satisfied and positively evaluated clinical instructor compared to students of the fourth and third class (2nd vs. 4th P<0.0001; 2nd vs. 3rd P=0.0029).

The findings of task orientation scale that assessed whether the instructions for hospital activities are clear and well organized to the student. Students positively responded to this scale and there was a significant difference between students classes (P=0.0266). Students of the second class were more positive and satisfied about task orientation compared to other classes.

Correspondingly to task orientation scale, participants positively reacted to satisfaction scale that investigated the students' level of satisfaction arising from their clinical placements. There was a highly significant difference between students classes (P=0.0007) particularly students of the second class.

Table 5 shows comparisons of overall score among students with different characteristics. As indicated earlier, there was high significant difference among academic year of students (<0.0001). Students of second class were generally more satisfied in all six sub-scales of CLEI compared to students of the third and fourth class (2nd vs. 4th P<0.0001; 2nd vs. 3rd P<0.0001). In relation to frequency of availability of the clinical instructor in fieldwork, there was highly significant difference among students (<0.0001). Nursing students were highly satisfied and responded positively about this concern (always vs. rarely P<0.0001; very often vs. rarely P=0.0005; always vs. sometimes P=0.0185).

Table 6 illustrates predictors of overall score of nursing students' satisfaction towards the clinical training. According to findings of the current study, it is predicted that the overall score of satiation towards clinical training was related to the academic year of students. As presented earlier, students of the second class showed more satisfaction towards clinical training than students of other classes (P= 0.00113). The frequency of availability of clinical instructor was also another predictor of students' satisfaction towards the clinical training (P= 0.00213).

DISCUSSION

It is believed that the backbone of the nursing profession is undergraduate nursing students, therefore they should be prepared with different nursing skills through their clinical training. Achieving clinical experience requires adequate preparations in the clinical field placement (Ibrahim, Abdelaziz, & Akel, 2019). The findings of this study showed that the nursing students were satisfied and responded positively with their CLE. Similar findings have been reported in the literature. A cross-sectional descriptive design done by d'Souza, Karkada, Parahoo, and Venkatesaperumal (2015), to evaluate satisfaction and the effectiveness of the CLI, supervision, teaching, and evaluation using CLEI among Omani nursing students. Students were satisfied about their CLE and positively feedback on their clinical performance. Similarly, Woo and Li (2020) conducted a study to investigate final-year nursing students' actual perception of their CLI in Singapore. They found a positive and statistically significant correlation between satisfaction and the other five CLEI constructs. Another study by Mokadem et al. (2017), to assess nursing student's level of satisfaction with their CLI in Egypt. They found nursing students have a medium level of satisfaction of their CLI. Lee, White, and Hong (2009), did a survey to compare clinical practice satisfaction between Korea and the USA nursing students. The results showed that the USA nursing students had significantly higher CLE satisfaction levels than the Korean students. In contrary to these findings, a study by Rahmani et al. (2011) investigated the viewpoints of Iranian nursing students regarding their CLE. They explored that nursing students believed that their CLE were not suitable. The participants' characteristics of the current study reflect the distribution of nursing students not only in Kurdistan Region universities but also internationally in which the number of male nursing students is less than female students. The majority of the students responded having one training session with their supervisors in a week. A similar study by Kamphinda and Chilemba (2019) found that students complained about the availability of clinical supervisors in their fieldwork. They sated that the supervisor usually visited students once a week or not even a single visit in a week. The findings of the present study indicated that nursing students were not satisfied with their clinical supervision and support, they preferred more support from their faculty members of staff than from ward nurses. Ip and Chan (2005), stated that, if the CLE is to be best meet the needs of nursing students, then collaboration between the educational institutes and health care agencies will be essential. Rezaee and Ebrahimi (2013), in their study stated that of one of the key determinants that contributed to an effective clinical teaching was effective supervision. Student nurses require a supportive environment to translate their knowledge, skills and judgment into competences necessary to develop their clinical experience. In addition, the stability of the clinical instructor and proficiency learning enable students' engagement in the CLE to explore possibilities or innovation in practice (d'Souza et al., 2015). In contrast, a study by Ip and Chan (2005) revealed that the students' relationship with the clinical staff was a predictor to their level of satisfaction with their CLE.

The current study measured the sleeping hours of subjects and the reasons behind these was to know whether they slept adequately or not. According to the literature, sleeping has major effect in students' achievement. The finding of this study revealed that nearly one quartile of students had less than 6 hours sleep. A study by Mirghani, Mohammed, Almurtadha, and Ahmed (2015) found a strong relationship between good sleep quality and high academic performance among medical students who had the mean sleeping hours at night was 7 ± 1.9.

In regard to the nursing students' satisfaction level with their CLEI sub-scale, the findings of the current study revealed that the most satisfied dimensions of clinical practice among students were task orientation, and personalization.

These results are comparable with studies done by Ibrahim et al. (2019), in which the nursing students showed high agreement and satisfaction in the sub-scales of involvement, and task orientation in CLEI. On the other hand, nursing students denotes their accepted level of satisfaction in the sub-scales of personalization, satisfaction and individualization (Ibrahim et al., 2019). According to Ip and Chan (2005), the higher levels of student satisfaction were related to well organizing ward activities as well as students' greater involvement in ward practice.

Overall, it is worth noting that the least satisfied dimensions of clinical practice was observed in sub-scales of individualization, innovation, student involvement, and satisfaction. These findings are similar to what was reported by a study done by Papathanasiou et al. (2014), in which students documented the lowest mean score for the CLE in the sub-scales of innovation, individualization, and involvement. In spite of the fact that innovation denotes to productive clinical experiences, it seem likes that the nursing students in the study consider the current clinical education inadequate in terms of creativity and initiative. The low score of individualization is probably due to the fact that students have little opportunity to follow their particular interest in the ward and to make decisions according to their ability or the interest shown. This is because in our country, there is very limited area of practice and the areas available are occupied by several numbers of students from other medical colleges. This make very difficult to choose the area by their own of interest. Faculty have very limited facilities for distribution students to fieldwork. Here, clinical teaching is till traditionally run, each clinical instructors supervise and train around ten students which make clinical instructor to decide the students' activities in the ward. Similarly, students were generally dissatisfied regarding active involvement in clinical teaching in most of the items that discussed issues related to the area of practice. For example, they responded negatively about the clinical instructor talks rather than listens to the students, dominates systematic questioning sessions, and students have little opportunity to express opinions in the ward. These are major concerns and should be taken in confederation. This could be due to the fact that a large number of students running by the clinical instructor in one workplace, limit and short clinical course which was 2 clinical sessions per week for 13 weeks that lead to clinical instructor to quickly accomplish the task of clinical teaching in order to cover all clinical settings and eventually evaluate students. A supportive qualitative study such as interviews with the nursing students or even focus groups would allow this issue to be explored further. The findings of the current study are in contrary with the study of Papathanasiou et al. (2014), in which results revealed the statistical significance of the positive correlations between students' satisfaction of CLE and student involvement. They reported, an effective student involvement in workplace represents a strong predictor for the students' satisfaction within a professional environment.

In relation to satisfaction sub-scale, noticeably, students were relatively less satisfied in almost all items. They regarded the workplace boring, not interesting, and a waste of time. They were not keen to look forward to coming fieldwork; they did not have a sense of satisfaction after finishing the shift; and were dissatisfied with what is carried out in the ward. Likewise, Ip and Chan (2005) did a questionnaire survey regarding nursing students' perception of the CLE in Hong Kong. Study found that there were significant differences between students' perceptions of the actual CLE and the ideal CLE they desired. The suggested that actively involve novice students with ward activities by providing them through the clinical staff clear and detail instructions on safe practice.

In terms of the differences in the actual CLEI scores between students at each year level of study, it was noted that the students of the second class of this study were generally more satisfied in all six sub-

scales of CLEI compared to students of the third and fourth class. This discrepancy of satisfaction level among students' classes is not yet clear and need further investigation through a qualitative study.

Overall, it is interesting to note that concerning frequency of availability of the clinical instructor in fieldwork, nursing students were highly satisfied and responded positively about this concern. It is only fair to make the assumptions that predictor of students' satisfaction towards the clinical training of this study was the frequency of availability of clinical instructor in workplace. This is because the Iraqi educational system has strict guideline concerning clinical practice. It impose the clinical education of nursing students to be mostly conducted in real sitting twice per week for six hours with the presence of a clinical instructor. In contrary to this findings, a study by Rahmani et al. (2011) revealed that nursing students were not satisfied with their clinical instructors. Likewise D. S. Chan (2002) found that nursing students were demanding for more support, respect and recognition from their clinical instructors in the hospital learning environment. It should not be forgotten that clinical instructors can improvise clinical learning placements and they have valuable role in providing educational experiences as integral part to students' clinical learning environment (d'Souza et al., 2015).

CONCLUSION

The findings of the study found that nursing students were relatively satisfied and responded positively with their CLE based on their experiences from clinical placements. The most satisfied dimensions of clinical practice among students were Task Orientation, and Personalization. Nursing students were relatively less satisfied in sub-scales of Individualization, Innovation, Student Involvement, and Satisfaction. Students of the second class were generally more satisfied in all six sub-scales of CLEI compared to students of the third and fourth class. It is interesting to note that students were highly satisfied concerning the frequency of availability of clinical instructor in workplace therefore, it can be regarded as one of the predictor of students' satisfaction towards their clinical training.

LIMITATION AND RECOMMENDATIONS

While this study has provided an important insight into the nursing students' satisfaction toward their CLE, it has a limitation as well. Perhaps the greatest limitation of the current study is that it was conducted with the participation of students coming from one nursing college in the Kurdistan Region of Iraq; this may limit the generalizability of the findings. Even with this limitation, valuable information regarding students' satisfaction with their clinical practice was obtained. It is recommended that future research include more nursing colleges to ensure generalizability. Moreover, future research is needed to study the best clinical learning approaches such as mentorship and tutorship in which both nurse educators and clinical instructor can facilitate effective clinical learning environments for students. This can be achieved through effective collaboration between the academic institution and health care sectors.

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Authors declare this paper is not currently being considered for publication elsewhere.

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TABLES:

Table (1): General characteristics of nursing students

General characteristics (n=197)		Statistics	
		Number	Number
Gender	Male	69	35.03
	Female	128	64.97
Academic Year	2nd	64	32.49
	3rd	71	36.04
	4th	62	31.47
Clinical Training and Supervision	Once a week	128	64.98
	Twice a week	69	35.03
Last clinical placement	Emergency hospital	42	21.32
	Azadi general teaching hospital	75	38.07
	Heevi pediatric teaching hospital	80	40.61
Age	(Range: 19-32)	Mean: 21.01	SD: 1.36
clinical teacher availability	Always	65	33.00
	Very Often	61	30.96
	Sometimes	34	17.26
	Rarely	35	17.77
	Never	2	1.02
Sleeping hours	<6 hrs.	48	24.37
	6-8 hrs.	125	63.45
	>8 hrs.	24	12.18

Table (2): Undergraduate Nursing Students' Satisfaction of the clinical learning environment

CLEI sub-scale (n=197)	Statistics		
	Mean	SD	Range
Individualization	2.37	0.36	1.57 to 3.14
Innovation	2.41	0.42	1.29 to 3.57
Student involvement	2.66	0.32	2.00 to 3.43
Personalization	2.56	0.26	2.00 to 3.14
Task orientation	2.62	0.33	1.67 to 3.50
Satisfaction	2.44	0.25	1.88 to 3.13
Overall score	2.49	0.19	2.02 to 2.93

Table (3): Frequency distribution of satisfaction of nursing students

	Items	Frequency no (%)			
		Strongly Disagree	Disagree	Agree	Strongly Agree
Individualization	1-Students are allowed to negotiate their work load in the ward	15 (7.61)	59 (29.95)	106 (53.81)	17 (8.63)
	2-There is little opportunity for a student to follow his/her particular interest in this ward	14 (7.11)	81 (41.12)	81 (41.12)	21 (10.66)
	3-Teaching approaches allow students to proceed at their own step	28 (14.21)	98 (49.75)	62 (31.47)	9 (4.57)
	4-Students are generally allowed to work at their own step	34 (17.26)	97 (49.24)	59 (29.95)	7 (3.55)
	5-Students have right to decide how to practice in clinic	40 (20.30)	103 (52.28)	49 (24.87)	5 (2.54)
	6-All staff in the ward are expected to do the same work in the same way	66 (33.50)	87 (44.16)	32 (16.24)	12 (6.09)
	7-It is the clinical teacher who decides the students' activities in the ward?	11 (5.58)	39 (19.80)	101 (51.27	46 (23.35)
Innovation	8-The clinical teacher often thinks of interesting activities for the students	32 (16.24)	61 (30.96)	86 (43.65)	18 (9.14)
	9-The clinical teacher thinks up innovative activities for students.	21 (10.66)	75 (38.07)	87 (44.16)	14 (7.11)
	10-Students seem to do the same type of tasks in every shift	32 (16.24)	89 (45.18)	66 (33.50)	10 (5.08)
	11-The same ward staff member works with the students for most of this placement	53 (26.90)	65 (32.99)	62 (31.47)	17 (8.63)
	12-Teaching approaches in this ward are characterized by innovation and variety	33 (16.75)	83 (42.13)	69 (35.03)	12 (6.09)
	13-New ideas are seldom tried out on this ward	18 (9.14)	70 (35.53)	86 (43.65)	23 (11.68)
	14-New and different ways of teaching to the students are seldom used in the ward	21 (10.66)	68 (34.52)	80 (40.61)	28 (14.21)
Student involvement	15-The clinical teacher talks rather than listens to the students	18 (9.14)	43 (21.83)	90 (45.69)	46 (23.35)
	16-The clinical teacher dominates systematic questioning sessions	21 (10.66)	62 (31.47)	89 (45.18)	25 (12.69)
	17-Students want to finish clinic soon and not interested in clinic	37 (18.78)	37 (18.78)	60 (30.46)	63 (31.98)
	18-Students have little opportunity to involve with the process of handing over to staff in the ward for the next shift	64 (32.49)	64 (32.49)	52 (26.40)	17 (8.63)
	19-There are opportunities for students to express opinions in this ward.	44 (22.34)	65 (32.99)	70 (35.53)	18 (9.14)
	20-Students in this ward pay attention to what others are saying	6 (3.05)	37 (18.78)	121 (61.42)	33 (16.75)
	21-Students put efforts into what they do in the ward.	5 (2.54)	21 (10.66)	117 (59.39)	54 (27.41)
Personalization	22-The clinical teacher goes out of his/her way to help students	16 (8.12)	53 (26.90)	98 (49.75)	30 (15.23)
	23-The clinical teacher helps the student who is having trouble with the work	10 (5.08)	28 (14.21)	122 (61.93)	37 (18.78)
	24-The clinical teacher considers students' feelings	22 (11.17)	60 (30.46)	92 (46.70)	23 (11.68)
	25-The clinical teacher talks individually with students	28 (14.21)	71 (36.04)	82 (41.62)	16 (8.12)
	26-The clinical teacher is unfriendly and inconsiderate towards	46 (23.35)	92 (46.70)	45 (22.84)	14 (7.11)

	students				
	27-The clinical teacher is not interested in students' problems	29 (14.72)	87 (44.16)	65 (32.99)	16 (8.12)
	28-The clinical teacher seldom goes around to the ward to talk to students	23 (11.68)	47 (23.86	97 (49.24)	30 (15.23)
Task orientation	29-The clinical teacher often gets sidetracked instead of sticking to the point	20 (10.15)	91 (46.19)	73 (37.06)	13 (6.60)
	30-This is a disorganized clinical placement	26 (13.20)	55 (27.92)	77 (39.09)	39 (19.80)
	31-Ward assignments are clear so that students know what to do	13 (6.60)	52 (26.40)	106 (53.81)	26 (13.20)
	32-Workload allocation in this ward is carefully planned	22 (11.17)	88 (44.67)	74 (37.56)	13 (6.60)
	33-Getting a certain amount of work done is important in this ward	9 (4.57)	35 (17.77)	105 (53.30)	48 (24.37)
	34-Ward staff often coming on times	23 (11.68)	75 (38.07)	77 (39.09)	22 (11.17)
Satisfaction	35-This clinical placement is boring	33 (16.75)	85 (43.15)	57 (28.93)	22 (11.17)
	36-This clinical placement is interesting	16 (8.12)	69 (35.03)	84 (42.64)	28 (14.21)
	37-This clinical placement is a waste of time	48 (24.37)	94 (47.72)	38 (19.29)	17 (8.63)
	38-Students enjoy coming to this ward	26 (13.20)	56 (28.43)	82 (41.62)	33 (16.75)
	39-Students look forward to coming to clinical placement	25 (12.69)	72 (36.55	69 (35.03)	31 (15.74)
	40-Students know exactly what has to be done in the ward	22 (11.17)	80 (40.61)	80 (40.61	15 (7.61)
	41-After the shift, the students have a sense of satisfaction	27 (13.71)	61 (30.96)	82 (41.62)	27 (13.71)
	42-Students are dissatisfied with what is done in the ward	36 (18.27)	80 (40.61)	60 (30.46)	21 (10.66)

Table (4): Comparisons of the six CLEI sub-scales among nursing students with different academic years

Individualization (n=197) Academic Year	Statistics			
	Mean	Std Dev	P	Pairwise comparisons
2nd	2.46	0.43	0.0002b	2nd vs. 4th (P=0.0005)
3rd	2.44	0.38		3rd vs. 4th (P=0.0010)
4th	2.20	0.33		2nd vs. 3rd (P=0.9623)
Innovation (n=197)				
2nd	2.56	0.26	<0.0001b	2nd vs. 4th (P=0.0001)
3rd	2.35	0.34		2nd vs. 3rd (P=0.0004)
4th	2.33	0.35		3rd vs. 4th (P=0.8942)
Student involvement (n=197)				
2nd	2.75	0.44	0.0040b	2nd vs. 3rd (P=0.0026)
3rd	2.55	0.24		4th vs. 3rd (P=0.1850)
4th	2.65	0.28		2nd vs. 4th (P=0.2670)
Personalization (n=197)				
2nd	2.68	0.33	<0.0001b	2nd vs. 4th (P<0.0001)
3rd	2.52	0.25		2nd vs. 3rd (P=0.0029)
4th	2.46	0.25		3rd vs. 4th (P=0.4857)
Task orientation (n=197)				
2nd	2.69	0.38	0.0266b	2nd vs. 4th (P=0.0202)
3rd	2.63	0.27		3rd vs. 4th (P=0.2392)
4th	2.53	0.28		2nd vs. 3rd (P=0.4941)
Satisfaction (n=197)				
2nd	2.53	0.32	0.0007b	2nd vs. 4th (P=0.0004)
3rd	2.44	0.20		3rd vs. 4th (P=0.1114)
4th	2.35	0.20		2nd vs. 3rd (P=0.1198)

a an independent t-test and b ANOVA one-way were performed for statistical analyses. The Tukey test was performed for pairwise comparisons. The red bold numbers show the significant differences.

Table (5): Comparisons of overall score among nursing students with different characteristics

Overall score (n=197)		**Statistics**			**Pairwise comparisons**
		Mean	Std Dev	P	
Gender	Male	2.49	0.19	0.9420a	Not applicable
	Female	2.49	0.18		
Academic Year	2nd	2.63	0.22	<0.0001b	2nd vs. 4th (P<0.0001)
	3rd	2.49	0.15		2nd vs. 3rd (P<0.0001)
	4th	2.41	0.18		3rd vs. 4th (P=0.0571)
Clinical Training and Supervision	Once a week	2.49	0.18	0.4804a	Not applicable
	Twice a week	2.52	0.22		
Last clinical placement	Emergency hospital	2.51	0.22	0.2314b	Not applicable
	Azadi hospital	2.54	0.24		
	Heevi hospital	2.48	0.15		

Clinical instructor availability (frequency)	Always Very Often Sometimes Rarely Never	2.61 2.53 2.48 2.36 2.26	0.21 0.19 0.18 0.170 0.134	<0.0001b	Always vs. Rarely (P<0.0001) Very Often vs. Rarely (P=0.0005) Always vs. Sometimes (P=0.0185)
Sleeping hours	<6 hrs. 6-8 hrs. >8 hrs.	2.52 2.49 2.48	0.21 0.18 0.18	0.6227b	Not applicable

An independent t-test and b ANOVA one-way were performed for statistical analyses. The Tukey test was performed for pairwise comparisons.

Table (6): Predictors of overall score of nursing satisfaction towards the clinical

Controlling factors (n=197)	**Outcome: Overall score of satiation towards clinical training**	
	Presentations	**P**
Academic Year		**0.00113**
Clinical instructor availability (frequency)		**0.00213**
Clinical Training and Supervision		0.07893
Gender		0.33145
Age (yrs.)		0.61113
Sleeping hours		0.82631
Last clinical placement		0.95735

Standard least square with effect leverage was performed for statistical analysis.