

Effective Stressors in Clinical Education

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Abstract

Aims: Nursing and midwifery students experience multiple stressors in the clinical setting that can affect their proper functioning. Therefore, the objective of this research was the effective stressors in clinical education among nursing and midwifery students of Islamic Azad University, Mahabad in 2016. **Materials and Methods:** This study was a cross-sectional study of applied type. The statistical population was nursing and midwifery students of the Azad University of Mahabad in 2016. The sample size was selected in clinical setting to be 300 person. The data gathering tool was a researcher-made questionnaire consisting of two sections of demographic information and a section of the stressful factors of clinical education in eight domains and 106 items. The validity of this questionnaire was determined by content validity. Hence, the reliability of this tool was confirmed by a test–retest method with a correlation of 0.89. The partial least square (PLS) method, independent *t*-test, and Friedman test were used for data analysis. **Results:** The results showed that there is a positive and significant relationship between the interpersonal communication, environmental factors, educational planning, personal–social factors, university education factors, unpleasant experiences, and clinical experiences with stress ($P = 0.000$). However, there was not a statistically significant relationship between the humiliating experiences and the feeling of tension in students ($P \leq 0.218$). Furthermore, Friedman test showed that the most important stressor on students' perception of their stress in the clinical environment is environmental factors. **Conclusion:** The results of stressful factors in clinical education indicated lack of significance in all areas except for humiliating experiences area. Therefore, the authorities should take necessary steps to control and manage stress in students and increase the quality of education by holding workshops and the formation of the committee or the community to examine these factors, given all the stressful areas in the clinical education setting, especially environmental factors.

Keywords: Clinical education, midwifery, nursing, stress, students

INTRODUCTION

Since nursing and midwifery is a stressful profession, and education is a stressful experience in this area and as students of this area in addition to stresses of educational setting are exposed to stresses of clinical setting,^[1] clinical education is a vital part of education in medical sciences that it will be difficult and impossible without training efficient and competent people. Clinical education is a process in which students gradually acquire skills and through using experience of logical reasoning acquired, they are prepared to solve the patient's problem, influenced by variables.^[2,3] In clinical education, an opportunity is provided for students to turn his theoretical knowledge into various intellectual, psychiatric, and motor skills necessary to care the patient;^[4] therefore, we can say that planning of clinical education is the essential part of medical education in creating the necessary capacity and skills in students of this field of study.^[5] Another point that is very important in clinical education is clinical education

setting. Clinical education setting in the history of the nursing profession has been considered as an important setting for learning nursing skills^[6] stress is a factor that through change in the internal stability of the body causes disruption in the body order and it directly and indirectly leaves negative and positive effects on individual's functions and health.^[7] Some others consider psychosocial setting of work and the high workload as stress reasons for nurses.^[8] Nursing students experience several factors causing stress in the clinical setting and medical centers that can leave negative impact on learning and clinical success of students and affect their proper functioning.^[9] In this regard, some domestic and foreign studies have been conducted. For example, in the study conducted among nursing

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students at the University of Jordan, results showed that the main sources of stress are student tasks and clinical setting.^[10] In India, showed that two-thirds of bachelor students have moderate-to-severe stress levels.^[11] The study conducted stress level was reported 51.6% and the level of adaptation with 1st-year nursing students stress was reported at the moderate.^[12] Shomail and Faisal study in Pakistan (2012) revealed that the most common sources of stress for students are theoretical courses, clinical experiences, college setting, and personal and social area.^[13] In Iran, the studies conducted on stressful factors showed that nursing students are affected by several stressful factors such as the large number of students in the ward, lack of effective communication between instructor and students, lack of clear objectives of internship, lack of fixed instructor in wards, lack of adequate preparation of students while attending beside the patients, providing primary cares in the presence of others, lack of access to instructor in an emergency, exposure to contagious diseases, and the possibility of error.^[14,15] Since mental and physical health of the individual students plays an important role in country's development, the necessity of study on stress and the understanding of the factors related to it among student have special importance. In addition, understanding the most important stressful factors in students and identification and prediction of them enables the authorities to plan for the reduction of these factors and to take necessary measures. Therefore, the objective of this study was the effective stressors in clinical education among nursing and midwifery students of Islamic Azad University of Mahabad.

MATERIALS AND METHODS

This study was a cross-sectional study of applied type. The statistical population was nursing and midwifery students of the Azad University of Mahabad in 2016. The sample size was selected in clinical setting to be 300 person. The data gathering tool was a researcher-made questionnaire consisting of two sections of demographic information and a section of the stressful factors of clinical education in eight domains and 106 items. The questionnaire that included two sections of demographic information and stressful factors available in clinical setting, and the second part contains 106 questions about the stressors of clinical education in eight areas of interpersonal communication (presence of and interaction between teachers, patients, visitors, nurses, doctors, and students – 21 questions), unpleasant emotions (fear of contagious disease transmission, fear of physical harm to the patient, and conflicts with patients and their relatives – 13 questions), humiliating experience (instructor advice in presence of patients and their relatives and advice at the presence of personnel and doctors – 7 questions), educational planning (lack of awareness of evaluation by instructor, low hours of internship, intensive internship program, and uncertainty of internship objectives – 8 questions), clinical experiences (fear of mistake in clinical practice, fear of being scolded by educated and others, feel of lack of support by instructor, lack of skills in patient care, and seeing the suffering of patients – 24 questions), the

personal social factors (economic problems, being away from family, lack of satisfaction with the field of study, and lack of sufficient motivation – 8 questions), field of study at the university (inappropriate teaching method of some professors, inappropriate behavior of some professors, negative attitude of society to field of study, intensive curriculum, and long hours of classes – 18 questions). The scoring is from 1 to 5 based on a 5-point Likert scale (very low, low, medium, high, and very high). In order to observe ethical considerations, before the start of the research, the participants are informed of the goals and importance of the research, and they are assured that the information obtained is used only for the purposes of the research and is not available to anyone other than the research group and their profile along the research and subsequent preservation are kept confidential. The validity of the questionnaire was confirmed by face and content validity and its reliability was calculated and confirmed by test-retest with a correlation of 0.89. The PLS method, independent *t*-test, and Friedman test were used for data analysis.

RESULTS

Demographic findings of the participants indicated that the mean and standard deviation of age of participants is 22.5 ± 1.90 , respectively. In addition, 216 of them (72%) were female, 84 (28%) were male and 119 (39%) were native and 181 (60.3%) were nonnative, and most of the participants ($n = 266$ or 88.7%) were single. In terms of field of study, 180 of them (60%) were nurse and 120 of them (40%) were midwifery, and 54% of students had grade point average between 15 and 16.99. In terms of living place, 127 students (42%) are living in dormitory, and in terms of the economic situation, 197 students (65.7%) had moderate economic status. The results also showed that in terms of interest in the field of study, 279 students (93%) were interested in their field of study, and only 21 (7%) expressed that they were not interested in their field of study and among the family of 246 students (82%), no one was studying in the same field of study. Based on the results obtained in Table 1, we see that the mean impact of feeling interpersonal communication on stress of nursing students in the clinical setting is 3.228 from the viewpoint of students, which it is above the average. In addition, according to the test *t* and the resulting significance level ($P < 0.001$), it could be claimed that interpersonal communication has a direct and significant impact on stress feeling of nursing students in clinical setting.

In addition, mean and standard deviation of other areas were obtained, respectively, as follows: clinical experiences, unpleasant experiences, environmental factors, educational planning, social personal factors, and factors affecting studying at university, and with a significance level ($P < 0.001$), it can be claimed that these areas have a direct and significant impact on stress feeling of nursing students in the clinical setting, but in the area of humiliating experiences with significance level more than ($P > 0.001$), direct and significant relationship was not found. According to Table 2, the results of variance

Table 1: Examining the relationship between stressful factors identified with stress feelings of students in the clinical setting

Variables	Test value						
	Mean±SD	t-test	df	Significance level	Mean difference	CI of 95% for mean difference	
						Lower limit	Upper limit
Interpersonal communication	3.228±0.605	6.542	299	0.000	0.228	0.159	0.297
Clinical experience	3.238±0.681	6.021	299	0.000	0.237	0.159	0.314
Unpleasant experiences	3.129±0.812	2.752	299	0.000	0.129	0.37	0.221
Environmental factors	3.636±0.567	19.432	299	0.000	0.636	0.592	0.700
Humiliating experiences	3.057±0.795	1.234	299	0.218	0.057	-0.033	0.147
Educational planning	3.491±0.702	12.103	299	0.000	0.491	0.411	0.571
Social personal factors	3.282±0.754	6.472	299	0.000	0.282	0.196	0.368
Factors affecting studying in university	3.353±0.623	9.827	299	0.000	0.353	0.283	0.424

CI: Confidence interval, SD: Standard deviation

analysis to determine the most important stressful factors on stress feeling of nursing students in the clinical setting showed that Chi-square test ($df = 7$ and $X^2 = 215.21$) was significant. In other words, from the viewpoint of students, it was found that the most important stressful factors causing stress in nursing students in clinical setting included environmental factors, educational planning, factors affecting studying at university, personal-social factors, clinical experiences, interpersonal communication factors, unpleasant experiences, and humiliating experiences.

The results given in Tables 3 and 4 indicated that the most stressful factors of clinical education in midwifery students was “the instructor’s behavior and dealing with students” in areas of interpersonal communication, “instructor advice in the presence of patients” in the area humiliating experience, “great number of students in wards” in the area of educational environment, “fear of mistake in clinical practice” in the area of clinical experience, “fear of disease transmission” in the area of unpleasant emotions, “short internship hours” in the area of educational planning, “lack of adequate time to study and do tasks” in the area of studying at the university, and concern on employment and job” in the area of personal social factors. The most stressful factors of clinical education in nursing students was “great number of visitors in clinical setting” in areas of interpersonal communication, “instructor advice in the presence of patients” in the area humiliating experience, “great number of students with same field of study in the hospitalization wards” in the area of educational environment, “fear of mistake in clinical practice” in the area of clinical experience, “fear of physical harm to patient” in the area of unpleasant emotions, “lack of internship objectives” in the area of educational planning, “sensitive and critical nature of job” in the area of studying at the university, and “concern on employment and job” in the area of personal social factors.

Comparing the participants of the study in terms of the total score of the questionnaire showed that the greatest amount of stress in eight areas related to nursing department students. In general, the results indicate that the most stressful area in the

midwifery and nursing department related to clinical education setting, and the most important factor causing stress in this area related to large number of students with the same field of study in the hospitalization wards.

DISCUSSION

This study was conducted effective stressors in clinical education among nursing and midwifery students of Azad University of Mahabad in 2016, in which eight areas of interpersonal communication factors, environmental factors, educational planning factors, humiliating experiences factors, personal–social factors, clinical experiences factors, unpleasant experiences, and factors affecting the study at university were predicted to identify stress factors in the clinical setting. With respect to results of tests, all areas, except for the humiliating experiences in clinical education setting, had significant correlation with stress feeling of nursing and midwifery students, and they can be good predictors for identifying the stress feeling of students. Therefore, problems available in clinical education areas can be identified and effective measures can be taken to resolve them. According to the results of the study, the first area of clinical education in both nursing and midwifery departments was environmental factors of clinical education. In line with other studies, it was found that sources resulting from external and environmental problems play more effective role in creating stress in nursing students compared to individual problems.^[15] Akhavan-Akbari *et al.* in their study suggested that educational planners can provide the proper time conditions in the clinical departments to accelerate the learning process of students. It seems that creating balance student enrollment, community needs, and educational facilities available to be an important step in solving this problem.^[14] The second stressful area in clinical education setting from the perspective of the subjects of study related to educational planning that this factor was the fourth factor in the study conducted by Ziaee.^[16] Nursing students reported lack of clear objectives of internship and midwifery students reported lack of adequate internship hours as the most

important stress factors in this area. In the study conducted by Taghavi Larijani *et al.*, large volume of educational and clinical tasks was considered as the stressful factors in this area.^[17] In this case, Farahnaz in research entitled efficiency in clinical education from the viewpoint of nursing and midwifery students stated that more than half of the students believed that

Table 2: Results and Friedman variance analysis for the variables studied

Dimensions	Mean of ranks	Significance value
Environmental factors	5.88	$\chi^2=215.21$ df=7
Humiliating experiences	3.48	
Educational planning	5.22	Significance value=0.001
Clinical experiences	4.11	
Unpleasant experiences	3.90	
Interpersonal communication factors	4.06	
Personal-social factors	4.53	
Studying at university	4.83	

Table 3: Mean and standard deviation of scores of clinical education stressful factors according to the areas and the field of study of students examined

Areas	Mean±SD	Nursing	Midwifery
Interpersonal communication	3.22±0.60	3.27±0.63	3.16±0.57
Clinical experience	3.23±0.68	3.25±0.65	3.22±0.73
Unpleasant experiences	3.12±0.81	3.09±0.80	3.19±0.82
Environmental factors	3.63±0.56	3.59±0.56	3.71±0.57
Humiliating experiences	3.05±0.79	3.16±0.78	2.90±0.79
Educational planning	3.49±0.70	3.43±0.70	3.58±0.70
Social personal factors	3.28±0.75	3.29±0.72	3.26±0.80
Factors affecting studying at university	3.35±0.62	3.34±0.56	3.36±0.70
Total score	3.29±0.69	3.31±0.51	3.29±0.48

SD: Standard deviation

internship objectives and their duties in the clinical setting were not clear for them^[18] that this result is in line with the result of our study. More cooperation with students and supporting him and giving short opportunities for resting can reduce the severity of this stress. The third stressful area in clinical education from the viewpoint of subjects of the study was factors affecting the study at the university that critical nature of nursing job and lack of adequate time to study and to do tasks in the midwifery department were reported as the most stressful factors in this area. In this regard, we can refer to lack of adequate attention to this issue in the mission and view of nursing and midwifery departments. In this case, obtaining the opinion of the experts in nursing area, inclusion of courses on professional responsibilities and values in educational program of students, and providing consultation for them can be helpful in this regard. Considering the critical nature of this job, dealing with the life of humans, lack of clear professional reasonability during student period, and cultural-social issues related to with active participation of women in society might be involved in this regard.^[18] The fourth stressful area of clinical education from the perspective of participants of the current study related to personal and social factors. In this area, findings suggest that fields study of nursing and midwifery consider the concern on employment and finding as the most important factor causing stress. According to the policies of medical sciences universities in recruiting employees and lack of funds as well as the lack of health centers and hospitals can be reasons on the creation of this concern. Therefore, planning and decisions should be adopted by relevant officials so that necessary budget and facilities to be provided for their future job, which is one of the most critical and stressful jobs. The fifth stressful area from the point of view of participants related to clinical experiences that mistake in clinical practice had the greatest stress-causing level. Kleehammer *et al.* believed that students are concerned on conducting mistakes caused by lack of knowledge and skill in the clinical experiences.^[19] In other studies conducted on

Table 4: Mean and standard deviation of items obtained the highest score in terms of causing stress in each area in the clinical education among the nursing and midwifery students

Areas	Items obtained the highest score in terms of causing stress in each area			
	Nursing	Mean±SD	Midwifery	Mean±SD
Interpersonal communication	The large number of visitors in the clinical setting	3.68±1.14	Professor's behavior and dealing with student	3.59±1.05
Clinical experience	Fear of mistake in clinical practice	4.11±0.97	Fear of mistake in clinical practice	4.13±0.84
Unpleasant experiences	Fear of physical harm to the patient	3.32±1.13	Concerns on transmission of infectious diseases	3.54±1.19
Environmental factors	The large number of students with same field of study in hospitalization wards	4.30±0.87	the large number of students with same field of study in hospitalization wards	4.39±0.89
Humiliating experiences	Instructor advice at the presence of patient and his relatives	3.73±1.27	Instructor advice at the presence of patient and his relatives	3.40±1.3
Educational planning	Lack of clear internship objectives	3.81±1.23	Inadequate hours of internship	3.83±1.31
Social personal factors	Concern on employment and job	3.53±1.23	Concern on employment and job	3.85±1.17
Factors affecting studying at university	Critical nature of job	3.84±1.11	Lack of adequate time to study and to do tasks	4.03±1.11

SD: Standard deviation

students, lack of skill in the care of patients was reported as a stressful factor.^[7,20] The goal of clinical education is to acquire clinical skills, integration of theoretical materials with clinical materials, implementation and application of problem-solving skills, development of professional skills, and teaching professional formal and informal norms to students through their professional socialization process.^[21] Therefore, in the clinical internships, experience opportunity in the real world should be provided to make them able to implement the theory in practice. For this reason, the success of educational program is mainly dependent on the effectiveness of clinical experience of the students.^[22] Thus, a supportive clinical setting has an important role in the transfer of the learning and the objective of clinical education is to provide academic and clinical experiences in the setting facilitating the learning of student as a person providing the care.^[23] The sixth stressful area from the point of view of participants of study in the current study was interpersonal communications that nursing students reported the large number of visitors in the clinical setting and the midwifery students reported the professor behavior and dealing with student as the most important stressful factor in this area. Studies show that the stress is caused by communication of students with medical staff in clinical setting, disrespect of ward staff, and wander of students.^[21] One of the main factors that affect students' clinical learning setting is students' communication with nurses and head nurses.^[24] In a study, the role of members of the health-care team to communicate with students was reported negative and the lack of protection of individual rights on the part of staff and lack of proper communication of doctors, head nurses, and others with the students was reported as the most important clinical education problem,^[25] which is in line with the results of the present study. In another study, majority of students evaluated the cooperation of staff, students, and patients at the level between good and moderate.^[26] A positive clinical environment as a factor affecting student depends on the cooperation of employees, optimal space, and accepting students as younger colleagues in these communications.^[27] Here, the role of clinical instructors in proper communication between the medical team as an influential person in creating a friendly and supportive environment for students has a special importance. These results indicate the importance of the communication between professors and students. Students always expect that their instructors have a proper communication and relationship and scientifically have the latest information and achievements. In the case of the large number of visitors that prevent the attention and concentration of students and instructors, it is necessary that monitoring on these visitors and their control by hospital officials to be increased so that with basic precautions in this area the way to educate people who take the responsibility of health in community to be paved. Unpleasant experiences area was the seventh stressful factor in clinical education among the studied people that the highest degree of concern from the perspective of nursing students in this area was infectious disease transmission, and the highest degree of concern from the perspective of midwifery students

was the fear of physical harm to patients. In other studies, one stresses reported as one of the important stresses of nursing and midwifery students in the clinical setting is fear of infectious disease.^[7,18] In the study conducted by Rostamnejad *et al.* to study the stressful positions in the first clinical experience from the viewpoint of anesthesiology and surgery room students, fear of diseases such as AIDS and hepatitis was reported as the stressful factor in clinical environment,^[28] which one of the reasons for it could be lack of knowledge of students on the ways of transmission of the disease and the way to prevent these diseases. This item can be trained to students in the theoretical courses before their entering to hospital environment so that students in the internship and educational course can perform their tasks effectively. In a study, the results also have shown that adequate training of preclinical skills is among the effective factors on students' learning and reducing the stress on tin internship settings.^[29] The last stressful area among study participants is humiliating experiences that is unlike most studies, in which this area has been reported as the first area of stress.^[7,30] In this area, it has been reported that advice of professor at the presence of staff and physicians causes the highest degree of stress. In some other studies, the advice of the instructor at the presence of staff and physicians has been reported as the most stressful factor,^[7,14] which is in line with the present study. The consequences of this issue are harm to the dignity and self-esteem of the students followed by being reproached in public by the instructor. In the study by Tang *et al.*, the most important feature of effective instructor is interpersonal communication, especially subgroup of respect to students.^[31] Experts believe that clinical instructors have great impact in increasing the clinical education quality of students and they should perform their role as function pattern due to spirit of altruism and communication and clinical skills, and they should know that proper dealing with student is an important factor in creating interest in him to learning setting, enhancing the clinical skills, and reducing the stress, and it can make the clinical experiences pleasant.^[8,18,32,33]

CONCLUSION

According to the results of this study, there are several stressful factors in the Nursing and Midwifery School of Islamic Azad University of Mahabad that is necessary officials to identify these factors to adopt proper strategies to reduce stress of students. In addition, due to the harmful effects of stress on health and performance of medical students of medical sciences, officials of universities must consider the stress management education program in the beginning of the clinical education and at least make the students familiar with stressful sources known in the clinical education setting (as specified in this study). In addition, the students must be familiar with accessible centers at the university (faculty) to find the knowledge on sources of stress in clinical education and the way to cope with these factors during the education, and this is impossible just by holding stress education workshop and the ways to cope with it. Whoever, the role of clinical instructor

should not be ignored in this regard since clinical instructor can play major role in reducing the stress and facilitating the learning of students in the clinical education, so providing training for them and using experienced clinical instructors one of the major steps of the educational system to reduce the students' stress. It is recommended that further studies to be conducted on students of other departments and in other medical sciences universities according to the identification of eight areas identified in this study so that by accurate evaluation of clinical problems, officials can take necessary steps to resolve them. Furthermore, the limitations of this study are research on medical students, especially nursing and midwifery students who are in the clinical environment and interacting with patients and cannot be extended to other educational groups.

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Conflicts of interest

There are no conflicts of interest.

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