

# Evaluation of medical internship students' satisfaction with education in the hospital emergency department

FarzadBozorgi<sup>1</sup>, SeyedehMasoumehPashaie<sup>2</sup>, TourajAssadi<sup>3</sup>, Mohammad Sazgar<sup>4</sup>, Mina Yousefi<sup>5</sup>, SeyedHoseinMontazer<sup>6</sup>, Seyed Mohammad Hosseininejad<sup>7\*</sup>

<sup>1</sup>Department of Emergency Medicine, Gut and Liver research center, Faculty of Medicine, Mazandaran University of Medical Sciences, Sari, Iran

<sup>2,4,6</sup>Department of Emergency Medicine, Faculty of Medicine, Mazandaran University of Medical Sciences, Sari, Iran

<sup>3,7</sup> Department of Emergency Medicine, diabetes research center, Faculty of Medicine, Mazandaran University of Medical Sciences, Sari, Iran

<sup>5</sup> Student Research Committee, Faculty of Medicine, Mazandaran University of Medical Sciences, Sari, Iran

Email: [drhoseininejad@yahoo.com](mailto:drhoseininejad@yahoo.com)

## Abstract

**Introduction:** Educational evaluation has an important role in decision making to find better educational systems and advance educational goals. Accordingly, this study was conducted to evaluate the satisfaction of medical students with education in the emergency department of the hospital.

**Materials and Methods:** This study was a descriptive, analytical and cross-sectional study. The study population consisted of internship medical students who were included in the study by convenience sampling method. Data were collected by a researcher-made questionnaire that included two sections of demographic information and specialized questions (related to satisfaction). Finally, the data were analyzed using SPSS version 18.

**Results:** The highest level of students' satisfaction with professors was in the items of discipline, creating interest in students and providing the necessary clinical training by professors, while the lowest level of satisfaction was linked to professors' treatment of students. Their level of satisfaction with the nurses was poor. Students' satisfaction with the facilities was good, but they were not very satisfied with the educational and welfare facilities. The highest level of satisfaction of residents was easy access and discipline of residents and the lowest level of satisfaction was related to creating interest in students and appropriate behavior. There was no statistically significant relationship between the gender of emergency department students and their satisfaction with professors ( $P = 0.271$ ), nurses ( $P = 0.974$ ), residents ( $P = 0.135$ ) and emergency department ( $P = 0.165$ ). No statistically significant relationship was found between students' age and their satisfaction with professors ( $P = 0.428$ ), residents ( $P = 0.213$ ) and emergency department ( $P = 0.861$ ).

A statistically significant relationship was found between the age of interns and their satisfaction with emergency department nurses ( $P = 0.009$ ). The grade point average of all students was not significantly related to their satisfaction with professors ( $P = 0.270$ ), nurses

*(P = 0.571), and emergency department (P = 0.214). However, there was a statistically significant relationship between the total grade point average of students and their level of satisfaction with residents (P = 0.003).*

*Conclusion: The level of students' satisfaction with the educational situation was reported to be moderate, but the situation of student was found to be far from ideal.*

*Keywords: Satisfaction, Interns, Emergency Department*

## **1. Introduction**

Proficiency in clinical practice is essential for the medical profession. Gaining the necessary competence in this field requires spending time, patience and practice in a suitable context (1). One of the most important parts of medical education is outpatient medicine and emergency medicine, which is deeply related to the future of physician work (2). The emergency department is of special importance in the field of medical education, because in this department the student acquires experience and skills in dealing with critical situations. Although medical students are always told that the emergency department is a good place to learn a lot of skills. And they can learn important emergency medicine training by devoting their free time, but most students get immersed in emergency care without getting results. Due to little control and guidance at this time, training and learning levels are very low (3). On the other hand, medical students consider clinical education to be the most important part of their education and raise their greatest problems and dissatisfaction with it (4).

In the prestigious universities of the world, great importance is given to educating medical students about emergency patients and how to deal with them. In these centers, several educational programs have been determined theoretically and practically based on the importance and frequency of emergency issues in accordance with educational standards, which include training skills in assessing the patient's condition, resuscitation and injury prevention, diagnosis, health care system management, and all emergency issues (5). Various studies on learning clinical skills have shown that students are anxious in their initial encounters with patients, and this anxiety is often related to the performance of practical skills (6). Undoubtedly, such disabilities cause stress among young physicians and may prevent them from providing the desired services to patients. Due to the fact that the possibility of correcting these disabilities after graduation is often limited, therefore, special attention should be paid to the training of these skills during the course of medical education (7).

Regarding the importance of the emergency department of the internship, the current study aimed to conduct a survey about current status of interns.

## **2. Materials and methods**

This descriptive, analytical cross-sectional study was performed on medical students of Mazandaran- Iran University of Medical Sciences by convenience sampling method. Data were collected by a questionnaire and students who had inclusion and exclusion criteria were included in the study.

Inclusion criteria include all internship medical students, and having informed consent . Exclusion criteria were lack of informed consent, and not completing a questionnaire

### ***Procedure***

Initially, the researcher-made questionnaire was prepared by the Education Development Center (EDC) of the university based on the internal evaluation standards provided. Also, the items of this questionnaire were prepared based on the survey questions of the Vice Chancellor for

Education of the medical school from the practical sections of the opinions and demands of the target group students, which were previously collected in collaboration with the faculty students' union council, and questions from other studies. Its Face And Content Validity was approved by the professors and experts of the EDC group and its reliability was calculated by conducting a pilot study among 20 students using Cronbach's alpha coefficient (0.83-0.86).

The questionnaire consisted of two parts. The first part consisted of demographic information (i.e., age, gender, marital status, total grade point average and pre-internship score) and the second part included specialized questions related to satisfaction which was divided into five parts: The satisfaction section of the professors includes 9 questions, the section related to the satisfaction of the assistants includes 8 questions, the section related to the satisfaction of the nurses includes 4 questions, the section related to the facilities and equipment of the department includes 3 questions, the section related to the student itself includes 10 questions and finally one question was about the overall satisfaction from the department. The questionnaire was scored according to a 5-point Likert scale, which was strongly agree, agree, have no opinion, disagree and strongly disagree (strongly disagree (1) to strongly agree (5)). This questionnaire was completed by students who have passed the emergency department course.

### **Statistical analysis**

After collecting and classifying the data, statistical analysis of the data was performed using Spss-18 software. Data were described using central indices (dispersion) and absolute and relative frequency. Statistical analysis of data was performed on quantitative variables using t-test and on qualitative variables using quadratic test. P-value less than 0.05 was considered statistically significant.

### **Ethical considerations**

Students were assured that their first and last name would remain confidential in the study. The information was used only in the research results. Students were reassured that participation or non-participation in the study had no effect on their intra-departmental assessment.

## **3. Results**

The number of students in this study was 70, of which 45 were female (64.3%) and 25 were male (35.7%). 55 (78.6%) of the participants were single and 15 (21.4%) were married. The mean age of the students was  $25.24 \pm 1.49$  years. The mean age of women ( $24.97 \pm 0.79$ ) was significantly lower than men ( $25.72 \pm 2.20$ ) ( $P = 0.047$ ). The total grade point average of students was  $15.56 \pm 0.92$  which was not statistically significant between the two sexes ( $P = 0.25$ ). The mean pre-internship score of students was  $128.44 \pm 15.19$  which was not statistically significant between the two sexes ( $P = 0.21$ ).

The level of students' satisfaction with professors, nurses and emergency department facilities is given in Table 1. As can be seen in this table, the highest level of students' satisfaction with professors is in the items of discipline, creating interest in students and providing the necessary clinical training by professors, respectively, and the lowest level of satisfaction was related to professors' treatment with students. In the case of nurses, the students were most satisfied with the attitude of the nurses. However, the level of satisfaction with nurses was assessed as poor. In evaluating the students' satisfaction with the facilities of the emergency department, it was found that the students are well satisfied with the consumption facilities (sterile gas, Plaster, suture sets, etc.) but they are not very satisfied with the educational and welfare facilities.

**Table 1:** Students' satisfaction with professors, nurses and emergency department facilities

Factors under consideration		Completely agree	Agree	No idea	Disagree	Completely disagree
Professors	They are regular	23 (33.3%)	33 (47.8%)	13 (18.8%)	-	-
	Provide the necessary clinical training	16 (23.5%)	35 (51.5%)	11 (16.2%)	6 (8.8%)	-
	Proper behavior	13 (18.8%)	26 (37.7%)	14 (20.3%)	12 (17.4%)	4 (5.7%)
	Answer the questions	17 (24.3%)	32 (45.7%)	14 (20%)	7 (10.0%)	-
	Creating interest in students	19 (27.1%)	37 (52.9%)	9 (12.9%)	5 (7.1%)	-
	Easy access to the professor	11 (15.9%)	21 (30.4%)	25 (36.2%)	11 (15.9%)	1 (1.4%)
	Informing the educational goals of the department	11 (15.9%)	22 (31.9%)	23 (33.3%)	10 (14.5%)	3 (4.3%)
	How to evaluate and take the exam at the end of the course	12 (17.4%)	26 (37.7%)	24 (34.8%)	7 (10.1%)	-
	Overall satisfaction with the performance of the professor	13 (18.8%)	29 (42%)	18 (26.1%)	8 (11.6%)	1 (1.4%)
Nurses	Proper behavior	10 (14.3%)	20 (28.6%)	10 (14.3%)	20 (28.6%)	10 (14.3%)
	Proper cooperation	4 (5.7%)	21 (30%)	13 (18.6%)	21 (30%)	11 (15.7%)
	Answer the questions	4 (5.7%)	13 (18.6%)	20 (28.6%)	20 (28.6%)	13 (18.6%)
	Overall satisfaction of nurses' performance	4 (5.7%)	15 (21.4%)	17 (24.3%)	24 (34.3%)	10 (14.3%)
Department facilities	Consumer facilities	25 (35.7%)	32 (45.7%)	5 (7.1%)	7 (10.0%)	1 (1.4%)
	Educational facilities and equipment of the department	8 (11.4%)	27 (38.6%)	11 (15.7%)	20 (28.6%)	4 (5.7%)
	Welfare facilities	4 (5.7%)	19 (27.1%)	13 (18.6%)	23 (32.9%)	11 (15.7%)

Table 2 examined students' satisfaction with their performance and that of their assistants. As can be seen in this table, the highest level of student satisfaction was related to their performance in the emergency department and their interaction with other students, and the lowest level of satisfaction was associated with the quality of practical skills training, usefulness of morning reporting sessions and regular educational classes. In the case of residents, the highest level of satisfaction included easy access to residents and regularity of residents. The lowest level of satisfaction of residents was reported in creating interest in students and appropriate behavior.

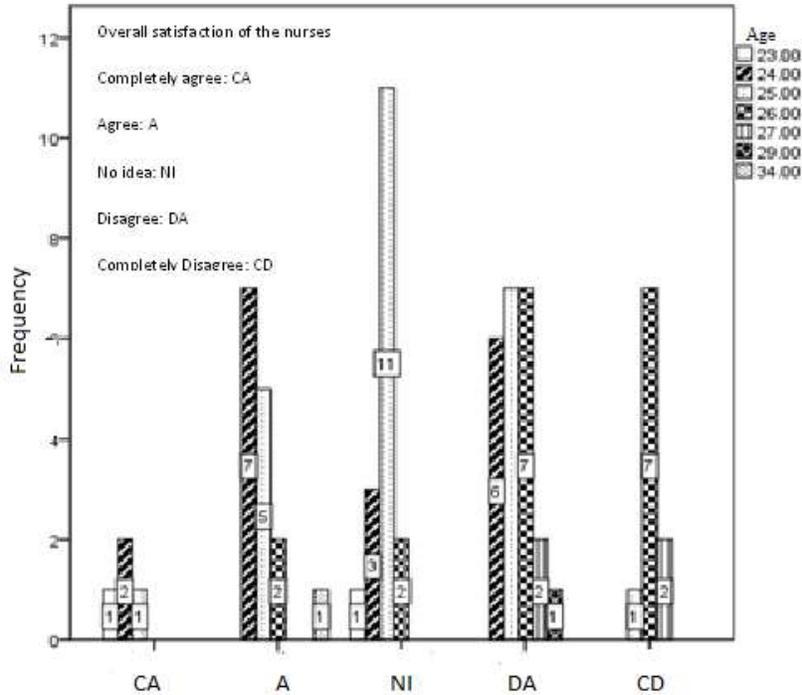
**Table 2:** Students' satisfaction with their performance and residents

Factors under consideration		Completely agree	Agree	No idea	Disagree	Completely Disagree
	Gain the necessary capabilities in the department	4 (5.7%)	49 (70%)	12 (17.1%)	3 (4.3%)	2 (2.9%)
	Quality of practical skills	7 (10.0%)	36 (51.4%)	11 (15.7%)	14 (20%)	2 (2.9%)

<i>student</i>	training					
	Satisfaction with your performance in the department	17 (24.3%)	42 (60%)	8 (11.4%)	3 (4.3%)	-
	Interact with other interns in other groups	15 (21.4%)	38 (54.3%)	14 (20%)	3 (4.3%)	-
	Proportion of education to the needs of students and society	10 (14.3%)	36 (51.4%)	13 (18.6%)	9 (12.9%)	2 (2.9%)
	Appropriateness of facilities and equipment of the department	7 (10.0%)	29 (41.4%)	18 (25.7%)	14 (20%)	2 (2.9%)
	Regular training classes	6 (8.6%)	25 (35.7%)	20 (28.6%)	18 (25.7%)	1 (1.4%)
	Usefulness of training classes	7 (10.0%)	35 (50%)	22 (31.4%)	6 (8.6%)	-
	Usefulness of morning reporting sessions	6 (8.6%)	34 (48.6%)	19 (27.1%)	9 (12.9%)	2 (2.9%)
	Collaboration of professors and residents with research projects	11 (16.7%)	33 (50%)	15 (22.7%)	6 (8.6%)	1 (1.4%)
	<i>Residents</i>	Regularity of residents	17 (24.3%)	39 (55.7%)	13 (18.6%)	1 (1.4%)
Provide clinical training		13 (18.6%)	21 (30%)	24 (34.3%)	12 (17.1%)	-
Proper behavior		11 (15.7%)	27 (38.6%)	23 (32.9%)	9 (12.9%)	-
Answer the questions		13 (18.6%)	35 (50%)	11 (15.7%)	11 (15.7%)	-
Creating interest in students		11 (15.7%)	17 (24.3%)	25 (35.7%)	11 (15.7%)	6 (8.6%)
Easy access to assistants		22 (31.4%)	30 (42.9%)	12 (17.1%)	5 (7.1%)	1 (1.4%)
Informing the educational goals of the department		14 (20%)	27 (38.6%)	16 (22.9%)	10 (14.3%)	3 (4.3%)
Overall satisfaction of the assistants		19 (27.1%)	23 (32.9%)	17 (24.3%)	10 (14.3%)	3 (4.3%)

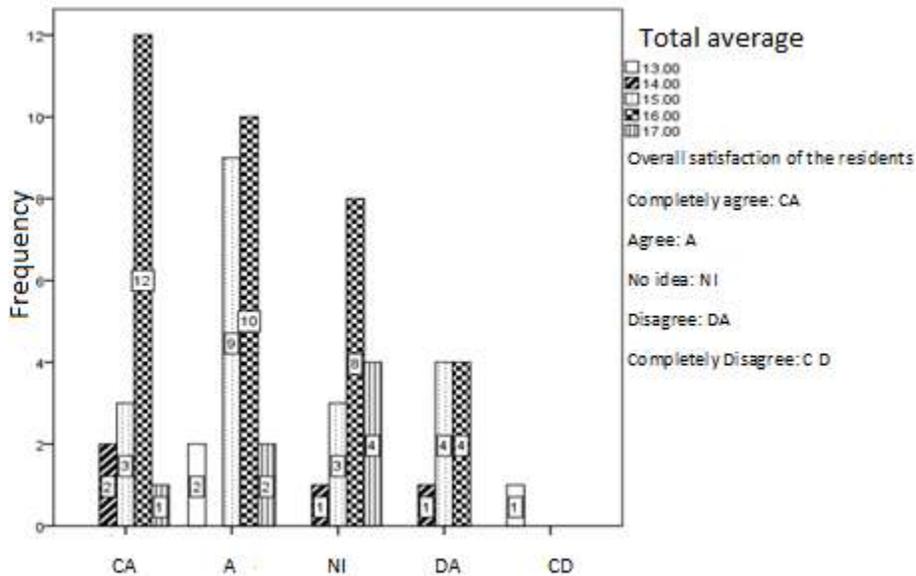
There was no significant relationship between the gender of emergency department students and their level of satisfaction with the professors in this department ( $P = 0.271$ ). Also, there was no statistically significant relationship between gender and students' level of satisfaction with emergency nurses ( $P = 0.974$ ). In addition, no statistically significant relationship was found between gender and students' level of satisfaction with residents ( $P = 0.135$ ) and emergency department ( $P = 0.165$ ).

No statistically significant relationship was found between students' age and their satisfaction with professors ( $P = 0.428$ ) and assistants ( $P = 0.213$ ) in the emergency department. However, there was a statistically significant relationship between students' ages and their satisfaction with emergency department nurses, where increasing age was linked to decreased students' satisfaction with emergency department nurses ( $P = 0.009$ ) (Figure 1). In addition, no statistically significant relationship was found between students' age and their satisfaction with the emergency department ( $P = 0.861$ ).



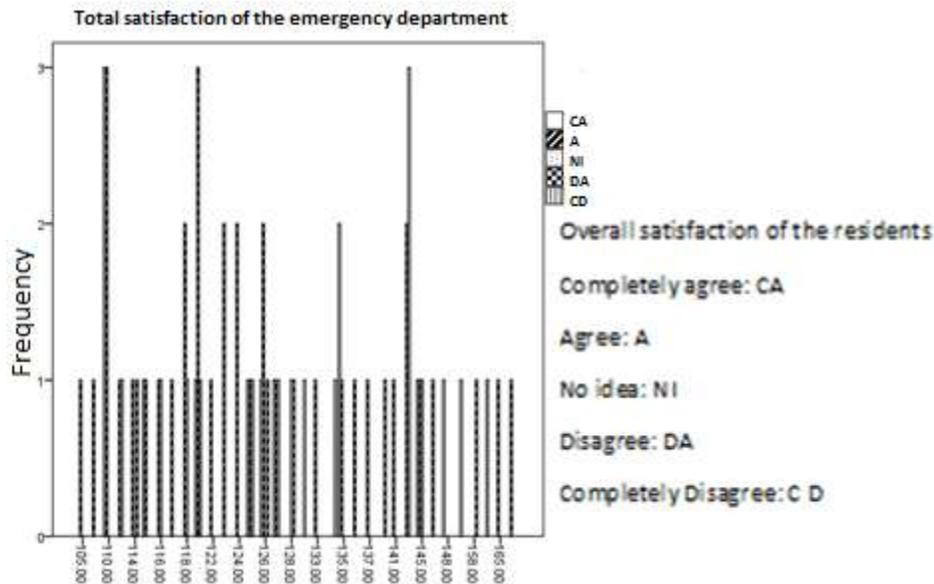
**Figure 1:** Relationship between students' age and their satisfaction with emergency department nurses.

There was no statistically significant relationship between the total grade point average of students and their satisfaction with professors ( $r: 0.259, P = 0.270$ ) and emergency department nurses ( $r: 0.313, P = 0.571$ ). However, a statistically significant relationship was found between the total grade point average of students and their satisfaction with residents ( $r: 0.201, P = 0.003$ ) (Figure 2). However, the total grade point average of the students was not found to be significantly linked to their satisfaction with the emergency department ( $r: 0.297, P = 0.214$ ).



**Figure 2:** Relationship between total students' GPA and their satisfaction with emergency department assistants

There was no statistically significant relationship between students' pre-internship scores and their satisfaction with professors ( $r: 0.164, P = 0.870$ ), nurses ( $r: 0.126, P = 0.156$ ) and emergency department residents ( $r: 0.310, P = 0.348$ ). However, students' pre-internship score had a statistically significant relationship with their satisfaction with the emergency department ( $r: 0.206, P = 0.045$ ) (Figure 3).



**Figure 3:** The relationship between students' pre-internship scores and their satisfaction with the emergency department

#### 4. Discussion

The emergency department is of special importance in the field of medical education, because in this department the student acquires experience and skills in dealing with critical situations (8). Therefore, this study aimed to assess the satisfaction of medical interns with education in the emergency department.

Based on the results presented here, the highest level of students' satisfaction with professors was reported in items of discipline, creating interest in students and providing the necessary clinical training, respectively, and the lowest level of satisfaction was related to professors' treatment with students. Students' satisfaction with emergency nurses was assessed as poor. Although the students' satisfaction with the emergency department facilities was reported to be good, their level of satisfaction with the educational and welfare facilities was low. Students' satisfaction with their performance and interaction with other students was also reported to be good, while their level of satisfaction with the quality of practical skills training, the usefulness of morning reporting sessions and the regularity of training classes were assessed to be moderate. Regarding residents, the highest level of student satisfaction included easy access to residents and regularity of residents, and the lowest level of satisfaction from residents was reported in creating interest in students and appropriate treatment. Various studies have been conducted in this regard.

A study by Heydari et al. in 2015 examined the situation of education in the emergency department with a survey of interns. 55% of study participants were women. The mean age of participants was  $24.7 \pm 1.5$  years. According to the results of Heydari's study, the level of interns' satisfaction with training in the emergency department of the hospital was moderate, and the

majority of interns were of the opinion that there was a lack of training in patient bedside and theoretical training. However, an acceptable satisfaction was observed with the amount and adequacy of practical skills training (9), which was in line with the present study.

Dehghani et al. in their study stated that the most important variables related to academic satisfaction from the students' point of view included the use of experienced teaching staff to provide courses, instilling self-confidence by professors and officials and appropriate communication with mutual respect between students and professors. The least effective factors in academic satisfaction were holding classes in the morning, teaching and lecturing methods, and creating sufficient motivation and interest by professors (10), which was also in line with our study, but in a study conducted by Mortazavi et al., the level of interns' satisfaction with the performance of professors and the way of teaching was moderate and the adequacy of equipment and amenities was reported to be high, which is not consistent with the results of our study (11). In contrast, in a study conducted by Hosseinpour et al., half of the interns were dissatisfied with the current situation (12). In the study of Alaa et al., the level of interns' satisfaction with the educational status of the emergency department (Imam Reza Hospital, Tabriz) was reported to be moderate to high (3).

Masoumi and the Dastgiri were evaluated by the satisfaction of the interns of the emergency medicine department of Isfahan University of Medical Sciences. In their study, almost similar to the present study, 71% of students were satisfied with the professors of the emergency department. Furthermore, the best indicators of professors, which were accompanied by high satisfaction of interns, included appropriate discipline and attitude, which in our study, students' satisfaction with professors' attitude was almost moderate (13).

By analyzing the relationship between students' basic information (such as gender, age, total grade point average and pre-internship score) with their level of satisfaction with professors, resident, nurses and the emergency department, a significant association of interns' total grade point average with their satisfaction with residents was found. There was a statistically significant relationship between interns' pre-intern scores and their satisfaction with the emergency department. Also, there was a statistically significant relationship between the age of interns and their satisfaction with emergency department nurses, so that with increasing age of interns, a decreased interns' satisfaction with emergency department nurses was found. Increasing the age of interns and making them more familiar with the rules and duties of medical staff is accompanied. On the other hand, some duties of medical personnel such as nurses in educational departments are imposed on interns. Together, these factors can justify the relationship between the age of interns and reduce their satisfaction with nurses.

In a study conducted by Ahmadinejad et al. in Tehran, they examined the satisfaction of interns at Tehran University of Medical Sciences with the quality of clinical education using standard forms of job satisfaction assessment. They stated that demographic factors, time allocated for training, the educator and the use of teaching aids were not significantly associated with the satisfaction of the subjects (14). However, in a study conducted by Hosseinzadeh et al., They examined students' satisfaction with the programs and educational processes of Hamadan University of Medical Sciences and stated that the level of satisfaction of medical students is related to the length of attendance and the age of the student (15).

Zamanzad et al. conducted the study with the aim of assessing the level of satisfaction and evaluation of intern medical students in the quality of clinical education at Shahrekord University of Medical Sciences. The results of their study showed that the level of satisfaction with clinical education has no significant relationship with age, gender and educational level.

However, in their study, the level of satisfaction with the women's section was significantly associated with the score of basic sciences and internships (16).

## 5. Conclusion

The level of students' satisfaction with the educational situation was found to be moderate, but the situation of students was found to be far from ideal.

## 6. References

- 1- Dent JA, Harden RM. A practical guide for medical teachers. 1th ed. London: Churchill Livingstone; 2001.
- 2- Eskrootchi R, EbadiFardAzar F, Abolhassani H, Kahouei M: A survey on medical student's information needs in Iran University of Medical Sciences (IUMS) for emergency clinical education. *Journal of Health Administration* 2008, 11(33):69-76.
- 3- Ala A, Rajaei R: Interns' Satisfaction Rate from Educational Status of Emergency Ward in Emam Reza Hospital of Tabriz during Academic Yearsof 2007-2008. *Iranian Journal of Medical Education* 2010, 10(3).
- 4- Wilkinson TJ, Frampton CM. Comprehensive undergraduate medical assessments improve prediction of clinical performance. *Med Educ.* 2004; 38(10): 1111-16.
- 5- Johnson GA, Pipas L, Newman N. The emergency medicine rotation, A unique experience for medical status. *J Emerg Med.* 2002; 22(3): 370-11.
- 6-Kazemi T, Khazaei T, Zolfaghari B, Sayah Z: The Effect of Using Cardiology Ward Logbook on Students Training in Birjand University of Medical Sciences. *Iranian Journal of Medical Education* 2010, 10(3).
- 7-Fatehi F, Ghassemi M, Sabouri M, Refaei E. [Teaching Common Emergencies to Medical Students: An Experience]. *Iranian Journal of medical Education* 2002; 2(1):45-52.
- 8- Eddock CA, Hoellein AR, Wilson JF, Caudill TS, Griffith CH. Do pressure and fatigue influence resident job performance? *Med Teach* 2007; 29(5):495-49.
- 9- Heydari F, Amini M, Mannani A, Esfandiari S, Meibodi MK: Education in Emergency Department from the Viewpoint of Medical Students. *Iranian Journal of Emergency Medicine.* 2015;2(2):93-97.
- 10- Dehghani A, Baharlou R, Abadi F, Zarei Z, Mahboudi L: Effecting Factors on Academic Satisfaction; Viewpoint of Jahrom University of Medical Sciences Students. *Education Strategies in Medical Sciences.* 2014; 7(3):147-154.
- 11- MortazaviSAA, Razmara A: Medical Student Satisfaction in Different Educational Locations. *Iranian Journal of Medical Education.* 2001; 1(3):51-54.
- 12-Hosseinpour M, Samii H: Assessment of medical interns opinion about education in surgery courses in Isfahan University of Medical Sciences. *Iranian Journal of Medical Education* 2001, 1(3):30-35.
- 13- Masoumi B, Dastgiri M. Satisfaction of medical interns with the quality of clinical education in emergency medicine at Isfahan University of Medical Sciences. *Journal of Isfahan Medical School.* 2010; 28 (121): 1617-27.
- 14- Ah, Zahra, Zi, Vahid, M,SAIreza. Survey of interns' satisfaction of Tehran University of Medical Sciences with the quality of clinical education using standard forms of job satisfaction assessment.*Iranian Journal of Medical Education.* 2002; 2(2): 7.

- 15- Hoseinzadeh E, Hamidi Y, Roshanaie G, Cheraghi P, Taghavi M, Azizi S, Mohammad Fam I: Evaluation of Student Satisfaction from Hamadan University of Medical Sciences Educational Process and Programs in 2011-2012. Pajouhan Scientific Journal 2013, 11(3):37-44.
- 16- B Zamanzad, M Moezie, HA Shirzad. Survey of satisfaction and evaluation of trainee and intern medical students of the quality of clinical education in Shahrekord University of Medical Sciences. Scientific Journal of Semnan University of Medical Sciences. 2007; 9(1): 13-20.