



Examining the Internship Challenges of Students of the Operating Room and Anesthesia Fields of Shahroud University of Medical Sciences

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Abstract

Background: Clinical training is an important and fundamental part of training in the operating room, the presence of any problems in clinical training will cause problems in the efficiency and effectiveness of this part of training. This study was conducted with the aim of investigating the internship challenges of students of the operating room and Anesthesia fields of Shahroud University of Medical Sciences.

Methods: This descriptive-analytical study was conducted by census method on 113 students of Anesthesia and operating room of Shahroud University of Medical Sciences. that a series of entry and exit criteria were set at the beginning of the work. The data was collected with the help of the demographic information questionnaire and the Tolt et al. questionnaire, after which the data was entered into SPSS 18 and analyzed with the help of descriptive and analytical statistics.

Results: In this study, the results showed that the average age of the participants was 22.47 ± 3.81 years and most of the participants were female 63 (55.8%), operating room field 59 (52.2%), interested in the field of study was 46 (40.7%), having satisfaction with the field of study 84 (74.3%), average economic status 81 (71.7%), non-native 71 (62.8%), dormitory residence 57 (50.4%), entry year 1401 (29.2%) 33 and age 21-18 Year 62 (54.9%) Bo Also, there was a significant relationship between gender (0.001), field (0.001), satisfaction with field of study (0.001), economic status (0.001) and being native (0.001) with internship challenges. Among the subgroups of internship stressors, the most variable in both fields of Anesthesia was 18.88 ± 4.71 and the operating room was 18.98 ± 4.50 in the educational environment. And there was a significant relationship between the two groups in all subgroups, also the highest mean in the subgroups under investigation was the educational environment subgroup of 18.94 ± 4.56 .

Conclusions: Since the educational environment plays an important role in solving educational challenges, special attention should be paid to these environments. Based on the findings of the current research, clinical education officials should reduce the challenging factors of clinical education by adopting and implementing effective decisions.

Keywords: Internship, Challenge, Operating room, Anesthesia, Medical sciences.

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Introduction

Clinical internships are crucial to medical education, yet students in high-risk fields like anesthesia often face systemic barriers. One such barrier is clinical training; Clinical education is one of the critical phases of education that play a major role in shaping the professional abilities of learners and is the basic and important part of training medical science staff as responsible for maintaining and promoting the health of society so that students can develop their theoretical knowledge. apply in a practical way. The value of ideal clinical training (Rather, it is a comprehensive and multifaceted process that aims to train physicians, nurses, and other health professionals who are skilled, committed, ethical, and up-to-date with current science. This training takes place in real-world patient care settings and comes with its own challenges, dynamics, and complexities.) in personal and professional development, as well as clinical skills, is undeniable. Because clinical education forms the basis of educational programs in such a way that the more productive the clinical education is, the more appropriate the education will be with speed and quality.¹⁻³ In fact, clinical education can be considered as a set of activities that facilitate learning in the clinical environment, the purpose of which is to create measurement changes in the student to perform clinical care. For this purpose, the duty of nursing and paramedical faculties is to train students who are able to provide clinical services based on the latest scientific advances and can meet the needs of clients with sufficient clinical knowledge and skills, and university faculty members are responsible for training a new generation that is necessary to benefit from these services. Therefore, clinical professors have a key role in creating a suitable work environment in internship and internship and can play an effective and constructive role by providing new information, providing comprehensive support to students, and exercising control over their performance in clinical learning.³⁻⁶

Internship courses play an essential role in shaping the basic skills and professional capabilities of medical students. So that many students have claimed that clinical experience enables students to acquire the necessary competence and adequacy in clinical skills and theoretical knowledge. Also, the complexity and vital role of clinical internships has been confirmed in studies conducted in other countries, so that providing diverse learning opportunities, receiving appropriate feedback from instructors and the atmosphere of the clinical environment are considered important factors in clinical



education.⁷⁻⁹ Therefore, in order to provide competent services to the patients and to satisfy them, it is necessary for the students of Anesthesia and operating room to be fully familiar with practical skills according to the needs of the day. But many studies show that there is a relatively deep gap in the process of classical education and the practice of clinical care, so that the existing clinical education does not give the students the necessary ability to acquire clinical skills. Also, other studies have shown that the quality of clinical education is not good, and he pointed to shortcomings such as not valuing clinical education, lack of access to clinical instructors, lack of proper coordination between the clinical education of the faculty, hospital facilities, and lack of integration between theoretical and clinical education. So that the new graduates of nursing, operating room and Anesthesia, despite having a strong theoretical base, do not benefit from sufficient proficiency and skills in clinical environments and are weak in the problem-solving process.¹⁰⁻¹²

Medical students face many challenges and problems during their studies. These challenges not only cause academic failure, but can also affect their personality development and cause many undesirable behaviors in them. This can make students feel anxious. Based on the available studies, the presence of high levels of tension and anxiety during clinical training has an adverse effect on the ability of students. It paralyzes their effective performance and leaves negative effects on students' learning and success.¹³⁻¹⁵ Haqqani divided the challenges of clinical education into micro challenges (at the university level) and macro challenges (at the national level) or into challenges related to the instructor, learner, educational program and clinical environment and has drawn their influence patterns scientifically. In the study of Meridi et al., the highest amount of stress in the five areas was related to midwifery students, and the most stressful area was related to the area of unpleasant feelings. Since the first step to solve the problems is to recognize them, those involved in education should identify and introduce the factors, affecting the quality and quantity of clinical education, as well as the negative or inhibiting factors of online education.¹⁶⁻¹⁸ In another study, problems such as insufficient access to welfare facilities and education, non-cooperation of the health and treatment group, and the dispersion of internships in clinical departments during the course have been mentioned as the basic problems of clinical education. As a result, educational institutions, like any other institution, may malfunction due to problems and deficiencies and may not be able to perform their duties properly. For this reason, recognizing the problems, formulating and implementing programs, as well as paying attention to the quality of education has a special place to achieve the main goals of educational centers. Therefore, identifying the challenges of the clinical education environment is one of the most important effective measures in this direction.¹⁹⁻²² As recipients of educational services, students have direct and direct interaction with this process and are the best source for identifying clinical education problems. Since the mental and physical health of each student is the source of a

very important effect in the development and growth of the country, the necessity of researching the tension and knowing the factors related to it among the student communities is of particular importance.^{14, 15, 18, 23} Therefore, this research was conducted with the aim of investigating the internship challenges of students of the operating room and Anesthesia fields of Shahroud University of Medical Sciences.

Materials and Methods

This descriptive-analytical study was conducted using a cross-sectional method and census sampling method. 113 students of anesthesia and operating room at Shahroud University of Medical Sciences participated in 1402. At the beginning of the study, a series of entry and exit criteria were considered for the study. The entry criteria for the study were 1- being an anesthesia and operating room student, 2- students who had completed at least one semester since the start of their internship, and the exit criterion was 1- the student did not want to participate in the study. The required data were collected using two questionnaires. The first questionnaire is related to demographic information. It includes (gender, age, field of study, interest in the field of study, type of field of study, satisfaction with the field of study, economic status, parents' occupation, parents' education, being native, place of residence, year of entering the university) and the second questionnaire is the clinical education challenges of Tolit et al., which was created and used in 2018.¹⁴ It consists of 31 questions, and each question was set using a 5-point Likert scale. The questionnaire includes the following areas: Educational environment (questions 1 to 6) score 6 to 36, interpersonal communication (questions 7-12) score 6 to 36, clinical experience in clinical education (questions 13-18) score 6 to 36, humiliating experiences (questions 19-24) score 6 to 36, unpleasant feelings (questions 25-31) score 7 to 42. After the validity of the questionnaire content by ten members of the university faculty, the Reliability confirmed via test-retest ($r=0.8$) with 10 participants retested after 1 week. And for each subgroup, the average of each subgroup was calculated. After collecting the data, Data analyzed via SPSS v18 using descriptive statistics (mean, SD) and tests (Pearson correlation, chi-square, t-test, ANOVA).

Results

In this study, a total of 113 people participated in the study, and the average age of the participants was 22.47 ± 3.81 years. And most of the participants were female 63 (55.8%), operating room field 59 (52.2%), high interest in field of study 46 (40.7%), having satisfaction with field of study 84 (74.3%), average economic status 81 (71.7%), 71 (62.8%) were non-native, 57 (50.4%) were living in a dormitory, 33 (29.2%) entered the year 2022, and Age 18–21 years: 62 (54.9%). Also, there was a significant relationship between gender (0.001), field of study (0.001), satisfaction with the field of study (0.001), economic status (0.001) and being native (0.001) with internship challenges (Table 1).

Table 1. Demographic characteristics of people participating in the study



Variable	Subgroup	Frequency	Percent	P-value
Gender	Man	50	44.2	<0.005
	Female	63	55.8	
Field	surgery room	59	52.2	<0.005
	Anesthesia	54	47.8	
	very much	6	5.3	
Interest in the field of study	Much	46	40.7	0.490
	medium	32	28.3	
	Low	19	16.8	
Satisfaction with the course	very little	10	8.8	<0.005
	I have	84	74.3	
	I do not have	29	25.7	
The economic situation	Bad	20	17.7	<0.005
	medium	81	71.7	
	Good	12	10.6	
Native status	native	42	37.2	<0.005
	non-native	71	62.8	
	Dorm	57	50.4	
Address	parents' house	41	36.3	0.721
	private house	15	13.3	
	2018	7	6.2	
Entering year	2019	17	15	0.822
	2020	25	22.1	
	2021	31	27.4	
	2022	33	29.2	
	18-21	62	54.9	
Age	22-24	30	26.5	0.454
	24 and up	21	18.6	

The father's occupation of most of the participants in the free study was 35 (31), the occupation of the mother was a housewife 58 (51.3), the father's education was a diploma 31

(27.4), the mother's education was a diploma 27 (23.9), And there was no significant relationship between any of the variables and internship challenges (Table 2).

Table 2. Occupation and education of parents of students participating in the study

Variable	Subgroup	Frequency	Percent	P-value
Father's job	Unemployed	4	3.5	0.205
	manual worker	27	23.9	
	Employee	34	30.1	
	free	35	31	
	other	13	11.5	
Mother's job	housewife	58	51.3	0.677
	manual worker	12	10.6	
	Employee	19	16.8	
	free	16	14.2	
	other	8	7.1	
Father's education	illiterate	5	4.4	0.048
	elementary	16	14.2	
	cycle	19	16.8	
	diploma	31	27.4	
	Associate Degree	18	15.9	
Mother's education	Bachelor's degree and higher	24	21.2	0.131
	illiterate	10	8.8	
	elementary	12	10.6	
	cycle	17	15	
	diploma	27	23.9	
	Associate Degree	27	23.9	
	Bachelor's degree and higher	20	17.7	

Among the subgroups of internship stressors, the most variable in both fields of Anesthesia 18.88 ± 4.71 and operating room 18.98 ± 4.50 was the educational environment and there

was a significant relationship between the two groups in all subgroups (Table 3).

Table 3. Comparison of the average score of the views of operating room and Anesthesia students regarding the challenging factors of clinical internship

Field of Study	Surgery room	Anesthesia	P-value
Stressful factors	Mean $\pm$ Standard Deviation	Mean $\pm$ Standard Deviation	
Interpersonal communication	16.30 $\pm$ 3.13	17.73 $\pm$ 2.96	0.001
Humiliating experiences	16.33 $\pm$ 3.63	16.90 $\pm$ 2.96	0.001
Clinical experiences	16.66 $\pm$ 3.84	16.86 $\pm$ 3.69	0.001
Unpleasant feelings	16.06 $\pm$ 3.73	17.01 $\pm$ 3.38	0.001
Learning environment	18.98 $\pm$ 4.50	18.88 $\pm$ 4.71	0.001

Also, the highest average in the subgroups studied was the educational environment subgroup, 18.94 ± 4.56 , which

indicates the most important challenge for students in this area. (Table 4).

Table 4: Comparison of the average score of the studied students regarding the challenging factors in internship

Challenging factors	Lowest score	Highest score	Mean $\pm$ Standard Deviation
Interpersonal communication	8	24	17.02 $\pm$ 3.14
Humiliating experiences	7	26	16.65 $\pm$ 3.90
Clinical experiences	6	25	16.81 $\pm$ 3.7
Unpleasant feelings	6	26	16.51 $\pm$ 3.78
Learning environment	8	32	18.94 $\pm$ 4.56

Discussion

This study was conducted with the aim of investigating the internship challenges of students of the operating room and Anesthesia fields of Shahroud University of Medical Sciences, and the results showed that there was a difference between gender (0.001), field of study (0.001), satisfaction with the field of study (0.001), and economic status (0.001). and being native (0.001) had a significant relationship with internship challenges. Students also reported a lack of guidance and counseling in a study conducted by Farghdani et al., the results showed that the students of Anesthesia with a score of 71.12 ± 73.73 and operating room students with a score of 75.46 ± 10.29 had a favorable clinical education. Among the demographic variables, only the relationship between the sense of job security and the status of clinical training was significant. Considering the role of the quality of clinical education in learning theory and their application in the future career of students, it is necessary to correct the shortcomings of clinical education and strengthen its various aspects.²⁴ There were also causes of stress for non-native students (e.g., language barriers, distance from family, and academic difficulties). Which is consistent with our study.

Among the subgroups of internship stressors, the highest variable mean in both fields of Anesthesia was 18.88 ± 4.71 and the operating room was 18.98 ± 4.50 in the educational environment, and there was a significant relationship between the two groups in all subgroups, and the highest average in the investigated subgroups was the educational environment

subgroup. It was 18.94 ± 4.56 . In a study conducted by Jafarzadeh et al., the results showed that 22 people (27.2%) were men and 59 people (72.8%) were women. 37% of students, clinical trainers' trust in interns, 55.6% preparation of students before entering the clinical environment, 48.1% professors' trust in students and interest and willingness to learn, 50.6% self-confidence and positive attitude towards the field of study, 44.6% familiarity Employees with professional ethics and 42% reported unfavorable environmental facilities. Also, clinical education in the field of operating room has problems and deficiencies that to solve existing problems and weaknesses requires public effort from officials, professors and clinical education experts.²⁵ In a study conducted by Bahrami et al., the results showed that the most favorable condition of clinical education from the point of view of operating room students was related to the field of interaction with students. While from the point of view of Anesthesia students, the scope of goals and educational program was the highest level. In total, operating room students with an average score of 74 out of 100 described the situation of clinical education as favorable and Hubari students with a score of 53 described the situation of clinical education as relatively favorable. Considering the need to acquire clinical skills in specialized fields such as operating room expertise and Anesthesia, it seems necessary to pay more attention to the condition of clinical environments in addition to paying attention to theoretical education issues.²⁶ Which is consistent with our study, which shows attention to the issue of education. In the study conducted by Florence et al., the results showed that most of the students were nurses

and in their third year of study. Most of the students were under the supervision of nurses and team supervision. Nursing students valued clinical experience more than midwifery students, and students who had more contact with supervisors were evaluated more, and students who were supervised were more successful than other students, and students without direct or team supervision compared to other students were less successful.²⁷ In the study conducted by Marie et al., the results showed that most of the participants had a good understanding of the clinical environment and the degree of the participants was related to supervision, enjoying supervision and showing interest in the project and supervisor's ability to supervise, which ultimately It can be said that social interactions and structures inside the operating room affect the way of clinical learning.²⁸

In the present study, there was a significant difference between men and women in the average of challenging factors of interpersonal communication, humiliating experiences, clinical experiences, unpleasant feelings, and educational environment, which is consistent with the study of Tulit et al.¹⁴ But the trainers should pay enough attention to the individual characteristics of men and women and the difference between these two groups. Therefore, by determining the factors affecting the quality and quantity of clinical education in the operating room environment, it is possible to prepare the ground for realistic planning in order to empower the operating room students and improve the level of care services by educational planners. And by being aware of challenging sources, limiting them or raising the level of students' awareness, it increases their adaptability to different situations and provides a suitable environment for education.²⁹ And there is also self-reporting bias and cultural factors (e.g. gender norms in Iran) in our country.

One of the strengths of this study is the lack of conducting such a study at the university level and it is on an important issue such as the challenges of clinical education, which should be paid more attention every day than yesterday, and one of the weaknesses of this student study is that the questionnaire is self-reported, honestly He did not complete the questionnaire or did not have time to fill the questionnaire carefully and focused due to his high work activity in the operating room. It is suggested that due to the student's unfamiliarity with how to communicate with the surgical team and clinical colleagues, the instructors should spend more time with the students and pay sufficient attention to this issue. And on the other hand, educational managers should organize programs to familiarize trainers with these challenges so that the challenging factors for operating room and Anesthesia students are minimized. Meanwhile, it is suggested to conduct studies on the role of trainers in the challenges of clinical training. Because it seems that educators have a key role in reducing or increasing these challenges, this issue should be done not only on Anesthesia and operating room students but also on other students of other disciplines.

Conclusion

Based on the findings of the present studies, the problems of clinical education from the perspective of operating room

and Anesthesia students include the following, respectively: 1- Educational environment 2- Interpersonal communication 3- Clinical experiences 4- Humiliating experiences 5- Unpleasant feelings. Therefore, considering that clinical education and learning is highly dependent on its context, the trainers and practitioners of clinical education should change the methods and programs in progress in order to reduce the challenging factors.

Ethical Considerations

This article is part of a research project approved by Shahroud University of Medical Sciences, which has been approved by the university's code of ethics (IR.SHMU.REC.1402.045).

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Conflict of Interest

There are no conflicts of interest among the authors of the article.

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