REPORT

24(106), November - December, 2020

ISSN
2321–7359
EISSN
2321–7367

Medical Science

Evaluation of the causes of anxiety before OSCE in anesthesiology and operating room students of Ilam University of medical sciences

Fatemeh Ghiasi[1], **Fatemeh Nemati**[2]✉, **Abdollah Normohammadi**[3], **Maryam Kheiry**[4], **Zohreh Hosseinzadeh**[5], **Fatemeh Merati Fashi**[6], **Maryam Abooali**[7]

[1]Instructor of Critical Care Nursing, Department of Anesthesiology, School of Allied Medical Sciences, Ilam University of Medical Sciences, Ilam, Iran.
[2]Master of Critical Care Nursing, Ilam University of Medical Sciences, Ilam, Iran
[3]Master of Medical surgical Nursing, Ilam University of Medical Sciences, Ilam, Iran
[4]PhD of Physiology, Ilam University of Medical Sciences, Ilam, Iran
[5]Master of Neonatal Intensive Care Unit, Ilam University ofMedical Sciences, Ilam, Iran
[6]Department of Nursing, Faculty of Nursing and Midwifery, Islamic Azad University, Tehran, Iran
[7]Undergraduate student of anesthesia, Ilam University of Medical Sciences, Ilam, Iran

✉**Corresponding author**
Master of Critical Care Nursing, Ilam University of Medical Sciences,
Ilam, Iran

Article History
Received: 08 September 2020
Reviewed & Revised: 10/September/2020 *to* 02/November/2020
Accepted: 02 November 2020
E-publication: 10 November 2020
P-Publication: November - December 2020

Citation
Fatemeh Ghiasi, Fatemeh Nemati, Abdollah Normohammadi, Maryam Kheiry, Zohreh Hosseinzadeh, Fatemeh Merati Fashi, Maryam Abooali. Evaluation of the causes of anxiety before OSCE in anesthesiology and operating room students of Ilam University of medical sciences. *Medical Science*, 2020, 24(106), 4139-4143

ABSTRACT

Background & Objective: Exam anxiety is one of the most common psychological problems and a deterrent to students' academic achievement. Objective structured clinical examination (OSCE) is one of the methods to assess the achievement of educational goals of anesthesiology and operating room students. One of the disadvantages of this test is that it causes anxiety in students. This study tends to investigate the causes of anxiety in operating room and anesthesiology students before administration of OSCE. *Methods*: This study was a descriptive-analytical cross-sectional study conducted in 2019 in Ilam University of Medical Sciences. The subjects were 50 anesthesiology and operating room students. All students completed the conscious satisfaction questionnaire and test anxiety inventory (TAI) on the day of the exam. Data were analyzed in SPSS version 20 using one-way ANOVA and independent t-test and Pearson correlation coefficient at a significant level of $P<0.005$. *Results:* In this study, 34 (68%) were female and 16 (32%) were male, 16 (32%) had high test anxiety, 24 (48%) had moderate test anxiety, and 10 (20%) had low test anxiety. Results showed a significant difference in anxiety score by gender ($p = 0.006$) and by grade point average ($p = 0.008$). *Conclusion*: Considering the high level of student anxiety before the OSCE, planning for accurate design of test stations, preparing students during the semester, organizing workshops to get acquainted with the OSCE, and allocating sufficient time to the test can reduce student anxiety before the test.

Keywords: Anxiety, OSCE, TAI test anxiety inventory

1. INTRODUCTION

Exam anxiety is a special type of anxiety characterized by physical-cognitive and behavioral symptoms when preparing for an exam, an unpleasant condition that is felt when predicting an unknown error (Abolghasemi, 2004). Exam anxiety is a deterrent to students' academic achievement that imposes a huge cost; factors that exacerbate anxiety in students are low self-esteem, inadequate study, fear of failure (Darabi et al., 2012). When one becomes anxious about mental performance and ability in an exam situation, this feeling reduces performance (Mirsamiee & Ebrahimighavam, 2007). Different methods are used to evaluate anaesthesiology and operating room students. One of these methods is OSCE (objective structured clinical examination). This method was first designed by Harden in 1975. In this method, a series of scheduling stations are identified in which the subjects are asked to perform specific clinical tasks in a certain period of time.This test is able to evaluate basic skills in three cognitive, emotional and psychosomatic areas (Humaany Majdabadi Farahani et al., 2005). In order to be accepted, each student must receive 60-80% of the score of each station. Some of the factors that cause students not to pass practical tests include incorrect information, lack of sufficient skills and knowledge and lack of focus on patient problems, etc. (Abdel-Gawad, 2009). OSCE has been used increasingly in the last twenty years to address short comings of traditional system of practical evaluation (Ali et al., 2012). The advantages of this method include fast feedback, uniformity for all test takers, and providing conditions close to reality (Noohi et al., 2008). Some studies have also shown that this method causes anxiety for some students, due to time constraints and being observed by the evaluator. In other cases, it causes students dissatisfaction (Bagheri et al., 2012). However, some studies have shown that this method is not only stressful for students (Al-Zeftawy & Khaton, 2016), but also it brings more satisfaction compared to traditional evaluation methods (Bolourchifard et al., 2010).

Considering that different studies presented different reports on OSCE and the anxiety associated with it, this study tends to investigate the causes of anxiety before the OSCE among anaesthesiology and operating room students of Ilam University of Medical Sciences.

2. MATERIALS AND METHODS

The statistical population of this descriptive-analytical study included 50 anaesthesiology and operating room students of the paramedical faculty of Ilam University of Medical Sciences in 2019. Only students who participated in the OSCE for the first time were included in the study. Exclusion criteria also included students who were unwilling to participate in the study or were being treated for mental disorders or anxiety. After approval of the project by the ethics committee, the demographic questionnaire and the standard TAI were used for data collection, which consisted of 25 items that the subjects answered on a four point scale (never = 0, rarely = 1, sometimes = 2, often = 3). Minimum score in this test is zero and maximum score is 75 and the results were divided into three levels: mild, moderate and severe.

In order to observe ethical considerations, the samples entered the study with full knowledge of the objectives and with consent, and the questionnaire was completed without the need to enter personal details. Data were analyzed by SPSS software version 20 by descriptive indices such as mean and standard deviation and using independent t-tests and ANOVA at a significant level of less than 5%.

3. RESULTS

The results showed that 34 (68%) were female and 16 (33%) were male; 27 (54%) taught anaesthesiology and 23 (46%) taught operating room. In this study, the mean and standard deviation of test anxiety in students was 50.49±19.25. This indicates that 16 (32%) had high test anxiety, 24 (48%) had moderate test anxiety and 10 (20%) had high test anxiety (Table 1). In this study, independent t-test showed a significant difference in test anxiety score by gender (P = 0.006), while ANOVA did not show a significant difference in the mean score of anxiety by field of study (P =%134) (Table 2). ANOVA showed a significant difference in the mean score of test anxiety by students' GPA (P = 0.008 and P = 0.007) (Table 3 and Figure 1).

Table 1 comparison of mean and standard deviation of test anxiety score of students by gender

Gender	Mean	Standard deviation	Independent t
Male	44.15	14.21	P=0.006
Female	56.68	21.59	

Table 2 comparison of mean and standard deviation of test anxiety score of students by field of study

Field of study	Mean	Standard deviation	ANOVA
Operating room	50.49	19.33	P=0.138
Anaesthesiology	52.89	20.14	

Table 3 comparison of mean and standard deviation of test anxiety score by GPA

	GPA	N	Mean	SD	P
Anaesthesiology	12-15	7	48.04	15.12	P=0.007
	15-17.5	9	50.75	16.27	
	>17.5	10	51.08	17.04	
Operating room	12-15	6	47.08	15.01	P=0.008
	15-17.5	7	48.04	16.89	
	>17.5	10	54.08	17.04	

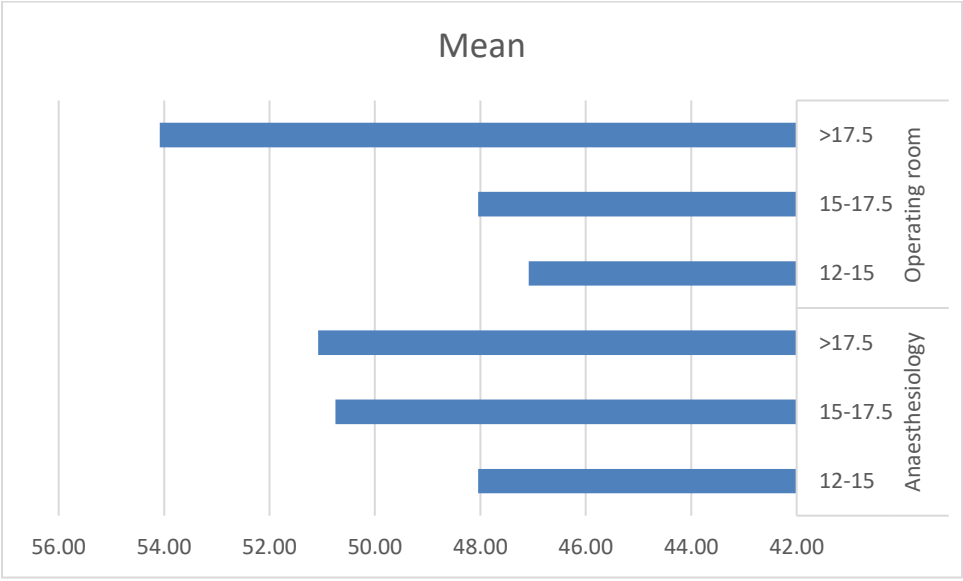

Figure 1 comparison of mean and standard deviation of test anxiety score by GPA

4. DISCUSSION

Test anxiety as a common and important phenomenon in education is closely related to students' performance and academic achievement.The results of this study, which was conducted to investigate the causes of anxiety before OSCE and its related factors in paramedical faculty of Ilam University of Medical Sciences, showed that two thirds of the students had moderate to high anxiety, which was consistent with Mohamadi et al in Kermanshah (Mohammadi & Parandin, 2014). However, some studies in this field indicate a low level of test anxiety in learners; in this regard, we can refer to Moadelli & Ghazanfari Hesamabadi (2005), which may be due to differences in samples compared to the present study. In his study, students' exam anxiety at the end of the semester was examined. On the other hand, OSCE (a comprehensive exam) was an important issue for students, so that if a student does not get the OSCE quorum score, he will be one semester behind and there will be a lot of anxiety.

In the present study, it was found that there is a significant relationship between gender and test anxiety of the students, so that the level of anxiety in girls was higher than boys, which was consistent with Mohamadi & Parandin (2014) and Yosefi et al. (2013) in Kurdistan. It is believed that gender difference in anxiety is well explained by gender role-playing because girls are encouraged to accept anxiety as a feminine trait and learn to give uppassively when they are anxious, while boys react defensively to accepting anxiety because they see it as a threat to their sense of masculinity. Boys learn to deal with anxiety and find ways to deal with it or deny it (Abolghasemi, 1999). A review of studies also shows consistent results, with Zeidner (1990) and Volkmer & Feather (1991) assessing test anxiety as a whole higher in girls than in boys.

The results of the study also showed a significant difference in the mean score of anxiety before OSCEby grade point average. Students with a GPA above 17.5 suffer more from OSCE anxiety; students with a GPA of A may take the OSCE more seriously. Considering it important and serious increases the sensitivity of the test and increases anxiety. The results of this study were not consistent with Lashkaripour et al. (2006) but were consistent with Abolghasemi et al. (1996). In the reviewed studies, various variables were addressed from the students' point of view. Scoring system, creating anxiety and stress in students, accuracy, credibility, reliability, objectivity of the test, how to schedule stations were among these consequences. Out of eight studies that examined stress in students in relation to this test, only one test examined the presence of the evaluator as a stressor and stated that the amount of stress in students in the test has been significantly reduced by indirect monitoring.

5. CONCLUSION

The results showed that the prevalence of anxiety before OSCE was high and there was a close relationship between anxiety, gender and grade point average. In this study, the most common factor that increased students 'anxiety before OSCE was students' lack of knowledge of the content of each station (students do not know what they will be asked), one semester interval between class and exam and the presence of the evaluator during the exam. Therefore, it is possible to significantly reduce the anxiety before and during the test by carefully designing the stations, holding workshops to get familiar with OSCE, justifying and training the appropriate evaluator to communicate well with the student and provide a suitable environment for the student to take the practical test.

Ethical Code

IR.MEDILAM.REC.1398.161

Funding

This study received no specific grant from any funding organization.

Conflict of Interest

The authors declare that they have no conflict of interest.

Data and materials availability

All data associated with this study are available upon request to the corresponding author.

Peer-review

External peer-review was done through double-blind method.

REFERENCES AND NOTES

1. Abdel-Gawad K.I. Assessment of student knowledge, clinical performance and satisfaction with objectives structured cliexamnical exam. Med J Cairo Univ. 2009;77:287-293.
2. Abolghasemi A. Test anxiety causes and assessment and treatment. Psychol Res. 1999;5:82-97.[Persian]
3. Abolghasemi, A.The effectiveness of stress inoculation training and systematic desensitization therapy in students with test anxiety. J Psychol. 2004;8: 51-63.
4. Ali G, Mehdi AY, Ali H. Objective structured clinical examination (OSCE) as an assessment tool for clinical skills in Sohag University: Nursing students' perspective. J Environ Stud. 2012;8:59-69.
5. Al-Zeftawy AM, Khaton SE. Student evaluation of an OSCE in community health nursing clinical course at faculty of nursing, Tanta University. IOSR J Nurs Health Sci (IOSR-JNHS). 2016;5:68-76.
6. Bagheri M, Forotgheh MS, Fallah MS. The comparison of stressors in the assessment of basic clinical skills with traditional method and OSCE in nursing students. Life Sci J. 2012;9:1748-52.
7. Bolourchifard F, Neishabory M, Ashketorab T, Nasrollahzadeh S. Satisfaction of nursing students with two clinical evaluation methods: objective structured clinical examination (OSCE) and practical examination of clinical competence. Adv Nurs Midwifery. 2010;19:38-42.
8. Darabi M, Aivazi AA, Gholami-Parizad E, Ghazanfari Z, Imanzad M. Test anxiety among Ilam UMS'students, 2012. Adv Nurs Midwifery. 2013;23:1-7.
9. Humaany Majdabadi Farahani F, Salahshorianfard A, Haghani A. Comparison of two methods of clinical evaluation and grading osce in a hospital affiliated with the University of Medical Sciences. Teb va Tazkiyeh. 2005; 57: 24-29.
10. Lashkaripour K, Bakhshani NM, Soleymani MJ. The relationship between test anxiety and academic achievement in students of guidance schools in Zahedan in 2006.
11. Mirsamiee M, Ebrahimighavam S. The relationship between self-efficacy, social support and mental health psychological test anxiety with male and female students Danshlamh Tbatbayygah. J Educ Psychol. 2007;3:73-92.
12. Moaddeli Z, Ghazanfari Hesamabadi M. A survey on the students exam anxiety in the Fatemeh (PBUH) College of Nursing and Midwifery Spring 2004. Stride dev med educ. 2005;1:65-72.
13. Mohammadi MM, Parandin S. Evaluation of Exam Anxiety Level among Kermanshah University of Medical Sciences Students and its Association with Demographic Characteristics in 2014. J Med Educ Dev. 2015;10:227-36.
14. Noohi E, Motesadi M, Haghdoost A. Clinical teachers' viewpoints towards objective structured clinical examination in Kerman University of Medical Science. Iran J Med Edu. 2008;8:113-20.
15. Volkmer RE, Feather NT. Relations between Type A scores, internal locus of control and test anxiety. Pers Individ Dif. 1991;12:205-9.
16. Yousefi F, Habibi S, Mohammadkhani M. Test anxiety level in medical students and its relationship with sexuality. Edu Strategy Med Sci. 2013;6:141-5.
17. Zeidner M. Does test anxiety bias scholastic aptitude test performance by gender and sociocultural group? J Pers Assess. 1990;55:145-60.