The Relationship Between Self-Confidence and Anxiety to OSCE Results in First Year Students of Faculty Medicine, Universitas Muhammadiyah Surabaya

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Abstract

OSCE (*Objective Structured Clinical Examination*) is a clinical skills assessment method to improve student clinical skills and prepare competent graduates. Factors that influence OSCE include self-confidence and anxiety. So that good management of self-confidence and anxiety will be an indicator of successful OSCE results. This study aims to determine whether there is a relationship between self-confidence and anxiety to the performance of OSCE results in first year students of Faculty Medicine, Muhammadiyah University of Surabaya. This study used a *cross-sectional* design with *total sampling*. The sample was first year students (106) of the Faculty of Medicine, Universitas Muhammadiyah Surabaya, Batch 2023. The instruments used were the RSES questionnaire to assess the level of self-confidence and the HARS questionnaire to determine the level of anxiety. Data analysis was performed using the Spearman test. There is no relationship between self-confidence and anxiety on the performance of OSCE results in first year students of the Faculty of Medicine, Muhammadiyah University of Surabaya.

Keywords: Anxiety, OSCE result, Self-confidence

INTRODUCTION

Every doctor is formed to have responsibility in practicing medicine. On the other hand, medical school students are required to have competent clinical skills in order to become professional doctors. In the medical education curriculum, there is a "skills lab" that serves to learn medical skills, how to speak, physical examination of the body, or clinical procedures, and invasive examinations[1]. In addition, medical students almost every month do an assessment. One of the assessments that really requires more preparation is the OSCE (Objective Structured Clinical Examination) exam[2].

Anxiety is a feeling of worry accompanied by increased physiological tension. Anxiety is the physiological reaction of the brain to a threat, a stimulus that everyone tries to avoid[3]. In the realm of higher education, students are sensitive to suffering from anxiety, because the daily pressures experienced by students are usually the transition of the learning environment, assignments, laboratory practicum and exams. Anxiety affects student learning outcomes, because the higher the degree of anxiety, it can cause anxiety as well as distorted perceptions. These distortions can hinder the learning process by reducing concentration, increasing forgetfulness, and disrupting one's abilities[4].

Many factors influence OSCE performance in medical students. In addition to anxiety, self-confidence can also be influential. Self-confidence has a major impact on the success of students in their educational process. Self-confidence is influential in the success of the educational process. Every individual student who has good self-confidence will often strive to achieve their full ability to realize their achievements[5].

In some studies, anxiety that arises when facing an exam will affect student performance. Students who have low anxiety levels will give good results compared to students who have moderate and high anxiety levels[4].

Anxiety is a feeling of fear accompanied by increased physiological tension. Anxiety is the brain's physiological response to threats, everyone tries to avoid the stimulus. OSCE for medical students is a practical examination in the form of simulated medical practice in the form of scenarios at each station with the aim of evaluating students' clinical abilities. Research shows that 90% of students consider OSCE as a stressful and anxiety-inducing situation. Based on the research, it was found that there was a correlation between the degree of anxiety and the results of the OSCE exam in first-year students of the Faculty of Medicine, University of Lampung[3].

New students have their own stress load, such as adjusting to the environment and lecture activities. In addition, interaction with friends who come from diverse cultural backgrounds coupled with actual learning materials and commitment from himself or from his immediate environment in obtaining good grades. Being away from parents can also lead to high levels of stress[6].

This study aims to see the relationship between self-confidence and anxiety before the OSCE exam on the performance of OSCE results in students of the Faculty of Medicine, Muhammadiyah University of Surabaya. Planning the management of self-confidence and anxiety is one of the aspects that have an impact on the success of students on the OSCE exam. Therefore, it is important to look at recognizing aspects related to the management of self-confidence and anxiety. This study focused on the relationship between self-confidence and anxiety on the performance of students' OSCE exam results. The results of this study are useful for organizers of medical education institutions as a description of the condition of self-confidence, anxiety, and performance of OSCE exam results which can be taken into consideration in developing better medical education programs in the future.

METHODS

This study used an observational analytic research design with a cross-sectional approach using primary data in the form of a questionnaire. The sampling technique used was total sampling. The inclusion criteria in this study were that the respondents were first year students of the Faculty of Medicine, Muhammadiyah University of Surabaya who took the OSCE block exam and respondents who had signed the consent form. Exclusion criteria included respondents who were uncooperative, absent at the time of data collection, and had already undergone the previous block OSCE exam (for example, students who repeated in the first year).

The sample size in this study was 106 students of the Faculty of Medicine. There are 2 types of questionnaires used in this study. The first questionnaire used the RSES (Rosenberg Self-Esteem Scale) questionnaire in the form of 10

questions related to the level of self-confidence grouped into low (<24), medium (25-31), and high (32-40) categories. This questionnaire has been tested for validity (p < 0.05).

The second questionnaire assessed the level of anxiety using the HARS (Hamilton Rating Scale for Anxiety) questionnaire which contains 14 sub questions. It's contains questions related to anxiety indicators such as feelings of anxiety, tension, fear, sleep disturbances, intelligence disorders, feelings of depression, somatic symptoms, sensory symptoms, cardiovascular symptoms, respiratory symptoms, gastrointestinal symptoms, urogenital symptoms, autonomic symptoms, and behavior at the interview. Questionnaire results were categorized into 5, namely results <14 no anxiety symptoms, 14-20 mild anxiety, 21-27 moderate anxiety and 28-41 severe anxiety, 42-56 severe anxiety/panic.

This research has been approved by the Ethics Committee of Universitas Muhammadiyah Surabaya with the issuance of Ethical Clearance no.006/KET/II.3/AU/F/2023. The results were analyzed using the Spearman test to determine the relationship between self-confidence and anxiety to the performance of OSCE results in first year students of the Faculty of Medicine, Muhammadiyah University of Surabaya. This test uses SPSS application with p value <0.05.

RESULTS AND DISCUSSION

Results

Table 1 shows the characteristics of respondents based on age and gender. The majority of respondents were 18 years old (52.8%), female gender (70.8%), had very good OSCE result performance (67.9%), had a high level of confidence (55.7%), and did not have anxiety symptoms (39.6%).

Table 1. Respondent Characteristics

Criteria	Frequency	%
Age		
17	5	4.7
18	56	52.8
19	37	34.9
20	7	6.6
22	1	0.9
Gender		
Female	75	70.8
Male	31	29.2
Self-Confidence		
Low	6	5.7
Medium	41	38.7
High	59	55.7
Anxiety		
No symptoms	42	39.6
Lightweight	23	21.7
Medium	23	21.7
High	16	15.1
Panic	2	1.9
OSCE Result		
Very good	72	67.9
Good	13	12.3
More than enough	10	9.4
Simply	6	5.7
Less	2	1.9
Very less	1	0.9
Failed	2	1.9

Table 2. Frequency of the Relationship between Self-Confidence Level and Performance of OSCE Results in First Year Students

Self-Confidence (RSES)	Very good		Good		More than Enough		Simply		Less		Very Less		Failed		Total	p-Value
	n	%	n	%	n	%	n	%	n	%	n	%	n	%		
Low	4	3.8	2	1.9	0	0	0	0	0	0	0	0	0	0	6	
Medium	28	26.4	6	5.7	4	3.8	1	0.9	1	0.9	1	0.9	0	0	41	0.695
High	40	37.7	5	4.7	6	5.7	5	4.7	1	0.9	0	0	2	1.9	59	

Table 3. Frequency of the Relationship between Anxiety Level and OSCE Result Performance in First Year Students

Anxiety	Very good		Good		More than Enough		Simply		Less		Very Less		Failed		Total	p-Value
	n	%	n	%	n	%	n	%	n	%	n	%	n	%		
No symptoms	33	31.1	3	2.8	3	2.8	3	2.8	0	0	0	0	0	0	42	
Lightweight	14	13.2	4	3.8	4	3.8	0	0	0	0	0	0	1	0.9	23	
Medium	13	12.3	3	2.8	2	1.9	3	2.8	2	1.9	0	0	0	0	23	0.112
Weight	11	10.4	3	2.8	0	0	0	0	0	0	1	0.9	1	0.9	16	
Panic	1	0.9	0	0	1	0.9	0	0	0	0	0	0	0	0	2	

The results of the analysis of 106 respondents using the spearman test showed a significant value obtained of 0.695 (p<0.05) which is greater than 0.05, it can be concluded that there is no relationship between self-confidence and the performance of OSCE results in first year students of the Faculty of Medicine, Muhammadiyah University of Surabaya (Table 2).

The results of the analysis of 106 respondents using the spearman test showed a significant value obtained of 0.112 (p<0.05) which is greater than 0.05, it can be concluded that there is no relationship between self-confidence and the performance of OSCE results in first year students of the Faculty of Medicine, Muhammadiyah University of Surabaya (Table 3).

Discussion
Analysis of respondent characteristics
This study was conducted to determine the relationship between self-confidence and anxiety on the performance of OSCE results in first year students of the Faculty of Medicine, Muhammadiyah University of Surabaya. This study was conducted by respondents of the Faculty of Medicine Class of 2023. The total number of respondents who were willing to fill out the g-form was 107 people. Of the total respondents, 1 respondent fell into the exclusion criteria. The exclusion criteria included in this study were not present in the data collection

Based on frequency analysis of 106 people who fit the research inclusion criteria, the highest frequency of respondent age was at the age of 18 years as many as 52.8%. The characteristics of respondents based on gender were more in the female gender, namely 70.8%.

Self-Confidence
Self-confidence is a belief in one's own abilities so that students in taking action do not feel excessive stress. Self-confidence has a significant influence on one's resilience in facing various obstacles[7]. Students with high self-confidence will try to find a way out to overcome various obstacles that can interfere with the performance of OSCE results.

According to social cognitive theory, the likelihood of self-confidence will increase as a person performs their activities. Therefore, individuals who perform their activities are likely to succeed and self-confidence is a reliable indicator of behaviour. Self-confidence is one of the important factors in learning and developing the character of medical students. Self-confidence is also considered to provide a foundation in increasing motivation, optimism, and achievement in medical students who have the strength to make changes and actions[8].

In this study, the number of students with low self-confidence was 5.7% (Table 1). This result is lower than the research conducted on students of four active generations at the Faculty of Medicine, University of Lampung, out of 209 students studied, 10.5% were found to have low self-confidence[9]. The results of this study are also lower than the research conducted on students of the Faculty of Medicine, Malahayati University class of 2018, out of 123 students studied, 10.6% experienced low self-confidence[10].

The results of this study are also lower than research conducted on medical students at Sebelas Maret University Surakarta class of 2019, out of 75

people obtained 24% of students who have low self-confidence[25].

The difference in the results of this study is due to differences in the factors that trigger feelings of self-confidence in each individual so that they get different results from each study. Factors that can affect a person's self-confidence can be identified through the causes of low self-confidence, emotional support, social acceptance, and achievement[10].

Respondent Characteristics Self-confidence

Based on table 1, the largest presentation of gender characteristics is female respondents with low self-confidence quality (5.7%). These results are in line with research conducted on students of the State Islamic University of Ar-Raniry Banda Aceh, out of 344 students studied, 19 students (5.5%) were found to be female who had a low level of self-confidence[11].

This result is lower than the research conducted on active students of semester VII of the Faculty of Nursing, Syiah Kuala University Banda Aceh, out of 131 students studied, 33 students (25.2%) were found to be female who had a low level of self-confidence[12].

The difference in the results of this study is due to differences in the factors that influence self-confidence itself in each individual so that different results are obtained from each study. Some factors that can lead to differences in research results are students who live with their parents. There is a relationship between parental attachment and self-confidence in students. Individuals who have good self-confidence can solve problems, feel proud of their abilities[12].

Anxiety

Anxiety is the most common form of mental illness. Most people will experience anxiety symptoms at some point in their lives. This symptom may occur before an exam. The presence of anxiety is usually characterized by increased heart rate, rapid breathing, sweating, cold hands, body trembling, nausea, and other symptoms of anxiety. In general, feeling anxious is a normal condition in humans. Anxiety will become a problem when the symptoms of anxiety interfere with human activities[13].

Depression is very common in our society. An estimated 300 million people suffer from symptoms of depression. In fact, depression is the second leading cause of death in the world. In the general public, young people and especially medical students are also affected by depression. Those between the ages of 15 to 34, the age group to which most medical students belong[8].

Currently, 6 to 8 medical students are detected as a population that experiences greater stress and emotional distress than students in other majors due to the demands of higher education. In fact, various studies around the world show that medical students have higher levels of depressive and anxiety symptoms compared to the general population in the same age group[8].

Based on table 1, the number of students with severe anxiety levels (panic) was 1.9%. This result is lower than research conducted on fourth semester students of the Faculty of Medicine, Muhammadiyah University of North Sumatra, out of 104 students studied as many as 5.8% had a severe anxiety level[14]. This result is also lower than research conducted on students of the Faculty of Medicine, Islamic University of Malang, out of 60 students studied as many as 6.6% had a severe anxiety level. [15] This result is also lower than research conducted on students during online learning at Muhammadiyah University of East Kalimantan. From 369 students studied, 16.2% of female gender had a very severe level of anxiety[16]. These results are lower than research conducted on new students of the 2020 class majoring in Psychology at Padang State University. On 119 students studied, 26.9% of female gender had a very severe level of anxiety [4].

In contrast, the results of this study were higher than research conducted in the 2017 class of students of the Doctor Professional Study Program at the Faculty of Medicine, Lambung Mangkurat University. Of the 91 students, it was found that there were no students who had a very severe level of anxiety[17].

The difference in research results is caused by differences in the factors that cause anxiety symptoms at different academic levels of lectures, resulting in different results in each study. Factors that cause differences in research results include factors that play an important role such as gender and age[18].

Characteristics of Anxiety Respondents

Based on table 1, the largest presentation of gender characteristics was female respondents with very severe anxiety quality as many as 2 people (1.8%). These results are lower than research conducted on students of Muhammadiyah University of East Kalimantan. Of the 369 students, 60 students (16.2%) were female who had a very severe level of anxiety[16].

These results are also lower than research conducted on 2020 new students majoring in Psychology at Padang State University. Of the 301 students, 32 students (26.9%) were female who had very severe anxiety levels [4].

The difference in the results of this study is due to differences in trigger factors that affect the anxiety symptoms of each individual research respondent. Factors that can cause differences between the results of the study include a busy study schedule, fatigue from attending lectures, sudden quizzes from lecturers, and exam results that are different from expectations[16].

The Relationship of Self-confidence to OSCE Outcome Performance

The results of the analysis related to the relationship between self-confidence and the performance of OSCE results of first-level student respondents conducted with the Spearman correlation test showed a significance value of 0.695 (p <0.05). So it is concluded that there is no relationship between self-confidence and the performance of OSCE results in first year students of the Faculty of Medicine, Muhammadiyah University of Surabaya.

The results of this study are in line with previous research which resulted in a p value of 0.170 (p >0.05). These results can be concluded that there is no significant relationship between self-efficacy and OSCE scores[19].

The results of this study are not in line with previous research, found that there is a significant relationship between Academic Self Efficacy and the SOCA Block 1.3 exam score in students majoring in General Medicine, Faculty of Medicine, Universitas Jenderal Soedirman [20].

In this study, there are several factors that result in differences in research findings. This is inseparable from the influence of internal factors derived from physical, cognitive, attitudes, and high motivation in students. Another factor that can affect the performance of OSCE results is the full pressure experienced by students who have just faced OSCE. This difference is also influenced by Bandura's theory of self-efficacy which includes dimensions such as level of difficulty general state and strength[19].

Relationship between Anxiety and OSCE Outcome Performance

The results of the analysis related to the relationship of anxiety to the performance of OSCE results of first-year student respondents conducted with the Spearman correlation test showed a significance value of 0.112 (p>0.05). So it was concluded that there was no relationship between anxiety and the performance of OSCE results in first year students of the Faculty of Medicine, Muhammadiyah University of Surabaya.

The results of this study are in accordance with the findings of a previous study which shows that there is no relationship between OSCE and the anxiety level of Faculty of Medicine students. In addition, it is known that students tend to feel mild anxiety and obtain OSCE results with a passing predicate due to various things. For example, students have taken the OSCE exam before so they have gained knowledge about how to deal with exam situations. In addition, there is a briefing from the block coordinator before the exam, so students get information related to the material needed when facing the exam. In addition to these factors, the mild level of anxiety and the acquisition of OSCE results with a passing predicate is because students have prepared well for the OSCE exam[17].

The results of this study are also in line with research in Padang, resulting in a p value of 0.461 (p>0.05). This means that there is no significant relationship between the level of anxiety of FK Andalas University students in facing OSCE with OSCE graduation. In this case, anxiety is not one of the factors that influence student graduation in facing the OSCE exam [21].

This study is not in line with previous research in North Sumatra. The study results were obtained with a p value of 0.003 (p<0.05). This means that it can be concluded that the results of this study there is a significant relationship between the level of anxiety (anxiety) in facing *Objective Structured Clinical Examination* (OSCE) with sleep quality in students of the Faculty of Medicine, University of Muhammadiyah North Sumatra. In this study there are several factors that cause anxiety levels to affect the results of OSCE performance, one of which is the factor of students experiencing sleep disorders[22].

Another factor is also a sense of tension. This feeling will be felt by someone who is experiencing mild anxiety. However, this sense of tension will result in an increased desire to try to study harder. Meanwhile, individuals who have moderate or severe anxiety will focus more on learning in preparing for OSCE[17].

Anxiety can encourage students to study harder and affect success in the OSCE exam. Worship and carrying out regular practices can make the mind calmer and avoid anxiety and fear before the exam[23]. Other factors that result in the diversity of research results from anxiety levels are from the level of emotions, hormones, psychology, concentration, and daily activities[24].

CONCLUSIONS

Based on the results of the research conducted, there are characteristics of respondents with the majority of respondents aged 18 years as many as 56 students (52.8%), female gender as many as 75 students (70.8%), having a high level of confidence as many as 59 students (55.7%), not having anxiety symptoms as many as 42 students (39.6), and having excellent OSCE results performance as many as 72 students (67.9%).

Thus, in this study there was no relationship between self-confidence and anxiety on the performance of OSCE results in first year students of the Faculty of Medicine, Muhammadiyah University of Surabaya.

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