Correlation between Anxiety Levels with Oral Case Presentation Test Results

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Abstract—**Anxiety defines as an emotion characterized by feelings of tension, worried thoughts and physical changes that appear before an important life event. Medical students undergo several important tests in order to fulfil the requirements; one of those tests is oral presentation. The aim of this study is to analyse the correlation between anxiety levels with oral case presentation (OCP) test result in medical faculty students. A total 365 from first to fourth grade student participated in this test with simple random sampling technique. This study is using analytic observational method with cross sectional design. The anxiety level was measured using Hamilton Anxiety Rating Scales (HARS) questionnaire, and student performance data from oral case presentation test results. Statistical test is performed with chi-square test. The result of this study shows most of students have mild and moderate anxiety levels. There are correlations between anxiety levels with OCP test result in third and fourth grade medical faculty students, and there is no correlation between anxiety levels with OCP test result in first and second grade students. Anxiety can be induced by oral case presentation test, but anxiety can be essential to focus and to increase alertness especially during examination.**

Keywords—anxiety levels; presentation test results; oral case

I. INTRODUCTION

Medical school is recognized as a stressful environment with various assessments to evaluate the extent of student knowledge. Assessments are considered a rather stressful and anxiety-evoking part of medical education [1].

Anxiety is a feeling of worry, nervousness, or unease about something with an uncertain outcome [2]. Different levels of anxiety could affect personal functioning differently. There are both positive and negative correlations between academic achievement and anxiety regarding different severity levels of anxiety in medical students [3].

Studies on the relationships between anxiety and emotional intelligence report that individuals with high anxiety often have difficulty managing their emotions and employing skills to change them [4]. Emotional Intelligence (EI) is defined as an individual's ability to cope with and process emotions and has been shown to be a significant regulating factor for influencing emotions related to academics [5,6]. Emotional intelligence has been shown to have numerous positive relationships with student performance [5].

Anxiety is one of the most common, relatable, and influential emotions related to academics. Anxiety can heighten motivation to study and give better performance in tasks, but anxiety also can cause poor academic achievement under stressful instruction. According American College Health Association, over 23% of undergraduates stated that anxiety impacted their academic performance [7]. Anxiety have negatively correlated with performance and could perpetuate further anxiety and poor performance [8-10].

Numerous studies have shown correlation between anxiety levels with academic achievement according GPA. The GPA itself contain many aspects that must be considered, so there is must be other factors that can attribute the GPA, and cannot solely be used as an only indicator. This study on the other hand tried to directly show the correlation of the anxiety levels with academic achievement using the Oral Case Presentation (OCP) test. OCP are one of the assessment methods to discover the academic performance of medical students.

The present study shows that test anxiety is higher before oral than before written exams. We can only speculate that it is the fear of individual failure in the presence of fellow students and face to face with the professor in combination with the importance attributed to the exam that aggravates oral exams [11]. The aim of this study is to analyze the correlation between anxiety levels with OCP test result in medical faculty students.

II. METHODS

This study is using analytic observational method with cross sectional design.

A. Participants

The population of this study are medical faculty students of Universitas Islam Bandung. A total 365 students from first to fourth grade were participating in this test. Sample in this study was active registered student that performed 80% academic schedule, and selected with simple random sampling technique. Students received HARS questionnaire for measuring anxiety level, and performed oral case presentation test.

B. Measurement

1) Hamilton Anxiety Rating Scale (HARS): HARS is a psychological questionnaire to rate severity of anxiety. The scale consists of 14 items that contains a number of symptoms, and each group of symptoms is rated on a scale of zero to four. Each criterion on the scale is an independent feeling that related to anxiety. The criterion are about anxious mood, tension, fears, insomnia, intellectual, depressed mood, somatic (muscular), somatic (sensory), cardiovascular symptoms, respiratory symptoms, gastrointestinal symptoms, genitourinary symptoms, autonomic symptoms, and behaviour at interview.

Each item is scored independently based on a five-point ratio scale. A rating of 0 indicates that the feeling is not present in the patient. A rating of 1 indicates mild prevalence of the feeling in the patient. A rating of 2 indicates moderate prevalence of the feeling in the patient. A rating of 3 indicates severe prevalence of the feeling in the patient. A rating of 4 indicates a very severe prevalence of the feeling in the patient.

Composite score based on summation of each 14 rated items. The results of evaluation can be interpreted as follows. A score of 5 or less indicates no anxiety. A score from 6 to 14 indicates mild anxiety, a score of 15 to 27 indicates moderate anxiety, a score of 28 to 36 indicates severe anxiety, and a score 36 or more indicates very severe anxiety [12].

2) Student Objective Oral Case Analysis (SOOCA): SOOCA is assessment method to evaluate cognitive aspect and analytical thinking process, SOOCA is one of the OCP tests. Student performed a case presentation in front of two examiners. The results from this test describe the student performance.

C. Procedure

Figure 1 presents the description of research procedure in this study. The samples are medical faculty students from first to fourth degree whom already have performed about 80% academic activity. As the result, 365 students were selected with random sampling. The students were given anxiety levels test with HARS questionnaire one week before OCP test. The data about anxiety levels categorize in five categories (no anxiety, mild, moderate, severe, very severe). Meanwhile, oral case presentation test result categorizes in pass and fail.
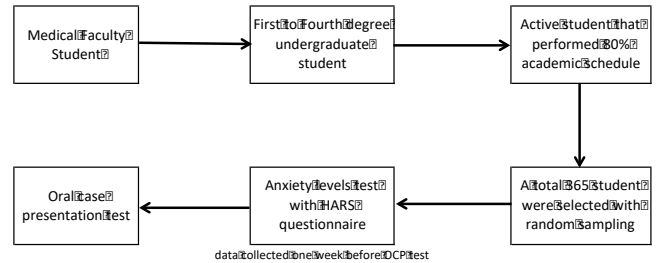

Fig. 1. Research procedure.

D. Data Analysis

The correlation of anxiety levels and oral case presentation test results was analyzed by chi-square test with SPSS. A p-value of less than 0.05 was considered statistically significant.

III. RESULTS AND DISCUSSION

The study was participated by medical faculty students of Universitas Islam Bandung consist of 86 male and 279 females.

TABLE I. ANXIETY LEVEL IN MEDICAL FACULTY STUDENTS

Variable	1st grade		2nd grade		3rd grade		4th grade		Total	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Anxiety levels										
No anxiety	0	0,0	14	15,1	16	18,2	13	17,1	43	11,8
Mild	19	17,6	39	41,9	39	44,3	41	53,9	138	37,8
Moderate	46	42,6	28	30,1	25	28,4	20	26,3	119	32,6
Severe	23	21,3	10	10,8	4	4,5	2	2,6	39	10,7
Very severe	20	18,5	2	2,2	4	4,5	0	0,0	26	7,1
Total	108	29,6	93	25,5	88	24,1	76	20,8	365	100,0

Table 1 presents the anxiety levels of medical faculty students were in mild level (37.8%). Moderate anxiety level was found in first grade students for about 42.6%, the mild anxiety level was found in 2nd grade students (41.9%), 3rd grade (44.3%) and 4th grade students (53.9%) respectively.

TABLE II. ORAL CASE PRESENTATION (OCP) TEST RESULTS

Variable	1st grade		2nd grade		3rd grade		4th grade		Total	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
OCP test results										
Pass	101	93,5	86	92,5	65	73,9	67	88,2	319	87,4
Fail	7	6,5	7	7,5	23	26,1	9	11,8	46	12,6
Total	108	29,6	93	25,5	88	24,1	76	20,8	365	100,0

The success rate of the Student Objective Oral Case Analysis (SOOCA) as an oral case presentation test in medical faculty was 87.4%. The First-grade students reached the highest success rate (93.5%). Meanwhile, the 3rd degree

students reached the lowest success rate by 73.9% as shown in Table 2.

A. *Correlation between Sexes with Anxiety Level in Medical Student*

TABLE III. CORRELATION BETWEEN SEXES WITH ANXIETY LEVEL

	No anxiety		Mild		Moderate		Severe		Very severe		p-value*)
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	
Sex											
Male	14	16,3	28	32,6	21	24,4	16	18,6	7	8,1	0,026
Female	29	10,4	110	39,4	98	35,1	23	8,2	19	6,8	

a. Chi Square Test

Table 3 shows there are the correlation between student sex with the anxiety level during OCP test preparation in medical student (p=0.026) according to the chi square test with the significant level in p value ≤0.05. Female students have higher levels of test anxiety, positive and negative affect than male students. Higher test anxiety led to lower course grade for female students [13]. Female student more likely to become trapped in self-deprecating cycle driven by negative academic emotions [14].

B. *Correlation between Anxiety Levels with OCP Test Results*

TABLE IV. CORRELATION BETWEEN ANXIETY LEVELS WITH OCP TEST RESULTS

Variable	OCP test results				Nilai p*)
	Pass		Fail		
	n	*%*	*n*	*%*	
First grade					
Anxiety level					0,883
No anxiety	0	0,0	0	0,0	
Mild	18	94,7	1	5,3	
Moderate	42	91,3	4	8,7	
Severe	22	95,7	1	4,3	
Very severe	19	95,0	1	5,0	
Second grade					
Anxiety level					0,563
No anxiety	14	100,0	0	0,0	
Mild	35	89,7	4	10,3	
Moderate	26	92,9	2	7,1	
Severe	9	90,0	1	10,0	
Very severe	2	100,0	0	0,0	
Third grade					
Anxiety level					0,023
No anxiety	14	87,5	2	12,5	
Mild	31	79,5	8	20,5	
Moderate	15	60,0	10	40,0	
Severe	1	25,0	3	75,0	
Very severe	4	100,0	0	0,0	
Fourth grade					
Anxiety level					0,019
No anxiety	12	92,3	1	7,7	
Mild	36	87,8	5	12,2	
Moderate	19	95,0	1	5,0	
Severe	0	0,0	2	100,0	
Very severe	0	0,0	0	0,0	

b. Chi Square Test

Table 4 presents correlations between anxiety levels with oral case presentation test result. The present study shows that test anxiety is higher before oral than before written exams. There is significant correlation between anxiety levels of medical students with the OCP test results in third-grade medical students (p value=0.023) and fourth-grade medical students (p value=0.019). Meanwhile, there are no correlation between anxiety levels at first-grade medical students (p value=0.883) and second-grade medical students (p value=0.563).

There are both positive and negative correlations between academic achievement and anxiety in medical students; regarding differing severity levels of anxiety [3]. higher levels of anxiety were associated with lower academic performance. There was a significant indirect effect of anxiety on academic performance via central executive working memory [15].

Among the students with high levels of anxiety in the first psychological assessment, those who had more severe anxiety had poorer academic achievement [3].

Negative affect contributed to greater levels of test-specific worries, such as the personal and social consequences of failing. Such worries, in turn, directly impaired test performance; while the influence of negative affect on test performance was mediated by test anxiety [13]. Negative affect reduced the capacity of both sensory and working memory [16].

Cognitive appraisals are powerful tools that help shift negative stress states to more positive ones. Arousal reappraisal instructs individuals to think of stress arousal as a tool that helps maximize performance [17].

IV. CONCLUSIONS

Anxiety is one of the contributing factors that affect student's performance in OCP test. Anxiety can give both positive and negative effect to academic performance. Anxiety will give positive effect if it is managed properly.

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