

# Decrease Anxiety among Students Who Will Do the Objective Structured Clinical Examination with Deep Breathing Relaxation Technique

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## Abstract

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**Keywords:** Anxiety; OSCE; Deep breathing technique

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**BACKGROUND:** The anxiety is an emotional and subjective experience without any specific object so that people feel a feeling of worry as if something bad will happen and generally accompanied by autonomic symptoms lasting some time. Like students who will carry out the OSCE exam at the end of each semester as a form of evaluation of the extent to which nursing students have mastered the learning outcomes that have been set during the OSCE examination during the OSCE examination all students are required to display cognitive, affective and psychomotor skills quickly, precisely complete. This is what generally can cause anxiety in students.

**AIM:** We aimed to determine the decrease in student anxiety about the OSCE exam by relaxing deep breathing.

**MATERIAL AND METHODS:** This study was a quasi-experiment; pre-post test with control group design. The 40 undergraduate nursing program students with random sampling were divided into two, namely the control group and the intervention group. The instrument uses a questionnaire.

**RESULTS:** The independent t-test test results with a value of t count 3.743 with a value of  $p = 0.031 < 0.05$ , which that there was a decrease in student anxiety about the OSCE exam with deep breath relaxation.

**CONCLUSION:** It is expected that all students who will carry out the exam can apply this technique to carry out the exam in calm conditions and satisfying results.

## Introduction

Everyone has experienced feelings of anxiety, anxiety, worry, tension, and fear when facing something. Anxious feeling in a person is a natural thing, especially something that he wants to achieve because to achieve the success of what is desired is sometimes always accompanied by psychological turmoil. Anxiety needs to be possessed for life, but if the anxiety that exists in the individual becomes excessive, then it will turn out to be abnormal. Anxiety is a common mental disorder with a prevalence of 16%-29% [1]. It is reported that estimates of anxiety in young adults in America are around 18.1% or about 42 million people obtained with anxiety disorders, such as panic disorder, obsessive-compulsive disorder, posttraumatic stress disorder, generalised anxiety disorder and phobias [2]. While gender-related anxiety reported that the prevalence of lifetime anxiety

disorders in women was 60% higher than men [3].

Objective Structured Clinical Examination (OSCE) is a practice exam used to assess student competence, based on objective testing through direct observation and requires professional skills to increase anxiety and disturb individuals to focus on things that need to be done. The OSCE exam is a test with regular and strict rules. This exam is conducted at the end of the learning year [4]. The test is carried out with a maximum time of 10 minutes. Students and examiners are prohibited from discussing questions and answers during the exam. This is what can cause or increase anxiety in students [5]. One method of evaluation of learning conducted in the faculty of nursing at the Universitas Sumatera Utara, namely laboratories skills such as OSCE [6].

Anxiety can affect student learning outcomes because it can create confusion and disrupt learning by reducing the ability to focus on attention and

memory. Likewise, nursing students who can experience anxiety when facing a nursing exam can experience anxiety when facing an academic exam. Research conducted by Simaran 2015 showed that anxiety on students during OSCE was severe anxiousness of 62.72%, mild to moderate anxiety 37.27%, other results were 73.43% anxiety in women, and anxiety in men 47.82%. To reduce the category of anxiety needs to be addressed. One of the actions given with a deep breathing relaxation technique. It is an effective and easy method to reduce anxiety and stress [7].

From research conducted by Kamal and Data (2014), it was stated that deep breathing relaxation could reduce student anxiety in the pre-clinical learning of nursing Diploma Nursing programs at Muhammadiyah University Magelang. There were 83.2% of students had mild anxiety; 16.8 % of students had moderate anxiety. Students who have anxiousness are better at carrying out clinical pre-learning compared to students who have moderate anxiety [8].

When a person experiences anxiety, the sympathetic nerve works so that the heart rate, blood pressure, breathing increase. While when doing deep breathing relaxation techniques, the parasympathetic nervous system works and the sympathetic nerve decreases so that the heart rate, blood pressure and respiratory rate decrease and within normal limits. There are changes due to deep breathing relaxation techniques namely, lowering blood pressure, reducing the frequency of work of the heart, reducing muscle tension, improving fitness, increasing concentration and finding solutions to improve the ability to deal with stressors, then not focusing on stressors and being relaxed [9]. Based on this, the researcher is interested in examining the anxiety of students by using deep breathing relaxation techniques which are expected to reduce students' anxiety categories when facing the OSCE exam.

## Material and Methods

This research was conducted at the Faculty of Nursing, Universitas Sumatera Utara in 2016. The research design used in this study used a quasi-experimental; pre-post test with control group design. The sample consists of 40 regular undergraduate students class of 2015 Nursing Faculty Universitas Sumatera Utara. The sampling technique used the Probability method by random sampling. The instrument used is a questionnaire category of student anxiety facing OSCE 20 statements have been modified from the Zung Self-rating Anxiety Scale and consist of symptoms of anxiety categories experienced by students.

## Statistical Analysis

Statistical analysis used is a paired t-test statistical test by looking at the mean differences in each control and intervention group.

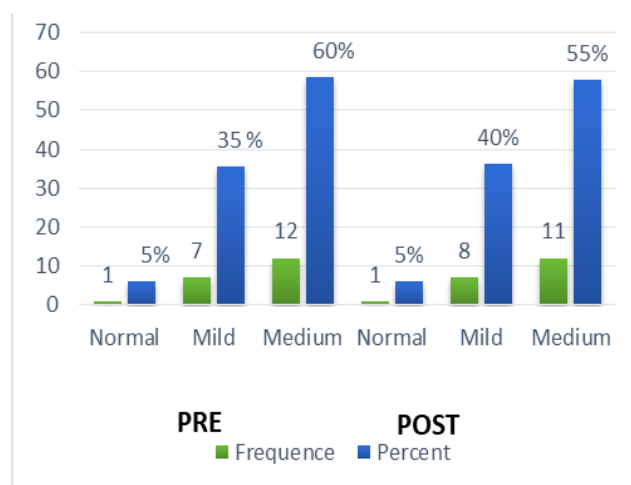
## Results

The results of research conducted on 20 respondents based on demographic data in the majority control group of respondents were women as many as 18 respondents (90%) and the majority of respondents aged 18 years were 16 respondents (80%). The majority of respondents were women as many as 15 respondents (75%) and the majority of respondents aged 18 years were 10 respondents (50%) for the intervention group (Table 1).

**Table 1: Frequency distribution and percentage of demographic respondents (n = 40)**

No	Characteristic	Intervention	Control
1.	Age		
	17 Years	8 (40%)	-
	18 Years	10 (50%)	16 (80%)
2.	19 Years	2 (10%)	4 (20%)
	Gender		
	Male	5 (25%)	2 (10%)
	Female	15 (75%)	18 (90%)

Figure 1 shows the results that the category of anxiety during the pre-test in the control group was not anxious (normal) 1 person (6%), mild anxiety 7 people (35%), moderate anxiety 12 people (60%) and when the post-test obtained no data anxious (normal) 1 person (6%), mild anxiety 8 people (40%), anxious 11 people (55%).



*Figure 1: Description of pre and post-test anxiety category's in the control group*

The Figure 2 shows that the anxiety category at pre-test in the intervention group consisted of 2 people (10%) who were not anxious (normal), mild anxiety 6 people (30%), moderate anxiety 12 people

(60%) and at the time of post-test found that the category of anxiety during pre-test in the intervention control group there were 7 people (35%) who were not anxious (normal), mild anxiety 5 people (25%), anxious while 8 people (40%).

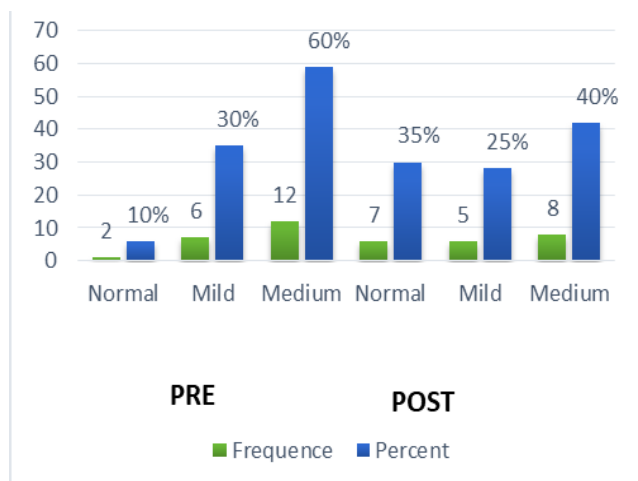


Figure 2: Description of Pre and Post Test Anxiety Categories in the Intervention Group

It was found that the average difference between before and after intervention in the control group was -6.680, the minus sign (-) indicated that the after-intervention anxiety was heavier than the anxiety at the post-intervention. This means that there is an increase in anxiety during the post-test with an average increase is 6.680, with a p-value = 0.031, this indicates there is a significant difference between the average anxiety at pre and post-test in the control group (Table 2).

Table 2: Pre and post-test respondents' anxiety categories in the control group (n = 40) with paired t-test statistical tests

Variable	Pre-test	Post-test	p-value	Mean
	Mean	Mean		
Anxiety	42.31	48.99	0.031	-6.680

## Discussion

### Anxiety Category of control and intervention group pre-tests

Distribution of anxiety categories during pre-test in the control group was not anxious (normal) 1 person (6%), mild anxiety was 7 people (35%), moderate anxiety was 12 people (60%) and when post-test obtained data was not anxious (normal) 1 person (6%), mild anxiety 8 people (40%), anxious while 11 people (55%). Thus, the categories of the anxiety of respondents when facing the OSCE in the category of mild anxiety. The results of previous studies showed that the incidence of anxiety at the lab skill test was 21 people (45.7%) not anxious, 22

people (50.3%) mildly anxious, 3 people (4%) being anxious (Siti, 2013). Then there was the incidence of anxiety when faced with a National Examination (National Examination) obtained 19 people (28%) severely anxious, 32 people (47%) moderate anxiety and 17 people (25%) mildly anxious [10]. Anxiety facing an exam is triggered by uncontrolled thoughts, feelings and motor behaviour [11]. Uncontrolled cognitive manifestations cause the mind to become tense, uncontrolled affective manifestations result in feelings of bad things happening, and uncontrolled motor behaviour causes students to become nervous and trembling when facing exams, especially the OSCE exam.

### The post-test anxiety category of control and intervention groups

The frequency distribution of anxiety categories at pre-test in the intervention group consisted of 2 people (10%) who were not anxious (normal), mild anxious 6 people (30%), moderate anxiety 12 people (60%) and at the time of post-test it was obtained that the category anxiety when pre-test in the intervention control group there were 7 people (35%) who were not anxious (normal), mild anxiety 5 people (25%), anxious while 8 people (40%). From these results, the anxiety category of respondents when facing OSCE in the mild anxiety category and there was a decrease in the category of anxiety in the intervention group after being given a deep breath relaxation technique. A deep breathing relaxation technique is a form of nursing care, which in this case, the nurse teaches the client how to breathe deeply, breathe slowly (hold inspiration optimally) and how to exhale slowly. Deep breathing relaxation techniques can reduce pain intensity, increase lung ventilation, reduce anxiety and increase blood oxygenation [12].

A deep breathing relaxation technique is a technique used by individuals to provide self-control when there is physical or emotional discomfort or stress. The purpose of deep breathing relaxation techniques is to improve alveoli ventilation, maintaining gas exchange, prevent pulmonary atelectasis, improve cough efficiency, reduce stress both physical stress and emotional stress which is to reduce pain intensity and reduce anxiety. Relaxation techniques direct individuals with self-control when anxiety occurs. The use of relaxation techniques allows clients to be able to reduce anxiety associated with anxiety, reduce pressure on the muscles, obtain maximum benefit from the rest period and sleep and are confident in the decision. When a person experiences anxiety, the sympathetic nerve works so that the heart rate, blood pressure, breathing increase. While when doing deep breathing relaxation techniques, the parasympathetic nervous system works and the sympathetic nerve decreases so that the heart rate, blood pressure and respiratory rate decrease and within normal limits. There are changes

due to deep breathing relaxation techniques namely, lowering blood pressure, reducing the frequency of work of the heart, reducing muscle tension, improving fitness, increasing concentration and finding solutions to improve the ability to deal with stressors, then not focusing on stressors and being relaxed [9].

### ***Analysis of differences in post-test anxiety category of control and intervention groups***

Analysis of differences in post-test anxiety category of the control and intervention groups. Based on the results of independent t-test, the category of anxiety between control group and intervention group, after deep breath relaxation (post-test) obtained p-value = 0.031 ( $p < 0.05$ ), which means there are the difference is the decreasing category of anxiety between the control group and the intervention group after deep breathing relaxation.

From the results of these two statistical tests, it can be concluded that breathing relaxation techniques are effective in reducing student anxiety when facing OSCE at the Faculty of Nursing, University of North Sumatra. Data (2013) in his research entitled, "The Effectiveness of Deep Breathing Relaxation on Student Anxiety in Pre-Clinical Learning in Diploma Nursing Study Program at the University of Muhammadiyah Magelang" said that there was an influence between deep breathing relaxation on student anxiety when facing pre-clinical learning. This statement is concluded from the results of the Wilcoxon test which found p-value = 0.001 ( $p < 0.05$ ) [8]. An anxiety response can be removed by the discovery of responses that are inherently opposed to that response. The important thing is that the client reaches a state of calm and peace. Behind relaxation exercises, tension is not possible in line with relaxation [13].

In conclusion, the anxiety category of the respondents during the pre-test and post-test of control and intervention groups, the majority experienced mild anxiety. The category of anxiety for the control group at pre and post-test obtained an increase in anxiety. The category of anxiety in the intervention group when pre and post-test were found decreased anxiety at the time of relaxation in the breath. The category of anxiety for the control group and intervention at the time of pre-test revealed that there were no significant differences. The category of anxiety in the control group and intervention at post-test there was a decrease in anxiety in the intervention group. It is hoped that deep breathing relaxation techniques are applied to be one of the interventions in every nursing practice to help clients who experience anxiety.

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