

## EFFECTIVENESS OF CALISTHENIC EXERCISES IN REDUCING STRESS AMONG NURSING STUDENTS IN A SELECTED COLLEGE OF NURSING

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### ABSTRACT

*Calisthenic exercises leads to an improvement in overall strength and energy to the body, in turn promoting overall health. Calisthenics also improves mental health, which in turn helps in treating depression, stress, anxiety and the like. The objectives are to assess the level of stress and find out the effectiveness of calisthenic exercises, associate the post test stress score with their selected demographic variables among nursing students. A pre experimental design was chosen Non probability convenient sampling technique used to select the sample. 60 nursing students were the sample. Perceived stress scale was used to assess the nursing students stress. In pretest, the nursing students stress score was 23.12 after the administration of calisthenic exercise the post test stress score was 14.18 Difference is 8.94. It was statistically significant at  $p < 0.001$  level. Statistical significance was calculated by using chi square test and one way Anova-test, student paired t-test. After calisthenic exercise the stress level has reduced among nursing students. So calisthenic exercise has significant impact in reducing the stress among nursing students.*

**Key words:** stress, nursing students, calisthenic exercises,

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## INTRODUCTION

Stress has been identified as a 20th century disease and has been viewed as a complex and dynamic transaction between individuals and their environments. Stress refers to a forceful interaction between the individual and the environment. In this interaction and boundaries related to work may be apparent as threatening to exceed the person's resources and skills. Stress is not equal with nervousness or anxiety but also provides the originality, abilities and energies; though it can cause tiredness and sickness, either physical or psychologically. Stress is a psychological factor that influences the academic performance. Although every profession is effected by stress but the health professionals are more at risk to stress especially nursing profession. Nursing students face not only academic stress but stress at work during their training period. One focus of interest in research on stress at work is the sources of stress, or stressors, which interact and contribute to the onset of stress in organizational settings.

Calisthenics are aerobic and dynamic exercises. They are rhythmic, smooth, enjoyable exercises that are easy to perform alone or in a group format, and can be modified according to subject's fitness levels. A popular calisthenics is the jumping jack; it also works towards heart health and stress relief. Calisthenic increases flexibility with movements using only one's body weight for resistance. The benefit both muscular, cardio vascular fitness and also improves psychomotor skill. Calisthenic exercises leads to an improvement in overall strength and energy to the body, in turn promoting overall health. These exercises have been known to improve mental health, which in turn helps in treating depression, stress, anxiety and the like. Calisthenic workout can help burn unwanted fat in the body, thus providing a fit physique.

## NEED FOR THE STUDY

The World Health Organization (WHO) has estimated that stress- related disorders will be one of the leading causes of disability by the year 2020. Nursing schools are now recognized as a stressful environment that often exerts a negative effect on the academic performance and psychological well-being of the students. Studies from the United Kingdom and India have reported increasing levels of stress among nursing students. A study was conducted in Brazil on 1<sup>st</sup>, 2<sup>nd</sup>, & 3<sup>rd</sup> year B.Sc. nursing students to assess depression among students associated with their self-esteem. There were 224 subjects included based on the data obtained. The study adopted a descriptive qualitative approach using psychometric resources, which includes tests, inventories, questionnaires and scales. The findings of the study concluded, highlighting 1 case of serious depression, 14 moderate depressions, 28 mild depression and 181 without signs of depression.

Based on the above reviews it confirmed that the under graduate nursing students are experienced a stress in their academic year in the same way calisthenic exercises improve the mood status of the individual. So the investigator felt that to conduct a study to reduce stress among nursing students by calisthenic exercises.

## STATEMENT OF THE PROBLEM

"A study to assess the effectiveness of calisthenic exercises in reducing stress among nursing students in a selected college of nursing at Nagercoil"

## OBJECTIVES

1. To assess the existing level of stress among nursing students before calisthenic exercises intervention.
2. To evaluate the post test level of stress among nursing students after calisthenic exercises intervention.
3. To determine the effectiveness of calisthenic exercises on stress among nursing students.
4. To find out the association between the level of stress in nursing students with their selected demographic variables.

## HYPOTHESIS

**H1:** There will be significant difference between pretest and posttest scores of students in reduction of stress through calisthenics exercise.

**H2:** There will be significant association between the post levels of stress among nursing students with their selected demographic variables.

## RESEARCH METHODOLOGY

**Research approach:** Quantitative approach.

**Research design:** Pre-experimental, one group pre-test post-test design

**Setting of the study:** Conducted in selected College of nursing at Nagercoil.

**Population:** nursing students who are studying in selected college of nursing at Nagercoil.

## SAMPLE AND SAMPLING TECHNIQUE

**Sample and sample size:** 60 nursing students who are studying in selected college of nursing at Nagercoil.

**Sample Technique:** Convenient sampling

## Development of the tool

**Section A:** Consists of demographic variables such as age, sex, education, socio-economic status, personal habits, and methods of recreation, rest and sleep.

**Section B:** Students stress assessment by perceived stress scale will be used on nursing students. The tool consists of 10 items in each case you will be asked to indicate how often you felt or thought a certain way. For each question choose from the following alternatives: 0-never, 1-almost never, 2- sometimes, 3-fairly often, 4-very often.

Determine the PSS score by following these directions:

First, reverse your scores for questions 4, 5, 7, & 8. On these 4 questions, change the scores like this: 0 = 4, 1 = 3, 2 = 2, 3 = 1, and 4 = 0. Now add up your scores for each item to get a total. Individual scores on the PSS can range from 0 to 40. Minimum score = 0, Maximum score =40, Questions= 10, Total score=40

Level of stress	Range of score
Low stress	0-13
Moderate stress	14-26
High perceived Stress	27-40

#### FINDINGS:

- On an average, students are reduced their stress from 23.12 to 14.18 after the administration of calisthenic exercise. Difference is 8.94, this difference is statistically significant. Statistical significance was calculated by using student's paired 't'test.
- Before calisthenic exercise, none of the students are having low level stress score and 70.0% of them having moderate level of stress score and 30.0% of them are having high perceived level of stress score.
- After calisthenic exercise, 48.3% of students are having low level of stress score, 51.7% of them having moderate level of stress score and none of them are having high perceived level of stress score.
- Level of stress reduction score between pre test and post test was calculated using Generalised McNemar'schisquare test.
- On an average, in post-test after having calisthenic exercises, students are reduced 22.35% stress score than pre test score.
- Differences and generalization of stress reduction score between pre-test and post test score was calculated using and mean difference with 95% CI and proportion with 95% CI.

#### CONCLUSION

Education in evidence based care gives the opportunity to nurses to improve their ability to use theoretical knowledge in practice. The study was conducted to find the effectiveness of calisthenic exercises on stress among nursing students. Calisthenic exercises which stimulate the brain function through physical activity and reduce the mental stress. So the investigator concluded that the calisthenic exercises are an appropriate method to reduce the stress.

#### RECOMMENDATIONS

- Keeping in view, the finding of the present study can be used as a guide for future research.
- A similar study can be replicated with on a large sample in different setting
- A similar study can be conducted to assess the effectiveness of other complimentary therapies on stress.
- A longitudinal study can be undertaken to find out the long term effect of calisthenic exercises on stress.

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