

To Compare the Effect of high Intensity and Low Intensity Aerobic Exercise with Relaxation Technique Among the Young Adults with Generalized Anxiety Disorder.

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Abstract:- The Aim of the study is to determine the effect of high-intensity exercise with aerobic exercise and high-intensity exercise with music and non-exercisers with generalized anxiety disorder in young adults aged between 18 to 22 years, the study is designed as an observational study set up in saveeetha college of physiotherapy, materials used are GAD-7 questionnaire, music system, pedometer and stop watch. The procedure is GAD 7 question naire was given to 500 students and 30 students with GAD was selected for the study under inclusive and exclusive criteria. Their GAD scores are recorded as pre-intervention score. The 30 samples are divided into two groups, GROUP A and GROUP B each group consist of 15 samples, GROUP A performed high - intensity exercise and GROUP B, was performed low - intensity exercise and relaxation technique were given to both groups. GAD 7 question naire was given at the end of the study (8 weeks). The results determined was We observe that the mean score of pre-intervention score of GAD scale in GROUP 'A', and GROUP 'B' is 12.75 and 12.50 respectively whereas the standard deviation of GROUP 'A', and GROUP 'B' 'is determined as ± 1.0 and ± 0.952 respectively. The mean score of post intervention score of GAD scale in GROUP 'A', and GROUP 'B' is 7.25 and 10.30 respectively whereas the standard deviation of GROUP 'A', and GROUP 'B' is determined as ± 0.50 and ± 1.0 respectively. Hence, we conclude that high-intensity exercise may use to reduce anxiety rapidly and low-intensity exercise may use to prevent GAD for the individuals with risk factor.

Keywords:- high intensity, low intensity, aerobic exercise, and generalized anxiety disorder.

I. INTRODUCTION

GAD is a mental disorder were an individual is often worried or anxious about many things and finds it difficult to control this anxiety [1]. The prevalence rate of generalized anxiety disorder among the young adults is 9.2% in which 6.6% are women and 3.6% are men [2]. women have two times risk to develop GAD [3].

The symptoms of anxiety include Motor tension such as Muscle aches, and restlessness, Autonomic hyperactivity e.g. Sweating, dizziness, and accelerated heart rate, Apprehensive expectation e.g. Worrying, and fear, Vigilance and scanning e.g. Concentration, difficulties, irritability [4], Nausea or diarrhea and Shortness of breath.

The exact causes for GAD is not known [5]. But some studies have determined that external environment and stress level may also influence on GAD [2] [6] [7]. The external environment stress can be due to unemployed, single child, playing with gadgets, lacks of friends, and being reserved [6] [7].

The risk factors for GAD include a family history of the condition, an increase in stress and a history of physical or emotional trauma, smokers have 4-5 times risk to develop anxiety, and medical illness [5] [6] [7].

Aerobic exercise is believed to reduce anxiety and panic symptoms through similar processes. Specifically, aerobic exercise produces many of the same bodily sensations that often elicit anxiety reactions, such as increases in heart rate, respiration, and perspiration. Repeated exposures to anxiety-related interoceptive stimuli through exercise may therefore extinguish fear responses, accompanied by changes in how these stimuli are interpreted [8]. Furthermore, aerobic exercise reduces generalized arousal, including resting heart rate and muscle tension [9]. Based on the functional similarities between aerobic exercise and CBT, it is not surprising that some studies have found no differences in the efficacy of CBT and aerobic exercise in the reduction of anxiety [10] [11].

The purpose of the study is to determine the beneficial aerobic exercise that reduces GAD because anxiety is consider as unimportant by many health care providers [12]. relaxation and exercise may also consider as an alternative therapy for anxiety [13,14].

Exercise training is considered as healthful behavior with minimal risk of adverse effect that could be an effective and practical tool for reducing anxiety among the patients [15, 16]. Ease of Use.

II. METHODOLOGY

The study is designed as a quasi-experimental, Study setting is done at saveetha college of physiotherapy, Sample size was 30 students with GAD, aged 18 – 22 years were taken in which 22 students were females and 8 students were males. Duration of the study was 8 weeks, Materials required are GAD 7 questionnaire, stop watch, music system and pedometer. the inclusion criteria are students between 18 to 22 years with GAD were taken and College students were only taken. The exclusion criteria are the subjects who have drug induced anxiety, the subjects who are addicted to alcohol and smoking, and the subjects who are taking treatment for anxiety. The procedure was GAD 7 questionnaire was given to the 500 students in which 47 students are screened and 32 students were selected in same score and BMI, but 2 students were left due to lack of time. Finally, 30 students were screened with GAD according to the inclusive and exclusive criteria in which 22 students are females and 8 students are males. there GAD scores are recorded as pre-intervention score. we separate the 30 students into two groups, GROUP A and GROUP B. each group consists of 15 students in which 11 are females and 4 are males. High - intensity aerobic exercise with relaxation technique is given to GROUP A and Low - intensity aerobic exercise with relaxation technique for GROUP B. after a period of 8 weeks, GAD 7 questionnaire is given and their post intervention score were recorded.

Protocol for high-intensity exercise: Intensity: 80% of heart rate, repetition: 3 times, sets: 3, frequency: 2/day, and duration: 8 weeks.

Protocol for Low-intensity exercise: Intensity: 60% of heart rate, repetition: 3 times, sets: 3, frequency: 2/day, and duration: 8 weeks.

Music is given as relaxation technique.

III. RESULTS

We assess that the mean score of pre-intervention score of GAD scale in GROUP 'A', and GROUP 'B' is 12.75 and 12.50 respectively whereas the standard deviation of GROUP 'A', and GROUP 'B' is determined as ± 1.0 and ± 0.952 respectively as shown in Table.1 to 2 and Fig.1 and 2.

The mean score of post intervention score of GAD scale in GROUP 'A', and GROUP 'B' is 7.25 and 10.30 respectively whereas the standard deviation of GROUP 'A', and GROUP 'B' is determined as ± 0.50 and ± 1.0 respectively.

Hence, we determine that the high-intensity aerobic exercise will reduce anxiety rapidly when compared to low-intensity exercise.

IV. DISCUSSION

States that fear of anxiety sensation, respiratory and cardiovascular symptoms has been decreased by prescribing exercise program [17]. Aerobic exercise has been shown an effective and cost effect for the treatment of anxiety [18]. Some studies shown that the aerobic exercise may be effective in reducing GAD as cognitive behavioral therapy [19].

Griest et al has compared the effect of aerobic exercise with time-limited and time-unlimited psychotherapy and he determined that aerobic exercise is equal to time-limited and better than time-unlimited psychotherapy [20]. Mather et al conducted a study in which a large portion of patient who receive antidepressant medication and do not respond adequately, so he studied patients with clinical depression who had not responded to antidepressant medication in adequate doses. These were randomly assigned to exercise and health education classes, and aerobic exercise was significantly more effective [8]. Same way Trivedi et al also found exercise to be useful in the management of non-responders to medication [9].

According to exercising at 70-90% of maximum heart rate for 20 minutes, three times a week shows a significant reduce of GAD [21]. For substantial decrease in state of anxiety occurred 90 minutes following 20 minutes of aerobic exercise at 80% of maximum heart rate [22].

Egil W et al has determined that aerobic exercise increases the oxygen capacity but this doesn't have an influence in reducing anxiety and he also determined that non - aerobic exercise also doesn't reduce anxiety level [5] but in this study, we determined that aerobic exercise shows a significant decrease in anxiety score.

Bromen et al has determined that the both high and low intensity aerobic exercise shows a significant reduce in anxiety but in which high - intensity exercise, but Only high-intensity exercise reduced fear of anxiety-related bodily sensations [8]. The results of this study were similar to the results of his study but additionally the students reported that the aerobic exercise also reduces the urinary incontinence.

Conclusion: We may see GAD hidden in young adults and it doesn't consider as important by the people. Hence the young adult's quality of health is spoiled.

We conclude that high-intensity exercise may use to reduce anxiety rapidly and low-intensity exercise may use to prevent GAD for the individuals with risk factor.

If it is left untreated the symptoms of anxiety may have a negative impact on the outcomes of treatment in part, because patient who have anxiety can be less likely to adhere to prescribed medical treatment [23,24].

Anxiety reduces the health-related quality of life [12], it may cause increase in disability [13], and the patient has greater risk for suicide or suicide attempts [25].

V. CONCLUSION

We may see GAD hidden in young adults and it doesn't consider as important by the people. Hence the young adult's quality of health is spoiled. We conclude that high-intensity exercise may use to reduce anxiety rapidly and low-intensity exercise may use to prevent GAD for the individuals with risk factor.

VI. FIGURES AND TABLES

GAD 7 score	Mean score	Standard deviation
Pre - intervention	12.75	±1.0
Post - intervention	7.25	±0.50

Table 1. High-intensity aerobic exercise

GAD 7 score	Mean score	Standard deviation
Pre - intervention	12.50	±0.952
Post - intervention	10.30	±1.0

Table 2. Low-intensity aerobic exercise

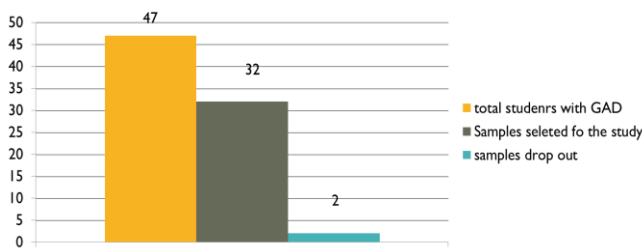
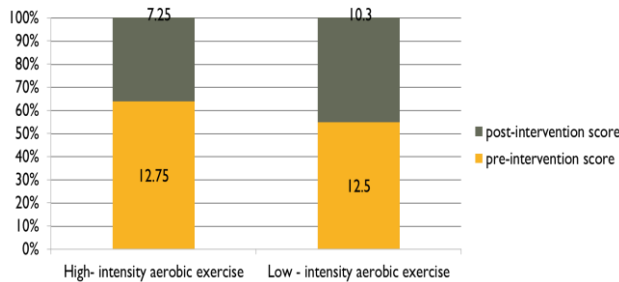


Fig 1:-

Fig.2,



2:-

Fig

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