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COMPARING THE EFFECTS OF PHYSICAL EXERCISE AND MEDITATION IN REDUCING SLEEP DISTURBANCES DUE TO MOBILE USAGE IN YOUNG ADULTS

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ABSTRACT

Background: *Physical exercise could be an alternative of complimentary approach to moderately positive effects on sleep quality in young adults.* ***Aim and objective:*** *Aim of the study is to compare the effects of exercises and meditation to reduce sleep disturbance and to improve sleep quality.* ***Methods:*** *60 insomnia subjects were selected, splitted into 2 groups with convenient sampling, 30 in each and asked to fill the questionnaire. One group treated with aerobic exercise and another group with meditation and breathing exercise, for 2 months, 4 days in a week. After 4 weeks again asked to fill questionnaire. Pre and post values are tabulated and statistically analysed.* ***Result:*** *Group A Pre-test mean value is 2.51, Post-test mean value is 5.25. Group B Pre-test mean value is 1.52, Post-test mean value is 2.25.* ***Conclusion:*** *The study concluded that there was a significant difference in Group- A than group B. The effectiveness of aerobic and resistive exercises improves the sleep quality in group A than Group B*

KEY WORDS

Exercise, Insomnia, Sleep problem, Sleep Quality.

INTRODUCTION:

Insomnia is known as sleeplessness. It is a sleep disorder where people have trouble in sleeping or may have difficulties in falling asleep or staying asleep as long as desired. Sleep problems have a significant negative impact on mental and physical health, impaired quality of life, and increased health care cost [1][2][3]. Lack of sleep can lead to increased fatigue and excessive day time sleepiness. It can also impair the metabolic, endocrine, and immune systems, among other deleterious effects [3]. However, few patients with insomnia receive treatment or consult a health care provider.

Exercise programmes are also recommended to prevent and treat sleep disorders as well as the depression associated disorders among the young adults [7]. Regular aerobic or resisted exercise training significantly improves sleep quality in young adults. Those who exercise regularly achieved significantly reduced time taken to fall asleep and reduced medication used for insomnia [12]. Having infrequent adverse effects and low cost, participation in a community-based exercise programme may be a favourable and easily accessible means of preventing and treating sleep problems.

Physical exercise is any bodily activity that enhances or maintains physical fitness and overall health and wellness Frequent and regular physical exercise boosts the immune system [1].

Meditation is the practice of concentrated focus upon a sound, object visualisation along with the breath moments of attention itself in order to increase awareness of present moment which reduces stress. Participation in exercise training program has moderately positive effects on sleep quality in young adults [1][2]. Physical exercise could be an alternative of complimentary approach to existing therapies for sleep problems.

METHODOLOGY:

Home based.

Comparative Study

2 months

60 subjects (both male and female)

- 30 group-A
- 30 group-B

INCLUSION CRITERIA:

Both male and female aged 18-30years

EXCLUSION CRITERIA:

- Age less than 18years and more then 30
- Stroke
- Diabetes mellitus
- Fractures
- Asthma
- Chronic respiratory disease
- Other major organ failure
- Panic disorder
- Major psychiatric diagnoses
- Pregnancy
- Neurological Disorder (Autism, etc

OUTCOME MEASURE:

Self-reported sleep quality (eg: PSQI questionnaire)

PROCEDURE:

Subjects who fulfilled the inclusion criteria were taken for the study. All the subjects were explained about the study and informed consent was obtained [2]. Sixty individuals age between 18-30 years were randomly selected. First day before treatment, were asked to fill up the questionnaire. Group A were given aerobic exercise, Group B were given meditational techniques with controlled breathing pattern. Both groups were given the above said methods for 4 days in a week for 2 months [11] [13]. Group A subjects were instructed to perform aerobic exercise for 10 repetitions of each set, 3 times a day. At the end of program subjects are reassessed by asking them to fill the PSQI questionnaire. Finally, pre and post recordings were taken and tabulated statistically.

INTERVENTIONS:

GROUP A:

Aerobic exercise and resistive exercise prescribed includes the following exercises;

- Treadmill
- Cycling
- Jogging
- Jumping Jack
- Plank

GROUP B:

Breathing exercise was prescribed such as:

- Chanting OM
- Deep breathing
- Single nostril breathing

Fig 1: Static Cycling

Fig 2: Plank exercise

Fig 3: Single nostril breathing.

Fig 4: Chanting OM.

DATA ANALYSIS:

GROUP - A

OUTCOME	MEAN		STANDARD DEVIATION		t – value	p - value
	Pre –Test	Post-Test	Pre -Test	Post -Test		0.08
PSQI Questionnaire	2.51	5.25	3.52	5.47	5.46	P<0.01

GROUP-B

OUTCOME	MEAN		STANDARD DEVIATION		t – value	p - value
	Pre - Test	Post –Test	Pre -Test	Post –Test		0.86
PSQI Questionnaire	1.52	2.25	2.55	3.15	3.27	P<0.05

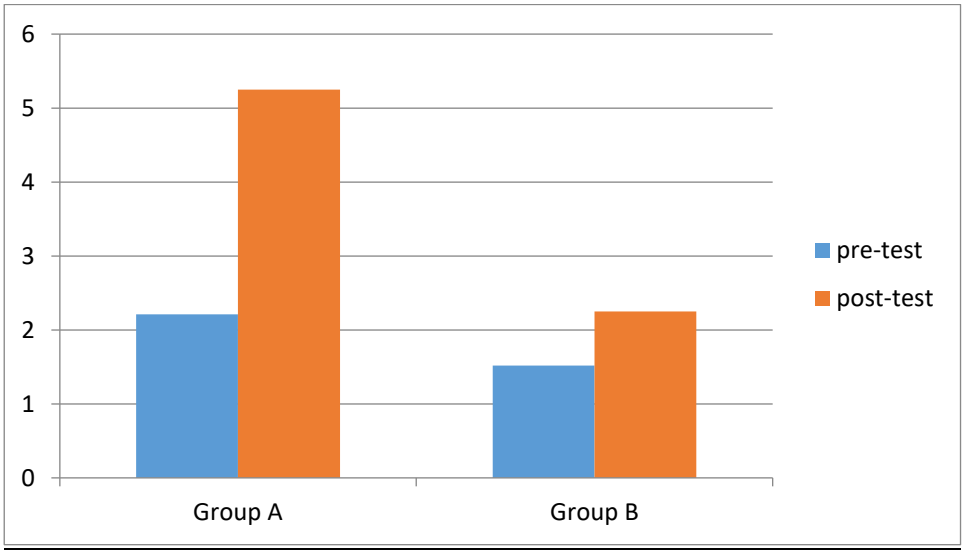

Fig 1: shows the mean value of group A and B with their pre-test and post-test values.

RESULT:

The above pre-test and post-test mean value tables show that the both group has significant improvement. Although improvement were seen in both the groups, in group-A the sleep quality was more significant compared to group-B (meditation).

DISCUSSION:

According to PEI YOUNG YANG, KA HOU HEDAL, exercise training improves sleep quality in young adults with sleep problems due to mobile usage, in a systemic review with randomized trials it has been stated that exercise training improves sleep quality in young adults [1,2]. Young adults such as insomnia, poor sleep quality. Pooled analysis of the results indicates that exercise training has a moderate beneficial effect on sleep quality, as indicated by decrease in the global Pittsburgh Sleep Quality Index Score. These findings demonstrate that the participants did not sleep for a long duration but after participation in exercise and meditation programme they nevertheless perceived better sleep quality. Since poor sleep quality s indicate that participation in exercise training has a moderately beneficial effect on sleep quality and decrease use of sleep medication [4][7]. These findings suggest that physical exercise therapy could be an alternative complimentary approach to existing therapies for sleep problem, especially since exercise and meditation is low cost, widely available and generally safe.

LIMITATION OF THE STUDY:

1. The sample size was minimal.
2. There was no follow-up.

RECOMMENDATIONS FOR FURTHER STUDY:

1. Future study can be done with large number of samples.
2. Research can be done with students, IT professionals, etc.
3. Sedentary people can also be included in future study.

CONCLUSION:

The study compared the effectiveness of aerobic and resistive exercises for group A and mediation with breath control for group B and it is concluded that the sleep quality improved in group A than compared to group B.

Group A treatment protocol i.e. aerobic exercise such as walking, jogging, jumping jacks, plank, etc was found to be effective in improving sleep quality than Group B

treatment protocol i.e. "Meditation with breath control".

Hence it is concluded that Group A treatment protocol is effective therapeutic option in the treatment of insomnia or poor quality of sleep.

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