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EFFECT OF AEROBIC EXRCISES ON INTERNET ADDICTION AND PHYSICAL ACTIVITY IN COLLEGE STUDENTS

Physiotherapy

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ABSTRACT

The study investigated the impact of aerobic exercise on internet addiction and physical activity in college students. Thirty participants, aged 20-25, underwent a 4-week aerobic exercise program. Pre- and post-program assessments using the Kimberly Young Internet Addiction Questionnaire and Global Physical Activity Questionnaire revealed a significant reduction in internet addiction and an increase in physical activity ($p<0.05$). The results suggest that regular aerobic exercise can effectively reduce internet addiction and improve physical activity levels in college students.

KEYWORDS

internet addiction, physical activity, Aerobic exercise

INTRODUCTION

The Internet has emerged as the most widely used medium for disseminating information due to its distinct communication benefits, which are progressively impacting every element of peoples' lives. The Internet has made people's lives more convenient, yet it has also had unavoidable bad impacts. Among these, internet addiction (IA) has caught the interest of people from all walks of life.[1]

Compared to the general population, college and university students are more likely to use the internet for multiple purposes, which increases their risk of becoming addicted to it. Losing control, withdrawal, cravings, and a decreased ability to make decisions are all signs of internet addiction.[2]

Due to free internet access on college campuses and lack of parental supervision, youth, especially college-bound young adults, are more likely to engage in problematic internet use. University students who use the internet excessively suffer from both psychological and physical issues, which lowers their academic performance .The modern lifestyle, which has been made easier by technology, particularly the internet, may be contributing to a decrease in physical exercise. Students that engage in physical activity regularly are generally found to be less interested in sedentary pursuits like spending a lot of time online.[3]

Previous empirical evidence found a low rate of physical activity among people with IA, especially children, adolescents and youths. While one study found that students who had low level of physical activities had significantly higher score regarding IA, and increase physical activities would help to alleviate the degree of IA.[4]

In high-stress circumstances, college students frequently reduce their normal physical exercise in favor of excessive internet activity. This change from physical activity to excessive screen time has major consequences for their health and well-being. Regular physical exercise is crucial for promoting a healthy lifestyle, positively benefiting the cardiovascular, pulmonary, neurological, and musculoskeletal systems, while also improving emotional state and reducing the risks associated with lifestyle-related disorders.[5]

On the other hand, a sedentary lifestyle has detrimental impacts on general health and quality of life, which are made worse with time by decreased physical activity and an increased reliance on internet use. Therefore, it is essential for college students who are under a lot of stress to continue exercising.[5]

Exercise therapies are another common way to treat IA, in addition to psychosocial interventions People might substitute exercise for the excessive amount of time they spend on the Internet. It has been demonstrated that exercise can both promote beneficial benefits and lessen negative ones by restoring and regulating nerve cells, improving their ability to respond to changes in the environment, and improving cognitive function, executive functions, and inhibitory control.[6]

The majority of people, such as youths, adults, the elderly, and even some clinical populations, would benefit from chronic and regular aerobic exercise, as recommended by the American College of Sports Medicine (ACSM) and the World Health Organization (WHO) More importantly, multiple published research have shown that aerobic exercise can be an effective and reliable way to help persons who are addicted to heroin, nicotine, alcohol, or cigarettes recover by decreasing their cravings for these addictive substances . Simultaneously, earlier studies have indicated that proper physical activity, particularly moderate-intensity aerobic exercise, could efficiently increase individuals self-control or inhibitory control ability which implies that exercise would be conducive to help the population indulging in internet.[7]

In order to establish a theoretical foundation for exercise intervention on Internet addiction, the current study examines the impact of an exercise intervention in college students who suffer from Internet addiction.[8]

Aims And Objectives

- To know the effect of aerobic exercise on internet addiction and physical activity in college students.

Materials And Methodology

Materials

1. Pen and Paper

Methodology:

Study Setup : SVIMS College of Physiotherapy, Tirupati
Study Design : Pre and Post experimental design
Sample Size : 30 samples
Study Duration : 4 weeks

Inclusion Criteria:

- **Age Group:** 20-25 years
- **Gender:** male and female

Exclusion Criteria:

- History of cardiovascular problems
- History of musculoskeletal problems
- History of Psychological related problems
- History of any neurological problems
- Subjects not willing to participate with in the study
- Subjects who are participating in other training programme

Outcome Measures:

1. Internet addiction is measured through Kimberly young questionnaire.

2. Physical activity is measured through the global physical activity questionnaire

Study Procedure And Data Collection:

Subjects, who met the inclusion and exclusion criteria were recruited in the study ,after explain the procedure of the study in detail ,written informed consents were obtained from them **,**The pre assessment was evaluated though Kimberly young questionnaire for internet addiction and global physical activity questionnaire for physical activity, then after the training program, the post values was collected through Kimberly young questionnaire and global physical activity as post values.

The training was given for 4weeks, 3 times per week for 60 minutes. the session consists of

- Warm up exercises
- Aerobic exercises
- Cool down exercise

Mode	Frequency	Duration	Intensity
Warm up exercises	three days a week	**10** min	Mild / moderate
Aerobic exercises (brisk walk / jogging /cycling)	1 & 2 week (three days a week) 3&4 week(three days a week)	30 min 40 min	Mild /moderate Mild /moderate
Cool down exercises	Three days a week	10 min	Mild /moderate

Statistical Analysis

The data collected will be entered in Microsoft Excel and will be imported in IBM SPSS v 25.0. software. The data was analysed by appropriate statistical techniques such as mean ± standard deviation or using a paired t-test. Statistical Significance was set at $P < 0.05$.

RESULTS

The results were analysed using SPSS 23.version for the statistical analysis of the study. In the present study, a total of 30 individuals were included who fulfilled inclusion criteria. Outcome measures were taken before exercises such as IAT and GPAQ. Outcome measures were taken at the end of 4thweek after exercises the values were tabulated using Ms excel

Table 1- Demographic Data

	Mean	Std. Deviation
Age	22.20	1.32
BMI	22.19	1.86
IAT.Pre	60.33	4.21
GPAQ.Pre	1349.07	471.95

Table 1 - Describes baseline descriptions of chosen population

The mean age of 22.20 ±1.32 with a BMI of 22.19±1.86. The baseline measurement of IAT was 60.33 ±4.21 and GPAQ was 1349.07 ±471.95.

Figure 1

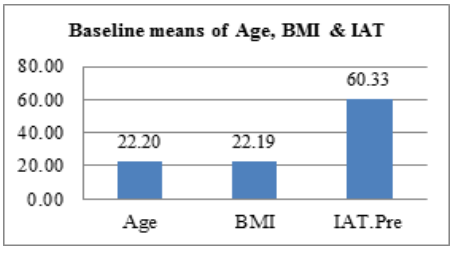

Figure 1- Represents the baselines means of age, BMI & IMT. The baseline measurement of age was 22.20, BMI was 22.19 & IAT was 60.33

Table 2 – Paired Sample Statistics

		Mean	Std. Deviation	Std. Error Mean
Pair 1	IAT.Pre	60.33	4.21	0.77
	IAT.Post	53.53	4.38	0.80
Pair 2	GPAQ.Pre	1349.07	471.95	86.17
	GPAQ.Post	1648.60	461.23	84.21

A paired sample T-test was performed to evaluate the significance of the treatment intervention in internet addiction patients. The mean value of pair 1: pre- IAT was 60.33 ±4.21 & the post IAT value was 53.53± 4.38. The mean value of pair - 2: pre GPAQ was 1349.07 ± 471.95 and post GPAQ was 1648.60 ± 461.23.

Figure - 2

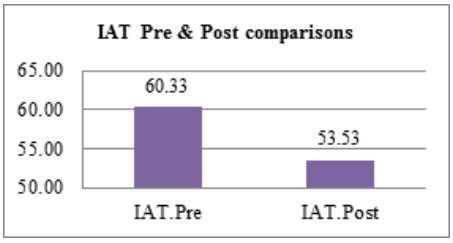

Figure 2 - Represents the IAT pre & post comparisons. The mean value of Pre .IAT was 60.33 & post IAT was 53.53

Figure 3 –

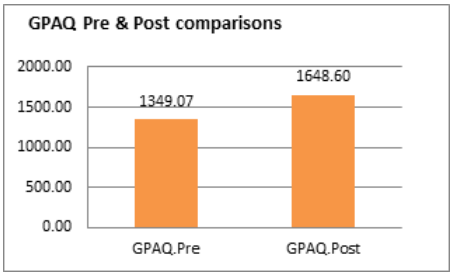

Figure 3 – Represents Pre & post GPAQ comparisons

The mean value of PRE GPAQ was 1349.07 & post GPAQ was 1648.60

Table – 3

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	IAT_Pre - IAT_Post	-6.80	1.60	0.19	6.40	7.20	35.02	29.00	0.00
Pair 2	GPAQ_Pre - GPAQ_Post	-299.5	70.37	12.85	-325.81	-273.26	-23.3	29.00	0.00

Table - 3:

A paired sample test was performed to evaluate the significance of the treatment intervention in Internet addictions. The IAT showed the mean values of pair 1 - (6.80 ±1.06) with 't' value was 35.02, p = 0.00. This shows that there was a statistically significant improvement in internet addictors after receiving intervention.

The GPAQ showed the mean values of pair - 2 was (-299.53± 70.37) with 't' value was -23.31 and p = 0.00.This shows that there is a statistically significant improvement in internet addictors after receiving intervention.

DISCUSSION

Yan yan et .al (2024) – in his study concluded that Exercise-based interventions can effectively reduce the level of IA and improve the psychological symptoms of college students with IA.7 The optimal types of exercise for college students suffering from IA are open motor skill and the combination of both open and closed skill.[9]

Kumar et.al (2018) - Internet usage has been found to have a very strong impact on college students, especially in the areas of anxiety and depression, and at times it affected their social life and their relationship with their family.[10]

Zahiruddin Othman, hung Wah Lee et.al (2017) - in his study concluded that Internet addiction is associated with depression and

male gender among Malaysian college students. Further study on psychological factors such as personality traits and coping styles is recommended in order to understand the underlying mechanism in IA and propose possible interventions.[11]

Yao-Jun Shao et.al (2018) - - The pooled Internet addiction detection rate of Chinese college students in out study was 11%, which is higher than in some other countries and strongly demonstrates a worrisome situation. Effective measures should be taken to prevent further Internet addiction and improve the current situation.[12]

Alevi et al (2015) - in his study concluded that among students of Isfahan's universities showed that males were at three times greater risk of developing internet addiction than females.[13]

Davranche K et.al (2015) - in his study concluded that all intensities of acute aerobic exercise could significantly improve the inhibitory control The acute aerobic exercise at moderate intensity had the most obvious effect on inhibitory control, but the exercise at low or high intensity had a lower or little effect, showing an inverted-U-shaped curve relationship.[13]

Shankar Menon et.al (2018) - in his study concluded that there is no evidence of severe internet addiction. The addiction was more in the range of moderate to mild addiction. However, it is possible that the reported scores were related to internet work in the campus and did not include the use of smartphones and the time spent on using social websites using smartphones. If this were included, it is possible that the level of internet addiction could be much higher.[14]

CONCLUSION

The study concluded the impact of aerobic exercises on internet addiction and physical activity levels among college students .the findings suggested that regular aerobic exercise can be effective for reducing internet addiction and improving physical activity in this population. These finding are consistent with previous research suggesting that regular physical activity can have positive effects on mental health , furthermore , the results supports the idea that aerobic exercise can be a useful adjunctive treatment for internet addiction.

Limitations:

1. The sample size was relatively small, which may limit generalizability of the findings
2. The study relied on self-reported measures of internet addiction and physical activity which may be subject to bias

Future Recommendations:

Further studies should aim to replicate these findings using larger samples and more objectives of physical activity and internet addiction and explore the underlying mechanisms by which aerobic exercises influences internet addiction and physical activity

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