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Empowering the mind and body: The impact of exercise on college women's stress resilience and self-esteem

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Abstract

Stress and self-esteem plays a vital role in the day to day life of every human, as it determines the fight or flight instinct of any concerns in the line of life. This study infers to the effect of exercise on stress and self-esteem of college women. A training program of 12 weeks which were assimilated by warm up followed by aerobic dance, whole body workouts and recreational games and culminated by cool down exercises. The programme was piloted to a group of 50(N=50) college women in the age group of 18-25 which was bifurcated to experimental and control group (N=25 each). The experimental group endured training for 60 minutes, thrice a week whereas the control group was following their normal folklore. The difference between pre-test and post-test results of experimental group and control group were appraised by T-test and the significance level was set at 0.05. The appraisal inferred that the experimental group projected an eloquent improvement in self-esteem and abatement in stress level. To conclude, physical training program integrates the self-esteem and decapitates the stress in college women.

Keywords: Stress, self-esteem, college women, aerobic dance, whole-body workouts, recreational games

1. Introduction

In contemporary society, the demands and pressures placed upon college women have reached unprecedented levels where balancing academic responsibilities, social engagements, family expectations and the pursuit of personal goals often creates a highly stressful environment ^[1]. For many college women, these pressures can lead to significant stress, anxiety and reduced self-esteem ^[2]. Resolving these concerns is essential for their general wellbeing and future contentment in life, in addition to their scholastic achievement. Exercise stands out among the available therapies as a powerful and approachable way to improve college women's resilience to stress and their sense of self ^[3]. Exercise is widely known for its many health advantages and can include a wide range of physical activities like swimming, yoga, running and strength training. Frequent exercise has been associated with better mental and physical health outcomes, as well as better weight management. Notably, managing stress is also much aided by exercising. Engaging in physical activity triggers the release of endorphins, often referred to as "feel-good" hormones, which help in mitigating stress and promoting a positive mood ^[4]. Furthermore, exercise facilitates better sleep patterns and reduces levels of cortisol, the body's primary stress hormone.

Stress occurs when a person is confronted with an environment that poses a threat or demand and the individual become aware of his or her ability in coping with surrounding ^[5]. There is a significant change in etiquette of college women towards physical education and training during the post-COVID era so as to mitigate stress and fortify self-esteem ^[6]. The college women consider physical training as a lightsaber to dissipate stress and to enhance self-esteem ^[7]. The goal of this study is to develop an awareness of principle dimensions of stress and self-esteem and to accept the fact that having stress is not a personal shortcoming but is a part of human condition. The relationship between physical training with stress and self-esteem is labyrinthine but are affianced. When engaged in physical activities, stress will be reduced doubtlessly and improves self-esteem attributed to factors such as positive body image

perception. The present study is proposed in this background.

2. Materials and Methods

The participants were selected randomly from Alappuzha district, Kerala state, India. Numbers of participants were accounted as 50 college women aged between 18 and 25. The participants were bifurcated into two group namely experimental group which was piloted with physical trainings and control group which was following their normal folklore. All participants were physically and mentally sound. Raw data were obtained on the effect of exercise on stress and self-esteem of college women. The participants concurred their consent by a consent form which states that the participants were voluntarily participating in this study and are free to withdraw from the study as they adore to. The study was bourn to collect analytical data on effect of exercise on stress and self-esteem on college women. 50 college women were randomly marshalled and bifurcated into 2 groups videlicet, the experimental group and control group which had 25 participants in each group. Stress questionnaire "Miller-Smith Life style Assessment Inventory" [8] and Rosenberg's self-esteem questionnaire [9] were distributed to all 50 participants along with consent form prior to the study so as to analyse the echelon of the participants sketched as the pre-test. After analysis of participants, the above stated training programme was piloted to the experimental group which encompassed of 60 minute of physical training thrice a week in a span of 12 weeks. Post-test was funnelled with stress questionnaire "Miller – Smith Life style Assessment Inventory" and Rosenberg's self-esteem questionnaire so as to enumerate the inference. Pre-test was conducted prior to the

training session, with post test administered immediately after the 12 week training regimen. The statistical technique paired T-test was employed to analyse the means of the pre- test and post-test data for both the experimental and control groups.

3. Results and Discussion

Table 1 portrayed the mean scores of pre-test and post-test for stress of the control group sequitur to 33.32 and 33.24 (SD 2.43 & 2.54) respectively. The mean score of pre-test and post-test for stress of experimental group sequitur to 33.48 and 29.48 (SD 2.00 & 2.33) respectively. For self-esteem, mean scores of pre-test and post-test of control group are 17.52 and 17.40 (SD 1.71 & 1.53) and mean score of pre-test and post-test of experimental group are 17.28 and 20.08 (SD 1.54 & 2.39). The garnered T-value of stress as well as self-esteem articulates that the experimental group showed significant improvement (6.136 and 5.170 respectively) and the control group showed no significant change (0.103 and 0.309 respectively). Upon analysis of pre-test and post-test of stress and self-esteem infers that, there is no significant improvement as t-value is more than P. Upon analysis of Pre-test and Post-test of experimental group for stress infers that $t(24) = 6.636, p < 0.05$. Due to the mean and direction of t-value, we could conclude that there was statically significant improvement in reduction of stress from $33.48 + 2.0$ to $29.48 + 2.3$. The analysis of Pre-test and Post-test of experimental group for self-esteem infers that $t(24) = -5.170, p < 0.05$. Due to the mean and direction of t-value, it is concluded that there was statically significant improvement in self-esteem from $17.28 + 1.5$ to $20.08 + 2.4$.

Table 1: Descriptive statistics and paired t-test values of stress and self-esteem

	Groups	Pre-Test		Post-Test		t	Sig. (2-tailed)
		Mean	SD	Mean	SD		
Stress	Control Group	33.32	2.43	33.24	2.54	0.103	.919
	Experimental Group	33.48	2.00	29.48	2.33	6.136	.760
Self- esteem	Control Group	17.52	1.71	17.40	1.53	0.309	.000*
	Experimental Group	17.28	1.54	20.08	2.39	-5.170	.000*

*Significant at 0.05 level

The findings of the study revealed that staying physically active not only reduces stress but also helps alleviate stress. Exercise benefits the body in many ways. Exercise is one of the most popular and simple ways to reduce stress. Regular exercise is the key to maintaining physically and mentally active and healthy. Exercise not only reduces stress hormones like adrenaline and cortisol that are released during the stress and improve mood [10, 11]. Physical exercise loosens tight muscles and relaxes the whole body which facilitates better breathing and helps in relaxation. It helps to slow the heart rate, relax muscles, reduce stress and trigger the release of serotonin and dopamine, known as "happy hormones" [12]. For good health, sound sleep is essential and during exercise, it tires physically, which leading to sound sleep [13]. A good sleep is the key to keep your worries out and keeping cool. Exercise keeps everyone active and being active is a way to relax [14]. It takes away the stress and tension and thus people who exercise regularly are less stressed [15]. Exercise also lowers cholesterol, improves immune system, circulatory system, respiratory system, endocrine system and nervous system also could be the possible reason for the reduction of stress level in experimental group than control group. The findings of the study also revealed that exercise increases self-esteem. Physical exercise contribute to the formation of

positive body image of college students and the positive cognition and evaluation of self-body may produce positive self-efficacy and high self-esteem leads to the improvement in experimental group rather than control group [16]. The significant reduction in stress and improvement in self-esteem in the experimental group highlight the potential of physical exercise as a non-pharmacological intervention for enhancing mental health. These results are in line with previous research indicating the positive impact of exercise on psychological variables. Moreover [17], critically reviewed the effects of stress on physical activity and exercise.

It should be noted that a person's formative years in college are characterized by major life shifts and obstacles. The quest of academic success, gender-related pressures and cultural expectations can make this phase especially difficult for women. Excessive stress can have a negative impact on mental health, academic achievement and cognitive function, which can result in burnout and lowered self-esteem [18]. This emphasizes how crucial it is to develop useful coping strategies in order to overcome these obstacles. In addition to giving stress a physical release, exercise promotes feelings of control and accomplishment, both of which are essential for developing resilience. An individual's overall subjective emotional assessment of their own value is known as their

self-esteem and it is a critical factor in determining both their social and mental functioning. A college woman's sense of self-worth is shaped by her physical image, her academic standing and her social contacts. Regular physical activity raises energy levels, improves body image and creates a sense of competence, all of which have a substantial positive impact on self-esteem [19]. Exercise, especially in group settings, can help foster a sense of community and social support, which can boost one's self-esteem even more.

Physically active individuals report higher levels of self-esteem and lower levels of stress compared to their sedentary peers [20]. As per observations of [21] those who engage in regular exercise are better equipped to handle academic and social stressors among the academic community. The psychological benefits of exercise are particularly significant for college women, who are often at a higher risk of experiencing stress and related mental health issues. Given the overwhelming data demonstrating the health advantages of exercise, it is critical to encourage college women to engage in physical activity as a cornerstone of a healthy lifestyle. By offering easily accessible fitness centres, promoting physical activity and integrating wellness initiatives into the classroom, institutions can play a critical role. Giving college women the skills and means to work out on a regular basis will greatly increase their resilience to stress and sense of self-worth, which will boost their grades and make their time in college more enjoyable. To sum up, exercise is a particularly effective strategy for helping college women manage their stress and boost their self-esteem.

4. Conclusion

The fitness training program used in this study should be considered by college- age female student who wishes to lower their stress levels and increase self-esteem, since this will be reflected in both their daily activities and academic accomplishments. The study indicated that college women in the experimental group saw a significant reduction in stress and an integration of their self-esteem after completing a 12-week exercise training program, whereas no significant differences were observed in the control group. These results highlight the significance of encouraging young adult women to engage in physical activity for both their physical and mental wellbeing. By integrating regular physical activity into their routines, college women can develop greater resilience to stress, improve their mental health, and foster a positive self-image. Thus, promoting exercise as a key strategy for well-being is essential in supporting the holistic development of young women during their pivotal college years.

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