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EFFECT OF JOGGING ON BODY MASS INDEX OF FEMALE ADULTS WITH BODY IMAGE PROBLEM IN CHINDIT CANTONMENT, ZARIA, NIGERIA

By

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Abstract

This study was conducted to assess the effect of jogging on body mass index of female adults with body image problem in Chindit Cantonment, Zaria, Nigeria. The anthropometric measurement collected was Body Mass Index (BMI) among female adults. A total of 40 female adults with mean age of 25.6 $\pm$1.41 and BMI between 25.0 – 29.9kg/m^2 who served as sample for this study were randomly assigned into posttest (n=20) and pretest group (n=20), the posttest group went through training programme on three alternate days a week for 8 weeks. Jogging duration and intensities were increased at three weeks interval from 25, 30 to 40 minutes at 40%, 60% and 70% HRmax. The data were subjective to descriptive statistics and t-test were used to analyse the data. Decisions to reject or retain the null hypotheses were at 0.05 alpha levels. The results of the study showed significant reduction of BMI from the baseline value to the eighth week of training (p=0.001). The study found significant effect of the training program on BMI and recommends the role of optimizing the efficiency of body image, jogging for eight weeks, thrice per week at moderate to high intensity levels cannot be overemphasized as it positively altered body mass index (BMI) of female adults in Chindit Cantonment Zaria.

Key words: Jogging, Body Mass Index.

Introduction

The ideal appearance of female body shape valued by society today is very slim. Women raised in western societies are often socialized to value their appearance more than their accomplishments (Ashley, Shannon & Wendee, 2018). This socialization process may be influenced by culture, media, gender roles, community, peers, parents, family and other authority figures such as teachers or sports coaches (Ali, Abbasi & Mostafa, 2017; Kim & Lee, 2018). Sylvester and Cosmos (2022), Fankomo, Baloyi, Mushwana and Chueng (2023) remarked that the above mention factors are the predominant influences of body image dissatisfaction. Females grow up with the idea that they have to fit the profile of the "ideal image" in the eyes of the world (McComb & Mills, 2021; Virenna & Widya, 2021).

Jogging is a form of aerobic exercise that has been used for decades as a means of developing and improving different physiological and body composition (Lu, Wiltshire, Baker & Wang, 2021). Nina (2016) described jogging as an aerobic exercise mode that is characterized by slow, steady, gentle pace of continuous bodily movement that develops and maintains physical fitness, overall wellness and general body health.

Body image is a perception formed from experiences we have with parents, role models, and peers who give us an idea of what it is like to love and value a body. The image is formed by positive or negative feedback given by people whose opinions are important to us. Body image can impact the way an individual perceives their body, attitudes and feelings towards their body, and the behaviors that affect their body.

Body image is a multidimensional construct that reflects attitudes and perceptions about an individual's physical appearance under the cultural norms and ideals rather than on actual body dimension (Warren & Rios, 2013). Rodgers, Laveway, Campos and de Carvalho, (2023) defined body image as "a loose mental representation of the body shape, size and form which is influenced by a variety of historical cultural and social, individual and biological factors, which operate over varying time spans". Frances (2020) proposes that people tend to evaluate themselves by comparing their attribute, such as abilities and physical appearance to others. As a result of body image being base on feelings, our behavior is directly governed by our perceptions, feelings, and beliefs and is the result of our decision-making.

Overweight individual who do not really self-evaluate are more likely to exhibit detrimental attitudes toward maintaining proper weight, such as low levels of physical activity (Haynes, Kersbergen, Sutin, Daly & Robinson, 2018). Some women assume there is something wrong with their bodies when they can fit consistently into some standard size; others will reject certain clothing, body suit or dress style simply because they won't wear a particular size, due to their shape. Majority of the women and girls step on scale to determine their self-worth; if they have lost weight, they feel good about themselves, if then there is an increase they feel worthless. Body image has now become intertwined with one's weight and therefore, they cannot possibly be satisfied with their bodies.

Unfortunately, women and girls living in a society where their bodies define who they are terrified to gain weight and are continually reminded by the media about the ideal body. There exists a cultural norm for thinness among women, resulting in a chronic dissatisfaction with own body size (Puraikalan 2018; Zhang, Qian & Fu, 2018; Cazzato & Makris 2019). For an overweight person, the awareness of his or he her body size and

volume will determine social reluctance, timidity and low self-confidence, reflected in her/his posture and attitudes. Additionally, socio-cultural patterns associate fatness with laziness, and overweight persons are easily labeled as indolent. The discrepancy between subjective perception of body image and desire for the ideal body type can interfere with feelings of satisfaction and trigger emotional responses and yearning for changes in appearance, directly affecting psychic health and overall well-being (Lee & Damhorst 2019).

Jogging is said to be the possible long - term solution for maintaining a healthy weight and promotion of a healthy lifestyle (Lee, Brellenthin, Thompson, Sui, Lee & Lavie, 2017). This is because exercise has the ability to divert attention away from how the body looks, and redirects it to how the body actually functions (Flores, 2019). Several countries have recognized the importance of regular jogging in preventing cardiovascular disease risk factors like atherosclerosis, hypertension, osteoporosis, osteoarthritis, low back pain, overweight, obesity, type-2 diabetes mellitus, stroke, different forms of cancer among others as well as promoting quality of life and longevity of its citizens (Healthsomeness, 2016).Thus jogging exercise is a phenomenon that exists from time immemorial and was targeted at treating diseases but has suffered neglect due to negative perception that "exercise" generally is for the healthy individuals. The aim of the study is to investigate the effect of jogging on body mass index of female adults with body image problem in Chindit Cantonment, Zaria, Nigeria.

Research Question

This study was conducted to answer the research question:

1. Would jogging reduce the BMI of female adults with body image problem in Chindit Cantonment, Zaria, Nigeria?

Hypotheses: -

1. There is no significant effect of jogging on BMI of female adults with body image problem in Chindit Cantonment, Zaria, Nigeria.

Research Methodology

A pretest posttest experimental research design was used, forty (40) female adults with mean age of 25.6 ± 1.41 and BMI between $25.0 - 29.9 kg/m^2$ who served as sample for this study were randomly assigned into posttest (n=20) and pretest group (n=20). Descriptive statistics of means, standard deviation**,** and standard error of means were used to answer the research questions while the dependent t-test was used to analyze the hypotheses.

Results of the Findings

The purpose of this research was to assess the effect of jogging on body mass index (BMI) of female adults with body image problem in Chindit Cantonment, Zaria, Nigeria. To achieve this purpose, the data collected during this investigation was statistically analyzed and the results were presented in the table 1 a & b.

Hypothesis 1: There is no significant effect of jogging on BMI of female adults with body image problem in Chindit Cantonment, Zaria, Nigeria.

Table 1a: Descriptive analysis of the effect of jogging on BMI of female adults with body image problem

Variable	Period	N	Mean	Std. Deviation	Std. Error Mean
BMI	Pre	20	26.73	1.13	.26
	Post	20	26.52	1.03	.29

Table 1a. showed the mean, standard deviation and standard error mean on the effect of jogging on BMI of female adults with body image problem used for this study. The mean BMI of the participants were 26.73±1.13 and the post mean value was decreased to 26.52±1.03 after eight (8) weeks of jogging. This observation implies that participation in jogging decreased the BMI of female adults with body image problem.

In order to test if the reduction in BMI is statistically significant, the data is analyzed using dependent t-test and the result is presented in table 1b

Table 1b: Dependent t-test Analysis of Pre and Post-Test effect of jogging on BMI of female adults with body image problem

Variable	Period	Mean	Std. Deviation	Std. Error Mean	t	Sig.
BMI	Pre	26.73	1.13	.26	20.325	.001
	Post	26.52	1.03	.29		

Table 1b showed the dependent t-test analysis of pre-test–post-test effect of jogging on BMI of female adults with body image problem in Chindit Cantonment Zaria, Nigeria. An observation of this result revealed that 8 weeks jogging caused a significant reduction on

the BMI of the participants (P=0.001). Therefore, the null hypothesis which states that there is no significant effect of jogging on BMI of female adults with body image problem in Chindit Cantonment Zaria, Nigeria was rejected ($p_{=} 0.001$).

Discussion of the Findings

The findings of this study revealed that jogging had significant effect on Body mass index (BMI) of female adults with body image problem in Chindit Cantonment, Zaria Nigeria(P=0.001). This result supported the findings of Ho, Yi and Yifan, (2020) who observed reduction of BMI in overweight adults, both during supervised jogging exercise-only or combined diet and exercise interventions. This finding is in agreement with the result of Diego, Edlin and Andreia (2014) who reported marked reduction after 6th and 8th week of training indicating $26.3 \pm 1.17 kg/m^2$. The results of Yin and Seng (2010) who examined weight status, body image perception and physical activity of Malay Housewives, found out that, 30.3% of the housewives was categorized under normal weight. In addition, 44.5% of the housewives was at risk of abdominal obesity.

The decrease or reduction of $23.50 \pm 1.15 kg/m^2$ in BMI reported in this study has positive health effects on female adult with body image problem. This decrease in BMI as reported in this study might be attributed to the participants regular jogging three times per week on alternate days for a period of 8 weeks which is in line with previous studies of Ene-Obong, Ibeanu, Onuoha and Ejekwu (2013); Benounis (2008).

Conclusion

Based on the findings from this study, the following conclusion was drawn:

1. Jogging significantly reduced the BMI of female adults with body image problem in Chindit Cantonment Zaria, Nigeria(P=0.001).

Recommendations

On the basis of the findings of this study, the following recommendations were made:

1. To optimize the efficiency of the BMI of female adults with body image problem, jogging for eight weeks, thrice per week at moderate to high intensity levels cannot be overemphasized as it positively altered body mass index (BMI) of female adults with body image problem, in Chindit Cantonment Zaria.
2. Female adults with body image problem, should regularly involve in jogging exercise either in sport field, road map or gymnasium as it helps in managing overweight and eliminating body image dissatisfaction.

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