



EFFECTIVENESS OF DIFFERENT FORMS OF PHYSICAL ACTIVITIES ON BODY COMPOSITION, FLEXIBILITY, AND BLOOD PRESSURE IN MIDDLE AGED MEN AND WOMEN

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Abstract

Physical activities are the most significant way to prevent non-communicable diseases. There are different forms of physical activities chosen individually as per the need and abilities. Yoga is one of the most effective way of keeping oneself healthy and fit. The purpose of the study was to compare body composition, flexibility, and blood pressure between male as well as female individuals practicing yoga and walkers of Shivamogga district. The subjects for study were male (N=25) as well as female (N=25) daily yoga practicing individuals and male (N=25) as well as female (N=25) walkers of the Shivamogga district. Their age ranged between above 40 to 60 years. The subjects for the study were selected through purposive random technique. The subject were walking in the ground and practicing yoga in Yoga center in Shivamogga urban locality. The assessment of flexibility was done using a sit and reach box. Standard equipment and procedure were adopted to measure body composition, flexibility and blood pressure. The sit and reach test was used to measure the flexibility of hip region, lower back and hamstring muscles. The blood pressure was assessed through a standard pre-calibrated automated Omron 10 Series blood pressure monitor. Omron HBF 701 Karada Scan Machine was used to examine the body fat related variables. Descriptive statistics like

Mean, Standard Deviation and other suitable statics were employed in the present investigation. In order to test the hypotheses formulated for the present investigation, 't' test for independent variables was employed. The level of significance was .05 level. Yoga practicing male individuals were significantly better in flexibility as compared to male walkers. Regularly walking female individuals were significantly higher in percent body fat as compared to female yoga practicing individuals.

Keywords: Physical activities, Middle aged Men and Women, Flexibility, Body Fat and Blood Pressure.

Introduction

Regular physical activity is proven to help prevent and manage non-communicable diseases such as heart disease, stroke, diabetes and several cancers. It also helps prevent hypertension, maintain healthy body weight and can improve mental health, quality of life and well-being. Physical activity refers to all movement. Popular ways to be active include walking, cycling, wheeling, sports, active recreation and play, Yoga and can be done at any level of skill and for enjoyment by everybody (Acharya, Mahaptra & Acharya, 2021).



Current global estimates show one in four adults and 81% of adolescents do not do enough physical activity. As countries develop economically, levels of inactivity increase and can be as high as 70%, due to changing transport patterns, increased use of technology for work and recreation, cultural values and increasing sedentary behaviors. Increased levels of physical inactivity have negative impacts on health systems, the environment, economic development, community well-being and quality of life (Arndt, et. al., 2012).

Yoga is essentially a spiritual discipline based on an extremely subtle science, which focuses on bringing harmony between mind and body. It is an art and science of healthy living (Dutt, et. al., 2022). Man is a physical, mental and profound being; Yoga helps in fostering the harmony between all the three as expressed in Ayurveda in India (Devi & Sheetal, 2020; Tyagi & Cohen, 2013). As per Yogic scriptures the practice of Yoga leads to the union of individual consciousness with that of the Universal Consciousness, indicating a perfect harmony between the mind and body, Man & Nature (Bridges & Sharma, 2017; Dandekar, 2016).

Walking is among the most popular physical exercises on a global scale. It features simple and natural movements, a moderate level of workout intensity, and a long lifespan. Meanwhile, it has the advantage of individuals being less prone to injury and posing little risk, making it an excellent choice for middle-aged individuals. There are many health benefits associated with walking which are apparent in both the short-term (acute effects of exercise) and long-term (chronic effects) from cumulative adaptations (Yekefallah, et. al., 2015).

Methodology

The subjects for study were male (N=25) as well as female (N=25) daily yoga practicing individuals and male (N=25) as well as female (N=25) walkers of the Shivamogga district. Their age ranged between above 40 to 60 years. The subjects for the study were selected through purposive random technique. The subjects were walking in the ground and practicing yoga in Yoga center in Shivamogga urban locality. The assessment of flexibility was done using a sit and reach box. Standard equipment and procedure were adopted to measure body composition, flexibility and blood pressure. The sit and reach test was used to measure the flexibility of hip region, lower back and hamstring muscles. The blood pressure was assessed through a standard pre-calibrated automated Omron 10 Series blood pressure monitor. Omron HBF 701 Karada Scan Machine was used to examine the body fat related variables. Descriptive statistics like Mean, Standard Deviation and other suitable statistics were employed in the present investigation. In order to test the hypotheses formulated for the present investigation, 't' test for independent variables was employed. The level of significance was 0.05 level.

Findings of the study

The raw scores on flexibility, systolic blood pressure, diastolic blood pressure, percent body fat and visceral fat in men section were further subjected to independent sample 't' test in order to find differences in mean scores between Yoga practicing individuals and Walking individuals. The results are provided in table 1.



Table 1.
Summary of 't' test on selected variables
between Yoga practicing individuals and
Walking individuals in male section

Variables	Groups	Mean ± S.D.	t	df	Sig. (2-tailed)
Flexibility	Yogic Gp.	30.48±8.89	2.882	48	.006
	Walking Gp.	22.91±9.66			
Systolic Blood Pressure	Yogic Gp.	133.48±16.93	-.420	48	.677
	Walking Gp.	135.44±16.09			
Diastolic Blood Pressure	Yogic Gp.	89.16±11.37	.027	48	.978
	Walking Gp.	89.08±9.20			
Percent Body Fat	Yogic Gp.	31.92±6.82	-.562	48	.577
	Walking Gp.	32.86±4.72			
Visceral Fat	Yogic Gp.	14.20±5.43	-.279	48	.781
	Walking Gp.	14.67±5.43			

From table 1 it becomes clear that the Flexibility is significantly higher in Yoga practicing male individuals (30.48 ± 8.89) than walking individuals (22.91 ± 9.66) under investigation. The differences in flexibility between Yoga practicing individuals and Walking individuals in male section are graphically depicted in figure 1.

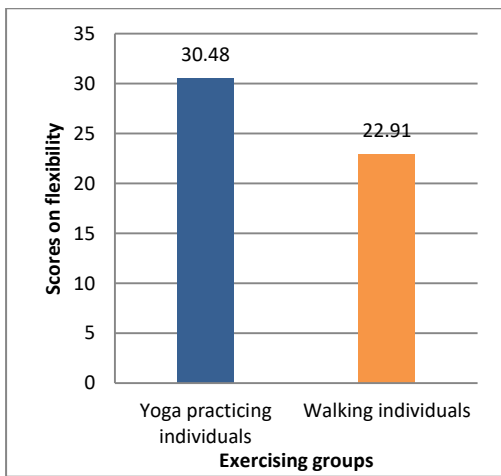


Fig. No. 1: Graphical illustration of differences in flexibility between male yoga practicing individuals and walking individuals.

The raw scores on flexibility, systolic blood pressure, diastolic blood pressure, percent body fat and visceral fat in women section were further subjected to independent sample 't' test in order to find differences in mean scores between Yoga practicing individuals and Walking individuals. The results are provided in table 2.

Table 2.
Summary of 't' test on selected variables
between Yoga practicing individuals and
Walking individuals in female section

Variables	Groups	Mean ± S.D.	t	df	Sig. (2-tailed)
Flexibility	Yogic Gp.	31.86±8.30	1.329	48	.190
	Walking Gp.	29.30±4.89			
Systolic blood pressure	Yogic Gp.	134.60±14.50	-1.286	48	.205
	Walking Gp.	141.56±22.86			
Diastolic blood pressure	Yogic Gp.	89.36±12.92	.876	48	.385
	Walking Gp.	86.56±9.41			
Percent body fat	Yogic Gp.	28.86±4.30	-6.169	48	.000
	Walking Gp.	37.0±5.42			
Visceral fat	Yogic Gp.	10.68±4.67	-.452	48	.653
	Walking Gp.	11.29±4.83			

From table 2 it becomes clear that the Percent body fat is higher in walking female individuals (37.0 ± 5.42) than Yoga practicing individuals (28.86 ± 4.30) under investigation. The differences in percent body fat between Yoga practicing individuals and Walking individuals in female section is graphically depicted in figure 2.

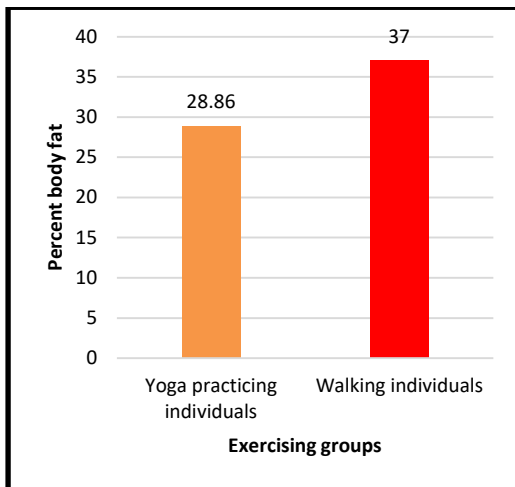


Fig. No. 2: Graphical illustration of differences in flexibility between female yoga practicing individuals and walking individuals.

Discussion

Significant differences in flexibility was observed in male yoga practicing individuals as compared to walkers in the present investigation. Flexibility was significantly higher in males practicing yoga regularly. The reason for this may be attributed to physiological make up of joints in males (Gothe, et. al., 2019; Telles, et. al., 2014). The yogic practices including asanas are conducive for improvement in flexibility (Patil, et. al., 2017; Shin, 2021). This means to say that the practice of asanas particularly leads to improvement in low back flexibility. Such a change is not observed in males walking on regular basis.

Significant differences in percent body fat were observed in female yoga practicing individuals as compared to walkers in the present investigation. Percent body fat was significantly higher in walkers as compared to yoga practicing individuals (Sah, 2018). The Indian Traditional Yoga practice has proved to be efficient in reducing body fat considerably

as compared to walking (Sahni, et. al., 2021; Streeter, et. al., 2021). Mere walking will not help in reducing body fat or maintaining it under Normal ranges. Yogic practices like asanas, kriyas, pranayama are all found to be helpful in reducing body fat in females (Sharma, Sharma & Sharma, 2018).

Conclusion

On the basis of the present investigation it is observed that the Yoga practicing male individuals were significantly better in flexibility as compared to male walkers. Walking female individuals were significantly higher in percent body as compared to female yoga practicing individuals.

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