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RESEARCH ARTICLE

COMPARISON OF BODY MASS INDEX AND HAND GRIP STRENGTH OF MIDDLE AGED REGULAR WALKERS AND YOGA PRACTITIONERS

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ABSTRACT

The present paper focuses on the comparison of BMI and hand grip strength of middle aged regular walkers and yoga practitioner. Physical activity provides important health benefits for middle aged individuals, including increased physical fitness, reduced body fatness, favorable cardiovascular and metabolic disease risk profiles, enhanced bone health, and reduced symptoms of depression and anxiety. Health, fitness, and general wellbeing are things that many of us take for granted in our youth and yet go onto neglect in our middle age or at least until something needs serious attention. It is the purpose of our Health & Fitness index to inform men of common health concerns and also inspire folks to take action towards living a healthier, and happier lifestyle overall. The analysis and interpretation is made with the help of measurement test like height, weight and hand grip strength through dynamo meter. Finally, the present paper offers suitable suggestions and recommendations for maintaining the health fitness among middle aged male walkers and yoga practitioner.

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INTRODUCTION

In ancient society when a man had to do all the work by himself, physical fitness was most needed as a vital part of his daily living. Per-historic man had a robust physique, uncountable vigour, persisting endurance and was swift in all moving actions. He was the builder of his own home. His daily performance of activities for obtaining food, building shelter, protecting himself from natural calamities, fighting out his enemies provided him with enough involvement in physical activities to keep him physically fit and mentally alert. Man today needs movement to survive in a different sense, men's work diverged from vigorous muscle effort. This way of life is taking its toll, because man is still a biological being who needs to be physical active in order to function effectively, there is no substitute for exercise (Jenneras, 1984). Fitness is a state which often characterizes the degree to which a person is able to function. Ability to function depends upon the physical, mental, emotional, social and spiritual components of fitness, all of which are related to total fitness. While fitness is the maximal, economical and efficient functioning of the body, health is referred to as optimal homeostatic functioning of the body (Hardyal Singh, 1996).

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Physical activity provides important health benefits for adolescents, including increased physical fitness, reduced body fatness, favorable cardiovascular and metabolic disease risk profiles, enhanced bone health, and reduced symptoms of depression and anxiety (Physical Activity Guidelines Advisory Committee 2008). Physical fitness is not only one of the most important keys to healthy body; it is the basis of dynamic and creative intellectual activity. The relationship between the soundness of the body and the activities of the mind are subtle and complex. Much is not yet understood. But we do know what the Greeks knew that intelligence and skill can only function at the peak of their capacity when the body is healthy and strong; that hardy spirits and tough minds usually inhabit sound bodies (John Kennedy, 1978). Modern man does not feel happy because he is dissatisfied with his way of life. If we dig deep under the surface, however, we realize that no form of happiness is possible for the individual as long as his physical and mental condition is less than perfect. The problem will only be solved when man enjoys sound health, remains pure in his thoughts, words and action, rises above a materialistic attitude to life, and realizes that all his resources, indeed his life itself, should be used for the improvement of himself and his neighbor. Material wealth may perhaps ensure human well-being up to a point, but the real pivot on which life hinges remains good health (Anand, 1981). Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have a negative effect on health. People are generally considered obese when their body mass index (BMI),

a measurement obtained by dividing a person's weight by the square of the person's height, is over 30 kg/m^2 , with the range $25\text{--}30 \text{ kg/m}^2$ defined as overweight ((WHO. 2015). Obesity is most commonly caused by a combination of excessive food intake, lack of physical activity, and genetic susceptibility (Yazdi Clee and Meyer 2015). A few cases are caused primarily by genes, endocrine disorders, medications, or mental disorder (Bleich Cutler Murray C, Adams A (2008). The view that obese people eat little yet gain weight due to a slow metabolism is not generally supported (Oxford, 2011). On average, obese people have greater energy expenditure than their normal counterparts due to the energy required to maintain an increased body mass (Kushner, 2007). Yoga and walking exercises are considered to be more effective than other methods of training in developing physical fitness. It is long lasting and can be performed yoga practice includes asanas and pranayama and aerobic exercises include running, walking, and bicycling that improve the physical fitness (Retrieved from Wikipedia). Pollock (1971) studied the effect of walking on body composition and cardio-vascular function of middle aged men. Sixteen sedentary male subjects were trained for 20 weeks four days per week. The vigorous walking was progressively increased in accordance with the tolerance of each individual by the last week. Substantial improvement occurred in maximum oxygen consumption, sub-maximal heart rate and resting diastolic blood pressure and reductions of body weight and percent of fat, which indicates that vigorous walking can be effective as an adult training activity. Arvind Gunsaria by conducted a study on 30 male students of kendriya vidyalaya with a purpose to assess the effect of yogic practice for a period of six weeks on the body composition. In order to study the effects of selected yogasana practice on body composition 'T' test was applied. It was concluded that there was no significant effect of yoga practice on body composition.

Statement of the problem

The purpose of the study was to compare Body Mass Index and Hand grip strength of Middle aged regular male walkers and Yoga practitioners in Shimoga taluk.

Hypothesis

It was hypothesized that there may be significant difference between Middle aged regular male walkers and Yoga practitioners.

MATERIALS AND METHODS

Subjects for the present study were hundred middle aged males of Shimoga Taluk. Among them one group consisted of the subjects, who were regularly undergoing walking for at least 45 to 60 minutes and second group consisted of the subjects, who were regularly practicing yoga for 45 to 60 minutes. Each group consisted of fifty subjects. The age of the subjects ranged from 35 to 45 years.

Selection of Variables and Test Items

Standing height and weight were measured using standard protocols through a stadiometer and weighing machine respectively. Assessment of dominant hand grip strength was done by Analogue Hand Grip Dynamometer in a normal sitting position. Three nonconsecutive trials were permitted to each

subject and the best was considered. Space time of the subjects was made known and necessary tests were administered with prior consent. Independent sample 't' test was employed in order to compare means and find any significant differences between regular walking and yoga practitioners.

RESULTS

Mean and standard deviation of regular walking and yoga practitioners on body mass index and dominant hand grip strength reveals that the data is normally distributed and homogeneity of sample in terms of standard deviation is satisfactory. Statistical analysis was carried out in order to examine any statistical significance in the mean scores among the groups using 't' test for independent samples. The results are presented in the following tables. It is clear from the above table that calculated 't' value 11.192 is greater than the table value so it is significant difference in terms of body mass index between regular walking and yoga practitioners. It is clear from the above table that calculated 't' value 6.543 which is greater than the theoretical table value 1.66 at 0.05 level. So it is a significant difference between middle aged male regular walkers and yoga practitioners on Hand grip strength.

Table 1. The Mean, Standard Deviation and 't' Score of the BMI

Group	N	Mean	Std. Deviation	't' Value
BMI Walkers	50	26.2704	1.31101	11.192
Yoga	50	23.7306	.92516	

*Significant at 0.05 level.

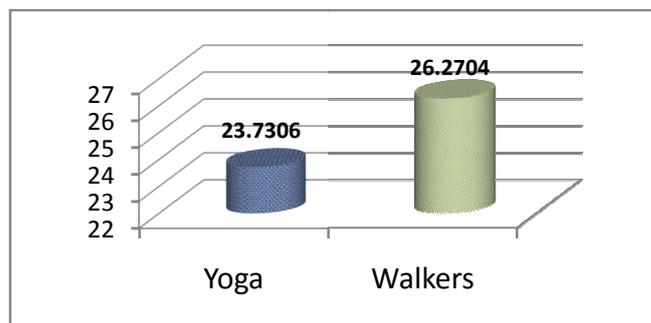


Fig. 1. Graphical representation of the comparison of mean value of body mass index between middle aged male regular walkers and yoga practitioners

Table 2. The Mean, Standard Deviation and 't' Score of the BMI

Group	N	Mean	Std. Deviation	't' Value
Handgrip Strength Yoga	50	45.3800	2.95469	6.543*
Walkers	50	40.4200	4.47255	

*Significant at 0.05 level.

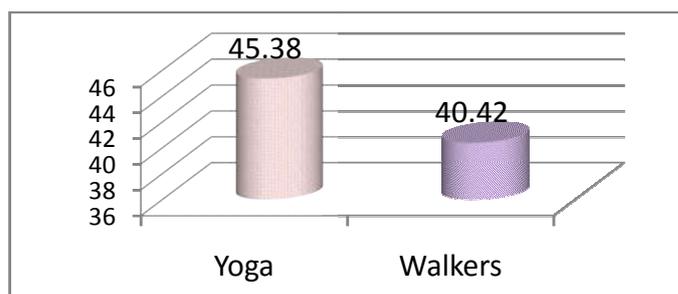


Fig. 2. Graphical representation of the comparison of mean value of Handgrip strength between middle aged male regular walkers and yoga practitioners

DISCUSSION

To achieve the purpose of this study the collected data was analyzed by using statistical technique 't' test and the results showed yoga practitioners have shown significant difference than the regular walkers of shimogga taluk on BMI and Hand grip strength.

Conclusion

On the basis of the study and within the limitation already cited, the following conclusions were drawn. There was a significant difference in BMI between middle aged regular male walkers and yoga practitioners. There was a significant difference in Handgrip strength between middle aged regular male walkers and yoga practitioners. The middle aged regular male walkers were mean scored higher in BMI and the middle aged regular male walkers were mean scored lower in Handgrip strength test.

Recommendations

- It is recommended that people should participate in some or the other physical activity to keep them fit.
- Similar studies may be undertaken with age group other than mentioned in the study.
- Similar studies may be undertaken with sex other than mentioned in the study.
- A similar study may be conducted with the people of different profession.

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