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Status of physical activity levels among school teachers: A survey study

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Abstract
The present study was designed to identify the level of physical activity among school teachers. A sample of three hundred (N=300) government (N=150) and private (N=150) school teachers from union territory of Chandigarh were selected as subjects for the present study, out of which one hundred and fifty (N=150) were male and one hundred and fifty (N=150) were female. International Physical Activity Questionnaire (IPAQ) constructed by Craig *et al.* (2003 revised in 2005) was administered to obtain the information related to their physical activity status in the form of MET Minutes/Week. Descriptive statistics namely percentage and frequency were calculated to examine the status of physical activity among school teachers. Male and female school teachers were also compared on the variable physical activity while using the percentage. The results of the study revealed that less proportion of male school teachers were found to be physically inactive as compared to the female counterparts. Almost equal percentage of male and female school teachers had reported moderately active whereas more percentage of male school teachers was found to have reported high level of physical activity as compared to their female counterparts. Further, it has also been observed that 35% of male and female school teachers were found to be physically inactive, 51% moderately physically active and 14 % were found to be highly physically active.

Keywords: physical activity and school teachers

Introduction
Human beings are naturally active and start the body movements from their birth. Physical activities have been an essential part of mankind since their existence. It was beautifully said by Greek philosopher Plato **(**fourth century BC as cited in Strhole, 2009), "On order for man to succeed in life, God provided him with two means, education and physical activity. Not separately, one for the soul and the other for the body but for the two together. With these two means, men can attain perfection". The ancient and contemporary men engaged themselves in numerous physical activities like running, jumping, climbing and throwing for obtaining food by hunting and to survive from the predators. Though, the advancement of the technology proved to be a boon for mankind but other hand it also reduced the human efforts and physical activity at great extent. Transportation Research Board Institute of Medicine (2005**)** indicated that physical activity levels have declined sharply over the past half-century because of reduced physical demands of work, household management, and travel, together with increased sedentary uses of free time. The mobile phones turned the situation from bad to worse. Laborsaving technological innovations have brought comfort, convenience, and time for more leisure activities. The stairs have been replaced by the elevators; computer games have substituted the outdoor physical activities. The motor vehicles are used for transportation instead the cycling and walking. Thus, the physical efforts have reduced sharply. The unavailability of sports grounds and parks, lack of awareness about physical activity, pollution and traffic are amongst the top reasons of physical inactivity among people.
World Health Organization (2013) pointed physical inactivity as the fourth leading risk factor for global mortality and causes 6% of all deaths. It is only outstripped by high blood pressure (13%) and tobacco use (9%) and carries the same level of risk as high blood glucose (6%). Approximately 3.2 million people die each year because they are not physically active enough. Physical inactivity is on the rise in many countries, adding to the burden of non-communicable diseases and affecting general health worldwide. People who are insufficiently active have a

20% to 30% increased risk of death compared to people who engage in at least 30 minutes of moderate intensity physical activity on most days of the week. Physical inactivity is the main cause for approximately: 21–25% of breast and colon cancers, 27% of diabetes and 30% of ischemic heart disease. The levels of physical inactivity increased across the globe. Globally, around 31% of adults aged 15 and over were not active enough in 2008 (men 28% and women 34%). In high-income countries, 41% of men and 48% of women were insufficiently physically active, as compared to 18% of men and 21% of women in low-income countries.

According to World Health Organization (2015) 23% of adults aged 18 and above were not physically active enough in 2010 (men 20% and women 27%). In high-income countries, 26% of men and 35% of women were insufficiently physically active, as compared to 12% of men and 24% of women in low-income countries. Low or decreasing physical activity levels often correspond with a high or rising gross national product. 81% of adolescents aged 11-17 years were insufficiently physically active in 2010. Adolescent girls were less active than adolescent boys, with 84% vs. 78% not meeting World Health Organization physical activity recommendations.

Hallal *et al*. (2012) [2] pointed that the prevalence of physical inactivity varied widely between regions of the world: 27.5% in Africa, 43.3% in the America, 43.2% in the Eastern Mediterranean, 34.8% in Europe, 17% in South East Asia and 33.7% in the Western Pacific. The Behavioral Risk Factor Surveillance System (2003) reported that 52.8% of U.S. citizens were inactive (50.2% men and 55.4% women). In Sweden out of 1470 adults aged 18 to 74 years, 31% were found to be inactive (Bergman *et al*., 2009). Health survey conducted by Blake *et al*. (2004) in England indicated that 63% prevalence of inactivity for men and 76% for women.

In India, in the mid of 1970s the regular occupational physical activity levels were high as the population was traditionally involved in agriculture and farming. This proportion declined to 70% in the early 1990s because of rapid socioeconomic transition leading to intermittent physical activity among the rural population.

Indian Council of Medical Research-India Diabetes (ICMR-INDIAB, 2013) [3] reported that 54.4% individuals were inactive (male: 41.7%) whereas 31.9% were active (male: 58.3%) and 13.7% subjects were highly active (male: 61.3%). The region-wise prevalence of physical inactivity was as follows: Chandigarh-66.8%, Tamilnadu-60.0%, Maharashtra-55.2% and Jharkhand-34.9%. When extrapolated to the whole country, the estimated number of inactive individuals in India would be 392 million.

Regular physical activity of moderate intensity namely walking, cycling, or playing sports is very beneficial for health. Engaging in regular physical activity is one of the best ways to improve general health. Physical activity has become the prime health indicator where it plays an essential role in enhancing physical fitness and health related behaviour that could lower the risk of morbidity and mortality from diseases (Sundland *et al*., 2008) [6].

As per the recommendations of World Health Organization (2010) an individual should participate at least 150 minutes of moderate-intensity physical activity throughout the week, or at least 75 minutes of vigorous-intensity physical activity throughout the week, or an equivalent combination of moderate- and vigorous-intensity activity. For additional health benefits, one should increase moderate intensity physical activity to 300 minutes per week, or equivalent. Those with poor mobility should perform physical activity to enhance balance and prevent falls on 3 or more days per week. Muscle-strengthening activities should be performed involving major muscle groups on 2 or more days in a week. In spite of it, the leisure time and workplace physical activity level have continued to across the world. Therefore, while keeping in mind the need of hour, an attempt has been made by the researchers to examine the present status of physical activity levels among subjects.

Methodology

The purpose of the present study was to find the level of physical activity among school teachers. A sample of three hundred (N=300) government (N=150) and private (N=150) school teachers from union territory of Chandigarh were investigated for the study, out of which one hundred and fifty (N=150) were male and one hundred and fifty (N=150) were female. International Physical Activity Questionnaire (IPAQ) constructed by Craig *et al*. (2003 revised in 2005) [1] was employed to collect the information related to their physical activity status in the form of MET Minutes/Week. Descriptive statistics techniques: calculation of percentage and frequency were applied to identify the physical activity status among teachers. The male and female school teachers were also compared on the variable physical activity by using the percentage.

Findings

Physical activity status among male school teachers has been presented in table-1.

Table 1: Physical Activity Status among Male School Teachers

Physical Activity Level	Frequency	Valid Percent	Cumulative Percent
Physically Inactive	44	29.3	29.3
Moderately Active	79	52.7	82.0
Highly Active	27	18.0	100.0
Total	150	100.0	

Table-1 indicates that out of the total male teachers, 29.3 % of male school teachers were found to be physically inactive, 52.7 % were found to be moderately active and only 18 % of male school teachers were reported to be highly physically active. Physical activity status among male school teachers has been depicted in figure-1.

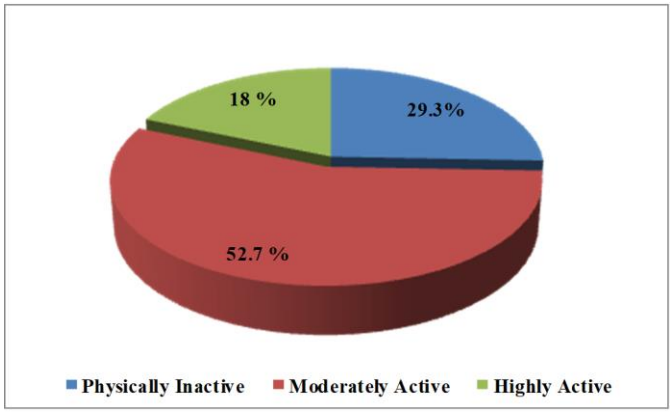

Fig 1: Graphical Representation of Physical Activity Status among Male School Teachers

Physical activity status among female school teachers has been presented in table-2.

Table 2: Physical Activity Status among Female School Teachers

Physical Activity Level	Frequency	Valid Percent	Cumulative Percent
Physically Inactive	61	40.7	40.7
Moderately Active	74	49.3	90.0
Highly Active	15	10.0	100.0
Total	150	100.0	

Table-2 shows that 40.7 % of female school teachers were found to be physically inactive, 49.3 % moderately physically active and 10 % were found to be highly physically active. Physical activity status among female school teachers has been depicted in figure-2.

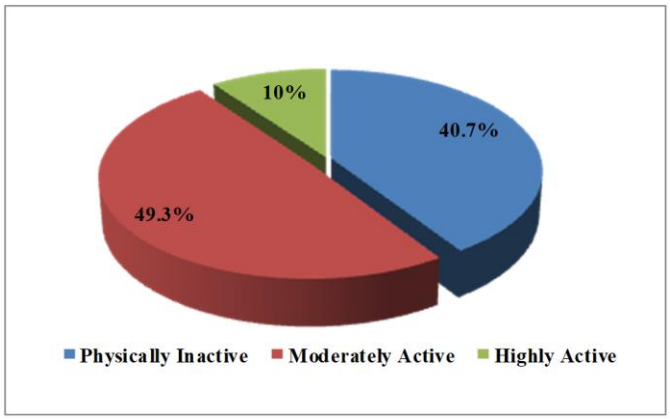

Fig 2: Graphical Representation of Physical Activity Status among Female School Teachers

Physical activity status among male and female school teachers has been presented in table-3 below:

Table 3: Physical Activity Status among Male and Female School Teachers

Physical Activity Level	Frequency	Valid Percentage	Cumulative Percentage
Physically Inactive	105	35.0	35.0
Moderately Active	153	51.0	86.0
Highly Active	42	14.0	100.0
Total	300	100.0	

It has been observed from table-3 that 35% of male and female school teachers were found to be physically inactive, 51 % moderately physically active and 14 % were found to be highly physically active. Physical activity status among male and female school teachers has been depicted in figure-3.

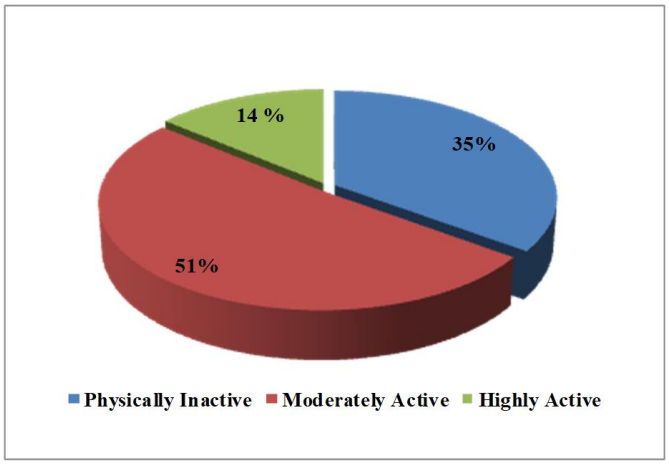

Fig 3: Graphical Representation of Physical Activity Status among Male and Female School Teachers

Discussion

Less proportion of male school teachers were found to be physically inactive as compared to the female counterparts (29.3% v/s 40.7%). Almost equal percentage of male (52.7%) and female (49.3%) school teachers had reported moderately active whereas more percentage of male school teachers were found to have reported high level of physical activity as compared to their female counterparts (18% v/s 10%).

It has been observed from table-3 that 35% of male and female school teachers were found to be physically inactive, 51 % moderately physically active and 14 % were found to be highly physically active. However, Indian Council of Medical Research-India Diabetes (ICMR-INDIAB, 2013) [3] demonstrated that 54.4% subjects were inactive (41.7% male v/s 58.3% female). 31.9% subjects were moderately active (male 58.7% v/s 41.3%) whereas 13.7% subjects were highly active (61.3% male v/s 38.7%). The region-wise prevalence of physical inactivity was as follows; Chandigarh-66.8%, Tamilnadu-60.0%, Maharashtra- 55.2% and Jharkhand-34.9%. The prevalence of physical inactivity has found to be reduced when compared with the previous survey of Indian Council of Medical Research-India Diabetes (ICMR-INDIAB, 2013) [3] in Chandigarh as the prevalence of physical inactivity was 66.8%. Differences have been observed in the previous survey and present study might be due to the reason that the earlier survey was conducted on the general population but the present study has been focused on the teachers. The teachers of Chandigarh were more active as compared to the general population and might be due to the reason that the education was found to be the factor which contributes to enhance the physical activity (Martinez-Gonzalez *et al*., 2009) [4].

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