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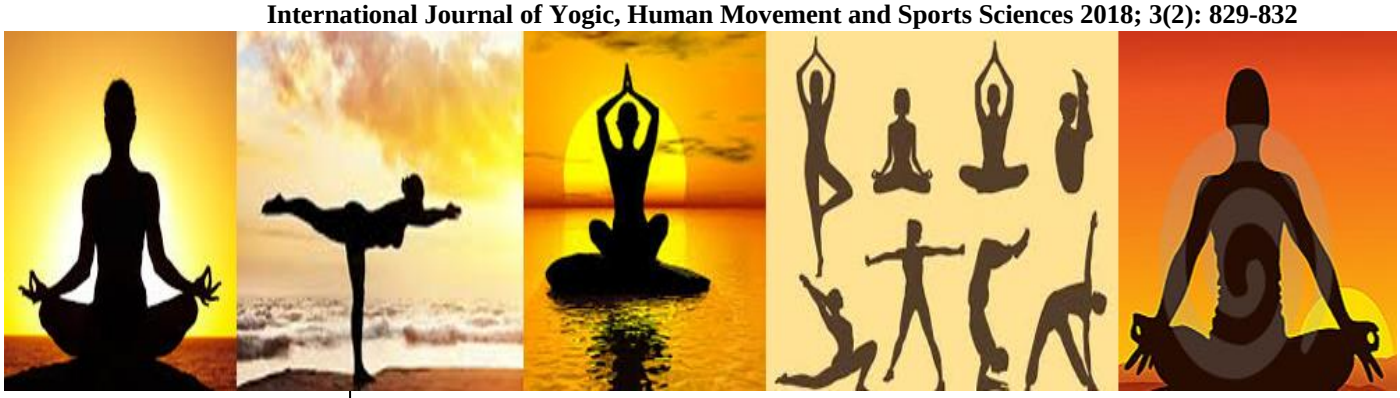

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Level of physical activity in college going students in Delhi

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Abstract
Background: Assessing the level of physical activity in students is an important issue as the youth of today represent the well being of the future society at large.
Methodology: The study was conducted by using IPAQ short Form with additional data retrieved for Age and BMI. It comprised of 200 males and females, mean age of 19.73 ± 0.87 years, including 27% males and 73% females. The questionnaire used in the survey was the International Physical Activity Questionnaire (IPAQ).
Results: The activity level was found to be moderate among the students with an average 2230 MET-mint/week. Further, there was an overall lower level of physical activity in males compared to females. What was positive about the studied samples was that the college going students showed an average score of 2 ie moderately active lifestyle and the average BMI of the students was in the normal ranges.
Conclusion: The activity level was found to be moderate among the students of Delhi.

Keywords: Students, physical activity level, IPAQ

Introduction
Physical activity in youth has recently been a topic of concern and thus needs to be continuously monitored at large scale, when health and quality of life are deteriorating, and it may lead to severe consequences [1]. Researches have shown that there is an increasing trend in console gaming and less outdoor activities in School going and college students which are also leading to lifestyle related disorders in our citizens to be, who shall represent the overall health of our society in near future. Social cohesion is taking the form of online social networks. Environment of a region is a complex interactions of its socio-cultural, economic, technological advancements, natural resources and other factors.
This trend is also noticed in majority of adult citizens in Europe (43–87%) [2], Australia (43.4%), and the United States (60%) also [3]. An adult who does not walk a modest number of step counts in a week or spend a required amount of time in a minimum energy level activity per week -is considered to be sedentary or of being having minimal activity level and is termed to have a sedentary lifestyle to a large extent [4].
Studies were conducted in students, from 23 countries in Central and Eastern Europe, have shown that only 32% of men and 18% of women meet the WHO requirements regarding physical activity. Research in Spain also revealed that 45% of students are physically inactive, which pertains mainly to women [5].
Accordingly, studying physical activity concerning students as future elites and probable promoters of a healthy lifestyle should take a prominent place as their attitudes toward activity as personal and social experience could be followed by others.
Electronic gadgets would be more accurate with results but nevertheless they are very expensive and so are difficult to be used for epidemiological studies. Using questionnaires to evaluate a large sample size thus is preferred.
The International Physical Activity Questionnaire Long and Short form were introduced with the same intention. Several studies have proved positive results while using them in diverse populations. Studies conducted to validate instruments to evaluate Physical Activity Level via International Physical Activity Questionnaire – IPAQ SF, have proposed it to be having good reliability and moderate validity for the purpose [6, 7].

The International Physical Activity Questionnaire has also been validated in many countries on different continents and recommended by international researchers' milieus [8-13].
To evaluate the status of the activity level of our upcoming elite individuals who would represent the society one needs to have a tool thus that is accepted and comparable internationally as is International Physical Activity Questionnaire (IPAQ) [14], which allows for testing various social groups aged, i.e., 15–69 [15].
The aim of our study was thus to assess physical activity level of college going students in Delhi.

Methodology

Research Design and Sample

The survey was conducted on convenient sampling and comprised of 200 males and females from Delhi.

Instrumentation

The International Physical Activity Questionnaire (IPAQ) Short form.

Procedure

200 students from reputed Institutions in Delhi were recruited for the study. The students who consented to participate and could understand English Language were approached to complete the IPAQ questionnaire personally and their responses were further analysed. Students having any history of systemic, neurological or musculoskeletal conditions or ailment or on any kind of medications which could have affected the outcome of the study were excluded.
The additional questions added to the standard IPAQ questionnaire were about body weight and height, which helped to calculate the BMI index.

Data Analysis

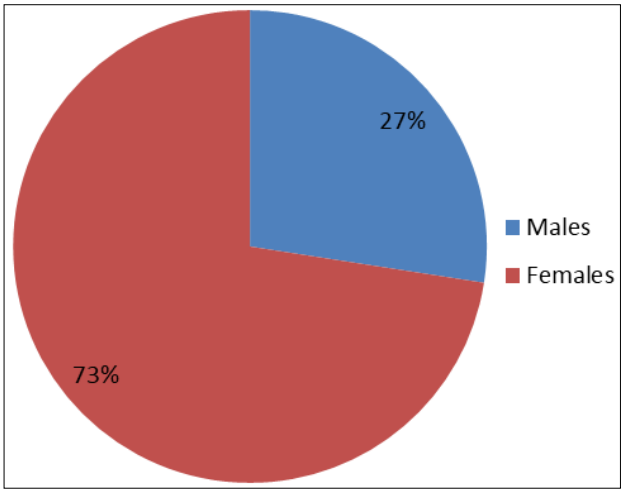
The statistical analysis was performed and data of physical activity and its areas are presented in as follows in form of arithmetic means and standard deviations.

Results

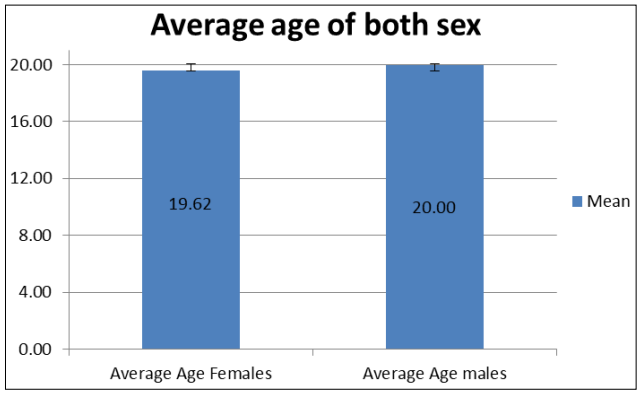
The cross sectional study was conducted on convenient sampling and comprised 73% females and 27% males, average activity level in females was 2359 METS min/week and those of males was 1887.86 METS min/week. 8% females were inactive and in comparison only 7% males were inactive amongst the sample studied. (ie <600 METS min/week) However, 62% females and 64% males were moderately active. (>1500 METS min/week)
The average BMI score for females was 20.53 + 5.02 and those for males was 23.31 + 5.45. 16% females and 21% males were overweight or obese. Only 49% females and 79% males were of Normal BMI. Table 1. Represents their demographic profile.

Table 1: Demographic profile of subjects under the Study

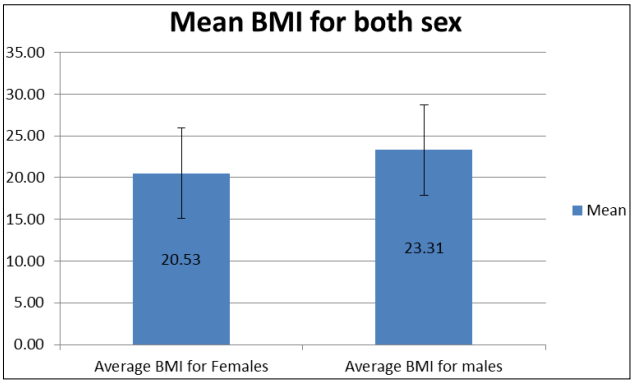
Age (Mean + SD)	19.73 + 0.87
Average Age Females	19.62 + 0.83
Average Age males	20.00 + 0.96
Average BMI for Females (kg/m^2)	20.53 + 5.02
Average BMI for males (kg/m^2)	23.31 + 5.45
Average Activity level of Females (METS min/week)	2359.88
Average Activity level of males (METS min/week)	1887.86
Average METS	2230 (Score 2)



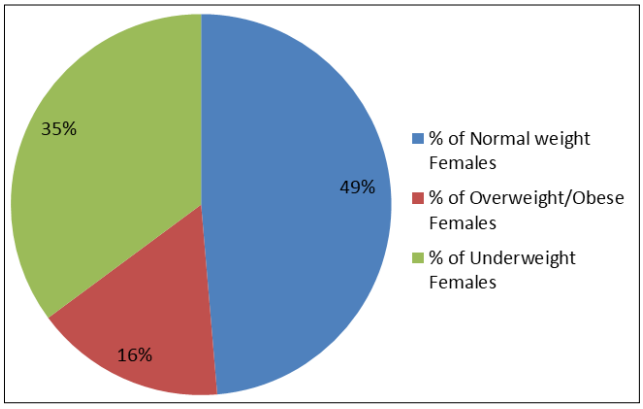
Graph 1: Gender Ratio of the study



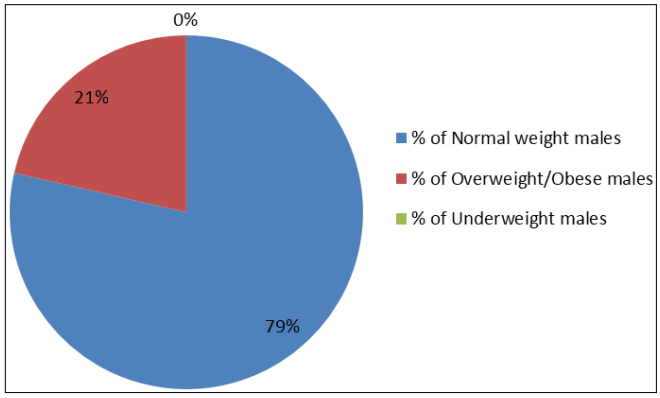
Graph 2: Graph representing average age of both males and females as studied in the survey



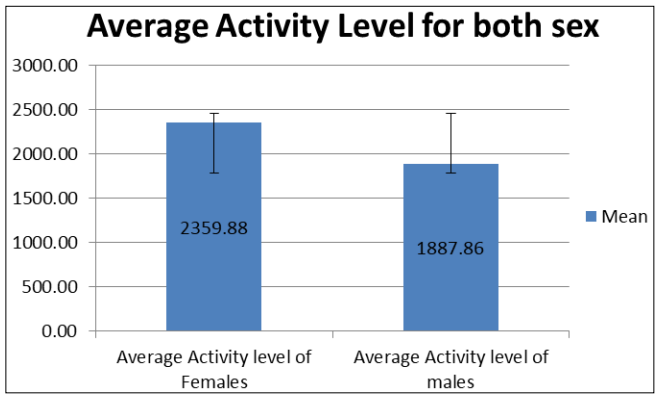
Graph 3: Mean BMI score of males and females



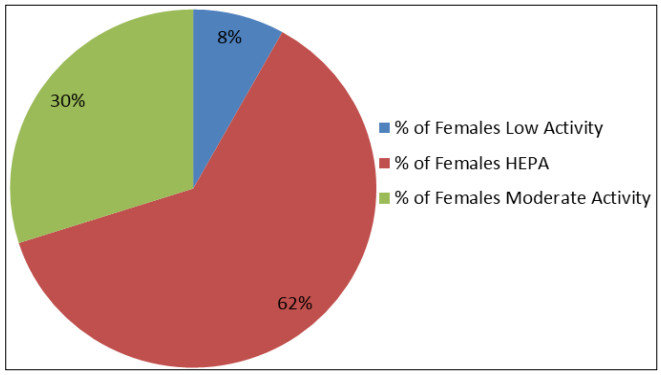
Graph 4: Pie chart representing the number of females in different categories of BMI as specified by WHO guidelines



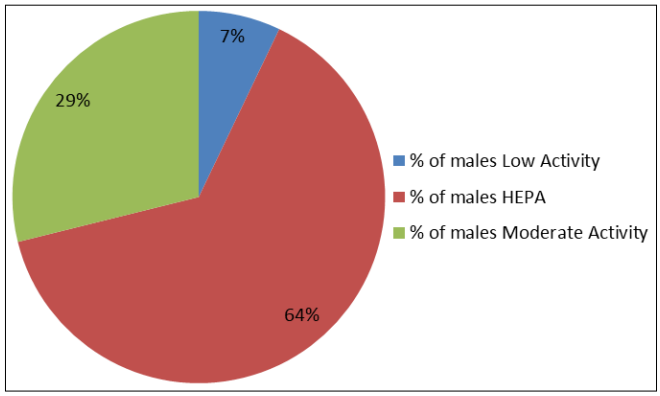
Graph 5: Pie chart representing the number of males in different categories of BMI as specified by WHO guidelines



Graph 6: Average Activity level for both the sex in METS



Graph 7: Pie chart representing the Activity level for females as per METS calculated in IPAQ



Graph 8: Pie chart representing the Activity level for males as per METS calculated in IPAQ

Discussion

Students of today are possible promoters of physical activity as their approach towards activity and lifestyle will be followed by future generations. This should raise a keen concern on their activity level and lifestyle. As seen in the above Graph no 4 & 5, 16% females and 21% males were overweight or obese. Moreover Only 49% females and 79% males were of Normal BMI. This data signifies a greater concern as the females of the society should be maintaining good health always if they are wishing to bear the responsibility of a family in future.

The data concerning significantly lower activity in males than in females as seen in Graph 6 also represents an unfavourable phenomenon, especially that maintaining good health now and in the future is vital, for the well wishers of the society. The time of uninterrupted sitting can lead to non-communicable disorders connected with health and can also influence the general mortality due to cardiovascular diseases. Perhaps the less favourable values of the BMI index are an indicator of a higher comfort of life in the urban areas. Ball *et al*. noted that physical activity is associated with individual social participation and neighbourhood interpersonal trust. De la Haye and colleagues were able to show that close friends in adolescent friendship networks have a significant influence on each other regarding a number of health related behaviours, especially the physical activity behaviour was "found to be similar". Carell, Hoekstra, and West report effects of social contagion analogical to findings with regard to general health related behaviour. They come to the conclusion that especially 'poor' fitness spreads on a person-to-person basis through a social network. They conclude that their findings are "consistent with the notion that people imitate the diet or exercise habits of their least fit friends, or use those friends' fitness as a benchmark for their own" [16].

Some limitations of the research are though, the number of students studied derive entirely form one social group and are those from institutions that are located in regional areas of the capital. And the prospective investigations should cover some more varied samples. All the more students residing in urban areas may have a greater access to ease and luxuries and their lifestyle is easier and the quality of life and opportunities as not the same as in small towns. Also, their activities of daily living and means of transportation will have a great difference. More varied samples, will better represent the youth coming from colleges. Additional barriers among students are academic obligations, family and work obligations, poor social support, finance, lack of energy, health, and lack of free time [17, 18].

Authors suggest that students should learn how to organize their time and Physical inactivity is also affected by individuals' way of thinking and lack of motivation. Most young people are presumed to be healthy but, as per WHO, an estimated 2.6 million young people aged 10 to 24 yr die each year and a much greater number of young people suffer from illnesses 'behaviours' which hinder their ability to grow and develop to their full potential. Nearly two-thirds of premature deaths and one-third of the total disease burden in adults are associated with conditions or behaviours initiated in their youth (*e.g.* tobacco use, physical inactivity, high risk sexual behaviours, injury and violence and others) [19].

Conclusions

In the studied samples of that of college going students showed an average score of 2 ie moderately active lifestyle and the average BMI of the students was in the normal ranges. Also the activity level was found to be moderate among the students of Delhi.

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