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## A comparative analysis of body composition and life style among male and female teachers of Delhi University

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### Abstract

Body composition is an important component to assess the nutrition, health status and physical fitness profile of human body. It provides valuable details which can be helpful in determining desirable body weight. An ideal body weight is very significant for humans because the risk for diseases is greater for those who are overweight and underweight. Thus, this study assesses the body composition and life style of male and female teachers and provides them information for better health conditions.

The study was carried out on randomly selected 100 teachers from different colleges of University of Delhi. The age of the subjects was 25 years and above. Body mass index and waist to hip ratio were used to assess the body composition of the subjects. On the basis of data collected, tables and figures were constructed. Significant trends were observed in both the genders for BMI and WHR. The data determining Lifestyle of teachers was collected through the questionnaire. Most of the Teachers were found irregular about their medical and dental check-ups. Also, half of the respondents don't meet up with recommended sleep hours. Trends indicated that teachers are not very much aware about their health status and do not follow a very good healthy lifestyle to maintain their health.

**Keywords:** Body composition, lifestyle, BMI, WHR

### 1. Introduction

Teachers play an important role in building the future of a country through nurturing young minds. In addition to facilitating learning, teachers are key agents of socialization, helping students reach their highest potential and develop into responsible citizens. In the process, teachers ignore their health and adopt an unhealthy lifestyle. Energy consumption falls down, increase of weight occurs and it becomes difficult to keep the body composition in accordance with body weight percentage. So as to keep body composition there is a necessity of not only adequate and well-balanced nourishment, but also a life style maintained by regular exercise habituation. Healthy life-style behaviours aren't oriented on prevention of any of an illness or discomfort but have purpose to improve general health and well-being circumstances of individuals. The present study is the effort by research scholar to understand the, Body composition and Life style of college teachers belonging to Delhi University.

### 2. Methodology

A total of 100 teachers from University of Delhi were selected from different colleges on a random basis. The age of the subjects was 25 years & above. Both male and female teachers were selected as subjects. For this study, a short survey was conducted. It assessed the body composition and life of both male and female teachers. The survey had some questions on demographic profile of the respondents and rest regarding their body composition and life style. The selected subjects were asked to give information about various variables like weight, height, waist circumference and hip circumference. Based on this information the body mass index and waist to hip ratio was calculated which was used to assess the body composition. To assess the life style, the subjects were asked to give information about the day today activities through various questions.

Due to COVID-19, the researcher requested the subjects to send their data online via Google forms after explaining them how to conduct the measurements for body composition assessment. The researcher explained the study to the subjects & asked for their support & sincere participation in the study.

## 2.1 Participant demographics

**Table 1:** Showing demographic details of subjects

Demographic Details (n=100)			
Gender	Male: 49% (n=49)		Female: 51% (n=51)
Age	Up to 30yrs: 16%	31-50yrs: 63%	Above 50yrs: 21%

A total of 100 teachers participated in the survey out of which 51% were female and 49% were male. A majority of the respondents belonged to age group 31-50 years i.e., 63%. 21% respondents were above the age of 50 years and 16% of the total respondents were up to 30 years.

## 3. Data analysis

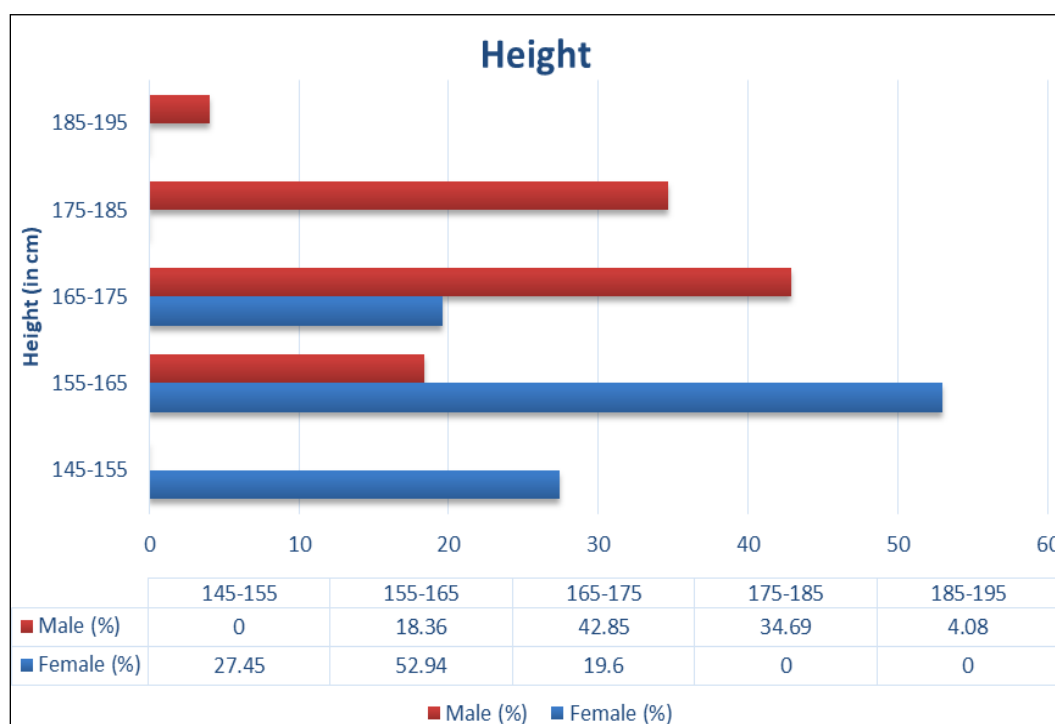
The purpose of the study was to draw a comparative analysis of male and female teachers' on the basis of body composition and life style. The responses received from subjects were tabulated and analysed. A descriptive approach for data analysis was considered. Analysis of the percentage

response for various variables and questions were presented through bar diagrams.

## 4. Results

**4.1 Body composition:** To compare the body composition of male and female teachers' variables like height, weight, Body Mass Index (BMI) & Waist & Hip ratio (WHR) were used. For this purpose, the subjects were asked, through questionnaire, to provide measurements related to their height (in cm.), weight (in Kg.), waist circumference (in cm.) & hip circumference (in cm.). Through this information, the Body Mass Index (BMI) and Waist & Hip ratio (WHR) was computed and classified and displayed through tables and also graphically represented through figures.

The height data represented through figure 1 clearly showed that there was a vast variation in the height of the male and female teachers. No female teacher had height greater than 175 cm whereas 39% male teacher had height above 175 cm. Majority of the female teachers i.e., 53% had height in between 155-165 cm. No male teachers had height less than 155 cm whereas 27% female teachers fall in this category. 43% of the male teachers had height in between 165-175 cm. Therefore, a significant variation was observed in the height data of male and female teachers' and it shows that body composition of male and female differs from one another.



**Fig 1:** Showing height data of teachers

The weight data of the respondents was represented through figure 2. It showed that only 6% of the male teachers have their weight below 60 kg while 35% females fall in this category. Almost equal percent of male and female teachers i.e., 59% and 57% respectively had body weight between 60-80 kg. Only 8% of the female teachers have their weight

above 80 kg while 35% males fall in this category. Therefore, in terms of comparison between the weight data of male and female teachers' a significant variation was observed and it clearly shows that body composition of male and female differs from one another.

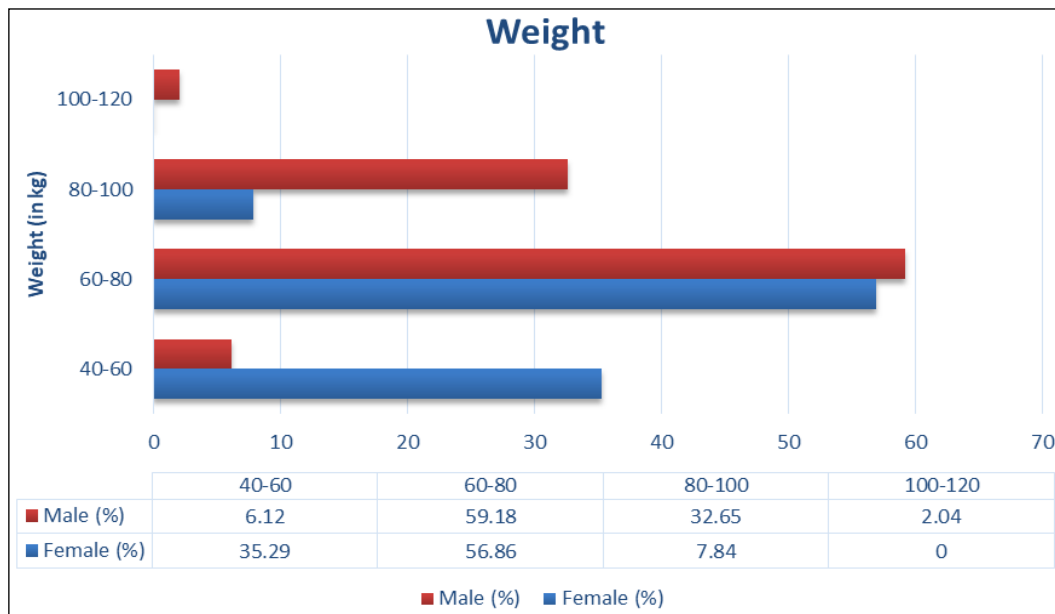


Fig 2: Showing weight data of teachers

Table 2 showed that comparison BMI of the male and female teachers. Almost equal percentage of male and female respondents falls in the different categories of BMI. Around 51% females and 47% males occurred in the acceptable category of BMI. Around 4% male respondents were at a very high disease risk which comes under obesity II category. 6% female and 4% male respondents had a high disease risk which comes under obesity I category. Thus, BMI calculation of male and female teachers clearly showed the increasing risk of diseases according to their body composition.

Table 2: Showing BMI and its classification (classification according to Werner W.K. Hoeger and Sharon A. Hoeger, 2011)

BMI	Male (%)	Female (%)	Total (%)	Disease Risk	Classification
<18.5	2.04	0	1	Increased	Underweight
18.6-21.99	14.29	15.69	15	Low	Acceptable
22.0-24.99	32.66	35.29	34	Very Low	Acceptable
25.0-29.99	42.85	43.14	43	Increased	Overweight
30.00-34.99	4.08	5.88	5	High	Obesity I
35.0-39.99	4.08	0	2	Very High	Obesity II

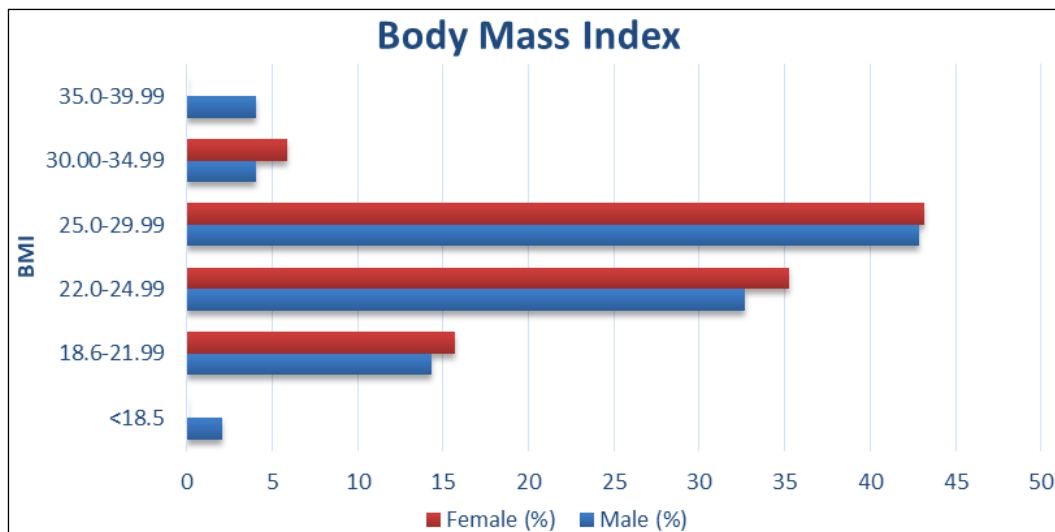


Fig 3: Showing BMI of teachers

Fig 3 showed that females had greater waist to hip ratio as compared to males. 84% male teachers had WHR less than 0.95 while only 24% females had WHR below 0.8. Females were at high risk of diseases as compared to males according to their waist to hip ratio. Around 84% of males and only 24%

females occurred in the low disease risk category. 51% female respondents came under the high-risk category. Only 10% male respondents had high disease risk according to their waist to hip ratio. Therefore, a significant variation was seen in WHR of male and female teachers.

Table 3: Showing Waist to Hip Ratio (WHR) & Its Classification (classified according to WHO criteria)

Male (%)		Female (%)		Disease Risk
<0.95	83.67	<0.8	23.53	Low
0.96-1.0	6.12	0.81-0.85	25.49	Moderate
>1.1	10.21	>0.86	50.98	High

## 4.2 Lifestyle

The table 4 shows the data on lifestyle shows that 49% (57% of the total male respondents and 41% of the total female respondents) respondents prefer going for a morning walk always or nearly always. And 31% of respondents (33% of the total male respondents and 29% of the total female respondents) avoid a walk after dinner. 56% respondents (57% of total male and 55% of total female respondents) never go to the gym and 50% of respondents (35% of the total male respondents and 65% of the total female respondents) perform yoga asana at home always or nearly always. 76% respondents (71% of total male and 80% of total female

respondents) avoid cigarettes and other forms of tobacco and around 72% respondents (61% of total male and 82% of total female respondents) avoid alcoholic beverages. Around 77% respondents (71% of total male respondents and 82% of total female respondents) can work out emotional problems without turning to alcohol or other drugs and around 69% respondents (67% of total male and 71% of total female respondents) prefer to associate with people who have a positive attitude towards life. Approximately 54% of respondents (55% of total male and 53% of total male respondents) sleep for 7-8 hours at night always.

**Table 4:** Showing Percentage responses of teachers about question related to Lifestyle

Questions	Always	Nearly Always	Often	Seldom	Never
I go to the gym for at least 3 days a week.	15%	7%	13%	9%	56%
I perform some yoga asanas for at least 3 days a week.	35%	15%	12%	18%	20%
I avoid cigarettes and all other forms of tobacco.	76%	3%	7%	3%	11%
I avoid alcoholic beverages. If I drink, I do so in moderation and I do not combine alcohol with any other drug.	72%	7%	6%	2%	13%
I eat a balanced diet regularly (contain carbohydrate, protein, vitamin, and other minerals).	49%	31%	16%	3%	1%
I avoid street food which contains saturated fat.	32%	33%	22%	7%	6%
I avoid unhealthy food.	36%	38%	19%	3%	4%
I can work out emotional problems without turning to alcohol or other drugs.	77%	8%	6%	1%	8%
I associate with people who have a positive attitude towards life.	69%	22%	6%	1%	2%
I sleep for 7-8 hours per night.	54%	27%	12%	3%	4%

The above outcome shows that teacher community may be aware of health benefits of physical activity but only a little more than half of population involved in physical activity. But most of them are able to handle their emotional upheavals without indulging into smoking, drinking or drugs but still many of them indulge in unhealthy practices. Also, half of the respondents don't meet sleep requirements. Around 3/4th population avoid cigarettes, tobacco and alcoholic beverages. Around half of respondents eat a balanced diet (49%) containing carbohydrate, protein, vitamin, and other minerals. A small number of respondents avoid street and unhealthy food (32%). Many of them are associated with positive people around (69%).

## 5. Discussion and Conclusion

All the responses of Delhi University teachers belonging to different colleges, collected through Google form, were analysed through percentage method. The total response of the subjects indicates that there is a difference in responses of male and female respondents on the selected variables of the study.

The comparison of the Body Mass Index (BMI) of male and female respondents showed that almost equal numbers of male and female respondents fall in the increased disease risk category (overweight). 51% females and 47% males have a normal Body Mass Index (BMI). 4% male respondents are at a very high disease risk which comes under obesity II category. 6% female and 4% male respondents have a high disease risk. Females are at high risk of diseases as compared to males according to their waist to hip ratio. 84% of males and only 24% females fall in the low disease risk category. 51% female respondents fall under the high-risk category. Only 10% male respondents have high disease risk according to their waist to hip ratio.

Thus, the analysis indicates that majority of the Delhi University Teachers come under the overweight category, which is an alarming situation as far as their health is concerned. The analysis of body composition through WHR,

like BMI, also indicates that a very small population of Delhi University teachers falls in normal category of disease risk. A large number of female teachers compared to male teachers, are in high risk category which indicates that female teachers are not able to maintain their health may be due to many reasons like less time available for taking care of their health, work pressure due to multi-tasking etc.

It seems to be good news that although the analysis of the data of majority of the teachers does not indicate a healthy body composition & lifestyle, most respondents are not suffering from hypokinetic or other diseases. The reason for this outcome may be due to under reporting of diseases by the respondents due to one or the reason. Also, most of the respondents were less than 50 years of age so they might not have shown symptoms of diseases but they may be falling in high-risk category as per their body composition.

From the above-mentioned points, we can conclude that teachers are negligent about their health and do not follow a very good healthy lifestyle to maintain their health.

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