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A comparative study on health status among men and women employees in Mahatma Gandhi University

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Abstract

The purpose of the study was to compare that BMI, Body Fat Percentage, Blood Pressure, Lean Body Mass among Men and Women employees in Mahatma Gandhi University Kottayam. There were 50 Men and 50 Women employees from various departments in Mahatma Gandhi University Kottayam participated in the study. To measure Blood Pressure, Digital Blood Pressure apparatus was used. To measure BMI, Body Fat Percentage, Lean Body Mass, the Maltron body composition analyzer was used. To statistically examine the data related to selected variables independent t-test was performing using SPSS. The study revealed that there is a significant difference in terms of Body Fat percentage, Blood Pressure and Lean Body Mass between Men and Women employees of Mahatma Gandhi University Kottayam. There is no significance difference exists in relation of BMI between Men and Women employees of Mahatma Gandhi University Kottayam.

Keywords: BMI, body fat percentage, blood pressure, lean body mass, male employees, female employees, Mahatma Gandhi University

Introduction

There is a considerable confusion about the term health it is regarded by some persons as the mere absence of disease. "According to WHO Health is a complete physical, mental, and social wellbeing and not merely the absence of disease or infirmity".

Authorities in the field of health have recognized three interwoven dimensions of health.

1. Physical dimension: - It refers to the perfect functioning of the body externally as well as internally.
2. Mental dimension: - Mental health is the balanced development of an individual's personality and emotional attitudes which enable him to live harmoniously with his fellow beings.
3. Social dimension: - Social health is the ability to get along with one self and with others.

Recently it has been felt that few more dimensions of health can be added: emotional, spiritual, vocational, educational, nutritional, environmental, and curative and preventive.

Why is living a healthy lifestyle important? Better lifestyle habits will reduce your risk of heart attack; you will feel better, have more energy and reduce your risk of illness. Living healthy also elevates your mood, helping you to feel happy and have more self-confidence, which results in a better quality of life. Take an active approach to living healthy and improve your health. Living a healthy lifestyle is very important due to the increase of obesity in the United States.

Health is basic to learning, to happiness, to success, to effective citizenship, and to worthwhile living. Health is a state of physical, mental, and social wellbeing. Living a healthy lifestyle is very important in older people and is positively related to a reduced risk and a delay in the deterioration in their health. It slows down the aging process and helps the older generation stay strong and healthy. The importance of a healthy lifestyle in children has grown tremendously. Obesity in children is increasing in all countries. Because of this factor it is more important than ever that we educate our children on the importance of a healthier living. They need to learn to eat healthy foods and they need to be put on a daily or 3 times weekly exercise schedule. Let your children know the health risks involved in being overweight.

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Occupational safety and health is an area concerned with protecting the safety, health and welfare of people engaged in work or employment. The goals of occupational safety and health programs include fostering a safe and healthy work environment. Occupational safety and health can be important for moral, legal, and financial reasons. All organizations have a duty of care to ensure that employees and any other person who may be affected by the companies undertaking remain safe at all times. Occupational health should aim at: the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations; the prevention amongst workers of departures from health caused by their working conditions; the protection of workers in their employment from risks resulting from factors adverse to health; the placing and maintenance of the worker in an occupational environment adapted to his physiological and psychological capabilities; and, to summarize, the adaptation of work to man and of each man to his job.

The main focus in occupational health is on three different objectives.

1. The maintenance and promotion of workers' health and working capacity.
2. The improvement of working environment and work to become conducive to safety and health.
3. Development of work organizations and working cultures in a direction which supports health and safety at work and in doing so also promotes a positive social climate and smooth operation and may enhance productivity of the undertakings.

Current studies regarding health status of general populations reveals the fact that the mechanical efficiency of people in relation to their working conditions rests heavily on the level of physical fitness, or we can call it as occupational health. Considering the job demands of university level employees, and attempt has been made to assess the difference between health status of men and women employees of Mahatma Gandhi University, Kottayam.

Purpose of the study

The purpose of the study was to compare BMI, Body Fat Percentage, Blood Pressure, Lean Body Mass of Men and Women employees in Mahatma Gandhi University Kottayam. It was hypothesized that there will be no significance difference in health status between men and women

employees of Mahatma Gandhi University, Kottayam. The study was useful for the Men employees and Women employees in Mahatma Gandhi University Kottayam to know about their BMI and to make changes in their lifestyle in order to keep themselves fit. The study was to know the differences in the health status of men and women employees in Mahatma Gandhi University, Kottayam. The study was to prepare the fitness program for the employees in the Mahatma Gandhi University, Kottayam. The study was help to monitor the health risk factors of University employees.

Materials and Methods

Selection of subjects

For the purpose of the study a total of 100 (50 men and 50 women) subjects were selected randomly from the employees of Mahatma Gandhi University Kottayam. The subjects were from men and women employees of various departments in Mahatma Gandhi University Kottayam. The age group of the subjects ranged from 30 to 50 years.

Instrumentation

To compare the Blood Pressure of Men and Women employees in Mahatma Gandhi University Kottayam, Digital Blood Pressure apparatus will be used and to compare BMI, Body Fat percentage, Lean Body Mass of Men and Women employees in Mahatma Gandhi University Kottayam, the body composition analyzer (BF-907) will be used.

Data collection

To obtain the data, the body composition analyzer was used. This test was administered to the employees of different sections and departments in Mahatma Gandhi University, Kottayam. The University authorities and section heads of various departments were personally requested for getting their subordinates to serve as subjects of the study.

Data analysis

To test the difference between Men and Women employees in relation to the selected variable independent t-test were calculated using SPSS or any other suitable software's. Based on the requirement of the study the level of significance was fixed at 0.05.

Result

Table 1: Analysis of BMI, Body Fat percentage, Blood Pressure, Lean Body Mass of Men Employees

Variables	N	Minimum	Maximum	AM	SD	Range
BMI	50	12.5	35	24.5	3.35	22.5
Body Fat%	50	16.3	43.6	29.6	3.81	27.3
Systolic Blood Pressure (mm/Hg)	50	101	229	134	18	128
Lean Body Mass (Kg)	50	29.7	84.3	48.2	7.18	54.6

Table 1 show that minimum and maximum BMI of the subject was 12.5 and 35 with a range of 22.5. Mean and SD of BMI of the subjects was 24.5 and 3.35 respectively. Minimum and maximum Body fat% of the subject was 16.3% and 43.6% with a range of 27.3%. Mean and SD of body fat% of the subjects was 29.6% and 3.81% respectively. Minimum and maximum Systolic blood pressure of the subject was 101

mm/Hg and 229 mm/Hg with a range of 128 mm/Hg. Mean and SD of Systolic blood pressure of the subjects was 134 mm/Hg and 18 mm/Hg respectively. Minimum and maximum lean body mass of the subject was 29.7 Kg and 84.3 Kg with a range of 54.6 Kg. Mean and SD of lean body mass of the subjects was 48.2 Kg and 7.18 Kg respectively.

Table 2: Analysis of BMI, Body Fat percentage, Blood Pressure, Lean Body Mass of Women Employees

Variables	N	Minimum	Maximum	AM	SD	RANGE
BMI	50	16.9	38.6	25.63	3.995	21.7
Body fat%	50	25.3	71.7	39.64	6.353	46.4
Systolic Blood Pressure (mm/Hg)	50	94	170	126.9	15.218	76
Lean body mass	50	17	89.7	37.24	7.24	72.7

Table 2 shows that Minimum and maximum BMI of the subject was 16.9 and 38.6 with a range of 21.7. Mean and SD of BMI of the subjects was 25.63 and 3.995 respectively. Minimum and maximum body fat% of the subject was 25.3% and 71.7% with a range of 46.4%. Mean and SD of body fat% of the subjects was 39.64% and 6.353% respectively. Minimum and maximum Systolic blood pressure of the subject was 94 mm/Hg and 170 mm/Hg with a range of 76 mm/Hg. Mean and SD of Systolic blood pressure of the subjects was 126.9 mm/Hg and 15.218 mm/Hg respectively. Minimum and maximum lean body mass of the subject was 17 kg and 89.7 kg with a range of 72.7 kg. Mean and SD of lean body mass of the subjects was 37.24 kg and 7.24 kg respectively.

Table 3: Independent t – Test of BMI

Group	N	AM	t (Cal)	P – value
Men	50	24.5	3.80*	0.000
Women	50	25.63		

*at 0.05 level of significance, with 598 degree of freedom t (critical) value is 1.96.

Table 3 reveals that the mean value of BMI for men and women is 24.5 and 25.63 respectively. Since the calculated T value i.e. 3.80 is lower than the t (critical) value i.e. 1.96, at 0.05 level of significance with 598 degree of freedom, we conclude that there is no significant difference exists between men and women employees of Mahatma Gandhi University in terms of BMI.

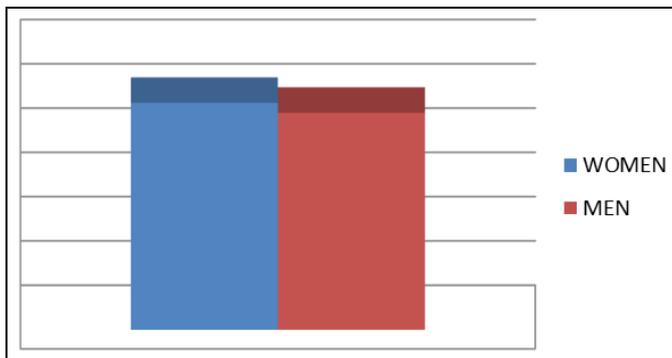


Fig 1: Comparison of BMI between Men and Women

Table 4: Independent t-Test of Body FAT%

Group	N	AM	t (cal)	p - value
Men	50	29.6	23.46*	8.50664E-87
Women	50	39.64		

*at 0.05 level of significance, with 598 degree of freedom t(critical) value is 1.96

Table 4 reveals that the mean value of body fat% for men and women is 29.6% and 39.64% respectively. Since the calculated t value i.e. 23.46 is greater than the t (critical) value i.e. 1.96, at 0.05 level of significance with 598 degree of freedom, we conclude that there is a significant difference exists between men and women employees of Mahatma Gandhi University in terms of body fat%.

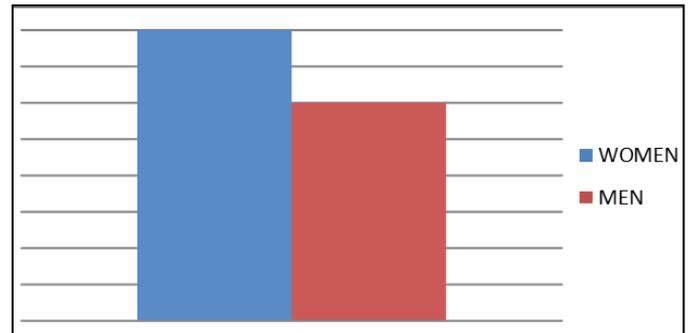


Fig 2: Comparison of Body Fat% between Men and Women

Table 5: Independent T- Test of Systolic Blood Pressure

GROUP	N	AM	t (cal)	p – value
Men	50	134	5.04*	6.34882E-07
Women	50	126.9		

*at 0.05 level of significance, with 598 degree of freedom t (critical) value is 1.96.

Table 5 reveals that the mean value of systolic blood pressure for men and women is 134 mm/HG and 126.9 mm/HG respectively. Since the calculated t value i.e. 5.04 is greater than the t (critical) value i.e. 1.96, at 0.05 level of significance with 598 degree of freedom, we conclude that there is a significant difference exists between men and women employees of Mahatma Gandhi University in terms of Systolic blood pressure.

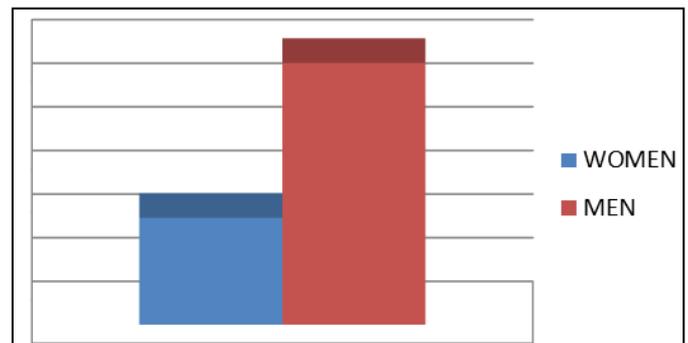


Fig 3: Comparison of Systolic Blood Pressure between men and Women

Table 6: Independent T- Test of Lean Body Mass (Kg)

Group	N	AM	t (cal)	p – value
Men	50	48.2	18.49*	1.07E-60
Women	50	37.24		

*at 0.05 level of significance, with 598 degree of freedom t (critical) value is 1.96.

Table 6 reveals that the mean value of lean body mass Kg for men and women is 48.2 Kg and 37.24 Kg respectively. Since the calculated t value i.e. 18.49 is greater than the t (critical) value i.e. 1.96, at 0.05 level of significance with 598 degree of freedom, we conclude that there is a significant difference exists between men and women employees of Mahatma Gandhi University in terms of Lean body mass Kg.

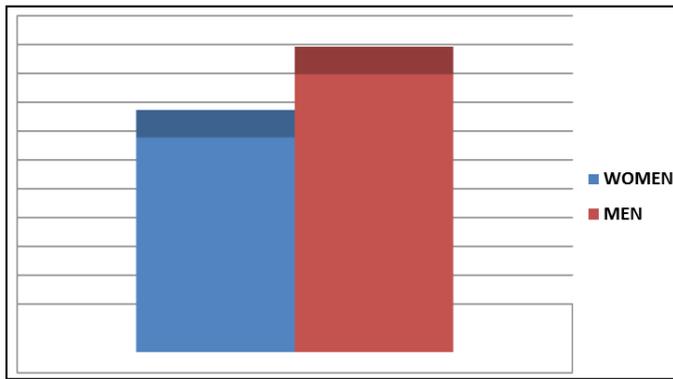


Fig 4: Comparison of Lean Body Mass (kg) between Men and Women

capability and body fat percentage for a healthy life among elderly people using 2011.

Conclusions

Subjects for the study were 50 men and 50 women employees of Mahatma Gandhi University, Kottayam. The age ranges shall be 30 to 50 years. For the analysis of difference between men and women in relation to their health status (BMI, Systolic Blood pressure, Total Body Fat%, Lean body mass) the data were collected using Digital Blood pressure monitor and body composition analyzer.

The data was analyzed using descriptive statistics such as Arithmetic Mean (AM), Standard Deviation (SD), minimum, maximum and range in order to get basic idea about the data distribution. Independent 't' test was used to find significant difference of the health status of the men and women employees.

Within the limitations of the study and on the basis of the results obtained the following conclusions may be drawn:

1. The study on health status among men and women employees in Mahatma Gandhi University revealed that regarding their health status there is a significant difference exists between men and women employees in Mahatma Gandhi University.
2. The independent t test calculated between men and women employees of Mahatma Gandhi University, Kottayam on the selected variables (Blood pressure, Total Body Fat%, Lean body mass) revealed that there is significant difference exists between men and women employees.
3. Considering the mean value obtained for all the variables (BMI, Blood pressure, Total Body Fat%, Lean body mass) it is concluded that the men employees are having a better health status than that of women employees.
4. In the case of BMI revealed that there is no significance difference exists between men and women employees in Mahatma Gandhi University.

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