



BODY COMPOSITION DISTRIBUTION IN MIDDLE-AGED WORKING WOMEN AND HOMEMAKERS- A COMPARISON

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ABSTRACT **Background-** The last few years of life are important for changes in body fat and weight increases. Increased central body fat distribution and weight gain are linked to the body transformation. Objective-determination of difference in middle-aged working women and homemaker's body composition. **Methodology-** A total of 60 working and homemakers were selected from Varanasi. Further, these 60 working and homemaker women were divided into two groups. Every group had 30 working women and 30 homemakers. The subjects were 40–55. BMI, visceral fat, and subcutaneous fat were assessed using a BIA body composition monitor. Mean and standard deviation were used for all obesity factors. Unpaired-t Test was used with significance set at ($p < 0.05$). **Result-** shows the difference in BMI (0.030, $p < 0.05$), ($t_{58} = -2.232$), Visceral fat (0.048, $p < 0.05$), ($t_{58} = 2.019$) subcutaneous fat (0.042, $p < 0.05$), ($t_{58} = 2.08$) and Protein percentage ($p > 0.05$) here is the significant in body fat distribution of middle age working women and homemakers. **Conclusion-** According to the study findings, working women and homemakers have differed significantly in BMI, Visceral fat and Subcutaneous fat.

KEYWORDS : Middle Age Women, Visceral Fat, Subcutaneous Fat, BMI.

1. INTRODUCTION

The ladies of today are too busy doing their regular jobs. The ratio of an individual's non-fat mass to fat mass is called their body composition. There are discernible age-related changes in body composition, particularly in middle-aged women. Middle age, which is often understood to represent the years between 40 and 55, is frequently linked to hormonal changes, changes in lifestyle, and changes in metabolism that can affect how a person looks on the inside. Sarcopenia, a condition in which women lose muscle mass throughout this stage of life, is linked to hormonal shifts, a decrease in physical activity, and nutritional modifications. In addition, hormonal changes including a drop in oestrogen levels after menopause frequently result in an increase in body fat percentage, particularly around the belly. It's critical for general health and wellbeing throughout middle age to maintain a good body composition. Regular exercise can promote fat reduction and prevent muscle loss. This includes both aerobic and strength training exercises. Maintaining muscular strength and controlling body weight also require a diet high in nutrients and well-balanced.

In order to maintain an active lifestyle and a comparatively high level of physical and physiological functioning in later life when compared to those who are physically inactive, physical activity is necessary to ward off dangerous diseases like obesity, cardiovascular disease, high blood pressure, and diabetes. One of the most important public health issues facing women of reproductive age is the rising incidence of overweight and obesity. Women who are obese may have short- and long-term health consequences for themselves and their children. Research already conducted indicates a connection between obesity and health issues that hinder a woman's ability to become pregnant and raise her chance of a miscarriage. Moreover, this long-term ailment has been connected to the later onset of diabetes and cardiovascular disease. The incidence of the ailment in the general population influences public health policy, education, and clinical decision-making. Humans suffer from many different kinds of illnesses and health issues. However, the majority of them now suffer from diabetes and obesity. One of the most pressing concerns in recent times is the increasing global incidence of obesity. This is because diabetes, heart disease, cancer, high blood pressure, and high cholesterol are all strongly correlated with obesity.

Although obesity and overweight are linked to higher death rates in middle-aged individuals, very few research have examined older populations, and those that have indicated that being overweight was beneficial. These conflicting findings show that may be aging which is related to differences in fat distribution during the aging process is the cause of a change in the function of overweight from a risk factor for younger persons to a protective factor for older adults. As people age, their lean mass and bone mineral density decline, while their body fat mass rises and is concentrated in their abdomens. It is possible to see a preferential increase in visceral fat (VF) and a decrease in subcutaneous fat in the lower body without changing body weight, total adiposity, or waist circumference. During middle age, Dietary changes with higher intakes of simple carbohydrates, saturated fats

and reduced physical activity, with lower skeletal muscle mass and strength, are factors in lifestyle that give rise to these age-related changes in body fat distribution.

Several hazardous health conditions, including inflammation, metabolic syndrome, insulin resistance, dyslipidaemia, type 2 diabetes, cardiovascular diseases, some cancers, and eventually mortality, are significantly linked to increases in VF. Protein is an important component in a healthy body.

As women get older, we tend to need more protein our bodies could benefit greatly from the higher amount of it in our diet. Protein for midlife women is an important key nutrition in muscle health with also comes the risk of reduction in strength and muscular mass, a condition known as sarcopenia.

1.2 Purpose of the Study

The purpose of the study is to look at the important difference in "distributed body composition in Working Women and homemakers in Their Middle Ages" of Varanasi.

1.3 Objective of study

1. To note the substantial disparity in visceral fat between housewives and middle-aged working women.
2. To determine how much the BMIs of middle-aged working women and housewives differ from one another.
3. To calculate the statistical significance of the subcutaneous fat differential between middle-aged housewives and working women.
4. To calculate the statistical significance of the difference between middle-aged working women and housewives' protein percentages.

2.1 METHODOLOGY

This study was a descriptive, and the criterion measure was selected as BMI, visceral fat, subcutaneous fat, and protein %. The Omron body composition monitor was one of the instruments utilized in the study to collect data. From Varanasi, a total of sixty working and homemaker women were chosen. These sixty housewives and working women were then split into two groups. Thirty housewives and thirty working women made up each group. The individuals ranged in age from 40 to 55.

2.2 Variables: For this research following variables were selected:

- protein percentage
- Visceral fat
- BMI
- Subcutaneous fat

3.1 RESULT

The study aimed to examine the notable variations in visceral fat, BMI, and subcutaneous fat between Varanasi homemakers and working women.

Table - 1 Descriptive statistic of BMI, VF, and Subcutaneous fat of working women and homemaker

Independent Samples Test		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
BMI	Equal variances assumed	.803	.374	-2.232	58	.030	-1.82767	.81897	-3.46701	-.18832
	Equal variances not assumed			-2.232	54.876	.030	-1.82767	.81897	-3.46900	-.18633
VF	Equal variances assumed	.961	.331	-2.019	58	.048	-2.05200	1.01628	-4.08631	-.01769
	Equal variances not assumed			-2.019	57.358	.048	-2.05200	1.01628	-4.08679	-.01721
SF	Equal variances assumed	.089	.767	-2.082	58	.042	-3.28467	1.57748	-6.44234	-.12699
	Equal variances not assumed			-2.082	57.513	.042	-3.28467	1.57748	-6.44291	-.12642

Table no.1. displays BMI mean for working women and homemakers are (25.16 and 26.98), respectively. The table further indicates that women's BMI t- value are -2.232, and the p value was ($t_{(58)}=-2.232, p<0.05$) below the 0.05 threshold of significance. As a result, there was a noticeable difference in the values of "t" between working and homemaker women.

Further, the mean of Visceral Fat of working 12.10 and homemakers mean 12.23, t- value -2.019 Statistically depicts that the calculated ($t_{(58)}=-2.019, p<0.05$) for visceral fat percentage of working women and homemakers was greater than tabulated value. Thus, table no. 1's results demonstrate that the visceral fat percentages of working and housewife women differed significantly.

It was practical to see in the table that the Subcutaneous fat obtained the "t" value and revealed a substantial difference between working women and homemaker. Working women's and homemakers' p values were both less than the 0.05 level of significance ($t_{(58)}=-2.08, p<0.05$). The results show that there is no significant difference between the working and homemaker groups ($p>0.05$), with the tabulated value exceeding the significance level.

3.2 DISCUSSION

This study aimed to analyse the body composition of the middle-aged working and homemakers of Varanasi region. The finding shows a statistical significance difference in both groups of women. The study was carried out by Garg and Dutta (2019) between January 2015 and December 2016, with 60 individuals chosen through the use of the convenient sampling approach. Participants in the trial had to be recently diagnosed with type 2 diabetes mellitus and have a BMI of less than 18.5 kg/m². The statistically significant difference between means and proportions was found using the independent student t-test and the chi-square test, respectively; the linear link between two continuous variables was found by estimating the Pearson correlation coefficient. ~ 2219 ~ Journal of Sports, Nutrition, and Physiology International Journal of Sports.com Results of the study was Age, waist-hip ratio, and BMI did not show a statistically significant difference between the two groups. Patients diagnosed with diabetes had higher percentages and quantities of fat mass than the control group (P value < 0.05). P value > 0.05 indicated no statistically significant difference between the underweight and control group patients. The values of body fat mass and HbA1c showed a strong positive connection (P value < 0.05). In conclusion, it was discovered that type 2 diabetes patients who were underweight had higher body fat mass than healthy controls and that there was a positive correlation between fat mass and the research participants' HbA1C levels.

3.4 CONCLUSION

The researcher came to the following findings after statistically analysing the data:

1. The current study's "t" test result demonstrated that housewives' visceral fat percentage was higher than that of working women. It revealed a notable distinction between homemakers and working women.
2. The results revealed a noteworthy distinction in subcutaneous fat between homemakers and working women.
3. The study found that working women and homemakers both had higher BMIs. However, the "t" test was utilised to identify

significant differences between the two groups.

4. The study found no significant difference in protein intake among homemakers and working women.

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