

A Comparative Study to assess the Body Mass Index among Working Women and Homemakers in Indore City Madhya Pradesh

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Abstract

Background and Aim: Women are the powerhouse of every household, filling many duties within the family. Lack of time and workload at workplace and home might have an impact on their health. They won't give proper attention to their diet and health. Therefore, present study was taken to assess the body mass index status of working women and homemakers in Indore city. Body Mass Index (BMI) is considered as a major determinant of health. **Materials and Methods:** A random sample of 150 women were chosen from Indore of age group between 25 - 35 years and comparison was done between these two groups. It is assumed that both study groups may have different job demands, resulting in various dietary choices. This can affect health status particularly in relation to obesity in women. Obesity, thyroid, diabetes, hypertension, and hormonal disorders were also identified as frequent concerns among Indore women. To collect data from the respondents, a self-administered questionnaire was created. **Results:** According to the findings of this study, the health condition of homemakers and working women differed substantially in terms of BMI. A BMI comparison revealed that most working women were overweight, whereas homemakers were normal weight. **Conclusion:** Conclusion were drawn healthier BMI, active lifestyle and better dietary habits were witnessed in homemakers as compared to working women.

Keywords: Body Mass Index; Health; Obesity; Working

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INTRODUCTION

Dietary habits are the key factor in maintaining good health. Numerous environmental factors, including age, schooling, employment, income level, family situation, and place of residence, have an impact on an individual's diet.¹ Due to their usual homemaking responsibilities, such as looking after children and maintaining the family diet, homemakers frequently don't have as much time as they'd like to take care of their health.²

The present scenario of Indian society has been changing due to women education. Women plays strong role in economic contribution in family. The health and employment status of a women are directly related to each other. Homemakers have a regular disciplined schedule for household work. They have more time to maintain their health along with maintaining familial dietary life and childcare. In other hand working women have double responsibilities so they won't be able to give so much time for their health. Regular consumption of high calorie, instant processed food leads to health-related problems. Imbalanced diet and sedentary lifestyle have increase diseases like obesity and it causes many other health problems. The problem of obesity in working women is due to change in dietary intake and less physical activity. Obesity is caused because of genetic, social economic and environmental factors and various other factors including physique, physical form, and concept of health.³

Women's productivity and participation in economic system is adversely affected by malnutrition. The dual responsibility workload, poor nutritional status and due to culture of eating last leads to fatigue and results in depression, irritation and mood swing etc. To improve the quality of life it is necessary to maintain a good nutritional status which will increase the working capacity of women. The fundamental element which affects health maintenance is dietary life.⁴ Various environmental factors such as age residence, education, job, economic level influence individual dietary life.^{5,6}

Family health and the quality of life is centrally related to educational level, position, health and nutritional status. The health status and fitness level of each group of women differs in lifestyle

and workload. Many recent studies have been conducted to evaluate familial dietary management, purchasing habits of food, preparation of side dishes, nutrition status, and food preferences, but studies on health status of homemakers and working women after childbirth are insufficient so far.^{7,8} The main aim of the study to assess the body mass index among working women and homemakers in Indore city Madhya Pradesh.

MATERIAL & METHOD

A comparison between these two groups (homemakers and working women) was conducted using a random selection of 150 women in Indore who were between the ages of 25 and 35. There were categorized 75 homemakers and 75 working women. The subject's age was estimated to the closest whole figure. Google forms were used to gather information on the socio-demographic profile (type of work, family structure, age, educational level, family type, size, and anthropometric measurements like height and weight and medical history. To collect data from the respondents, a self-administered questionnaire was created. The questionnaire was distributed at different locations of Indore between November 2021 and January 2022.

Body Mass Index (BMI): Body mass index (BMI) is a person's weight in kilograms divided by the square of height in meters. The number generated from this equation is then the individual's BMI number. The National Institute of Health (NIH) now uses BMI to define a person as underweight, normal weight, overweight, or obese instead of traditional height vs. weight charts.⁹ BMI is an inexpensive and easy screening method for

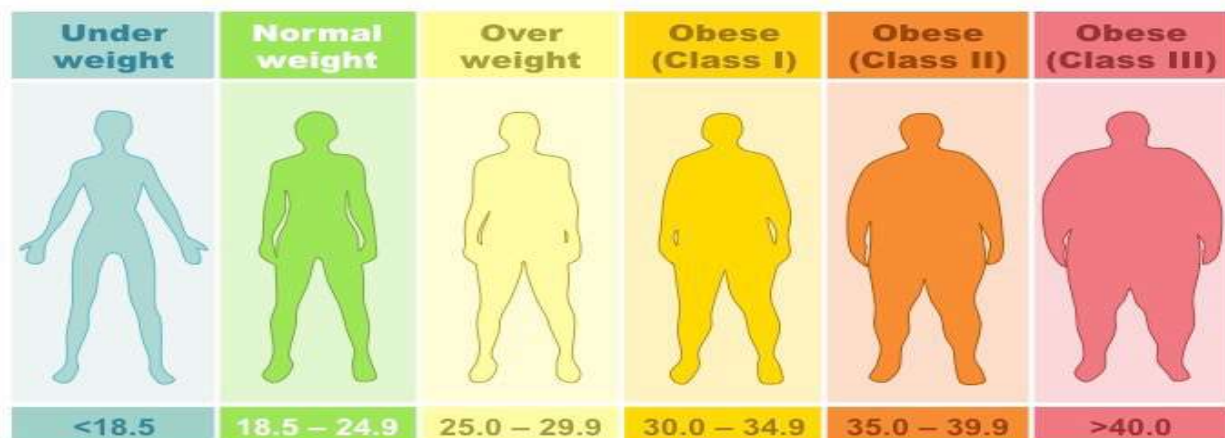


Fig. 1: Diagrammatic representation of BMI Category

weight category underweight, healthy weight, overweight, and obesity. BMI appears to be as strongly correlated with various metabolic and disease outcome as are these more direct measures of body fatness. The BMI ranges are based on the effect excessive body fat has on disease and death and are reasonably well related to adiposity. BMI was developed as a risk indicator of disease; as BMI increases, so does the risk for some diseases. Some common conditions related to overweight, and obesity include premature death, cardiovascular diseases, high blood pressure, osteoarthritis, some cancers and diabetes.

DATA ANALYSIS

Demographical data were calculated in percentage and for results of body mass index status data were statistically analyzed by chi-square by Statistical Package for Social Sciences (SPSS) program software. The **p-value** determines whether the relationship is significant. If the p-value is greater than 0.05, then the null hypothesis is retained: there is indeed no relationship between the two variables. Since no significant relationship

Table 1: WHO Body mass index (BMI) Classification

Classification	BMI (kg/m ²)	Risk of comorbidities
Underweight	<18.5	Low (but risk of other clinical problems increased)
Normal range	18.5-24.9	Average
Overweight (preobese)	25.0-29.9	Mildly increased
Obese	≥30.0	-
Class 1	30.0-34.9	Moderate
Class 11	35.0-39.9	Severe
Class 111	≥40.0	Very severe

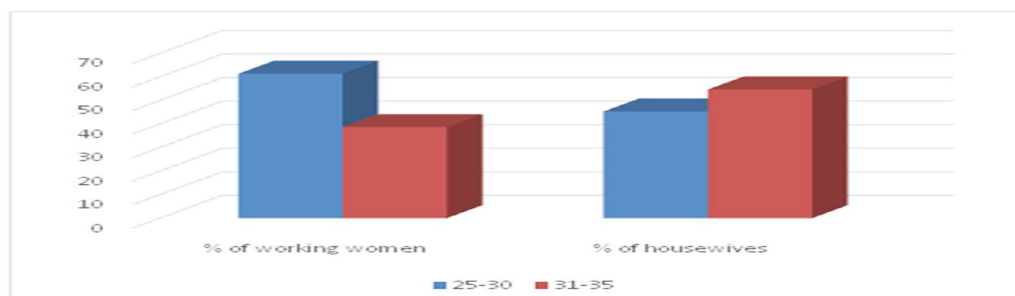
exists between the variables, then no further interpretation is necessary. If the p-value is less than 0.05, then the null hypothesis is rejected, meaning

that there is a significant relationship between the two variables.

OBSERVATIONS

Table 2: Age distribution of respondents

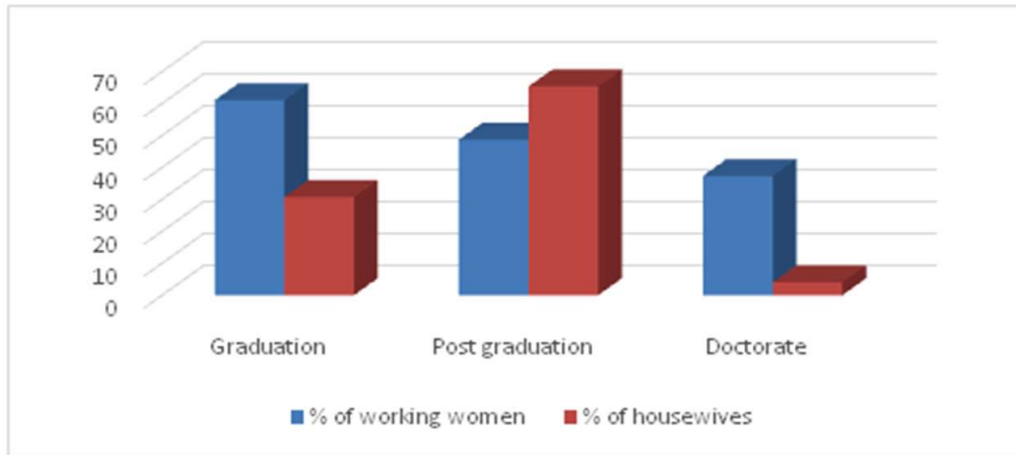
Age distribution	Number of working women	% of working women	Number of homemakers	% of homemakers
25-30	46	61.33	34	45.33
31-35	29	38.67	41	54.67
Total	75	100	75	100



Graph 1: Graphical representation of age distribution of respondents

Table 3: Education level of respondents

Education level	Number of working women	% of working women	Number of homemakers	% of homemakers	Total	%
Graduation	12	61	23	30.67	35	23.33
Post graduation	35	48.67	49	65.33	84	56
Doctorate	28	37.33	03	4	31	20.67
Total	75	100	75	100	150	100

**Graph 2:** Graphical representation of education level of subjects**Table 4:** Family structure of subjects

Family structure	Number of working women	% of working women	Number of homemakers	% of homemakers
Nuclear family	48	64	24	32
Joint family	27	36	51	68
Total	75	100	75	100

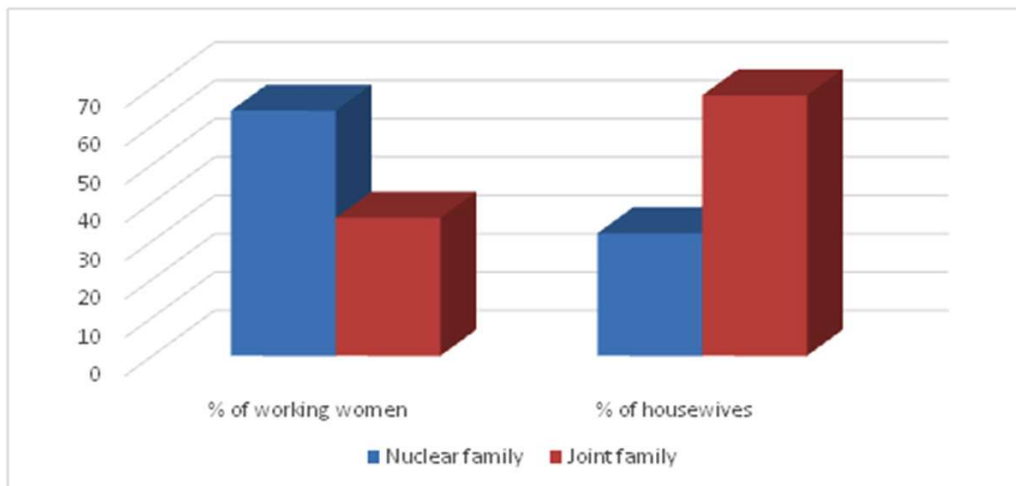
**Graph 3:** Graphical representation of distribution of family structure of subjects

Table 5: Comparison of body mass index of the both the groups

BMI category	Number of working women	% of working women (%)	BMI category	Number of homemakers	% of homemakers	Total	%	P value
Underweight	5	6.66	Underweight	8	10.66	13	8.67	
Normal	35	46.66	Normal	44	58.66	79.0	52.67	
Pre- obese	24	32	Pre-obese	15	20	39.0	26	
Obese Class I	11	14.66	Obese Class I	4	5.33	15.0	10	P<0.05
Obese Class II	0	0	Obese Class II	4	5.33	4	2.67	
Obese Class III	0	0	Obese Class III	0	0	0	0	
Total	75	100	Total	75	100	150	100	

RESULTS AND DISCUSSION

The current study investigated body mass index (BMI) of working women and homemakers. We found that homemakers are more conscious than working women although working women have knowledge about healthy diet but because of workload of home and working place they are unable to take meal on time sometimes they skip the meal.

Table 2 shows the distribution of respondents according to age. In the 25–30 age group, forty-six respondents were working women, and 34 subjects were homemakers, whereas in the 31–35 age group, twenty-nine respondents were working women, and seventy-five respondents were homemakers. Table 3 shows the education level of respondents in total 175 respondents, 35 were graduated, 84 were postgraduate, and 31 had doctorate degrees, indicating that the highest percentage of postgraduate women were found in the Indore during the research.

Table 5 shows, that working women 14.66% were belongs to obese Class I category and 32% were belongs to pre obese category whereas in homemakers only 5.33% were belongs to obese class I and only 20% were belongs to pre obese category. 58.66% homemakers were having normal BMI whereas 46.6% of working women are belongs to normal category ($p>0.05$) supported by Yunus *et al.*, 2004.¹⁰

This result shows that working women are more pronounced to obesity as compared to homemakers.

It was found that overweight individual consumes more fried food than normal diet. Exercise along with balance diet is helping to maintain a healthy body composition. Taking an imbalanced diet may cause obesity and another medical problem like thyroid, Blood pressure and hormonal imbalance etc. There were certain limitations in the current study first the response rate is low. Women don't want to show age, medical problems. Second the study cannot be done with all the women of Indore City.

CONCLUSION

Food is necessity of life. Now a day's nutrition are the constituents of food which help us to maintain our body functions, to grow and protect our organs. Health means the well-being of an individual in physical, emotional, and social condition. Working women as well as homemakers both have a special position in society. If women have knowledge of nutrition than they can impart this knowledge very well to their family. Healthier BMI, active lifestyle and better dietary habits were witnessed in homemakers as compared to working women.

This study concludes that health status by body mass index of homemakers and working women has significantly differences between each other. It can be concluded that homemakers should choose their meal wisely and nutritional awareness program for healthy food choices need to be introduced in

the society. Self-assessment of diet quality was comparable as it was mentioned moderate by most of the participants, however more working females accepted that they need to improve their diet and would need expert advice.

Therefore, working women should choose their meal wisely while purchasing it from the market or should add some food item for fiber and calcium needs while replacing unhealthy item. It can be concluded that working women should choose their meal wisely and nutritional awareness program for healthy food choices need to be introduced in the society.

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