

Evaluating Body Mass Index of Professional Women in Educational Institutions of Indore, 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 professional women working in educational sectors in Indore city. Body Mass Index (BMI) is considered as a major determinant of health. **Materials and Methods:** A random sample of 500 women working in different schools and colleges of Indore city were chosen at age group between 30 - 45 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 school teachers and college teachers differed substantially in terms of BMI. A BMI comparison revealed that college teachers were more overweight as compare to school teachers. **Conclusion:** Conclusion were drawn healthier BMI, active lifestyle and better dietary habits were witnessed in school teachers as compared to college teachers. **Keywords:** body mass index, health, obesity, professional etc.

Introduction

The greatest negative impact on people's health and well-being is caused by nutritional factors, the main culprits being excessive consumption of sugar, salt, trans-unsaturated fatty acids, and saturated fat. With over 1.9 billion persons aged 18 and over being overweight and over 650 million being categorized as obese in 2016, the incidence of obesity has increased nearly thrice globally in the last forty years, posing a serious threat to public health (World Health Organization, 2021). The main causes of overweight and obesity, according to the WHO, include increased consumption of foods high in fat and sugar content, high energy density, and inadequate physical activity. Elevated blood pressure is a major risk factor for cardio-

vascular disease globally, accounting for 19% of fatalities worldwide each year (Forouzanfar et al., 2015).

Women constitute nearly half of the population, playing crucial roles in families, communities, and the economy. However, their health and nutritional status remains a significant concern due to a myriad of factors, including socio-economic disparities, cultural practices, and limited access to healthcare services.

Women's health in India is shaped by various determinants, including maternal health, reproductive health, and non-communicable diseases. High maternal mortality rates and undernutrition are critical issues, exacerbated by inadequate healthcare infrastructure and gender inequalities. Conditions such as anemia are prevalent, affecting women of all ages, particularly during reproductive years.

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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.

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. 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. Various environmental factors such as age residence, education, job, economic level influence individual dietary life [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 professional women after childbirth are insufficient so far. The main aim of the study to assess the body mass index among professional women in Indore city Madhya Pradesh.

Material & Method

A comparison between school teacher and college teacher working in different educational sectors was conducted using a random selection of 500 women in Indore who were between the ages of 30 and 45. They were categorized 250

School teachers and 250 college teachers. The subject's age was estimated to the closest whole figure. Questionnaire 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 schools and colleges of Indore between September 2023 to November 2023.

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 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.

Table 1: WHO Body mass index (BMI) Classification

BMI Range	Category	Risk of Morbidity
Less than 18.5	Underweight	Increased risk of malnutrition, osteoporosis, and other health issues
18.5 to 24.9	Normal weight	Lowest risk of morbidity
25.0 to 29.9	Overweight	Increased risk of cardiovascular diseases, diabetes, and certain cancers
30.0 to 34.9	Obesity (Class I)	Higher risk of obesity-related conditions (e.g., hypertension, diabetes)
35.0 to 39.9	Obesity (Class II)	Significantly increased risk of severe health issues (e.g., heart disease, stroke)
40.0 and above	Obesity (Class III)	Highest risk of morbidity and mortality from various conditions

Observations

Table 2: Age distribution of respondents

Age distribution	Number of School Teachers	% of School Teachers	Number of College Teachers	% of College Teachers
30-34	88	35.2%	85	34.0%
35-39	87	34.8%	87	34.8%
40-45	75	30.0%	78	31.2%
Total	250	100%	250	100%

Graph 1: Graphical representation of age distribution of respondents.

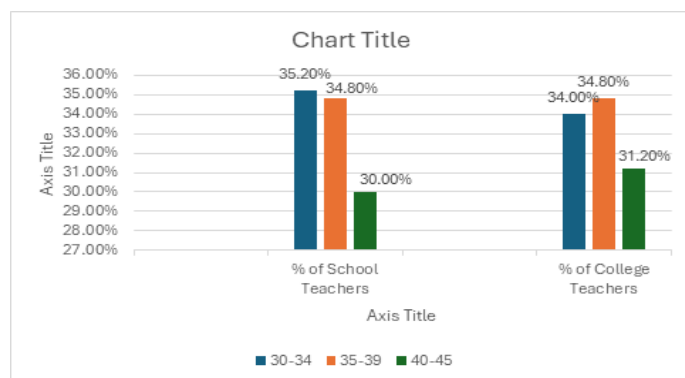
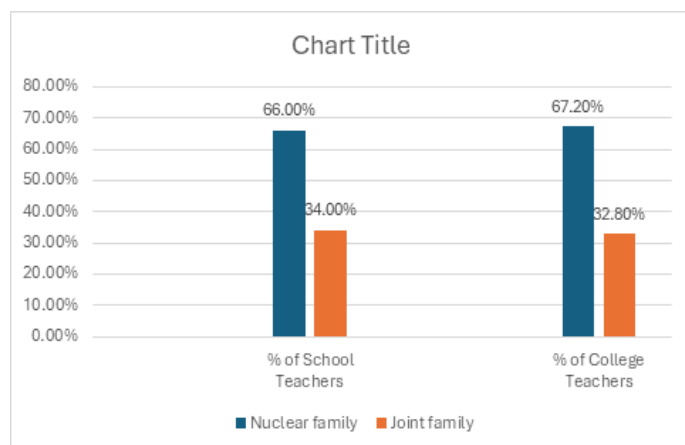


Table 3: Family structure of subjects

Family structure	Number of School Teachers	% of School Teachers	Number of College Teachers	% of College Teachers
Nuclear family	165	66.0%	168	67.2%
Joint family	85	34.0%	82	32.8%
Total	250	100%	250	100%

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



Results and Discussion

The current study investigated body mass index (BMI) of school teachers and college teachers. We found that both the groups are conscious and 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 No. 2 shows the distribution of respondents according to age. In the age group of 30-34 years 35.2% were school teachers and 34% were college teachers whereas in age group of 35-39 percentage were same in both the groups in age group of 40-45 there were 30% school teachers and 31.2% college teachers. There were slight difference in both the groups by age distribution.

Table 3 shows family structure of respective subjects. 66% school teachers and 67.2% college teachers were belongs to nuclear family whereas 34% school teachers and 32.8% college teachers belongs to joint family.

Table 4 shows the distribution of body mass index (BMI) categories among school and college teachers. 28% school teachers and 20.4% college teachers were belongs to underweight category. A significant proportion of school teachers fall into the underweight category compared to college teachers, indicating potential differences in lifestyle, stress, or dietary habits. 35.2% school teachers and 36.8% college teachers were normal in weight. Both groups show a healthy proportion of individuals within the normal weight range, suggesting that many teachers maintain a balanced lifestyle. 28.8% school teachers and 27.6% college teachers were from pre obese category, The percentages are relatively similar, indicating a considerable portion of both groups may be at risk of developing obesity-related health issues if lifestyle changes are not made. 8.0% school teachers and 15.2% college teachers belongs to obese class I category. There is a notable difference, with college teachers exhibiting a higher percentage in this category. This could be attributed to various factors such as increased sedentary behavior or higher stress levels associated with college teaching. Data is unavailable for these categories, but their absence indicates that severe obesity is not prevalent among the surveyed population.

Discussion

The findings suggest that while a majority of teachers fall within the normal or pre-obese categories, a significant portion, especially among college teachers, are at risk for obesity. This highlights the need for wellness programs targeting both school and college educators to promote

healthier lifestyles, improve physical activity levels, and encourage better dietary choices.

Factors contributing to these trends may include differences in work environments, physical activity levels, and stress management practices. Further research is warranted to explore these variables in depth and develop tailored interventions that can support teachers in maintaining a healthier BMI.

Table 4: Comparison of body mass index of the both the groups

BMI category	Number of School Teachers	% of School Teachers	BMI category	Number of College Teachers	% of College Teachers	Total	%
Underweight	70	28.0%	Underweight	51	20.4%		
Normal	88	35.2%	Normal	92	36.8%		
Pre- obese	72	28.8%	Pre- obese	69	27.6%		
Obese Class I	20	8.0%	Obese Class I	38	15.2%		
Obese Class II	-	-	Obese Class II	-	-	-	-
Obese Class III	-	-	Obese Class III	-	-	-	-
Total	250	100%	Total	250	100%	500	100%

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. Women have a special position in society. If they have knowledge of nutrition than they can impart this knowledge very well to their family.

This study concludes The analysis of BMI categories among school and college teachers reveals important insights into the health status of this population. While a majority fall within the normal weight or pre-obese categories, there are notable concerns regarding the prevalence of underweight and obesity, particularly among college educators.

Teachers play a critical role in shaping future generations, and their health directly impacts their effectiveness and well-being. The findings highlight an increased risk of morbidity associated with both underweight and obesity. Specifically, the data indicate that while normal weight

Overall, these results emphasize the importance of addressing health and wellness in the teaching profession to ensure that educators can perform optimally both in their personal and professional lives.

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.

individuals experience the lowest risk, those classified as overweight and obese are at an elevated risk for serious health conditions, including cardiovascular diseases and diabetes.

To address these health concerns, it is essential for educational institutions to implement wellness programs that promote healthy lifestyles, including physical activity and nutritional education. Supporting teachers in maintaining a healthy BMI can improve their overall quality of life and enhance their professional performance. Future research should continue to explore the factors influencing these trends and assess the effectiveness of interventions designed to promote healthier behaviors among educators.

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Conflicts of interest

There are no conflicts of interest.

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