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Assessing The Rising Tide: A Comprehensive Analysis of Overweight and Obesity Prevalence Among Adults

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ABSTRACT

Background: The worldwide surge in overweight and obesity levels poses a serious challenge to public health. Obesity has been doubled since 1990s. Overweight can be defined as having BMI ≥ 25 kg/m^2 and obesity as a BMI ≥30kg/m^2. In Kerala, NFHS data showing increasing obesity rate higher than the national average. According to the WHO, in 2022, nearly 43% of adults worldwide were classified as overweight, while 16% fell into the obese category. The study explore the prevalence and need for the awareness and intervention to step down from obesity.

Objective: To study the prevalence of overweight and obesity among adults.

Materials and methods: A cross-sectional analysis was carried out to evaluate the extent of overweight and obesity among adults. Data were collected from various sites and colleges of Pathanamthitta district. The study examined 729 participants over a six-month timeframe (November 2023- April 2024). The participants were asked to fill out the questionnaire with their knowledge, then conducted an awareness class after 1-month similar questionnaire is provided to evaluate the progress of the research participants. Data collection involved one-on-one interviews with willing participants who completed questionnaires.

Results: The prevalence of overweight was found to be 72.23%, whereas 19.75% were obese class 1, 6.48% were obese class 2 and 1.54% were obese class 3 based on the BMI.

Conclusion: The result of the study points out the lack of physical activity and improper dietary pattern has act as major factor to being overweight and obese. The sedentary lifestyle practices should be avoided It is important to have future developmental and managerial strategies to prevent from overweight and obesity.

KEYWORDS: Obesity, Overweight, Prevalence, Adults, Body mass Index.

INTRODUCTION

The rising rates of overweight and obesity among adults have become a major global health concern. Ad-

Ults are considered overweight with a BMI of 25 kg/m² and obese at 30 and above according to WHO standards.

The worldwide adult obesity has been doubled since the 1990s. By 2022, 43% of the world's adults, 2.5 billion people were considered overweight, while about 16% (or 890 million adults) were classified as obese, highlighting a significant global rise in excess body weight over recent decades [1]. Based on the NCD Risk Factor Collaboration, it is estimated that more than one billion people worldwide are living with obesity [2].

Kerala shows rising obesity trends according to NFHS data, with women (15–49 years) exhibiting higher rates than men. In recent surveys indicate Kerala consistently ranks among top states for combined overweight/obesity prevalence, exceeding national averages. Obesity can be linked with Hypertension, cardiovascular diseases, GERD, and Obesity hypoventilation syndrome. The main contributing factors relate to the interplay of genetic, environmental, and socioeconomic factors. Kerala has experienced significant transformations in its economic landscape and daily living patterns in recent years. Unhealthy eating patterns and lack of physical activity are the major prone factors for being overweight and obese [8]. Obesity is considered an epidemic, with retrospective studies showing a fivefold increase in prevalence [3],[9]. Therefore, conducting a prevalence study is essential. The case report aims to explore the frequency and consequencesof overweight and obesity among adults, highlighting the need for comprehensive interventions to address these growing health challenges. There is need for increased awareness about risks of obesity, importance of adopting healthier lifestyles, prioritization of public health initiatives.

METHODOLOGY

A cross-sectional study was undertaken in the different sites and colleges of Pathanamthitta district, Kerala, India. The test run was conducted from November 2023 to April 2024, lasting approximately six months. All patients who met the inclusion and exclusion criteria were included. Population aged between 18 to 60 years, males and females constitute the research study group. The total sample size was 729. The study was initiated after obtaining the approval from the Institutional review board of Nazareth college of pharmacy.

Inclusion criteria

Individuals aged 18 to 60, including men and women, were part of the study.

Exclusion criteria

Pregnant and lactating women, the subjects who were voluntarily unwilling to participate, and age over 60 years and individuals under 18 years were excluded from the study.

Data collection method

Data were collected by filling out pre designed data collection forms by making each individual's opinion and their consent with local language. Information was collected through direct, on-site interactions meetings with individuals after obtaining approval from the institutional review board from the Nazareth college of pharmacy. In our study procedure, Participants were first provided with a data collection form to assess their perception. Subsequently, we conducted awareness class regarding obesity and overweight which was majorly based on complications, the role of dietary and physical activity. After 1 month, a similar form was administered to evaluate about the program adhered. Both pre and post assessment (before and after) were conducted, and the data obtained were statistically analysed to determine the prevalence of overweight and obesity among adults.

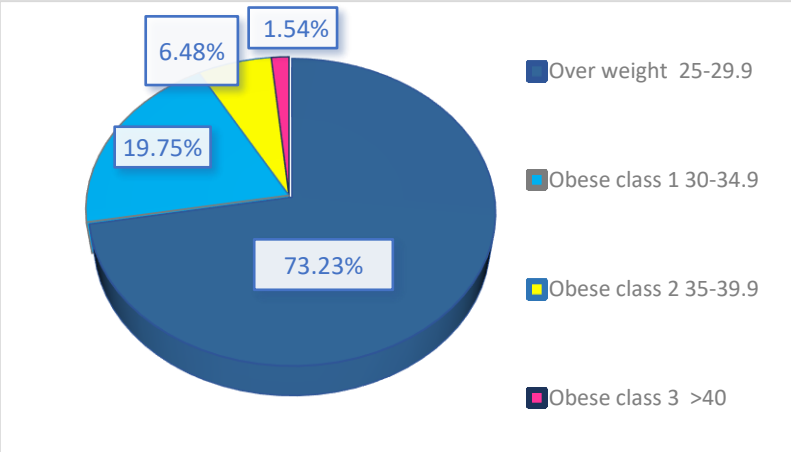
Statistical analysis

The analysis was performed after entering the data in Microsoft excel – 2013 version, then the result obtained were analysed and represented with graphs and tabulations.

RESULTS

Distribution of BMI based on Weight status

SL.NO	Stages	Score	Frequency	Percentage (%)
1.	Overweight	25-29.9	234	72.23%
2.	Obese class 1	30-34.9	64	19.75%
3.	Obese class 2	35-39.9	21	6.48%
4.	Obese class 3	>40	5	1.54%

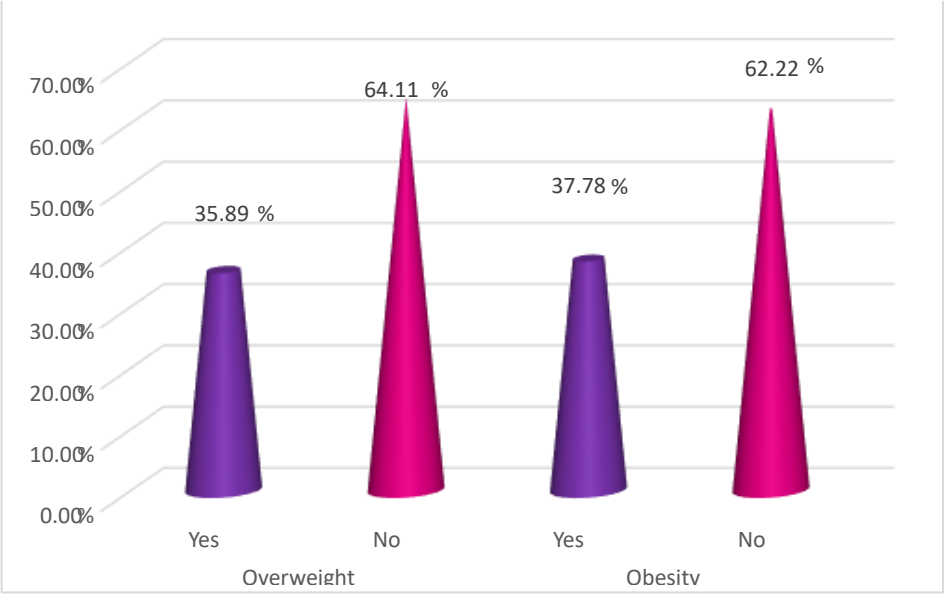


A total of 729 individuals took part in our study. Among them, 405 participants were classified as having a normal BMI, while 324 individuals were categorized as overweight or obese. Specifically, 234 participants were identified as overweight, and 90 participants were classified as obese. Based on BMI classifications, 72.23% of the subjects were considered overweight, while 19.75% fell into obesity class 1, 6.48% into obesity class 2, and 1.54% into obesity class 3.

Distribution of Age group

The study analysed the distribution of overweight and obesity among 324 participants across various age groups. The findings revealed, 47.22% of participants fell in the 18-25 years cate gory, 7.73% were in the 26–33year age range, 5.55% belonged to 34–41 years, 8.64% categorised under 42–49 years, 24.07% of participants fell within the age group of 50-58, 6.79% belonged under the age above 58. These percentages highlight that younger adult (18–25) had the highest prevalence, followed by older adults aged 50–58, while middle-aged groups showed decreased occurrence.

Distribution of Gender category



In the study, sample had an equal gender distribution, with male and female participants each representing half of the total population. Each gender accounted for 162 participants which represents 50% of the total population. The equal distribution resulted in no significant difference in the prevalence of overweight and obesity between the two groups.

Distribution of familial history of overweight and obesity

SL NO.	Category	Response	Frequency	Percentage
1	Overweight	Yes	84	35.89%
		No	150	64.11%
2	Obesity	Yes	34	37.78%
		No	56	62.22%

In our study, it was observed that among the obese population, 37.78% had a familial history of obesity, while 62.22% did not report such a history. Similarly, in the overweight population 35.89% had a familial history of obesity, whereas 64.11% did not have a familial history of obesity.

Distribution of determinants linked to obesity

SL.NO		Response	Before counselling	After Counselling
1.	Overweight	Diet	56 (19.67%)	58 (20.51%)
		Stress	79 (29.48%)	82 (30.76%)
		Physical inactivity	102 (42.32%)	105 (43.56%)
		Social habits	23 (7.25%)	25 (6.41%)
2.	Obesity	Diet	55 (61.12%)	62 (66.56%)
		Stress	10 (11.11%)	12 (13.35%)

		Physical inactivity	7 (6.66%)	5 (7.77%)
		Social habits	18 (13%)	12 (20%)

The tabular demonstration depicts the factors contributing to obesity and overweight before and after counselling sessions, majorly focused on diet, stress, physical inactivity and social habits. Results showed that dietary habits play a major role in weight gain. Stress and physical inactivity may play a pivotal role, though their impact varies among the overweight and obese individuals. Counselling appears to be effective in raising awareness to the research participants.

Graphical representation about the patient's opinion on obesity as a disease

SL NO.	Category	Response	Before counselling	After counselling
1.	Overweight	Yes	138 (41.02%)	39 (83.33%)
		No	96 (58.98%)	192 (16.67%)
2.	Obesity	Yes	64 (28.89%)	21 (78.88%)
		No	26 (71.11%)	64 (21.12%)

In the above tabulation, illustrates a notable shift in the patient information regarding obesity as a disease. Before counselling sessions, only 28.89% of the obese population recognised obesity as a disease, but this percentage rose significantly to 78.88% after the session.

DISCUSSION

In the cross-sectional study, about 729 participants were involved, in which we have observed 405 were being normal and 324 were categorized as being overweight and obese. Obesity can be considered a global threat; it is majorly associated with the deposition of fat in the body [10]. Genetic, environmental, and socioeconomic influences collectively drive the rise of the epidemic. Public health initiatives focusing on awareness campaigns about healthy lifestyle and dietary habits are crucial for mitigating these risks. According to our study, it has been observed that research participants aged between 18 and 25 have a higher frequency to be obese. Counselling sessions helped increase awareness about these factors, particularly emphasizing dietary changes and physical activity. According to **K. O. HaijanTilaki et al. on** 3600 adults in northern Iran revealed an overall obesity prevalence of 18.8%, with 34.8% classified overweight and 28.3%exhibiting central obesity. Low level of physical activity, educational status, and familial history regarded as the major contributory factor for being obese [4]. **Pasco JA et al.** overweight and obesity prevalence using BMI and waist circumference, revealing that around 60% of the population exceeded healthy thresholds. Obesity prevalence increased until middle age, then declined, possibly due to obesity-related mortality [5]. Our study also concurs with **Stevens GA** et al., it has stated the prevalence of age-standardized obesity worldwide almost doubled from 6.4% in 1980 to 12.0% in 2008. Although rates and patterns differed by country, the prevalence of overweight also rose significantly during the same time period, rising from24.6% to 34.4%. Adults are significantly more likely to be overweight or obese, which raises concerns about public health. Counselling sessions and awareness campaigns can successfully raise awareness of obesity as a disease and encourage healthier lifestyle choices [6]. The increase in obesity among adults in Kerala's rural and urban areas is attributed to shifting lifestyles and living standards in recent years. The results draw attention for the need of focused treatments and public

health campaigns to address and lessen the rising rates of overweight and obesity in the area. A recent study was conducted among the medical students in Thrissur medical college by **L. Madhavan** et.al. found that 13.33% was found to be obese whereas 20.7% are under the overweight category. The major cause for having more weight gain than normal was about the improper dietary management with non-vegetarian consumption daily [7].

CONCLUSION

According to our conclusion, it is clear from the study that there is considerable overweight and obesity among adults in Pathanamthitta, Kerala, particularly affecting the age group of 18-25. The importance of lifestyle-related factors, diet, and physical activity cannot be overstated. Awareness and counselling sessions

positively shifted perceptions of obesity as a disease. This evidence highlights key considerations for public health initiatives for intervention that must target education, lifestyle change, and availability of resources in the face of the rising tide of obesity in this region.

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