

Complications of Obesity and Overweight in Adults : A Cross-Sectional Analysis

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ABSTRACT

Background : Obesity and overweight are considered as a global challenge that affects public health. Since the 1990s, Obesity have doubled in numbers. Overweight is characterized by a BMI of 25 kg/m² or greater, while obesity is defined as a BMI of 30 kg/m². As the prevalence of obesity and overweight continues to increase worldwide, so does the burden of its associated comorbidities also increase. Non-communicable diseases and the risk factors associated with obesity and overweight are considered as major problems even in developing countries. The study explores the aspects related to complications of obesity, prevalence and the need for awareness and intervention to step down from obesity.

Objective: To assess the complications arising from overweight and obesity among adults.

Materials and methods: A cross-sectional study was conducted to assess the prevalence of overweight and obesity and data were collected from various sites and colleges of Pathanamthitta district. The sample size of the study was 729 and the duration of study was approximately 6 months (November 2023- April 2024). The participants were given questionnaires and conducted face-to-face interviews with willing participants and were asked to fill out the questionnaire with their knowledge, then conducted an awareness class. After 1-month, a similar questionnaire is provided to evaluate the progress of the research participants. Data collection involved people from different sectors.

Results: Out of 729 participants, 324 were overweight or obese, with 43.3% reporting physical health issues. Commonly noted complications include diabetes, hypertension, and sleep disturbances.

Conclusion: The result of the study points out the lack of physical activity and improper dietary patterns have acted as major factors to being overweight and obese. Sedentary lifestyle practices should be avoided. It also points to the major risk factor and life-threatening complications. It is important to have future developmental and managerial strategies to prevent overweight and obesity.

KEYWORDS : Obesity , Overweight, Adults, Body Mass Index.

INTRODUCTION

Obesity and overweight are serious worldwide health problems that are defined by the buildup of excess body fat that endangers general well-being. According to the World Health Organization (WHO), obesity is a chronic condition that plays a significant role in the development of several non-communicable diseases, including cardiovascular disease, type 2 diabetes, and some types of cancer¹. Since 1975, the

number of obese people worldwide has almost tripled, and there are currently over 890 million obese people.

Rapid urbanization, sedentary lifestyles, poor eating habits, and rising psychological stress—especially among urban adults³—are all contributing factors to the deteriorating situation in India. Because obesity is linked to higher rates of sickness, death, and a lower quality of life, it poses a major danger to public health and is not merely a cosmetic concern.

Obesity has both metabolic and mechanical consequences^{4,5}. Thankfully, with prompt and appropriate management, many of these issues can be avoided or reversed. Developing successful clinical guidelines, public health policies, and community-based educational programs to lower the burden of obesity-related diseases requires an understanding of the scope and complexity of these problems.

METHODOLOGY

A cross-sectional interventional study was carried out to assess the complications linked to obesity and overweight among adult participants. The research featured evaluations before and after counselling. This was carried out in different sites of Pathanamthitta district, Kerala, India. All patients who met inclusion and exclusion criteria were included. Populations aged between 18 to 60 years, males, females, constitute the study. The total sample size was 729. The approval was obtained from the Institutional review board of Nazareth college of pharmacy and the study was initiated.

Criteria for Inclusion

People between the ages of 18 and 60

Participants of both genders

Participants who gave informed consent

Criteria for Exclusion

Women who are pregnant and breastfeeding

People under 18 or over 60 years old

Participants who were hesitant to engage

Instruments for Gathering Data

A standardized data collection form was utilized to obtain demographic information, lifestyle details, awareness levels, BMI measurements, and self-reported issues. Data gathering also involved assessing knowledge before and after an awareness session.

Research Methodology

Participants were evaluated for BMI employing the standard WHO classification. They were subsequently classified into normal, overweight, and obese categories. The participants filled out organized questionnaires concerning their understanding of obesity, lifestyle practices, and awareness of associated health issues. A session focused on obesity and healthy lifestyle choices was held. A month later, the same questionnaire was given again to assess changes in attitude and conduct.

Statistical Examination

Data were gathered using Microsoft Excel 2013 and examined through descriptive statistics. Frequencies and percentages were utilized to illustrate the distribution of BMI categories and related complications. The results were presented in both graphical and tabular formats.

RESULTS

Table No. 1: Distribution of BMI based on Overweight and Obesity

Sl.no	Stages	Score	Frequency	Percentage(%)
1	Over weight	25-29.9	234	72.23
2	Obesity Class I	30-34.9	64	19.75
3	Obesity Class II	35-39.9	21	6.48%
4	Obesity Class III	>40	5	1.54%

Table No 2 : Distribution Of Individuals Whose Physical Health Have Been Impacted By Overweight and Obesity

Sl.no		Response	Frequency	Percentage
1	Over weight	Yes	89	38.04%
		No	145	61.96%
2	Obesity	Yes	39	43.33%
		No	51	56.67%

Table no.3: Distribution of patient's perception on the health problems linked to being obese.

	Response	Before Counselling	After Counselling
Over weight	Arthritis	8	10
	Depression	4	8
	Diabetes	43	45
	Asthma	19	21
	Trouble sleeping	5	7
	Heart disease	32	34
	Migraines	13	15
	Infertility	1	3
	Alzheimer's disease	15	18
	High blood pressure	95	98
	Breast cancer	1	2
Obesity	Arthritis	4	7
	Depression	7	4
	Diabetes	11	22
	Asthma	10	13
	Trouble sleeping	1	2
	Heart disease	25	28
	Migraines	1	2
	Infertility	3	6
	Alzheimer's disease	1	2
	High blood pressure	2	3
	Breast cancer	1	1

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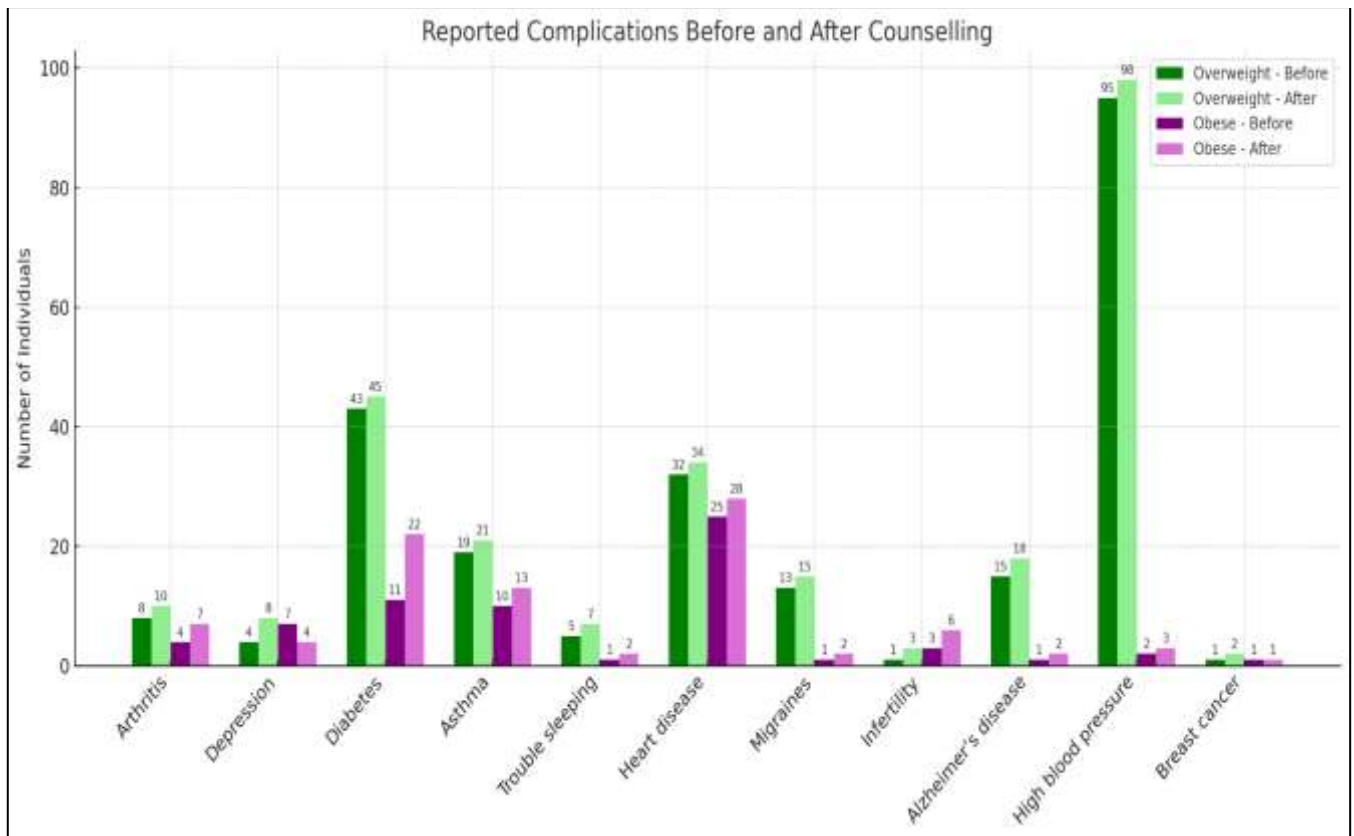


FIGURE 1. A GRAPH ON PATIENT'S INTERPRETATION ON HEALTH PROBLEMS LINKED TO WEIGHT GAIN

Table no.4: Distribution of obesity and overweight based on gender.

SL.NO	GENDER	FREQUENCY	PERCENTAGE
1	MALE	162	50%
2	FEMALE	162	50%
	Total	324	100%

DISCUSSION

This study offers important new information about the problems related to adult obesity and overweight in Kerala, India. In line with worldwide studies on comorbidities linked to obesity, the most commonly reported consequences were diabetes (18.2%), joint discomfort (26.2%), and hypertension (32.1%). These issues impact not only metabolic pathways but also mechanical systems, impacting people's respiratory, musculoskeletal, cardiovascular, and endocrine health.

Remarkably, 12% of participants had sleep apnea symptoms, supporting earlier research on the link between fat and sleep disturbances². Increased knowledge of these problems was also found in post-counselling data, highlighting the value of focused health education in improving disease detection and prevention.

Psychosocial issues were also found to be important contributors. Over 60% of those surveyed said stress was a factor in their weight increase. The findings of Isasi et al.³, who highlighted the major role that

emotional stress, higher cortisol levels, and poor coping practices (such binge eating) play in weight gain, are supported by this. A thorough strategy for managing obesity must take these psychological aspects into consideration.

Gender-specific analysis showed that women reported a higher burden of obesity-related problems, especially irregular menstruation and exhaustion. This is in line with studies by Allison et al.⁴, which found that sociocultural variables, lifestyle variations, and hormone oscillations all affect women's obesity outcomes.

The role of genetic predisposition was another important finding. The fact that more than one-third of obese people had a family history of obesity supports the idea that heredity plays a part. This is consistent with research by Magnusson and Rasmussen⁵, who showed that first-degree relatives of obese people had substantial BMI associations.

Counseling's effect was evident in the increased awareness of less well-known side effects such breast cancer, Alzheimer's disease, and infertility. The success of community-based health education programs was validated by the intervention, which not only raised knowledge but also seemed to encourage behavioral changes.

In conclusion, the obesity-related issues in this study are complex and impact the hormonal, genetic, psychological, and physiological systems. A comprehensive strategy is needed to combat obesity, including clinical care, lifestyle modification, public health education, and policy-level initiatives to psychological, hormonal, and genetic systems. Tackling obesity requires a holistic approach, integrating clinical treatment, public health education, lifestyle intervention, and policy-level efforts to achieve sustainable outcomes.

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