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Research Article

Exploring Obesity's Impact on Quality of Life within South Indian Society

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ABSTRACT

This research of the quality of life of obesity patients in South Indian Communities was conducted to know the impact on their lifestyle and the etiology of the disease. This research is conducted to recognize the classification of overweight obesity as a major risk factor and to identify the epidemiology and reason for overweight and obesity increase. To understand the outlines for control and prevention of obesity. From this study, we properly understand the different complications related to obesity through case studies. The offline survey was conducted and data of 117 obese patients were entered in an electronic Google form containing 21 questionnaires. A suitably designed data collection form was used to collect all the necessary information. The clinical outcome of the patient was measured at the end of the study. Individual patients' signature was taken on a consent form. The obtained data was subjected to suitable statistical analysis. The results were statistically analyzed through pi-charts. Through this, we recognized that obese patients were mainly suffering from arthritis and high blood pressure. The main cause was due to genetics and hormonal imbalance where the patients undergo medication such as the consumption of rosuvastatin or atorvastatin. Our research on South Indian communities revealed that over half of the population suffers from overweight or obesity, with body mass index being crucial. People engage in exercise and dietary changes for better health. We observed higher obesity rates in females, and urban residents, and emphasized the need for public health strategies focusing on healthy eating, physical activity, and environmental interventions. Further research on motivations is key for behavioral changes against obesity.

INTRODUCTION

Obesity is a chronic disease or disorder that affects the lifestyle of human beings as too much fat is accumulated in the body. A person having a body mass index of more than 30 kg/m² is said to be obese. Due to lack of physical exercise, working out, eating more junk or unhealthy food, genetics other factors like environmental stress cause obesity and which may reduce the quality of life. Obesity is a mother of all diseases as it increases other metabolic syndromes in the body such as type II diabetes, stroke, asthma, osteoarthritis, depression, dyslipidemia, atherosclerosis, septicemia, breast cancer, hypertension, and kidney failure which decreases productivity and

increases health care cost.^[1] According to the World Health Organization (WHO), a rise in the rate of obesity leads to worldwide health problems and it also determined that there are more than 650 million people who have obesity in the year (2013) worldwide.^[2,3] People with more body weight have lower grades of quality of life compared to healthy individuals or non-obese people, not only people living in urban communities but even people in rural areas are also suffering from obesity about 20 to 25%.^[4,5] An unhealthy food advertisement that promotes food with high amounts of fat is avoided by parents to provide for adults to prevent their health.^[6] Due to these conditions, surveys, and programs are conducted, government in

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every country instructs to conduct many programs related to health. The social awareness program was conducted about diet and lifestyle as some people who are working are also suffering from obesity, this organization advises about unhealthy lifestyles, physical activity, nutrition and diet.^[7] Obesity Medicine Association generated and nurtured an online obesity algorithm which was updated yearly by the authors of the obesity medicine association and was inspected and acquiesced in annually by the trustees of the obesity medicine associated board.^[8] Dietary supplements are those which add nutritional value to the diet. Inclusive of vitamins and minerals, dietary supplements also include enzymes, herbs, and amino acids, which improve nutrient levels. Many reasons to engross nutritional supplements include illness prevention defense against infections, disease, or health problems which is also used to enhance energy levels, combat fatigue, build up physical performance and alter several lifestyle deficiencies.^[9] In person with hemophilia A who are obese, their body weight is raised which is primarily due to the increased adipose tissue levels wherein it has less vascular space. As the body weight increases simultaneously the plasma volume decreases which results in a lower plasma volume of body weight.^[10] The frequency of obesity in India varies due to age, gender, geographical environment and socio-economic status. In India, abdominal obesity is termed the major factor of risk for cardiovascular disease.^[11] From the obesity atlas 2023, India is ranked 99 out of 183 countries in terms of non-communicable obesity disease. As per the National Family Health Survey (NFHS)-5 data, there are 23% of women and 22.1% of men are obsessed according to BMI criteria. The status of abdominal obesity reveals that 40% of women and 12% of men are abdominally obese in the country.^[12] Females who were diagnosed with fetal alcohol spectrum disorder are estimated to have high rates of obesity.^[13] The cognitive behavioral therapy (CBT) approach is the pennant treatment for handling physical manifestations related to obesity, along with anxiety, impulsivity, negative effects, low self-esteem, body dissatisfaction, disordered eating, social stigmatization and distorted cognitions.^[14] Therefore, to highlight the causes and changes in people having obesity we conducted this case study to identify and evaluate the quality of life in south India communities.

MATERIALS AND METHOD

Study Design and Population

Our study involved an unspecified offline survey data collection which was held among 117 participants in males and females aged above 20 years. The study was carried out between 24th November 2023 and 17th January 2024, in the Center of Diabetic and Endocrine Care, Karnataka, Bangalore-560045.

All the participants involved in this study completed 21

questionnaires in an electronic Google form which was filled by the study investigators.^[15]

Inclusion Criteria

The inclusion criteria in the current study, the participants were desired to i) be males and females of a south Indian community aged above 20 years who are overweight and obese, ii) have a proper understanding of the different languages (Kannada, Hindi and English), iii) admit to participating in the current study by responding to all sections of the questionnaire.^[15]

Exclusion Criteria

The patients under 20 years and women during their pregnancy were excluded in the current study.^[15]

Data Collection Methods and Tools

The study involves the data collection from the participant's prescription or data collection forms by patient interview, at any given step of our study. Also, there was a pre-arranged 21 online questionnaire in an electronic Google form which was typed in a single section. The final version of the pre-arranged online questionnaire was prepared and eventually approved by all the study investigators.^[15]

Personal

Participants also gave details or reported about their eating habits, sleeping duration, smoking status and body mass index (BMI).^[15]

Body Mass Index Calculation

To calculate body mass index the participant's weight in kg and height in cm was collected. BMI was calculated by dividing the weight by height which was squared and was reported as kg/m^2 .^[3]

Ethical Clearance

This research was conducted after obtaining appropriate approval from the "Pranav diabetes centre ethics committee" registration number: ECR/1217/Inst/KA/2019/RR-22 on 24th November 2023 Bangalore-560045, Karnataka, India.^[15]

Statistical Analysis

Data analysis in this research was carried out by considering the inclusion and exclusion criteria, the patients' data was enrolled in the Google form and downloaded as Microsoft Excel sheets. All the responses were analyzed and expressed in the graphical method. Graph prism version 5 and 7 method is used to report the total occurrences, probabilities, mean and average of all deviations.^[15]

RESULTS

Table 1 summarizes the questionnaires on the impact of obesity on the quality of life for 117 patients. The table



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Table 1: Impact of obesity on the quality of life of a patient

<i>Figure number</i>	<i>Type of questionnaire</i>	<i>Number of the response</i>	<i>Aged over 20 years</i>
1	Gender	Male - 45 Female - 72	Yes
2	Age	20–30 - 16.2% 30–40 - 18.8% 40–50 - 21.4% >50–43.6%	Yes
3	Marital status	Married - 82.1% Unmarried - 15.4% Widowed - 2.5%	Yes
4	Residence	Urban - 72.6% Rural - 27.4%	Yes
5	Employment status	Working - 65.5% Not working - 34.5%	Yes
6	Do you have a habit of skipping your breakfast	Yes - 7.7% No - 58.1% Rarely - 34.2%	Yes
7	When do you normally have your dinner	7 to 8 pm - 2.6 % 8 to 9 pm - 42.2% 9 to 10 pm - 47.4% Beyond 10 - 7.8%	Yes
8	How do you think that you have reached obesity	Hormonal imbalance - 33.6% Overeating of junk - 10.3% Lack of exercise - 19% Genetics - 32.8% Others - 4.3%	Yes
9	How much do you sleep in a day	Less than 5 hours - 22.2% 5 to 8 hours - 72.6% Beyond 8 hours - 5.2%	Yes
10	How often do you use any type of alcoholic beverage/caffeine	Everyday - 41.9% Every 2 or 3 days - 11.1% Once a week - 16.2% Once in a month - 8.5% I don't use only - 22.2%	Yes
11	Do you habit of smoking	Yes - 6.8% No - 93.2%	Yes
12	On average, during your normal working days how many glasses of water do you consume	1 to 3 - 15.2% 4 to 6 - 69.2% 7 to 9 - 25.6%	Yes
13	Are you currently doing anything to improve your health or lose weight	Eating healthier food - 7.7% Doing more exercise - 11.1% Dieting on my own - 17.9% Dieting with plan - 16.2% No I am currently not doing anything - 58%	Yes
14	On average; how often do you eat out (fast food and other restaurant food)	3 meals a day - 1.75% 2 meals a day - 1.75% 1 meal a day - 9.5% Once in a week - 37.9% Rarely or never - 49.1%	Yes
15	How often do you exercise each week	Once or twice - 89.6% 3 or more times - 10.4%	Yes

16	Which of the following problems do you feel are linked to being obese	Arthritis - 43% Depression - 2.2% Diabetes - 53.8% Asthma - 2.2% Insufficient sleep - 12.9% Heart disease - 1.1% Migraines - 5.4% Infertility - 0% Alzheimer's - 0% High blood pressure - 43% Breast cancer - 0%	Yes
17	How does obesity impact on your lifestyle	Depression - 2.4% Shame or guilt - 1.2% Disability - 1.2% Social isolation - 0% Lower work achievement - 50% None - 47.6%	Yes
18	Are you under any medication	Rosuvastatin - 59.2% Atorvastatin - 26.4% Thyroid medication - 10.2%	Yes

Gender

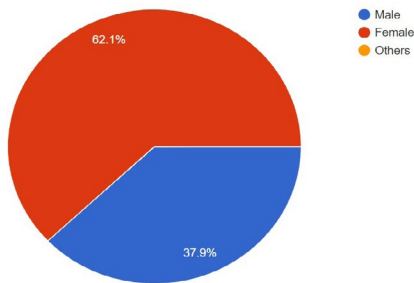


Fig. 1: Gender response in both males and females in total 117 responses were recorded, results of these responses 62.1% of women were suffering from obesity, 37.9% of men were suffering from obesity and 0% were others. The results highlight the rate of obesity is greater in women than compared to men

Marital status

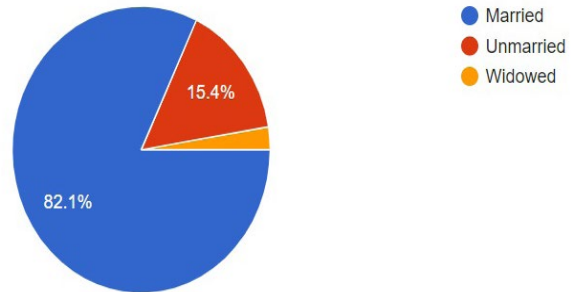


Fig. 3: The marital status of 117 patients is shown in the above figure, 82.1% of patients suffering from obesity were married, 15.4% of patients were unmarried and the remaining 2.5% were widowed

Age

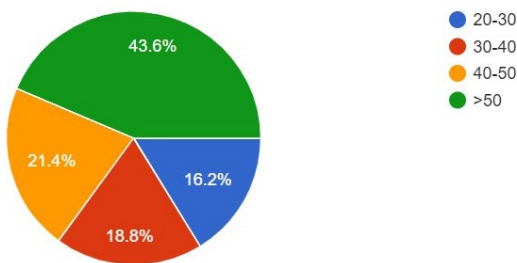


Fig. 2: In a group of 117 patients, 43.6% of patients were aged above 50 years, 21.4% of patients were aged between 40-50 years, 18.8% were aged between 30-40 years, 16.2% were aged between 20-30 years

Residence

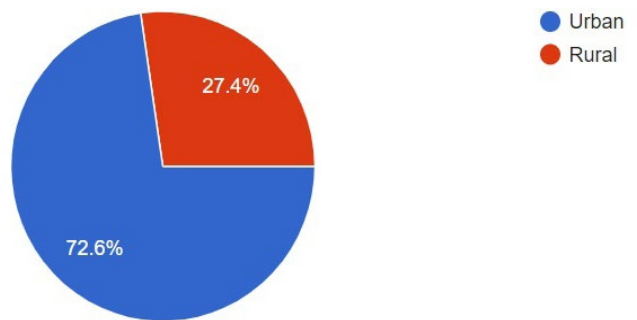


Fig. 4: Among 117 patients, 72.6% of patient's residential status is urban whereas 27.4% of patients' status is rural



Employment status

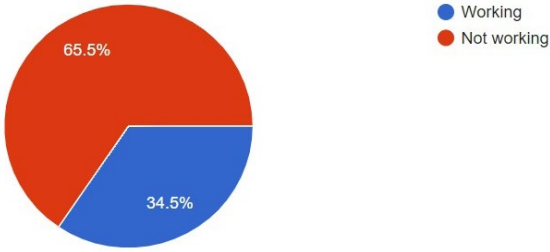


Fig. 5: In the group of 117 patients, 66.5% of patients are not working whereas the remaining 34.5% of patients are working

How much do you sleep in a day?

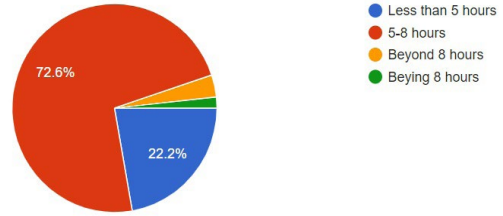


Fig. 9: Sleep duration of 117 patients is as follows according to the above given figure, 72.6% of patients sleep for about 5-8 hours, 22.2% of patients sleep less than 5 hours, and the remaining 5.2% sleep beyond 8 hours

Do have a habit of skipping your breakfast

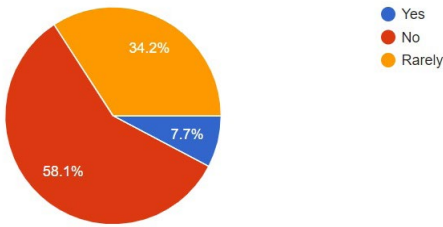


Fig. 6: According to this research, 58.1% of people will not skip their breakfast regularly, 34.2% of people, rarely skip breakfast and 7.7% of people have the habit of breakfast regularly. From this, we can understand that even skipping breakfast also influences obesity to a small extent

How often do you use any type of alcoholic beverage/caffeine?

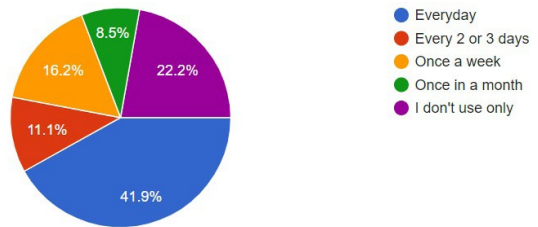


Fig. 10: As consumption of alcohol/caffeine affects the people, considering 117 patients majority 41.9% of patients consume alcohol/caffeine every day, 11.1% consume every 2 or 3 days, 16.2% once a week, 8.5% once in a month and 22.2% don't consume at all

When do you normally have your dinner?

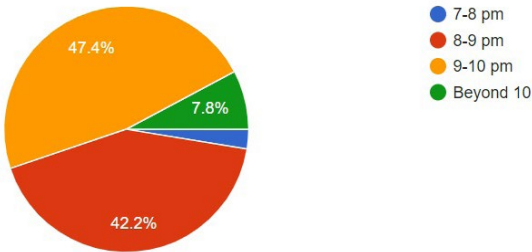


Fig. 7: The above figure shows us that 47.4% of people normally have their dinner between 9 to 10 PM, 42.2% of people have dinner between 8 to 9 PM, 7.8% of people have their dinner beyond 10 PM and the remaining people with less extent of 2.6% will have dinner at 7 to 8 PM

Do you have a habit of smoking

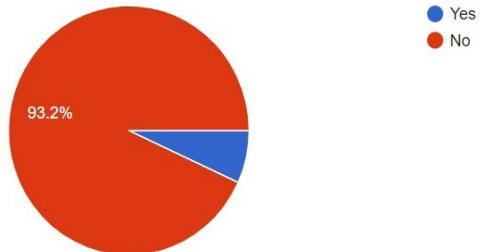


Fig. 11: As smoking influences health problems, 6.8% of patients have a habit of smoking whereas 93.2% of patients don't have the habit of smoking

How do you think you have reached obesity?

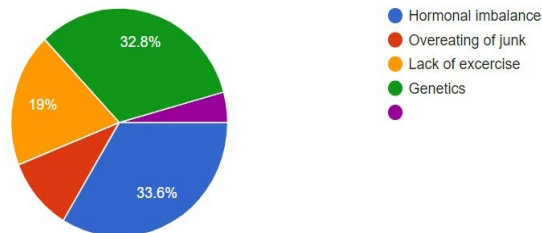


Fig. 8: Majorly 33.6% of people think that they are obese because of hormonal imbalance, similarly 32.8% of people think they are obese because of their genes, and 19% of them say that lack of exercise is the reason for suffering from obesity, 10.3% of people think that overeating of junk leads to obesity and the remaining people of 4.3% does not know the reason for their obesity

On average, during your normal working days, how many glasses of water do you consume

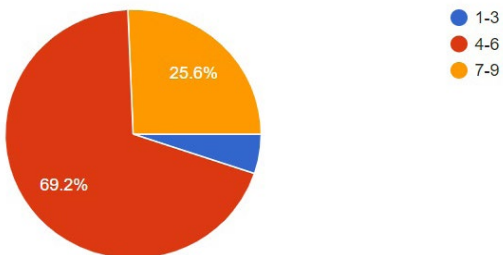


Fig. 12: During normal working days, the maximum number of people is 59.2% of people drink 4-6 glasses of water, 25.6% people drink 7-9 glasses of water, and 15.2% people drink 1-3 glasses

Table 2: Representing the body mass index in the group of 117 patients

<i>Case no.</i>	<i>Weight (Kg)</i>	<i>Height (cm)</i>	<i>BMI</i>	<i>Case no.</i>	<i>Weight (Kg)</i>	<i>Height (cm)</i>	<i>BMI</i>
1.	68.4	160.5	26.4	60.	65	148	29.7
2.	70	149	31.53	61.	90	165	33.1
3.	97	150.5	42.8	62.	118	165	43.3
4.	79.5	153	33.9	63.	90	158	36.2
5.	72.2	162.5	27.3	64.	105	165	38.6
6.	80	160	31.3	65.	80	160	34.8
7.	91.6	156.5	37.5	66.	106	170	36.8
8.	76	154	32	67.	120	170	41.5
9.	85	150	35.4	68.	86	145	45.7
10.	75	150	33.3	69.	80	155	33.3
11.	92	177	29.37	70.	110	145	52.3
12.	121	170	41.86	71.	108	145	38.9
13.	110	173	36.75	72.	70	153.5	29.9
14.	96	160	37.5	73.	98	160	38.28
15.	76	154	32.04	74.	110	170	38.06
16.	110	168	38.97	75.	102	170	35.28
17.	96	166	34.8	76.	65	164	24.16
18.	104	178	32.82	77.	68	157	27.50
19.	88	167	31.55	78.	79	157	31.85
20.	64	146	30.02	79.	69.6	158	27.88
21.	79	151	34.64	80.	95	173	31.74
22.	66	145	31.39	81.	89	167	31.91
23.	94	175.5	30.69	82.	65	154	27.41
24.	65	145	30.91	83.	85	155	35.58
25.	80	159	31.64	84.	86	155	36.1
26.	74	158	29.62	85.	91	167	32.7
27.	86.4	167	30.97	86.	95	156	39.03
28.	73.2	159	30.07	87.	60	156	24.65
29.	79	153.3	33.6	88.	64	148	29.22
30.	61	151	26.4	89.	79	153	33.96
31.	89	166	32.29	90.	87	170	30.10
32.	79	154	33.4	91.	98	162	37.3
33.	76	156	32.3	92.	110	168	38.97
34.	80	159	31.3	93.	85	157	34.4
35.	79	156	33.3	94.	104	170	36
36.	87	152	37.3	95.	85	157	34.5
37.	79	159	32.2	96.	90	165	33.1
38.	90	143	44.01	97.	99	168	35.1
39.	96	140	49	98.	85	166	30.8



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40.	70	135	38.4	99.	79.5	153	33.3
41.	75	140	38.3	100.	86	157	33.4
42.	78	150	34.7	101.	92	164	34.2
43.	75	160	30	102.	83	159	32.8
44.	86	145.5	40.42	103.	95	160	37.1
45.	86	158	34.3	104.	76	152	31.9
46.	80	140	40	105.	76	159	30.1
47.	72.5	153.5	31	106.	80	162	30.5
48.	75	150	33.3	107.	106	170	36.67
49.	116	160	45.31	108.	75	158	30
50.	76.6	160	29.92	109.	71	153	30.3
51.	81	165	30.1	110.	73	154	30.8
52.	69	170	23.87	111.	80	157	32.5
53.	75	160	29.29	112.	68	149	30.2
54.	134	170	46.3	113.	102	165	37.5
55.	82	165	30.1	114.	98	163	36.9
56.	110	170	38.06	115.	90	160	35.2
57.	81	145	38.5	116.	110	168	39
58.	75	156	30.8	117.	90	159	35.6
59.	70.6	154	29.77				

Are you currently doing anything to improve your health or lose weight?

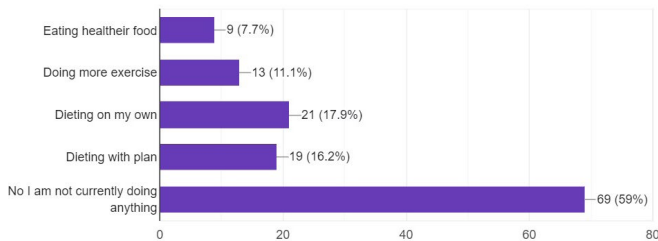


Fig. 13: To improve health or lose weight the patient undergoes certain measures such as 7.7% eating healthier food, 11.1% doing more exercise, 17.9% dieting on their own, 16.2% dieting with a plan, where the majority 59% are not doing anything to improve their health

How often do you exercise each week?

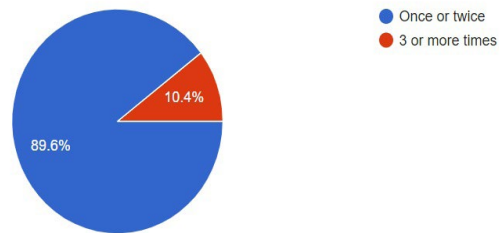


Fig. 15: Irregularity of doing exercise is the root cause for obesity, In this survey, we came to know that Among 117 individuals only 10.4% of individuals do exercise regularly whereas 89.6% of individuals rarely exercise or don't exercise

On average; how often do you eat out (fast food and other restaurant food)

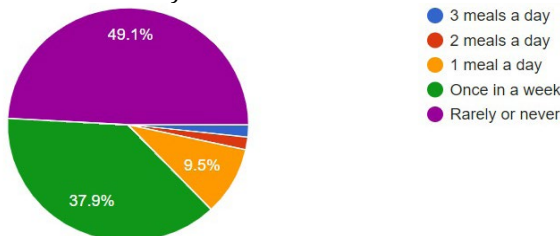


Fig. 14: Description of people eating outside food (fast food and other restaurant food) 49.1% eat rarely or never, 37.9% eat once a week, 9.5% once a day and the remaining 3.5% eat outside twice or thrice a day

Which of the following problems do you feel are linked to being obese

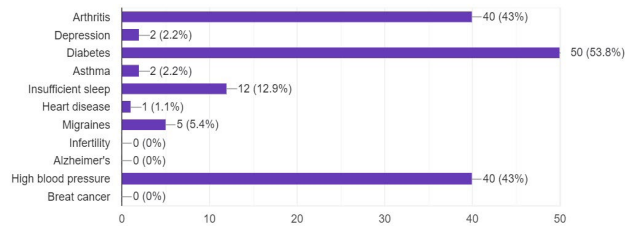


Fig. 16: Patients with obesity, have various problems linked along with obesity. Among 117 individuals, 50 patients (53.8%) suffer from diabetes, 40 patients (43%) suffer from arthritis and high blood pressure, 12 patients (12.9%) suffer from insufficient sleep, 5 patients (5.4%) suffer from migraines, 2 patients (2.2%) suffer from depression and asthma, 1 patient (1.1%) suffer from heart disease

How does obesity impact on your lifestyle?

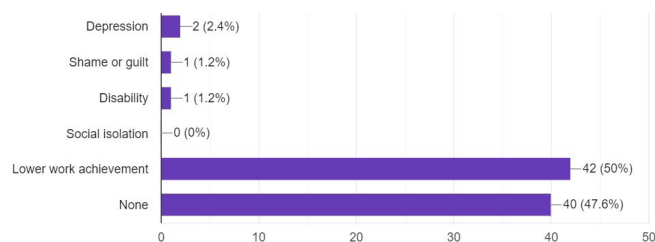


Fig. 17: Obesity shows the impact on the lifestyle of the patients wherein among 117 patients, 42 patients (50%) are prone to lower work achievement, 2 patients (2.4%) undergo depression, 1 patient (1.2%) are disabled or undergo same or guilt, 40 patients (47.6%) lifestyle is not affected by obesity

Are you under any medication?

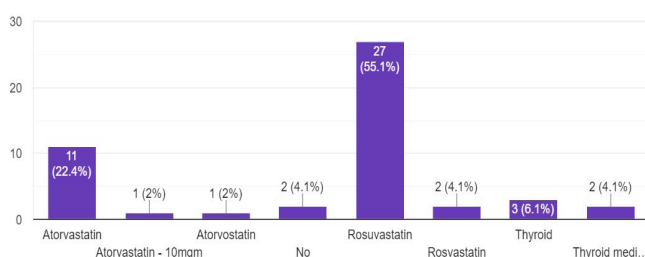


Fig. 18: Among 117 patients, 47 patients undergo medication. Among those 47 patients, 29 patients (59.2%) consume rosuvastatin, 13 patients (26.4%) consume atorvastatin, 5 patients (10.2%) undergo thyroid medication

includes patient demographic information, lifestyle, health status, and medical prescription use. It points to critical variables such as sex, age, marital status, sleeping patterns, exercise levels, and obesity-related health. The table also shows a glimpse of what patients have been doing to lose some of this weight and return their lives to a quality lifestyle.

Table 2 demonstrates the distribution of body mass index (BMI) among 117 patients. There are three different responses of patients who come under the category of normal weight, 14 patients come under the category of overweight, 58 patients are categorized under class I obesity, 31 patients are categorized under class II obesity and 10 patients are categorized under class III obesity that is morbid obesity.

DISCUSSION

Obesity is the most common disease and leads to a high risk of health problems.^[16] The overview of our research aims to identify the impact of overweight and obesity on people or individuals living in South Indian communities.^[17,18] The current study aimed to identify the changes in lifestyle by obesity.^[4] To the best of our knowledge, this is the first study to investigate the impact of lifestyle due to obesity in South Indian communities.^[19] The major aspect of our

case study is to know the various causes of the disease like genetics, sleeping habits, eating disorders, hormonal imbalance and other behavioral and environmental factors.^[20,21] Adolescence is an interpretative period for the increase of comorbidity which is more common in adults having obesity and is associated with greater chronicity, obesity severity and slump (deterioration) in the quality of life in south Indian communities.^[22] There are various diseases like type 2 diabetes, cardiovascular disease, chronic kidney disease, site-specific cancers, and musculoskeletal disorders associated with obesity where these are interconnected and accelerate the development of multimorbidity which is termed as obesity-related disease.^[3,23] Obesity, mainly visceral obesity is a key factor in developing insulin resistance which promotes breast cancer.^[6,24] Genetics, metabolic rate, calorie intake, fat cells, dietary habits, endocrine disorders, medications and physical activity play a role in the etiology of increasing obesity in people worldwide.^[25] Obesity causes physical and psychosocial health problems. Some studies indicated that mood, anxiety and eating disorders in people with obesity and overweight are higher than healthy human beings.^[26] The study about mobile phone usage, sleep disorder and obesity in a social exclusion zone in 2020 reported that alliance with mobiles and computers leads to poor sleeping habits and causes insomnia which is a sleeping disorder that may also lead to obesity.^[19,27] The increasing rates of obese patients leading to obesity who are not taking on board public health messages to take healthy diets and increase their physical activity and people with obesity are not motivated to change their lifestyle. However, it reports that blaming people is not fair and it doesn't work and this combined with health services being delivered within a medical model, which is that health services are not playing an effective role in the prevention of obesity.^[28,29] In this population-based research, we have taken responses from 117 patients residing in the south Indian community. By considering all the inclusive criteria, and exclusions criteria and following the data collection method to investigate the quality of life in obese people we found that females are suffering more than males. As we considered 117 people, 62.1% are female and 37.9% are male which shows that females are at high risk of problems due to physical and mental health. As age is the main factor for many complications, we included people above 20 years and found that 16.2% are from 20 to 30 years, 18.8% are 30 to 40 years, 21.4% are 40 to 50 years and 43.6% are above 50 years. These percentages indicate the impact of obesity in a certain age range. As we can see ages above 50 are suffering more from obesity due to many health issues. As humans get older, they tend to have many health complications and body function is not as before resulting in obesity. From age 40 to 50 is 21.4% little less compared to age above 50. About 30 to 40 people are older



than 20 to 30 due to working conditions, the younger generation ranges above 20 years also suffers from obesity due to their lifestyle, eating habits, and hormonal imbalances. When we compare the marital status among 117 patients, the married people are 82.1, 15.4% are unmarried and 2.5% are widowed. As we can clearly see the obesity percentage is 82.1% in married people due to their household work, responsibility, and stress levels. Even 15.4% of unmarried people also suffer from obesity due to mental health issues. As society blindly believes people living in urban areas are suffering from health problems, our study indicates that not only urban people but also people living in rural areas can lead to obesity due to genetics and hormonal imbalances. A majority is in urban that are 72.6 and 27.4% is from rural areas.^[30-32] The environmental conditions and genetic factors would be implemented in this criterion. Our case study considers the employment status as working or not working, 65.5% are working and tend to be obese due to lack of exercise, work pressure, unhealthy food intake, and stress. The weight in kilogram and height in centimeters are collected from each individual using which the BMI is calculated. As per our survey, we found that 58 patients are specified under class I obesity which ranges between 30.0 to 34.9 kg/m³, 31 patients are specified under class II obesity which ranges from 35.0 to 39.9 kg/m³ and 10 patients are specified under class III obesity that is termed as morbid obesity > 40.0 wherein 14 patients come under overweight category whose range is 25.0 to 29.9 kg/m³ and 3 patients come under normal weight. Not working individuals also suffer from obesity which ranges from 34.5%. Skipping breakfast is associated with obesity and further increases the risk of obesity.^[33] From the study, we come to know that about 7.7% of people have a habit of skipping breakfast which significantly influences the BMI. Eating later at night or before going to bed leads to several metabolic changes or physiological changes and this leads to obesity.^[34,35] The study reported that 7.8% of people are having their dinner beyond 10 PM. From this study, obesity is majorly caused by hormonal imbalances and genetics. Eating junk foods, and lack of physical activity influence obesity. And obesity which is also associated with other chronic diseases.^[36] Duration of sleep also influences obesity. Where people are having less than 8 hours of sleep are more obese than compared to another healthy human beings. From this study, about 72.6% of people have less than 8 hours of sleep,^[37] Among 117 cases, 41.9% of people who are addicted to or consume alcohol/beverages/caffeine daily are more obese than healthy human beings. As per our case studies people having obesity consume more water than normal people. Here 15.2% of people have 1 to 3 glasses of water, 69.2% of people take 4 to 6 glasses of water and 25.6% of people consume 7 to 9 glasses of water in their normal working days. As smoking also leads to obesity to some extent, we included it in the questionnaire. As a result, we came to know that only 6.8%

of obese patients have a habit of smoking and the remaining 93.2% of obese people having obesity have no habit of smoking.^[38] Obese people have always thought of losing their weight. In our studies 117 patients had their own different ways of losing weight like 7.7% of people having only healthy food, 11.1% of people were doing more exercises, and few of the patients were maintaining their diet. Of that, 17.9% of people have their own diet with any proper plan and 16.2% of people were planning their diet and the remaining 58% of people currently do not do anything to lose their weight and people also do exercises to lose their weight. Here 89.6% of people will do exercises once or twice a week and 10.4% of people do exercises more than thrice a week. As to people's belief eating fast food is also the root cause of obesity. Here In these studies, normally 1.75% of people eat three meals a day outside, 1.75% of people eat two meals a day outside, 9.5% of people one meal a day, 37.9% of people have fast food once a week and the remaining 49.1% of people have fast food rarely.^[39,40] Some people suffering from obesity are linked with various other diseases like 43% of arthritis, 2.2% of depression, 53.8% of diabetes, 2.2% of asthma, 12.9% of insomnia, 1.1% of cardiac disturbances, 5.4% of migraines and 43% of people suffering from high blood pressure as per this survey.^[41] Obese people suffer from being exposed to society since they face various problems like 1.2% of them face disability, 2.4% of people are depressed, 1.2% of people feel shame or guilt, 50% of lower work achievement and 47.6% none which information obtained as per our research. Few people undergo medications for obesity to reduce the cholesterol level in them such as 59.2% of people consume rosuvastatin, 26.4% of people consume atorvastatin and 10.2% of people undergo thyroid medications.^[42-43] These are the results collected from our research in the Centre of Diabetes and Endocrine Care, Bangalore-560045, Karnataka, India. As we considered South Indian people, we found that obesity is a major health complication leading to a decreasing life span of people. The question of whether or not obesity is a disease remains an ongoing debate.^[44-45]

CONCLUSION

In our research, we enhance the comparison of the South Indian community's people suffering from obesity. Through this research, we recognized that more than half of the South Indian population is suffering from overweight or obesity. Body mass index was considered as the main aspect of promoting obesity patients. People were engaged in activities like exercise, and diet to improve their health. Overweight and obesity are significant public health concerns due to their association with several health risks which are indeed multifactorial and involve a complex interplay of genetic, hormonal, social, and environmental factors and increased healthcare costs. Is indeed multifactorial and involves a complex interplay

of genetic, hormonal, social, and environmental factors. In our research, the participants were from various professions with different lifestyles. Our results are mainly based on the gender, residence, body mass index, physical activity, and lifestyle of the participants through which we conclude females' obesity rate is greater than males and most of the urban residents are more obese than rural residents. A public health approach to prevent excess weight gain and address obesity should indeed focus on targeting the various factors that contribute to this complex health issue. The prevention of obesity depends upon individual lifestyle, key factors that can be included in the prevention of obesity are the promotion of healthy eating, physical activity, addressing environmental factors, healthcare system interventions, school-based programs, and worksite wellness programs. Further research on motivations would be important for behavioral change to strive against obesity blaze.

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