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Research Article

A Cross-Sectional Study to Identify the Prevalence of Obesity and Its Selected Influencing Factors among Adults Residing At Shiroli Village of Kolhapur

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Abstract
Background: Obesity is a major public health issue worldwide and is associated with various lifestyle and dietary factors. This study was conducted to assess the prevalence of obesity and its selected influencing factors among adults residing at Shiroli village, Kolhapur.
Objectives:
1. To identify prevalence of obesity among adults residing at Shiroli village.
2. To identify the factors influencing obesity among adults residing at Shiroli village.

Methods: A cross-sectional study was conducted among 800 adults aged 21–45 years in PulachiShiroli village, Kolhapur district, to identify the prevalence and factors influencing obesity. The village was divided into four geographic quotas, from which 200 participants were selected using convenient sampling. Data collection tools included a structured questionnaire covering socio-demographic details, dietary habits, and physical activity, along with anthropometric measurements (height and weight) based on WHO BMI classifications. Dietary habits (10 items) and physical activity (4 items) were assessed using a 5-point Likert scale. Dependent variable: obesity prevalence; Independent variables: age, gender, religion, education, occupation, dietary habits, family income, and lifestyle factors. Adults aged 21–45 years were selected as this group is prone to obesity due to sedentary lifestyle and reduced physical activity.
Results: Among the 800 participants, the majority 379 (47.4%) were aged 41–45 years, while the smallest group 47 (5.9%) belonged to 21–25 years. More than half of the respondents were female 437 (54.6%), and most were Hindus 556 (69.5%). In terms of occupation, 373 (46.6%) were housewives, and only 13 (1.6%) were engaged in government jobs. A mixed diet was reported by 594 (74.3%) participants, and 405 (50.6%) reported sleeping more than 8 hours daily. According to BMI classification, 43.3% of the participants were in the pre-obesity category, 39.8% had normal weight, 11.1% were obese (Class I and II), and 5.9% were underweight. Analysis of lifestyle and dietary factors revealed that 47.4% consumed sweetened beverages 2–3 times a month and 5% consumed daily, while 42.6% consumed sweets monthly and 5.4% daily. Nearly half of the respondents (48.5%) consumed fried foods weekly, with 6.4% consuming daily, and 20.6% regularly added sugar or honey to beverages. Intake of refined foods such as pizza or burgers was low (95.9% consumed rarely), while fruit and salad intake was moderate, with 53.1% consuming 3–4 times a week and only 8% daily. Regular intake of sprouted pulses and green vegetables was reported by 39.8%, whereas 13.8% consumed rarely. Regarding meal frequency, 42.1% ate three meals daily, while 30.9% limited intake to two meals, indicating risk of unhealthy snacking patterns. Eating out was infrequent, with 79.8% reporting less than once per month. Physical activity patterns showed that 37.1% exercised 3–4 times a week, but only 7.8% exercised daily, and yoga practice was negligible, with 84.3% never practicing. Sedentary behavior was high, with 83% spending at least 2 hours daily sitting, while sleep duration was adequate in most, as 53% reported sleeping ≥9 hours. Overall, the findings highlight that while some respondents maintained healthy habits, obesity risk

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factors were evident in frequent intake of high-calorie foods, inadequate fruit and vegetable consumption, limited physical activity, and high sedentary lifestyle patterns.
Conclusion: Pre-obesity and obesity are highly prevalent in the studied community. Poor dietary habits, insufficient exercise, and sedentary lifestyles were major contributing factors. Targeted interventionsfocusing on lifestyle modificationhealth education and community-basedStrategies are recommended.

Keywords: Obesity, Prevalence, Influencing Factors, Adults, Lifestyle, Dietary Habits, Physical Activity, Rural India.

INTRODUCTION

According to the World Health Organization (WHO), obesity is one of the most common, yet among the most neglected, public health problems in developing countries. According to the WHO World Health Statistics Report 2012, globally one in six adults is obese and nearly 2.8 million individuals die each year due to overweight or obesity. Obesity is one of the important risk factors for non-communicable diseases. In 2013, obesity was classified as a disease by the American Medical Association. The World Health Organization reported that the principal reason for this excess weight problem is an energy imbalance between calories consumed and calories expended. Increasing intake of foods high in energy and decreasing level of physical activity due to increasing urbanization, changing modes of transportation and sedentary working environments account for this energy balance. Obesity is a major public health challenge that affects almost every country in the world. Globally, obesity rates have been increasing steadily over the last three decades. In almost every region, there are now more people living with obesity than underweight, and if current numbers continue to rise, as many as 1 billion adults, or 12% of the world population, will be living with obesity by 2025.[1]

According to the World Health Organization in 2008, over 1.4 billion adults were overweight and more than half a billion were obese. The National Health and Nutrition Examination Survey in the United States in 2005–2008 revealed that the obesity prevalence was 39.6% among rural adults compared to 33.4% among urban adults. The recent ICMR-INDIAB study conducted in three states namely Tamil Nadu, Maharashtra, and Jharkhand and one Union Territory Chandigarh of India found that the prevalence of generalized obesity ranged from 11.8% to 33.6% among the residents. Comparison of two major studies conducted by the National Family Health Survey (NFHS-2) in 1998–1999 and NFHS-3 in 2005–2006 shows that the prevalence of obesity among Indian women has elevated from 10.6% to 12.6%. The Chennai Urban Rural Epidemiology Study determined that the age-standardized prevalence of generalized obesity was 45.9% (95% confidence interval [CI]: 43.9%–47.9%). Different aspects of the local environment play a key role in the occurrence of obesity. Neighborhood retailing of high calorie unhealthy food had been implicated in affecting prevalence rates of overweight and obesity. The high density of outlets increases the ease with which individuals can access these products. The prevalence of elevated weight status is positively associated with the presence of unhealthy food outlets in the neighborhood.] A study documented that the proximity to or density of grocery or fast food restaurants or the prices of healthy food options were more associated with risk of overweight/obesity in children. Moreover, the rural areas are rapidly undergoing urbanization. This further leads to nutrition transition from homemade food to packed food, thereby increasing the risk and burden of obesity. Over the past two decades there has been a dramatic rise in the prevalence of obesity throughout the world. India is facing the rapid rise in generalized and abdominal obesity among adolescents and adults. Obesity is one of the major modifiable factors for non-communicable diseases in India. Increased consumption of junk food, sedentary lifestyle, consumption of alcohol and smoking, inadequate exercise regimen are some of the predisposing factors for obesity.[2]

METHODOLOGY

A cross-sectional study was conducted among adults. quantitative and qualitative survey approach was adopted for this study to identify prevalence and factors influencing obesity among adults aged 21–45 years in the PulachiShiroli village, Kolhapur district. The research was conducted in PulachiShiroli village, located in Kolhapur district. The study will employ a quota sampling technique. The village were divided into four quotas based on geographic locations. A convenient sampling method was used to select 200 samples from

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each quota, making up a total of 800 samples. The tool used for the data collection was on socio-demographic characteristics, physical parameters, dietary habits, and physical activity levels of participants. The research includes three sections: socio-demographic data, physical parameters and questionnaires on diet and physical activity. Anthropometric measurements of weight and height were taken by using standardized protocols and WHO BMI classifications to identify prevalence and factors influencing obesity were identified with developed questionnaire. The 10 items under dietary habits and 4 items under the physical activity domain. Each of these questions were on a 5-point Likert scale. Variables of the study: Dependent variable: Adults, Independent variables: Age, Gender, Religion, Educational Status, Occupation, Dietary Habits, Monthly Family Income , Obesity influencing factors: Dietary habits and Physical activity. Rationale for being selecting adult age group 21-45 years: Sedentary life lifestyle and reduced physical activity that highly influencing overweight of obesity among adults. The study undertaken to find out selected factors that influencing for obesity or overweight among adults age group of 21-45 years

RESULT

Analysis and interpretation of data collected in order to identify the prevalence of obesity and its selected influencing factors among adults residing at shiroli village of Kolhapur.

Objectives

1. To identify prevalence of obesity among adults residing at Shiroli village.
2. To identify the factors influencing obesity among adults residing at Shiroli village.

Organization and Presentation of the Data

The data collected were edited, tabulated, analyzed, interpreted and findings obtained were presented in the form of tables and diagrams represent under following sections.

Section I: Findings related to selected socio-demographic variables.

Section II: Findings related to prevalence of obesity among adults residing at Shiroli village

Section III: Findings related to factors influencing obesity among adults residing at Shiroli village.

Section I: Findings related to selected socio-demographic variables.

		n=800
Demographic variables	**Frequency (*f*)**	**Percentage (%)**
1. Age in years		
a) 21-25	47	5.9
b) 26-30	204	25.5
c) 31-40	170	21.3
d) 41-45	379	47.4
2. Gender		
a) Male	363	45.38
b) Female	437	54.63
3. Religion		
a) Hindu	556	69.5
b) Muslim	97	12.1
c) Christian	48	6.0
d) Other	99	12.4
4. Occupation		
a) Business	128	16.0
b) Farmer	67	8.4
c) House wife	373	46.6
d) Private job	33	4.1
e) Government job	13	1.6
f) Factory worker	186	23.3
5. Dietary habit		
a) Vegetarian	151	18.9
b) Non- Vegetarian	0	0.0
c) Eggetarian	55	6.9
d) Mixed	594	74.3

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6. Sleep		
a) < 7-8 hours	395	49.38
b) >8 hours	405	50.63

Table 1: Frequency and percentage distribution of subjects according to their socio-demographic variables.

Table 1: Indicates That

- ✓ Majority of the subjects 379(47.4%) belonged to age group of 41-45 years and minimum 47 (5.9%) belonged to 21-25 age group.
- ✓ Majority of the subjects 437 (54.63%) were female and 363(45.38%) were male.
- ✓ In terms of religion 556(69.5%) of subjects belonged to Hindu religion and minimum 48 (8%) subjects belong to Christian region.
- ✓ In terms of occupation majority of subjects 373 (46.6%) were housewife and minimum 13 (1.6%) subjects were doing Government job.
- ✓ About dietary habit majority of subjects594 (74.3%) were consuming mixed diet and minimum 55 (6.9%) consuming eggetarian diet
- ✓ Majority of subject 405 (50.63%) had >8 hours sleep per day and 395 (49.38%) had < 7-8 hours sleep per day.

Section II: Findings related to prevalence of obesity among adults residing at Shiroli village

Table 2: Nutritional status and percentage distribution of samples according to WHO BMI Classification. n-800

BMI	Nutritional status	Frequency	Percentage %
Below 18.5	Underweight	47	5.9
18.5–24.9	Normal weight	318	39.8
25.0–29.9	Pre-obesity	346	43.3
30.0–34.9	Obesity class I	64	8.0
35.0–39.9	Obesity class II	25	3.1
Above 40	Obesity class III	--	--
Total		800	100 %

Table 2: Indicates that, prevalence of obesity among 800 samples

- ✓ Underweight (BMI < 18.5): A small proportion of the population 47 (5.9%) is underweight, which may indicate challenges like malnutrition, inadequate dietary intake, or other health issues.
- ✓ Normal Weight (BMI 18.5–24.9): Almost 318 (39.8%) of the population falls within a healthy BMI range, representing a positive aspect of the community's health profile. However, this percentage is slightly lower compared to the combined overweight and obesity categories.
- ✓ Pre-obesity (BMI 25.0–29.9): Pre-obesity constitutes the largest category, encompassing over 346 (43.3%) of the population. This suggests a trend toward higher BMI levels and places a significant portion of the population at risk for obesity-related health conditions such as type 2 diabetes, cardiovascular diseases, and hypertension.
- ✓ Obesity Class I (BMI 30.0–34.9): Approximately 64 (8%) of the population is in Obesity Class I, indicating the onset of obesity with moderate health risks. This group requires intervention to prevent progression to higher obesity classes.
- ✓ Obesity Class II (BMI 35.0–39.9): A smaller group 25 (3.1%) falls into Obesity Class II, representing more severe obesity and higher risk for chronic diseases. Immediate medical and lifestyle interventions are necessary for this category
- ✓ Obesity Class III (BMI > 40): No population found under this category.

Section III: Findings related to factors influencing obesity among adults residing at Shiroli village. Findings related to factors influencing obesity were identified with developed questionnaire. Each of these questions is on a 5-point Likert scale.Part I: Factors Influencing Obesity Related to Dietary Habitsand Part II: Factors Influencing Obesity Related to Physical Activity.

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Table 3: Part – I: Factors influencing obesity related Dietary Habits n =800

Q. No	Question	At least once daily Freq (%)	3 to 6 times a week Freq (%)	1 to 2 times a week Freq (%)	2 to 3 times a month Freq (%)	Once a month or less Freq (%)
01	How often do you drink sweetened beverages like soft drinks, juices, etc.?	40 (5%)	73 (9.1%)	126 (15.8%)	379 (47.4%)	182 (22.8%)
02	How often do you eat sweets such as Laddu, Barfi, Jalebi, Kulfi, Chocolate, Halwa, Rice pudding, etc.?	43 (5.38%)	84 (10.5%)	162 (20.25%)	170 (21.25%)	341 (42.63%)
03	How often do you eat fried foods such as Puri, Parathas, Kachori, Tikki, Bhature, Pakoras, Samosas etc.?	51 (6.38%)	129 (16.13%)	388 (48.5%)	124 (15.5%)	108 (13.5%)
04	How often do you consume sugar and honey in tea, coffee, curd, lassi, etc.?	66 (8.3%)	98 (12.3%)	74 (9.3%)	139 (17.4%)	423 (52.9%)
05	How often do you eat saturated fat like mutton fat, egg yolks, etc.?	0 (0%)	0 (0%)	63 (7.88%)	40 (5.0%)	697 (87.13%)
06	How often do you eat refined food items like burgers, pizza, etc.?	0 (0%)	0 (0%)	0 (0%)	33 (4.125%)	767 (95.875%)
Q. No	Question	Less than once a week Freq (%)	1 time a week Freq (%)	3 to 4 times a week Freq (%)	At least once a day Freq (%)	Every time in the main diet Freq (%)
07	How often do you eat fruit and salad?	84 (10.5%)	133 (16.6%)	425 (53.1%)	64 (8.0%)	94 (11.8%)
08	How often do you eat sprouted pulses and green vegetables?	110 (13.75%)	116 (14.5%)	150 (18.75%)	106 (13.25%)	318 (39.75%)
Q. No	Question	>6 times Freq (%)	5 times Freq (%)	4 times Freq (%)	3 times Freq (%)	2 times Freq (%)
09	How often do you eat meals in a day?	0 (0%)	22 (2.8%)	194 (24.3%)	337 (42.1%)	247 (30.9%)
Q. No	Question	More than 3 times a week Freq (%)	More than once a week Freq (%)	3 times in a month Freq (%)	2 times in a month Freq (%)	Less than 1 time in a month Freq (%)
10	How often do you eat out of the house (such as wedding, party, family function etc.)?	0 (0%)	0 (0%)	0 (0%)	162 (20.25%)	638 (79.75%)

Table 4: Part II: Factors Influencing Obesity Related to Physical Activity.

Q. No	Question	Never Freq (%)	1–2 times/week Freq (%)	3–4 times/week Freq (%)	5–6 times/week Freq (%)	Daily >40 min Freq (%)
11	How much time you do	124	265	297	52 (6.5%)	62

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	exercise such as walking, jogging, running, stretching and others in a week?	(15.5%)	(33.125%)	(37.125%)		(7.75%)
12	How much time you do yoga in a week?	674 (84.25%)	46 (5.75%)	56 (7%)	0 (0%)	24 (3%)
Q. No	Question	>4 hours Freq (%)	4 hours Freq (%)	3 hours Freq (%)	2 hours Freq (%)	<1 hour Freq (%)
13	How much time daily you spend on sitting activities like reading books, newspaper, watching TV?	36 (5%)	97 (12%)	0 (0%)	667 (83%)	36 (5%)
Q. No	Question	>11 hours Freq (%)	11 hours Freq (%)	10 hours Freq (%)	9 hours Freq (%)	7–8 hours Freq (%)
14	How many hours you sleep daily?	0 (0%)	22 (3%)	208 (26%)	421 (53%)	149 (19%)

Table 3: Part – I: Factors influencing obesity related Dietary Habits (Q1–Q10)

The analysis of dietary practices among 800 respondents revealed multiple factors influencing obesity.

Sweetened Beverages (Q1): Only 5% consumed daily, while the majority (47.4%) reported intake 2–3 times/month. Regular daily consumption, though small, poses a risk of obesity due to high sugar content.

Sweets (Q2): Daily sweet consumption was reported by 5.4%, and 20.3% consumed them weekly. Frequent intake of calorie-dense sweets adds excess energy, increasing obesity risk.

Fried Foods (Q3): Nearly half (48.5%) consumed fried foods 1–2 times/week, and 6.4% consumed daily, highlighting a significant source of excess fat and calories.

Sugar/Honey in Drinks (Q4): While 52.9% consumed rarely, 20.6% used daily or several times/week, adding hidden calories to diet.

Saturated Fat (Q5): A large majority (87.1%) consumed rarely (≤ once/month), showing lower direct contribution.

Refined Foods (Q6): Most (95.9%) consumed ≤ once/month, reflecting minimal influence.

Fruits and Salads (Q7): More than half (53.1%) consumed 3–4 times/week, but only 8% consumed daily, showing insufficient regular intake.

Sprouts and Green Vegetables (Q8): 39.8% included in every meal, while 13.8% consumed rarely. Low intake of fiber- and protein-rich foods contributes to poor satiety.

Meal Frequency (Q9): Most (42.1%) consumed 3 meals/day, but 30.9% ate only 2 meals/day, which may encourage overeating later.

Eating Out (Q10): Majority (79.8%) ate out < once/month, and 20.3% twice/month, suggesting minimal contribution but potential risk of high-calorie intake during such occasions.

Interpretation: Dietary findings suggest that while saturated and refined food consumption is low, regular intake of fried foods, sweets, and sweetened beverages, along with limited daily intake of fruits and vegetables, are significant contributors to obesity.

Table 4: Part II: Physical Activity and Lifestyle (Q11–Q14)

- Exercise (Q11): 37.1% exercised 3–4 times/week, while 48.6% reported none or minimal activity (≤2 times/week). Only 7.8% exercised daily, indicating insufficient physical activity.
- Yoga (Q12): A majority (84.3%) never practiced yoga; only 3% practiced daily. Lack of mind–body activity reduces opportunities for stress regulation and weight control.
- Sedentary Behavior (Q13): Most respondents (83%) spent 2 hours/day sitting, 12% spent 4 hours, and 5% >4 hours. Prolonged sitting limits energy expenditure, contributing to obesity.
- Sleep Duration (Q14): More than half (53%) slept 9 hours daily, 26% slept 10 hours, and 19% slept 7–8 hours. While adequate sleep is protective, oversleeping (≥10 hours) may disrupt metabolism and promote obesity.

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Interpretation: Physical activity levels were suboptimal, with a large proportion following sedentary lifestyles. Combined with oversleeping, this creates a negative energy balance contributing to obesity.

DISCUSSION

Section I: Findings related to selected socio-demographic variables.

Majority of the subjects 379(47.4%) belonged to age group of 41-45 years and minimum 47 (5.9%) belonged to 21-25 age group. Majority of the subjects 437 (54.63%) were female and 363(45.38%) were male. In terms of religion 556(69.5%) of subjects belonged to Hindu religion and minimum 48 (8%) subjects belong to Christian region. In terms of occupation majority of subjects 373 (46.6%) were housewife and minimum 13 (1.6%) subjects were doing Government job. About dietary habit majority of subjects594 (74.3%) were consuming mixed diet and minimum 55 (6.9%) consuming eggetarian diet. Majority of subject 405 (50.63%) had >8 hours sleep per day and 395 (49.38%) had < 7-8 hours sleep per day.

A Similar study was conducted to identify the prevalence and associated factors of obesity among adults in tamilnadu state, south india The total number of participants was 680 and the response rate was 680 (100%), and the socio-demographic of the respondents distribution related to the sex female respondents were 394(57.9%) and Male were 286(42.1%). About the age of the respondents 245(36%) were between the age of 35-49, above 50 years were 209(30.7%) and the mean age of the respondents were 41.32. Majority 632(92.9%) of respondents were Hindu religion and 21(3.1%) were Muslims. About Marital status majority of them married 581(85.4%), and divorced were22(3.2%). Educational status of the respondents 196(28.8%) were able read and write only, 29(4.3%) were undergraduate and above education. About occupation of the respondents majority 296(43.5%) were daily labour, 145(21.3%) were house wives, and 11(1.6%) were unemployed. Majority 237(34.9%) were received income between 1000-3000 rupees, 181(26.6%) were received between 3001-5000 rupees and 44(6.5%) were received > 15000 rupees. [10]

Section II: Findings related to prevalence of obesity among adults residing at Shiroli village

The majority of individuals in the sample fall into the **Pre-Obesity** category (43.3%), followed by those with normal weight (39.8%). The obesity categories combined (Obesity Class I, II, and III) account for 11.1% of the sample. Underweight individuals represent a smaller proportion at 5.9%.

A Similar study was conducted to identify the prevalence and associated factors of obesity among adults in tamilnadu state, south india. This study reveals that prevalence of overweight 90(22.8%) were among female and 67(23.4%) were among males study participants. About obesity 137(34.8%) were among females than males. Majority 270(78.5%) of the females had Central obesity and 375(95.2%) were female had above normal WHR. The distribution of the BMI among sex of the study participants. Total of male Participants were 286, in this participant BMI <23 among males were 114 (39.9%) and BMI of >= 23 participant were 173 (60.1%). Total females participants were 394 among this females BMI <23 were 134(34%) and BMI of >= 23 participant were 260(66%). The results of the studied respondents sample revealed that 16(2.4%) underweight, 307(45.1%) were normal, 157(23.1%) were overweight and 200(29.4%) were obese. The prevalence rate of obesity and overweight by sex and age was found to be significant (p= 0.001). prevalence of overweight and obese among marital status of the respondents particularly married participants 24.4% and 30.3% was found to be significant(p =0.000). The prevalence of obesity and overweight was found to be higher among Hindu religion 23.1% and 28.5%respectively than those who were in other religion. However, this variation was not statistically significant (p =0.439). Regarding educational status of the respondents, prevalence of obesity and overweight was found to be higher among illiterates was 32.7% and 30.9%. However, this variation was not statistically significant (p= 0.382. concerning to occupation of the respondents of prevalence rate of obesity and overweight was found to be significant (p= 0.001). The prevalence rate of obesity and overweight by income of the respondents was found to be significant (p= 0.001). [10]

Pre-obesity, Obesity Class I, and Obesity Class II together account for 54.4% of the population. This indicates that over half of the population is above a healthy weight,

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highlighting an urgent need for weight management and preventative healthcare measures.

Healthy Weight: While 39.8% of individuals maintain a healthy weight, they are outnumbered by those in the overweight and obesity categories.

Underweight: At 5.9%, the underweight category is a smaller but significant group requiring attention to potential nutritional deficiencies.

diet and exercise well, others exhibit habits that contribute to higher obesity risks. These risk factors are particularly evident in areas such as sweetened beverage consumption, physical inactivity, and limited intake of fruits and vegetables

Section III: Findings related to factors influencing obesity among adults residing at Shiroli village.

1. **Sweetened Beverages**: 47.4% consume 2-3 times a month, 5% daily. Regular consumption may contribute to weight gain.
2. **Sweets**: 42.63% consume once a month or less, 5.38% daily. Frequent sweet intake raises obesity risk.
3. **Fried Foods**: 48.5% consume 1-2 times a week, 6.38% daily. High fat content contributes to obesity.
4. **Sugar/Honey in Beverages**: 52.9% consume once a month or less, 20.6% regularly. High sugar intake poses obesity risks.
5. **Saturated Fat**: 87.13% consume once a month or less. Low consumption of saturated fat.
6. **Refined Foods**: 95.875% consume once a month or less, reflecting minimal intake of burgers, pizza, etc.
7. **Fruits and Salads**: 53.1% consume 3-4 times a week, 8% daily. Limited daily intake reduces fiber, raising obesity risk.
8. **Sprouted Pulses/Green Vegetables**: 39.75% consume every meal, 13.75% less than once a week. Lower intake affects diet balance.
9. **Meal Frequency**: 42.1% eat 3 meals a day, 30.9% eat 2 meals. Skipping meals may lead to unhealthy snacking.
10. **Eating Out**: 79.75% eat out less than once a month, 20.25% twice a month. Limited eating out helps manage calorie intake.
11. **Exercise**: 37.1% exercise 3-4 times a week, 7.75% daily. High inactivity levels contribute to obesity.
12. **Yoga**: 84.25% never practice yoga, 3% daily. Low yoga practice affects flexibility and stress management.
13. **Sitting Activities**: 83% spend 2 hours daily on sedentary activities, contributing to obesity risks.
14. **Sleep Duration**: 53% sleep 9 hours daily, 26% sleep 10 hours. Most fall within a healthy sleep range.

Among the 800 respondents, data on the 14 factors influencing obesity among adults indicate that while some groups manage their

CONCLUSION

The present study conducted among 800 adults residing in Shiroli village highlights that obesity is influenced by a complex interplay of dietary patterns, physical activity levels, sedentary behaviors, and sleep duration. The findings reveal that while certain unhealthy dietary practices—such as frequent intake of fried foods (48.5% weekly) and sweets (20.25% weekly)—are prevalent, others like consumption of refined foods and saturated fats remain relatively low. A considerable gap exists in the daily intake of protective foods such as fruits, salads, sprouted pulses, and green vegetables, which are crucial for satiety and weight regulation.On the lifestyle side, physical inactivity emerged as a strong obesogenic factor, with 15.5% never exercising and 33.1% exercising only 1–2 times per week. Yoga practice was also extremely limited (84.25% never practicing). Sedentary behaviors such as prolonged sitting (83% for 2 hours daily) and extended sleep (53% sleeping 9 hours/day; 26% sleeping 10 hours/day) further contributed to energy imbalance.

Overall, the prevalence of pre-obesity and obesity combined (54.4%) underscores an urgent need for targeted interventions. The study clearly indicates that frequent sweet and fried food consumption, insufficient physical activity, prolonged sedentary behavior, and inadequate intake of protective foods are the leading contributors to obesity in this rural population.

Relevance for Clinical Practice

1. **Dietary Counseling:** Health professionals should encourage reduced intake of fried foods, sweets, and sugar-sweetened beverages, while promoting daily consumption of fruits, vegetables, and pulses. Education on hidden sugars in tea,

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coffee, and beverages is essential for better weight control.

2. **Physical Activity Promotion**: Community-level interventions should focus on promoting regular exercise and yoga practice, which are currently underutilized. Simple and accessible physical activities such as brisk walking and stretching should be encouraged in daily routines.
3. **Lifestyle Modifications:** Counseling should address sedentary behaviors by recommending screen time reduction and incorporating more active breaks in daily schedules. Awareness regarding optimal sleep duration (7–9 hours/day) must be promoted to avoid both under sleeping and oversleeping, which can disturb metabolic balance.
4. **Targeted Obesity Prevention Programs:** Given that over half of the population is overweight or obese, primary prevention and early lifestyle modification programs are critical. Community health nurses and primary care providers can play a key role by conducting screening, BMI monitoring, and regular health education sessions.
5. **Culturally Appropriate Strategies:** Since eating out and fast food consumption are low, interventions should focus more on modifying traditional dietary habits, like reducing oil-rich and sugar-laden preparations at home. Involving families, especially housewives (who formed the largest occupational group), in healthy cooking workshops may enhance effectiveness

CONFLICT OF INTEREST

The authors have no conflicts of interest regarding this investigation**.**

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