International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Knowledge of Obesity Risk Factors, Hazards and Preventive Measures among Adults: A Cross-Sectional Study

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Abstract

Background: Obesity is a major global public health problem contributing to the rising burden of non-communicable diseases. Adults are particularly vulnerable to obesity-related complications such as diabetes mellitus, hypertension, cardiovascular disease, stroke, osteoarthritis and certain cancers. Despite this, knowledge regarding risk factors, hazards and preventive measures among adults remains suboptimal.

Objectives: To assess the knowledge of risk factors, hazards and preventive measures of obesity among adults.

Methods: A community-based cross-sectional study was conducted among 210 adults aged 20–60 years selected through convenient sampling. Data were collected using a predesigned, pretested structured questionnaire covering socio-demographic profile, awareness of obesity, dietary and lifestyle-related risk factors, associated hazards and preventive measures. Descriptive statistics were used to summarize data and chi-square tests were applied to examine associations between socio-demographic variables and knowledge levels.

Results: Out of 210 participants, 80% had heard about obesity and 67.6% recognized its increasing prevalence among adults. Knowledge of dietary risk factors was relatively high, with 74.3% identifying overeating and 84.8% identifying fried food consumption as contributors. Overall knowledge categorization revealed that 27.6% had good knowledge, 46.7% fair and 25.7% poor knowledge.

Conclusions: Adults demonstrated moderate awareness of obesity, with better recognition of dietary and lifestyle-related risk factors compared to hazards and preventive measures. The findings highlight significant knowledge gaps, particularly regarding long-term complications and preventive practices. Targeted community health education and workplace wellness programs are essential to bridge the gap between knowledge and practice for effective obesity prevention and control.

Keywords: Obesity, Knowledge, Adults, Risk factors, Hazards, Preventive measures

Introduction

Obesity is a rapidly escalating global health concern with complex medical, social and psychological implications. It is widely recognized as one of the major risk factors for non-communicable diseases (NCDs) worldwide. According to recent estimates, nearly 2.1 billion individuals, or about 30% of the world's population, are either overweight or obese and approximately 25% of premature global deaths

are attributable to obesity-related complications. Obesity increases the risk of cardiovascular disease mortality by nearly threefold, underscoring its significant contribution to public health challenges.[1],[2]

India is the third most obese country in the world, with the prevalence of overweight and obesity among adults ranging from 12% to 30% across various states.[3],[4] The shift from traditional diets and active lifestyles to calorie-dense diets and sedentary occupations has been a major driver of this epidemic. Rapid urbanization, growing economic prosperity and globalization have contributed to significant lifestyle changes that predispose adults to obesity and related metabolic disorders such as dyslipidemia, impaired glucose tolerance, type 2 diabetes mellitus and hypertension.[5],[6]

The health consequences of obesity among adults extend beyond cardiovascular and metabolic disorders. Increased risks of polycystic ovarian syndrome, osteoarthritis, depression and even certain malignancies are strongly linked to obesity. Furthermore, obesity has profound social and psychological consequences, including stigmatization, reduced productivity and diminished quality of life.[7],[8] Despite these far-reaching effects, knowledge regarding obesity's risk factors and preventive measures among adults remains suboptimal.

Studies suggest that while many individuals recognize dietary and lifestyle factors as contributors to obesity, awareness of long-term complications such as cardiovascular disease, renal impairment and certain cancers is limited.[9] Misconceptions related to cultural perceptions, body image and the belief that obesity is merely a cosmetic issue often hinder effective interventions. Furthermore, the gap between knowledge and practice remains a critical barrier in addressing adult obesity. Understanding adult knowledge of obesity is vital as this population not only experiences direct health consequences but also influences family behaviors and intergenerational practices. Community-based educational programs, workplace wellness initiatives and targeted interventions require an evidence base to design effective strategies. Hence, the present study was undertaken to assess the knowledge of risk factors, hazards and preventive measures of obesity among adults, aiming to provide insights that can guide sustainable public health interventions.

Methodology

Study Design and Setting

The present study adopted a **community-based cross-sectional design** to assess the knowledge of risk factors, hazards and preventive measures of obesity among adults. The study was conducted in semi-urban localities of Jaipur district, where lifestyle transitions, dietary changes and sedentary behavior are increasingly evident.

Population and Sample Size

The study population included adults aged 20–60 years residing in the selected study area. A total of 210 participants were recruited using a non-probability convenient sampling technique.

Inclusion Criteria

- Adults aged between 20–60 years.
- Individuals willing to participate and provide informed consent.
- Residents living in the study area for at least six months.

Exclusion Criteria

- Individuals with known psychiatric illness or cognitive impairment that could hinder reliable responses.
- Pregnant women (as pregnancy-related weight gain could bias obesity perception).
- Adults who were critically ill at the time of data collection.

Data Collection Tool

Data were collected using a predesigned and pretested structured questionnaire. The tool consisted of three sections: Socio-demographic profile – age, gender, education, occupation, income, marital status and lifestyle-related factors, Knowledge of obesity – awareness, definitions and perceptions.. Risk factors and hazards – dietary behaviors, physical activity, family history and associated complications such as diabetes, hypertension and cardiovascular diseases. The questionnaire was prepared in both English and local language for better understanding and was validated through expert review. A pilot study on 20 participants was conducted to check clarity, feasibility and reliability. Necessary modifications were made before final administration.

Data Collection Procedure : Participants were approached at households, community centers and workplaces. After explaining the purpose of the study, written informed consent was obtained. The questionnaire was self-administered for literate participants, while face-to-face interviews were conducted for illiterate or semi-literate participants to ensure accurate responses.

Ethical Considerations

The study protocol was reviewed and approved by the Institutional Ethics Committee. Informed consent was obtained from all participants. Confidentiality and anonymity of the responses were maintained and participants were assured of their right to withdraw at any stage of the study.

Data Analysis

The collected data were coded and entered into Microsoft Excel and analyzed using SPSS version 26. Descriptive statistics such as frequency and percentages were used to summarize socio-demographic characteristics and knowledge levels. Inferential statistics including the chi-square test were applied to determine associations between socio-demographic variables and knowledge scores. A p-value <0.05 was considered statistically significant.

RESULT

Table 1: Socio-demographic profile of adults (N = 210)

Variable	Category	Number (n)	Percentage (%)
Age group (years)	20–30	68	32.4
	31–40	72	34.3
	41–50	42	20.0
	51–60	28	13.3
Gender	Male	118	56.2
	Female	92	43.8

Marital status	Married	152	72.4
	Unmarried	46	21.9
	Widowed/Divorced	12	5.7
Education status	Illiterate	26	12.4
	Primary	34	16.2
	Secondary	46	21.9
	Graduate and above	104	49.5
Occupation	Unemployed/Housewife	52	24.8
	Unskilled/Semiskilled worker	46	21.9
	Skilled worker/Clerical job	38	18.1
	Professional	74	35.2
Monthly family income	< ₹10,000	48	22.9
	₹10,001–20,000	62	29.5
	₹20,001–30,000	54	25.7
	> ₹30,000	46	21.9
Residence	Urban	146	69.5
	Rural	64	30.5
Family history of obesity/related morbidity	Present	58	27.6
	Absent	152	72.4

Table 2: Distribution of adults according to overall knowledge on obesity (N = 210)

Knowledge Category	Criteria (Knowledge Score Range*)	Number (n)	Percentage (%)
Poor Knowledge	≤ 40% of total score	54	25.7
Fair Knowledge	41–70% of total score	98	46.7
Good Knowledge	> 70% of total score	58	27.6
Total		210	100.0

Table 3: Distribution of adults according to knowledge of risk factors of obesity (N = 210)

S. No.	Dietary Risk Factors	n	%	Physical Inactivity Factors	n	%
1	Eating large portion of food	156	74.3	Using motorcycle/vehicle for short distance	138	65.7
2	Eating while watching TV	112	53.3	Spending more time on computers/laptops	132	62.9

3	Eating fried food	178	84.8	Excessive watching of TV/videos	128	61.0
4	Snacking in between meals	124	59.0	Using lifts instead of stairs	146	69.5
5	Skipping breakfast	98	46.7	Playing only indoor games	102	48.6
6	Consumption of alcohol	94	44.8	Limited exercise/walking	150	71.4
7	Consumption of junk foods	166	79.0	Spending more time with mobile phones	118	56.2

Discussion

The present study was conducted to assess the knowledge of obesity risk factors, hazards and preventive measures among adults. Findings revealed that while the majority had heard about obesity and identified certain dietary and lifestyle factors, their knowledge of long-term complications and preventive practices was limited. This pattern is consistent with national and international studies, which highlight that awareness is often partial and not effectively translated into healthy practices.

In the current study, 80% of participants had heard of obesity, similar to findings from Nepal[11] and Iraq[12], where over two-thirds of participants were aware of obesity but showed variation in correct definitions. In contrast, a Tanzanian study[13] reported only 51% awareness, suggesting regional differences in exposure to health education. Misconceptions in defining obesity persist, as also observed by Raj and Kumar[14], who noted that many adults equate obesity with excess body weight rather than body fat composition.

Knowledge of dietary risk factors was moderately good. In our study, more than 70% identified overeating, junk food and fried foods as contributors, consistent with Mythily et al.[15] in Mandya and AlKhafaji et al.[12] in Baghdad, who reported >80% awareness of unhealthy diet. However, fewer participants recognized alcohol and breakfast skipping, aligning with findings from Shah et al.[16] in Gujarat, where only a minority mentioned irregular eating patterns as risk factors. A similar gap was seen in Iranian adolescents[17], where just 12.4% understood recommended dietary guidelines. Physical inactivity was widely acknowledged: 65–71% linked obesity to lack of exercise and sedentary behaviors, close to Narain et al.[18], who emphasized South Asia's transition to mechanized lifestyles. Comparable results were reported in a Nigerian adult study[19], which showed 69% recognition of sedentary jobs as a cause of obesity. Yet, less than half in our study mentioned mobile phone or indoor gaming, reflecting limited adaptation of knowledge to modern sedentary risks, a finding echoed by Singh et al.[20].

Regarding hazards, most adults identified hypertension and diabetes, but less than half mentioned heart disease, osteoarthritis, or cancer. This pattern mirrors Nepalese adolescents[11], where diabetes was the most recognized hazard. Beliaev et al.[21] also noted that hypertension and diabetes are often seen as "primary" consequences, with lesser awareness of malignancy risks. Similarly, Shah et al.[16] found <25% baseline awareness of hazards like cancer or stroke in Gujarat college students. Preventive knowledge was weaker: only 37% cited fruits and vegetables, while 74% mentioned walking or jogging. This aligns with Rakhshanderou et al.[17], who reported poor nutritional awareness in Iran and contrasts with European adults, where >80% acknowledged diet and exercise guidelines (WHO)[22]. Rakshitha et al.[23] also observed that while Indian adults valued exercise, fewer adopted healthy diets.

Overall, 27.6% of our participants had good knowledge, 46.7% fair and 25.7% poor. Similar distributions were reported by Mythily et al.[15] and Pandey & Sapkota[11]. Education and urban residence correlated with higher knowledge, confirming earlier evidence by Bhalwar[24], Sawant et al.[25] and Okafor

et al.[19]. However, as highlighted by Murray and Lopez[26], knowledge alone rarely leads to behavior change, explaining persistent obesity prevalence despite awareness. Our study's limitation is that only knowledge was assessed, not attitudes or practices. However, its strength lies in adding adult-focused evidence, complementing child-based studies like Gunagi et al.[27]. In conclusion, adults in our study demonstrated moderate awareness of obesity, better for diet and physical inactivity than hazards and prevention. The gap between knowledge and practice necessitates community health programs, workplace interventions and culturally sensitive campaigns to combat rising obesity.

References

1. Tremmel M, Gerdtham UG, Nilsson PM, Saha S. Economic Burden of Obesity: A Systematic Literature Review. Int J Environ Res Public Health. 2017 Apr 19;14(4):435. doi: 10.3390/ijerph14040435. PMID: 28422077; PMCID: PMC5409636.
2. Murray CJL, Lopez AD. Global Health Statistics. Global Burden of Disease and Injury Series. Boston: Harvard School of Public Health; 1996.
3. Singh AK, Maheshwari A, Sharma N, Anand K. Lifestyle associated risk factors in adolescents. Indian J Pediatr. 2006;73(10):901-6.
4. Raj M, Kumar K. Obesity in children and adolescents. Indian J Med Res. 2010;132(5):598-607.
5. Sawant AM, Shetty D, Mankeshwar R, Ashavaid TF. Prevalence of dyslipidemia in young adult Indian population. J Assoc Physicians India. 2008;56:99-102.
6. Narain JP, Garg R, Fric A. Non-communicable diseases in the South-East Asia region: burden, strategies and opportunities. Natl Med J India. 2011;24(5):280.
7. Njelekela MA. Knowledge and attitudes towards obesity among primary school children in Dar es Salaam, Tanzania. Niger Med J. 2015;56(2):103-8.
8. AlKhafaji HT, Abdullah SK, Abdl-Jalil R. Assess knowledge, attitude and practice about obesity among a sample of secondary school students in Baghdad. Res J Pharm Tech. 2018;11(4):1649-54.
9. Pandey A, Sapkota S. Prevalence and knowledge on obesity among school-going adolescents of Kaski, Nepal. J Nepal Paediatr Soc. 2018;38(2):63-8.
10. Shah V, Jain UJ, Thakor N. Impact of educational intervention regarding hazards of obesity among commerce college students in Ahmedabad, India. Int J Res Med Sci. 2016;4:3820.
11. Pandey A, Sapkota S. Prevalence and knowledge on obesity among school-going adolescents of Kaski, Nepal. J Nepal Paediatr Soc. 2018;38(2):63–8.
12. AlKhafaji HT, Abdullah SK, Abdl-Jalil R. Assess knowledge, attitude and practice about obesity among a sample of secondary school students in Baghdad city. Res J Pharm Tech. 2018;11(4):1649–54.
13. Njelekela MA. Knowledge and attitudes towards obesity among primary school children in Dar es Salaam, Tanzania. Niger Med J. 2015;56(2):103–8.
14. Raj M, Kumar K. Obesity in children and adolescents. Indian J Med Res. 2010;132(5):598–607.
15. Mythily MR, Vinay M, Harish BR. Awareness regarding obesity and healthy lifestyle practices among college students in Mandya. Natl J Community Med. 2018;9(8):580–4.
16. Shah V, Jain UJ, Thakor N. Impact of educational intervention regarding hazards of obesity and its preventive measures among students of commerce colleges of Ahmedabad city, Gujarat, India. Int J Res Med Sci. 2016;4:3820–5.

17. Rakhshanderou S, Ramezankhani A, Mehrabi Y, Ghaffari M. Adolescents' awareness of fruit and vegetable consumption in Iran: An unacceptable status. Ann Trop Med Public Health. 2017;10:1746–51.
18. Narain JP, Garg R, Fric A. Non-communicable diseases in the South-East Asia region: burden, strategies and opportunities. Natl Med J India. 2011;24(5):280–6.
19. Okafor CI, Gezawa ID, Sabir AA, Raimi TH, Enang OE. Obesity, awareness and perception among adults in a Nigerian community. Niger J Clin Pract. 2014;17(6):739–45.
20. Singh AK, Maheshwari A, Sharma N, Anand K. Lifestyle associated risk factors in adolescents. Indian J Pediatr. 2006;73(10):901–6.
21. Beliaev AM, Booth M, Clark MA. Knowledge and perceptions of obesity among adult patients attending general practice in New Zealand. N Z Med J. 2015;128(1420):15–23.
22. WHO. Obesity and overweight. World Health Organization Fact Sheet. Geneva: WHO; 2016.
23. Rakshitha J, Nagarathna R, Nagendra HR. Perceptions, attitudes and lifestyle behaviors on obesity among Indian adults: a cross-sectional study. Indian J Public Health Res Dev. 2019;10(8):210–5.
24. Bhalwar R. General Principles and Practice of Healthy Lifestyle. Textbook of Public Health and Community Medicine. Pune: AFMC & WHO; 2009.
25. Sawant AM, Shetty D, Mankeshwar R, Ashavaid TF. Prevalence of dyslipidemia in young adult Indian population. J Assoc Physicians India. 2008;56:99–102.
26. Murray CJL, Lopez AD. Global Health Statistics. Global Burden of Disease and Injury Series. Boston: Harvard School of Public Health; 1996.
27. Gunagi PR, Karikatti SS, Halki SB. Assessment of knowledge of risk factors and prevention of obesity among school children: a cross-sectional study. Int J Community Med Public Health. 2020;7:111–5.