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Original Research Article

A COMPREHENSIVE ANALYSIS CENTRAL OBESITY: DEMOGRAPHIC, BEHAVIOURAL, AND HEALTH RELATION IN BANK EMPLOYEES IN A DISTRICT OF ANDHRA PRADESH

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ABSTRACT

Background: Lifestyle and dietary habits have changed significantly among populations across the globe. Presently, excessive eating and lack of physical activity are identified as the main factors leading to an imbalance between caloric intake and expenditure, resulting in an accumulation of fat in various areas of the body.[1,2] **Objectives:** 1. To assess the prevalence of central obesity among bank employees in the study area. 2. To examine the demographic factors (age, gender, education, income, marital status) associated with central obesity. 3. To evaluate the influence of behavioural factors (diet patterns, physical activity, smoking, alcohol consumption, sleep duration) on central obesity.

Materials and Methods: Study Design: A cross-sectional observational study was conducted. **Study Area:** The study was carried out in the Department of Community Medicine and included government, private, and cooperative banks in Tirupati. **Study Period:** Data collection took place from November 2020 to June 2021. **Study Population:** Bank employees from government, private, and cooperative banks in Tirupati were selected based on the required sample size. **Sample Size:** The study included a total of 320 participants. **Sampling Technique:** A stratified proportionate random sampling technique was used to ensure representation across bank sectors.

Results: It was found that the prevalence of central obesity was found to be higher in those consuming fried foods regularly (more than 3 times per week) (41.7%) compared to those who are not consuming fried foods regularly (28.0%). The differences are also statistically significant (P=0.011; S).

Conclusion: The study revealed a high prevalence of central obesity among the study population, with 34.7% based on waist circumference and 54.7% based on waist-hip ratio. Central obesity was significantly associated with several demographic, behavioural, and health-related factors. It was more prevalent among older individuals (50+ years), women, and married participants.

Keywords: Central obesity, Lifestyle and dietary habits, waist-hip ratio, fried foods.

INTRODUCTION

Lifestyle and dietary habits have changed significantly among populations across the globe. Presently, excessive eating and lack of physical activity are identified as the main factors leading to an imbalance between caloric intake and

expenditure, resulting in an accumulation of fat in various areas of the body.[1,2]

There are two main types of obesity: central obesity, known as "android obesity," which involves the accumulation of fat around the abdomen. In contrast, "gynoid" obesity is defined by a more uniform distribution of fat throughout the body.[3] Central obesity is associated with a high risk of cardiovascular-related deaths and diseases, even when other risk factors are not present.[4,5] The rate of obesity is escalating quickly, affecting 678 million adults worldwide,[6] and reaching epidemic proportions in developed nations.[7]

The global adult population is anticipated to experience an obesity rate of 57.8% by 2030, with different prevalence rates varying by country.8 Central obesity serves as a significant risk factor for various cardio-metabolic conditions, including type 2 diabetes mellitus, increased levels of free fatty acids, hyperinsulinemia, hypertension, and dyslipidemia.[9,10] Some studies indicate that the build-up of excess body fat is heavily influenced by genetics.[3,5,10,11] Nevertheless, central obesity is often primarily attributed to the excessive intake of refined, high-calorie foods,[9]; smoking and alcohol consumption,[12]; higher socioeconomic status,[13]; jobs that involve prolonged sitting,[14]; and sociocultural factors that promote obesity as a representation of beauty and strength.[15]

The number of both public and private institutions has seen a recent rise; consequently, it is expected that the employee count in these institutions will also grow. To create and execute affordable and culturally appropriate strategies for healthier workers, empirical evidence is essential. However, so far, there is limited understanding of the prevalence of central obesity and its contributing factors among bank employees overall, specifically in the study area. Thus, this research was conducted to evaluate the extent of central obesity and its associated factors among bank employees in Tirupathi town, Andhra Pradesh.

Aim: To comprehensively analyse the prevalence of central obesity and its association with demographic, behavioural, and health-related factors among bank employees in a district of Andhra Pradesh.

Objectives

1. To assess the prevalence of central obesity among bank employees in the study area.
2. To examine the demographic factors (age, gender, education, income, marital status) associated with central obesity.
3. To evaluate the influence of behavioural factors (diet patterns, physical activity, smoking, alcohol consumption, sleep duration) on central obesity.
4. To explore the association of central obesity with health-related factors such as family history of obesity, diabetes, hypertension, and other comorbidities.
5. To measure and analyse anthropometric indicators (BMI, waist circumference, hip circumference) and their correlation with central obesity.

MATERIALS AND METHODS

Study Design: A cross-sectional observational study was conducted.

Study Area: The study was carried out in the Department of Community Medicine and included government, private, and cooperative banks in Tirupati.

Study Period: Data collection took place from November 2020 to June 2021.

Study Population: Bank employees from government, private, and cooperative banks in Tirupati were selected based on the required sample size.

Sample Size: The study included a total of 320 participants.

Sampling Technique: A stratified proportionate random sampling technique was used to ensure representation across bank sectors.

Inclusion Criteria

- Employees from government, private, and cooperative banks in Tirupati were selected using the stratified sampling method.
- Employees who provided consent and were willing to participate.

Exclusion Criteria

- Pregnant women, those on oral contraceptive pills, and individuals using steroids or antidepressants.
- Employees who could not be contacted after three visits to their bank.

Ethical Considerations

- Approval was obtained from the Institutional Ethical Committee.
- Permission was secured from regional bank managers before commencing the study.

Study tools and Data collection procedure:

A stratified random sampling approach was implemented to choose participants from banks located in the Tirupati urban division, which were divided into government, private, and cooperative sectors. The sampling framework consisted of 665 employees: 500 from government banks, 140 from private banks, and 25 from cooperative banks. By the distribution of employees in each sector (75% government, 21% private, 4% cooperative), 232 government, 74 private, and 14 cooperative bank employees were chosen. Five employees were randomly selected from each of the 53 government banks, 15 private banks, and three cooperative banks. Written informed consent was acquired, and a replacement was picked if an employee was not available. A pilot study conducted in October 2020 validated the questionnaire and confirmed its feasibility.

Participants were interviewed using a pretested schedule covering the following

1. Socio-demographic information: Age, gender, religion, education, income, marital status, etc.
2. Physical activity: Evaluated by the Global Physical Activity Questionnaire (GPAQ), classified as active or insufficiently active based on MET minutes.
3. Dietary habits: Type of diet, the oil used, and frequency of consuming foods such as fried items, fruits, and bakery products.
4. Lifestyle aspects: Alcohol consumption, smoking, sleep patterns, screen time, meditation, and yoga practices.
5. Work-related stress: Assessed using a 5-point Likert scale, with scores of ≤20 indicating the presence of stress.
6. Health background: Family history regarding obesity, diabetes, and hypertension, along with medication history.
7. Anthropometric data: Weight, height, BMI (categorised per WHO standards), and waist and hip circumference were measured through standardised techniques.

Data was gathered, processed, and analysed to evaluate health and lifestyle trends among the participants.

Statistical Analysis

The data that was gathered was input into Excel and analysed with Epi Info 7.2.2.6. Socio-demographic information, physical activity levels, dietary habits, lifestyle variables (alcohol consumption, tobacco use, sleep patterns, meditation, yoga), stress levels, medical history (including diabetes and hypertension), and family medical history are displayed as frequencies and percentages. The prevalence rates of normal weight, overweight, and various types of obesity (generalised, abdominal, central) are also represented in terms of frequencies and percentages. Age, height, weight, waist circumference, and waist-hip ratio are reported as mean values along with their standard deviations. A chi-square test was employed to examine the relationship between obesity and socio-demographic as well as risk factors, with statistical significance determined at $p < 0.05$.

RESULTS

Table 1: Age & gender distribution of the study participants (N=320)

S.No		Variable	No. of subjects	Percentage
1		**Age group (Years)**		
	(a)	Less than 30	71	22.2
	(b)	30 – 39	125	39.1
	(c)	40 – 49	67	20.9
	(d)	50 & above	57	17.8
2		**Gender**		
	(a)	Male	230	71.9
	(b)	Female	90	28.1

The majority of the study participants belong to the 30-39 years age group (39.1%), followed by the less than 30 years group (22.2%). A large majority of the subjects were males (71.9%).

Most of the study subjects reside in urban areas (88.1%). A large majority of them belong to the Hindu religion (96.2%).

A comparatively higher proportion of subjects are officers by designation (50.3%), followed by clerks (28.8%). The majority of the subjects are graduates as per educational status (61.9%), while 38.1% are postgraduates.

The majority of the subjects reside in nuclear families (81.2%), followed by three-generation families (14.1%). In terms of marital status, 79.7% are married.

Table 2: Prevalence of Overweight & Obesity (based on BMI)

Nutritional Status (BMI level)	No. of Subjects	Percentage
Normal (18.5 – 24.99)	105	32.8
Overweight (24.99 – 29.99)	167	52.2
Obesity (30 & above)	48	15.0
TOTAL	**320**	**100.0**

The prevalence of overweight was found to be 52.2%, and that of obesity was found to be 15.0% among the study subjects.

It was found that the proportion of vigorously intensive work and moderately intensive work were 1.6% and 9.7%, respectively. Thus, only 11.3% of subjects were engaged in moderate or vigorous intensive work activities. Travel from place to place by walking or bicycle was found in only 21.3% of subjects. The subjects were engaged in vigorous recreational activities in only 7.5% and moderate recreational activities in 24.7% of cases. It was

found that only 23.8% were sufficiently active, while the remaining 76.2% were physically inactive. Most of the subjects are Non-vegetarian (75.6%) by type of diet. The frequency of consumption of Non-Vegetarian items is three more times in 23.8% of cases. Most of the subjects were using oils predominantly rich in Poly Unsaturated Fatty Acids (57.8%), while oils rich in Mono Unsaturated Fatty Acids were used by 37.2%.

Table 3: Work-related Stress among study subjects (N=320)

Work-related stress	No. of subjects	Percentage
Present (Score up to 20)	201	62.8
Absent (Score more than 20)	119	37.2
Total	**320**	**100.0**

A combined score was calculated based on responses to questions (on the Likert scale) related to work stress, and those with a score of 20 or less are classified as the presence of work stress. It was found that overall, 62.8% had work-related stress.

Table 4: Prevalence of Central obesity by age group of study subjects

Age group (Years)	No. of Study subjects	Central obesity based on Waist Circumference	
		Yes (%)	No (%)
Less than 30	71 (100.0)	13 (18.3)	58 (81.7)
30 – 39	125 (100.0)	35 (28.0)	90 (72.0)
40 – 49	67 (100.0)	30 (44.8)	37 (55.2)
50 & above	57 (100.0)	33 (57.9)	24 (42.1)
Total	**320 (100.0)**	**111 (34.7)**	**209 (65.3)**

χ^2 =27.4; df=3; P <0.001; S

The prevalence of central obesity was found to be highest in the 50 & above years age group (57.9%), followed by the 40-49 years group (44.8%). The prevalence of central obesity (18.3%) was found to be lowest in the less than 30-year-old age group. The differences were also found to be highly statistically significant (P<0.001; S).

The prevalence of central obesity was found to be higher in females (52.2%) compared to males (27.8%). The differences were also found to be highly statistically significant. (P<0.001; S)

The prevalence of central obesity was found to be higher in the officer's group (39.8%) compared to the manager's group (35.8%) and clerk groups (25.0%). The differences are, however, not statistically significant (P =0.059; NS).

Table 5: Prevalence of central obesity by Marital status among study subjects (N=320)

Marital status	No. of Study subjects	Central obesity based on Waist Circumference	
		Yes (%)	No (%)
Unmarried	65 (100.0)	13 (20.0)	52 (80.0)
Married	255 (100.0)	98 (38.4)	157 (61.6)
Total	**320 (100.0)**	**111 (34.7)**	**209 (65.3)**

χ^2 =7.77; df=1; P =0.005; S

The prevalence of central obesity is higher among those who are married (38.4%) compared to those who are unmarried (20.0%). The differences are also statistically significant (P =0.005; S).

Table 6: Prevalence of Central obesity by grade of physical activity among study subjects (N=320)

Grade of Physical Activity	No. of Study subjects	Central obesity based on Waist Circumference	
		Yes (%)	No (%)
Sufficiently active	76 (100.0)	18 (23.7)	58 (76.3)
Inactive	244 (100.0)	93 (38.1)	151 (61.9)
Total	**320 (100.0)**	**111 (34.7)**	**209 (65.3)**

χ^2 =5.33; df=1; P =0.021; S

The prevalence of central obesity was found to be comparatively higher in those who are physically inactive (38.1%) compared to those who are sufficiently active (23.7%). The differences are also statistically significant (P=0.021; S)

The prevalence of central obesity was found to be comparatively higher in those who are Non-vegetarian (35.1%) compared to those who are vegetarian (33.3%). However, the differences were not statistically significant (P=0.773; S)

It was found that the prevalence of central obesity was found to be almost similar in those who are not consuming fruits regularly (less than 3 times per week) (34.6%) and those who are consuming fruits regularly (34.7%). The differences also are not statistically significant (P=0.97; NS)

The prevalence of central obesity was found to be higher in those consuming bakery/chat items regularly (37.0%) compared to those not regularly consuming (34.3%). However, the differences are not statistically significant (P=0.73; NS).

Table 7: Prevalence of Central obesity by regular consumption of fried foods among study subjects (N=320)

Regular consumption of fried foods	No. of Study subjects	Central obesity based on Waist Circumference	
		Yes (%)	No (%)
Yes	156 (100.0)	65 (41.7)	91 (58.3)
No	164 (100.0)	46 (28.0)	118 (72.0)
Total	**320 (100.0)**	**111 (34.7)**	**209 (65.3)**

χ^2 =6.54; df=1; P =0.011; S

It was found that the prevalence of central obesity was found to be higher in those consuming fried foods regularly (more than 3 times per week) (41.7%) compared to those who are not consuming fried foods regularly (28.0%). The differences are also statistically significant (P=0.011; S).

The prevalence of central obesity was found to be higher in those who were non-smokers (35.7%) compared to current smokers (8.3%). However, the differences are not statistically significant (P=0.06; NS).

The prevalence of central obesity was found to be lower in those who were currently taking alcohol (30.9%) compared to those who were not taking alcohol (35.5%). However, the differences are not statistically significant (P=0.52; NS).

The prevalence of central obesity was found to be higher in those with a family history of obesity (43.9%) compared to those without a family history of obesity (32.3%). However, the differences are not statistically significant (P<0.07; NS).

The prevalence of central obesity was found to be higher in those currently diabetic (38.1%) compared to non-diabetics (34.2%). However, the differences are not statistically significant (P=0.62; NS).

Table 8: Prevalence of Central obesity by Hypertension among study subjects (N=320)

Hypertension	No. of Study subjects	Central obesity based on Waist Circumference	
		Yes (%)	No (%)
Yes	45 (100.0)	25 (55.6)	20 (44.4)
No	275 (100.0)	86 (31.3)	189 (68.7)
Total	**320 (100.0)**	**111 (34.7)**	**209 (65.3)**

χ^2 =10.1; df=1; P =0.002; S

The prevalence of obesity was found to be higher in those currently hypertensive (55.6%) compared to non-hypertensives (31.3%). The differences are also statistically significant (P=0.002; S).

Table 9: Prevalence of Central obesity by sleep less than 6 hours per day among study subjects (N=320)

Sleep less than 6 hours per day	No. of Study subjects	Central obesity based on Waist Circumference	
		Yes (%)	No (%)
Yes	99 (100.0)	43 (43.4)	56 (56.6)
No	221 (100.0)	68 (30.8)	153 (69.2)
Total	**320 (100.0)**	**111 (34.7)**	**209 (65.3)**

χ^2 =4.84; df=1; P =0.028; S

The prevalence of central obesity was found to be higher in those currently sleeping less than 6 hours per day (43.4%) compared to those with adequate sleep (30.8%). The differences are also statistically significant (P=0.028; S).

The prevalence of central obesity was found to be similar in those with work-related stress (35.3%) and without stress (34.3%). The differences are also not statistically significant (P=0.86; NS).

DISCUSSIONS

Prevalence of central obesity by waist circumference

In the present study, the prevalence of central obesity based on Waist circumference standards was found to be 34.7%. A lower prevalence was reported by the Montazerifer et al,[16] study (20.9%). Similarly, a study conducted by Kulkarni et al,[17] also found a lower prevalence of 18.5%. However, a very high prevalence was reported by Singh et al,[18] (68.8%) and Aparna et al,[19] studies (82.0%). The higher prevalence reported in these two latter studies may be due to the use of different cut-offs (WHO Asia cut-off levels). Thus, the differences in the prevalence between the present study and other studies may be due to different classifications, dietary habits, and lifestyle factors of the populations studied.

Prevalence of central obesity by waist-hip ratio

In the present study, the prevalence of central obesity by waist-hip ratio was 54.7%. A similar level of prevalence was reported by Montazerifer et

al,[16] (59.4%) and Hirani et al,[25] study (65.0%). In contrast, in Kulkarni et al,[17] studies reported a very high prevalence of 91.8%. Yakubu,[20] study also found the prevalence of central obesity (67.3%) to be higher than the present study.

In this study, most participants were between the ages of 30 and 39 (39.1%), followed by those under 30 years (22.2%). A study by Shah et al,[21] in 2021 among bank employees in Ahmedabad City found that a significant majority (70.7%) of participants were under 40 years old. Additionally, a study by Aparna et al,[19] in 2014 among bank employees in Vadodara city reported that most participants (69%) were aged 26 to 35 years. Therefore, the results of the current study are consistent with findings from other similar research.

In this study, a significant proportion of the participants were male (71.9%). A comparable finding was reported in research by Kulkarni et al,[17] which examined bank employees in Latur City, Maharashtra (2019), where 87.8% of the subjects were male. Similarly, Dixit et al,[22] conducted a study among bank employees in the Mangalore area (2020) and found that 58.3% of the participants were male. Additionally, Aparna et al,[19] found that in their study of bank employees in urban Vadodara (2014), 75.8% were male. Therefore, the results of the current study align with many other relevant studies.

In this research, the largest portion of participants consisted of officers (50.3%), with clerks representing 28.8% and managers making up 20.9%. Comparable findings were noted in a study by Ganesh Kumar et al,[23] which found that a significant share of employees were clerks (63%), while 28.1% were officers and 8.9% were managers. Conversely, a study by Shah et al,[21] indicated that 43.2% of participants were managers and officers, and 42.2% were clerks. In the studies conducted by Dixit et al,[22] it was observed that 41.1% were officers, 30.0% were managers, and 29.0% were clerks. The variations in job designations between the current study and others may stem from differing recruitment and promotion policies of banks and public sector organisations.

In the present research, a significant portion of the participants (81.2%) were part of a nuclear family, while 14.1% were from three-generation families, and 4.7% identified as belonging to a joint family. According to the study by Kumar et al,[23] 65% of the participants lived in nuclear families, compared to 35% who were in joint families. Brahmankar et al,[24]'s research indicated that 74.4% of the participants were in nuclear families, followed by 24.4% in joint families and 1.2% in three-generation households. The results of this study, along with those from other research, suggest that the prevalence of nuclear families among participants can be linked to the well-documented trend of nuclear family formation in urban Indian populations.

In the current research, a significant portion of the participants was married, totalling 79.7%. Similar results were observed in the study by Dixit et al,[22] where 75.9% of the subjects were married. Furthermore, Brahmankar et al,[24] reported that 92.2% of their participants were married as well. Additionally, the investigations conducted by Kumar et al,[23] revealed that 95% of the individuals were married. Thus, the findings of the present study align with those from other research.

In the present study, the prevalence of central obesity was found to be higher in females (52.2%) compared to that in males (27.8%). The differences were also found to be highly statistically significant (P<0.001; S). In Aparna et al,[19] study, the prevalence of central obesity was higher among females (88.0%). In Montazerifar et al,[16] study, the prevalence of central obesity was higher in females (35.2%) compared to that in males (18.2%). Thus, the present study, as well as other studies, has found generally a high proportion of overweight and obesity as well as central obesity. The differences in the prevalence may be due to different classifications adopted cultural and lifestyle behaviours.

In the present study, the prevalence of central obesity was found to be higher in the officer group (39.8%) compared to the manager group (35.8%) and clerk group (25.0%). The differences are, however, not statistically significant (P =0.06; NS). In the Hirani S et al,[25] study, the prevalence of central obesity was similar among managers (70.8%) and clerks group (70.7%). In the present study, the prevalence of central obesity is higher among those who are married (38.4%) compared to those who are unmarried (20.0%). In the Addo et al,[26] study, the prevalence of overweight and obesity was higher among married (71.7%) compared to single (33.3%), cohabiting (33.3%), and divorced (66.7%). In Dixit et al,[31] study, the prevalence of overweight and obesity was higher among married (80.6%) compared to those who were single (18.5%). Thus, the present study findings are in agreement with other studies.

In the present study, the prevalence of central obesity was found to be significantly higher in those who are physically inactive (38.1%) compared to those who are sufficiently active (23.7%). Mulia et al,[27] study has also found a significantly higher prevalence of central obesity (88.4%) among physically inactive/ moderately inactive compared to physically active/ moderately active (43.8%). Thus, the present study, as well as other studies, showed a significant association of obesity and central obesity with physical inactivity.

In the present study, the prevalence of central obesity was found to be comparatively higher in those who are Non-vegetarian (35.1%) compared to those who are vegetarian (33.3%). However, the differences were not statistically significant (P=0.773; S). In the Gan et al,[28] study, the prevalence of central obesity was found to be

comparatively higher in those who are Non-vegetarian (24.4%) compared to those who are vegetarian (13.7%). In the present study, it was found that the prevalence of central obesity was found to be almost similar in those who are not consuming fruits regularly (less than 3 times per week) (34.6%) and those who are consuming fruits regularly (34.7%). The differences also are not statistically significant (P=0.97; NS). In the Nuryani et al,[29] study, it was found that the prevalence of central obesity was found to be higher (54.5%) in those who are not consuming fruits regularly than those who are consuming fruits regularly (36.4%). The differences also are not statistically significant. Thus, the prevalence of overweight, obesity, as well as central obesity did not show much association with the consumption of fruits regularly in the present study and many other studies. This may be due to a common phenomenon that those already overweight/ obese change their dietary habits. In particular, they start consuming fruits regularly, as advised by doctors.

In the present study, the prevalence of central obesity was found to be higher in those consuming bakery/chat items regularly (37.0%) compared to those not consuming regularly (34.0%). However, the differences are not statistically significant (P=0.73; NS). In the present study, it was found that the prevalence of central obesity was found to be higher in those consuming fried foods regularly (41.7%) compared to those who are not consuming fried foods regularly (28.0%). The differences are also statistically significant (P=0.011; S). In the Nuryani et al,[29] study, it was found that the prevalence of central obesity was found to be higher in those consuming fried foods regularly (55.2%) compared to those who are not consuming fried foods regularly (48.3%).

In the present study, the prevalence of central obesity was found to be higher in those who were non-smokers (35.7%) compared to current smokers (8.3%). However, the differences are not statistically significant (P=0.06; NS). In Rezaei et al.30 study, the prevalence of central obesity was found to be higher in those who were non-smokers (11.8%) compared to current smokers (30.7%). In the present study, the prevalence of central obesity was found to be lower in those who were currently taking alcohol (30.9%) compared to those who were taking alcohol (35.5%). However, the differences are not statistically significant (P=0.52; NS). In the Munyogwa et al,[31] study, the prevalence of central obesity was found to be higher in those who were currently taking alcohol (46.4%) compared to those who were not taking alcohol (39.0%).

In the present study, the prevalence of central obesity was found to be higher in those current diabetics (38.1%) compared to non-diabetics (34.2%). In the Dixit et al,[22] study, the prevalence of overweight/obesity was found to be significantly higher (78.3%) among subjects with diabetes compared to non-diabetic (61.7%). In the present study, the prevalence of central obesity was found to be higher in those currently hypertensive (55.6%) compared to non-hypertensives (31.3%). The differences are also statistically significant (P=0.002; S). In the Montazerifar et al,[16] study, the prevalence of central obesity was found to be significantly higher in those currently hypertensive (58.9%) compared to non-hypertensives (32. 9%).In the present study, the prevalence of central obesity was found to be significantly higher in those currently sleeping less than 6 hours per day (43.4%) compared to those with adequate sleep (30.8%). In the present study, the prevalence of central obesity was found to be similar in those with work-related stress (35.3%) and without stress (34.3%). The differences are also not statistically significant (P=0.86; NS).

CONCLUSION

The study revealed a high prevalence of central obesity among the study population, with 34.7% based on waist circumference and 54.7% based on waist-hip ratio. Central obesity was significantly associated with several demographic, behavioural, and health-related factors. It was more prevalent among older individuals (50+ years), women, and married participants. Lifestyle factors such as physical inactivity, regular consumption of fried foods, and inadequate sleep (<6 hours/day) were strongly linked to central obesity. Additionally, hypertension emerged as a significant health-related correlate. These findings highlight the need for targeted interventions focusing on promoting physical activity, healthier dietary habits, adequate sleep, and regular health screenings to mitigate the burden of central obesity, particularly among high-risk groups.

REFERENCES

1. Fanzo, J., Hawkes, C., Udomkesmalee, E., Afshin, A., Allemandi, L., Assery, O. et al. 2018 Global nutrition report: Shining a light to spur action on nutrition (2018).
2. Song, W. Effects of a training program on lifestyle modification for adolescents identified with overweight. Neuro Quantology 15(4), 174–179 (2017).
3. Organization, W. H. (ed.) Obesity: Preventing and Managing the Global Epidemic: Report of a WHO Consultation, WHO Technical Report Series (World Health Organization, 2000).
4. Molla, M. D., Wolde, H. F. & Atnafu, A. Magnitude of central obesity and its associated factors among adults in urban areas of northwest Ethiopia. DMSO 13, 4169–4178 (2020).
5. Wajchenberg, B. L. O. Subcutaneous and visceral adipose tissue: Their relation to the metabolic syndrome. Endocr. Rev. 21(6), 697–738 (2000).
6. NCD Risk Factor Collaboration, http:// ncdri sc. Org.
7. Sen, J., Mondal, N. & Dutta, S. Factors affecting overweight and obesity among urban adults: A cross-sectional study. EBPH [Internet] 10(1). https:// rivis te. unimi. it/ index. php/ ebph/article/ view/ 18254 (2022).
8. Siren, R., Eriksson, J. G. & Vanhanen, H. Waist circumference a good indicator of future risk for type 2

diabetes and cardiovascular disease. BMC Public Health 12(1), 1–6 (2012).
9. Després, J. P. Abdominal obesity: The most prevalent cause of the metabolic syndrome and related cardiometabolic risk. Eur. Heart J. Suppl. 8(suppl_B), B4–B12 (2006).
10. Bergman, R. N. et al. Why visceral fat is bad: Mechanisms of the metabolic syndrome. Obesity [Internet] https:// doi. org/ 10. 1038/ oby. 2006. 277 (2006).
11. Determinants of Overweight among Government Employees in Gibe District, Hadiya Zone, Southern Ethiopia: A Case Control Study. JHMN [Internet]. https:// www. iiste. org/ Journ als/ index. php/ JHMN/ artic le/ view/ 47126 (2019).
12. Mondo, C. K., Otim, M. A., Akol, G., Musoke, R. & Orem, J. The prevalence and distribution of non-communicable diseases and their risk factors in Kasese district, Uganda: Cardiovascular topics. Cardiovasc. J. Afr. 24(3), 52–57 (2013).
13. van der Merwe, M. T. Obesity in South Africa. Obes. Rev. 7(4), 315–322 (2006).
14. Jogunola, O. O., Awoyemi, A. O. & Jogunola, O. Prevalence of sedentary lifestyle among bankers in Ilorin metropolis. Niger. J. Med. Rehab. 15(1), 7 (2010).
15. Iwuala, S. O., Ayankogbe, O. O., Olatona, F., Olamoyegun, M. A., OkparaIgwe, U., Sabir, A. A. et al. Obesity among health service providers in Nigeria: Danger to long term health worker retention? Pan Afr. Med. J. [Internet]. http:// www. panafrican- med- journal. com/ conte nt/ artic le/ 22/1/ full/ (2015).
16. Montazerifar F, Karajibani M, Abbasi M, Bolouri A. Prevalence of Obesity and Hypertension and Related Factors among Bank Employees in Zahedan, 2017. Int J Epidemiol Res. 2019 Dec 25;6(4):164–70.
17. Kulkarni PP, Gaikawad BS, Takalkar AA, Bhise MD. Prevalence of obesity amongst bank employees in Latur city of Maharashtra, India. IJCMPH. 2019 Aug 27;6(9):3685–8.
18. Singh O, Gupta M, Khajuria V. Cardiometabolic risk factors in bank employees. Natl J Physiol Pharm Pharmacol. 2015;5(3):258.
19. Assudani A, Sheth M, Jain N. Indirect determinants of Obesity in Bank employees of urban Vadodara - A cross-sectional study. Int J Appl Biol Pharm. 2014 Jun; 5:5–12.
20. Yakubu Muhammad I. The Prevalence and Determinants of Overweight, Obesity, and Hypertension in a Bank in Birnin Kebbi, Kebbi State, North-West Nigeria. Tex Int J Pub Health. 2019 Sep 30; 7:147–53.
21. Shah Y, Bhavsar S, Kedia G. Health profile of bank employees of Ahmedabad city. IJHCR. 2021;4(7):233–7.
22. Dixit S, D'mello MK, Rent PD. Obesity and Musculoskeletal Disorders among Public Sector Bank Employees of Mangaluru Region – A Cross-sectional Study. IJMEDPH. 2020 Nov 27;10(4):160–5.
23. Ganesh Kumar S, Deivanai Sundaram N. Prevalence and risk factors of hypertension among bank employees in urban Puducherry, India. Int J Occup Environ Med. 2014 Apr;5(2):94–100.
24. Brahmankar TR, Prabhu PM. Prevalence and risk factors of hypertension among the bank employees of Western Maharashtra – a cross-sectional study. IJCMPH. 2017 Mar 28;4(4):1267–77.
25. Hirani S, Kuril BM, Lone DK, Ankushe RT, Doibale MK. Obesity prevalence and its relation with some sociodemographic factors in bank employees of Aurangabad city, Maharashtra, India. IJCMPH. 2017;3(6):1628–35.
26. Addo PNO, Nyarko KM, Sackey SO, Akweongo P, Sarfo B. Prevalence of obesity and overweight and associated factors among financial institution workers in Accra Metropolis, Ghana: a cross-sectional study. BMC Res Notes. 2015 Oct 23; 8:599.
27. Budi Mulia EP, Fauzia KA, Atika A. Abdominal Obesity is Associated with Physical Activity Index in Indonesian Middle-Aged Adult Rural Population: A Cross-Sectional Study. Indian J Community Med. 2021;46(2):317–20.
28. Gan WY, Boo S, Seik M, Khoo HE. Comparing the nutritional status of vegetarians and non-vegetarians from a Buddhist Organisation in Kuala Lumpur, Malaysia. MJN. 2018 May 10; 24:89–101.
29. Nuryani, Muhdar IN, Ramadhani F, Paramata Y, Adi DI, Bohari. Association of Physical Activity and Dietary Patterns with Adults Abdominal Obesity in Gorontalo Regency, Indonesia: A Cross-Sectional Study. CRNFSJ. 2021 Apr 16;9(1):280–92.
30. Rezaei S, Hajizadeh M, Pasdar Y, Moradinazar M, Hamzeh B, Najafi F. Association of Smoking with General and Abdominal Obesity: Evidence from a Cohort Study in West of Iran. JRHS. 2018 Winter;18(1):401.
31. Munyogwa MJ, Ntalima KS, Kapalata SN. Setting–based prevalence and correlates of central obesity: findings from a cross-sectional study among formal sector employees in Dodoma City, Central Tanzania. BMC Public Health. 2021 Dec;21(1):97.