ORIGINAL RESEARCH PAPER

Volume-7 | Issue-7 | July-2018 | PRINT ISSN No 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

OBESITY PROFILE IN MEDICAL COMMUNITY OF WESTERN INDIA

Cardiology

Kailash Chandra (Senior resident) JLN Medical College, Ajmer

Raj Kamal* (Senior resident) JLN Medical College, Ajmer *Corresponding Author

Agrawal Rp Senior Professor, Department of General Medicine SP Medical College, Bikaner

Sirohi Parmendra Professor, Department of General Medicine SP Medical College, Bikaner

ABSTRACT

Background- obesity is among the most ignored health problem entity and is not only a single disease but also cluster of future co morbidities. India is trending for obesity epidemic zone.

Methods: It was a cross sectional study with 390 participants, done in Bikaner. Detailed physical examination was done with body mass index (BMI) calculation and abdominal circumference measurement. Obesity measures were taken in Indian context.

Results- Generalized obesity (GO) was observed in 172 cases (44.1%) cases, abdominal obesity (AO) was found in 200 cases (51.28%) cases . Combined (CO) was seen in 154 cases (39.49%) cases. Isolated generalized obesity (IGO) and overweight were encountered in 42 cases (10.8%) and 117 cases(30%) respectively. The results were significantly higher in comparison to overall Indian obesity prevalence, even more than the urban population.

Conclusion- Obesity is significantly higher in medical community and life style factors are the main predictors.

KEYWORDS

Introduction

According to the World Health Organization (WHO), obesity is one of the most common, yet among the most ignored health problem in the entire world[1]. According to the WHO World Health Statistics Report 2012, globally one in six adults are obese and nearly 2.8 million individuals die each year due to overweight or obesity[2]. Obesity is not only a single disease entity only; actually it is precursor of group of diseases like diabetes, hypertension, coronary artery disease, dyslipdemia and even respiratory disorders in form of obstructive sleep apnea.

Overweight and obesity are the fifth leading risk of deaths, resulting in around 2.8 million deaths of adults globally every year. In addition, 44% of the diabetes burden, 23% of the ischaemic heart disease, and between 7% and 41% of certain cancer burdens are attributable to overweight or obesity[3].

The obesity parameters in Indian context are different than western world. Many of the persons, who are somehow concerned about their overweight or obesity, are actually not aware about these obesity parameters in Indian context. In South Asian countries, rapid increase in western fast food outlets, sale of aerated sweet drinks and increased consumption of fried snacks is being commonly seen. Further, migration from villages to cities is increasing. These intra-country migrants become urbanized, mechanised, resulting in nutritional imbalance, physical inactivity, stress and increased consumption of alcohol and tobacco.[4]

Various studies have demonstrated that overweight and obesity are clearly associated with risk factor components that make up metabolic syndrome.

Normal body mass index for Indian people is 18.5 to 22.9 Kg/m2. Obesity is generally classified as generalized obesity (GO) and abdominal obesity (AO India is going to convert into obesity epidemic zone due to sudden transition of the life style and behavior pattern. No more data are there for the prevalence of obesity in routine office workers who live sedentary life style. So, here we are reporting the prevalence of generalized and abdominal obesity in the medical community of Western India as representator of this sedentary world.

Material and methods

This was a cross-sectional epidemiological study, 390 participants were recruited, all were more than 30 years of age and exclusion criteria for the participants were- seriously ill patients, patient on long term corticosteroid therapy, hypothyroidism, spine deformity, ascites due to any cause, nephrotic syndrome, pregnant females and lactating mothers. The data were collected in a specially designed proforma having multiple questionnaires describing baseline demographic profile, personal habits and physical exercise, job stress, work load and sleep pattern. Participants underwent detailed physical examination.

Definitions- Overweight was defined as a BMI ≥23 kg/m2 but <25 kg/m2 for both genders (based on the World Health Organization Asia Pacific Guidelines) with or without abdominal obesity (AO)[5]. Generalized obesity (GO) was defined as a BMI ≥ 25 kg/m2 for both genders (based on the World Health Organization Asia Pacific Guidelines) with or without abdominal obesity (AO)[5]. Abdominal obesity (AO) was defined as a waist circumference (WC) ≥ 90 cm for men and ≥ 80 cm for women with or without GO[6]. Isolated generalized obesity (IGO) was defined as a BMI ≥ 25 kg/m2 with waist circumference of < 90 cm in men and < 80 cm in women. Isolated abdominal obesity (IAO) was defined as a waist circumference of ≥ 90 cm in men or ≥ 80 cm in women with a BMI < 25 kg/m2. Combined obesity (CO): Individuals with both GO and AO.

Statistical analyses:

Analyses were completed using SUDANN (version 8.0) to take into account sample weights and design effects.

Results

Total 390 medical professionals were undertaken in the study. Mean age of the cases was 44.2±8.9. Mean Waist circumference was 91.611.8. Mean BMI was 26.2±7.8. Mean fasting blood sugar was 101.8±40.8, mean systolic BP was 129.6±11.6 while mean diastolic BP was 83.9± 4.7. Overall; 151 cases (38.7%),164 cases(42.1%)and75 cases(19.2%) were found to behaving low , moderate and with high activity habits. 117 (30%) cases were smokers while 200 (51.28%) cases were alcoholic. Prevalence of all obesity variants have been depicted in table 1.

Table 1. Prevalence of obesity variants in medical community

	GO	AO	CO	IGO	Overweight
N	172	200	154	42	117
%	44.1%	51.2%	39.5%	10.8%	30%

GO- generalized obesity, AO- abdominal obesity, CO- combined obesity, IGO- isolated generalized obesity.

GO obesity was more in females while AO was more common in males. All the obesity variants were more in patients with history of low physical activity, smoking and alcohol. Obesity parameters were more commonly found in cases having diabetes and hypertension.

Discussion

The prevalence of GO, AO and CO was significantly higher in medical community in comparison to other urban population study results. The National Family Health Survey-3 (NFHS-3) also reported that in India, obesity (BMI ≥ 25 kg/m2) was more prevalent in the urban areas and in higher socio-economic groups compared to the rural areas, especially among women (Men- urban: 15.9 vs. rural: 5.6%; Women- urban: 23.5 vs. rural: 7.2%)[7]. The Jaipur Heart Watch studies (I-IV) performed in India in rural and urban areas reported that generalized and abdominal obesity were significantly higher among the urban compared to rural population[8]18.Our study results are comparable to the results of a study conducted amongst middle aged women in four urban and five rural locations in northern (Haryana), central (Jaipur), western (Pune), eastern (Kolkata), and southern (Kochi, Gandhigram) regions of India, age-adjusted prevalence of obesity in urban vs rural was reported to be 45.6 vs. 22.5 per cent and abdominal obesity to be 44.3 vs. 13.0 per cent, respectively[9]. Asian Indians have a greater predisposition to abdominal obesity and accumulation of visceral fat and this has been termed as "Asian Indian phenotype[10]. One another study conducted in urban north India (New Delhi), the overall prevalence of generalized obesity was 50.1 percent, while that of abdominal obesity was 68.9 per cent[11] which favors the results of our study. The Chennai Urban Rural Epidemiology Study (CURES) conducted in Chennai city in Tamil Nadu reported age standardized prevalence of generalized obesity to be 45.9 per cent, while that of abdominal obesity was 46.6 per cent. Isolated generalized obesity was found in 9.1 per cent while isolated abdominal obesity was reported in 9.7 per cent[12]. A study from Bombay revealed the prevalence of obesity among young adult males varied from 10.7% to 53.1%.[13] which also favors our study results.

Today India is confronted with a grave and great nutritional puzzle because on one hand India's rich and urban population is facing an epidemic of obesity, metabolic syndrome, hypertension, cardio vascular diseases and is being projected to be the diabetic capital of the world resulting in increased morbidity and mortality from life style measures.

Etiology of obesity is influenced by several factors like genetic, environmental, cultural, neuroendocrine and metabolic factors. It is difficult to distinguish the role of genes and environmental factors. Adoptees usually resemble their biologic rather than adoptive parents with respect to obesity, providing strong support for genetic influences. Environmental Factors play a key role in obesity. Cultural factors relate to both availability and composition of the diet and to changes in the level of physical activity in a community. Obesity correlates to socio economic status, time spent watching television, sedentary life style, fast foods and traditional diets which are rich in fats and simple carbohydrates content. Because of different life styles and affluence, urban India is getting fatter as compared to the rural India.

Conclusion

Obesity affects almost every aspect of life and medical practice. Early treatment and prevention offer multiple long term health benefits, and they are the only way towards a sustainable health service. Doctors in all medical and surgical specialties can contribute to manage the great burden but the survivors are more affected than the general population. Sedentary life style, irregular eating habits, disturbed sleep pattern appear to be main culprit behind this observation.

References

1. World Health Organization (WHO). Obesity: preventing and managing the global epidemic. Report of a WHO consultation. World Health Organ Tech Rep Ser 2000; 894 : i-xii, 1-253.
2. World Health Organization (WHO). World Health Statistics 2012. Geneva: WHO; 2012. http://www.who.int/gho/publications/world_health_statistics/EN_WHS2012_
3. World Health Organization . Fact sheet N°311. Washington DC: World Health Organization; 2013. Obesity and overweight (http://www.who.int/mediacentre/factsheets/fs311)
4. Anoop Misra, Ranjita Misra et al. The metabolic syndrome in South Asians: Continuing escalation & possible solutions. Indian J Med Res 125; March 2007: 345-354.
5. Harrison GG, Buskirk ER, Lindsay Carter ER, Johnston FE, Lohman TG, Pollock ML, et al. Skinfold thickness and measurement technique. In: Lohman TG, Roche AF, Martorell R, editors. Anthropometric standardization reference manual.Champaign, IL: Human Kinetics Books; 1988. p. 55-70.
6. The Asia Pacific perspective : redefining obesity and its treatment. Regional Office for the Western Pacific (WPRO), World Health Organization. International Association for the Study of Obesity and the International Obesity Task Force: St Leonards, Australia; Health Communications Australia Pty Limited; 2000. p. 22-9.
7. International Institute for Population Sciences (IIPS) and Macro International. National Family Health Survey (NFHS-3), 2005-06: India: vol. I. Mumbai: IIPS; 2007.
8. Gupta R, Gupta VP, Bhagat N, Rastogi P, Sarna M, Prakash H, et al. Obesity is major determinant of coronary risk factors in India: Jaipur Heart Watch studies. Indian Heart J 2008; 60 : 26-33.
9. Pandey RM, Gupta R, Misra A, Misra P, Singh V, Agrawal A, et al. Determinants of urban-rural differences in cardiovascular risk factors in middle-aged women in India: a cross-sectional study. Int J Cardiol 2013; 163 : 157-62.
10. Joshi SR. Metabolic syndrome - emerging clusters of the Indian phenotype. J Assoc Physicians India 2003; 51 : 445-6.
11. Bhardwaj S, Misra A, Misra R, Goel K, Bhatt SP, Rastogi KV, et al. High prevalence of abdominal, intra-abdominal and subcutaneous adiposity and clustering of risk factors among urban Asian Indians in North India. PLoS One 2011; 6 : e24362.
12. Deepa M, Farooq S, Deepa R, Manjula D, Mohan V. Prevalence and significance of generalized and central body obesity in an urban Asian Indian population in Chennai, India (CURES: 47). Eur J Clin Nutr 2009; 63 : 259-67.
13. National Family Health Survey (NFHS-2), 1998-99 India