

**Original article:**

**Prevalence of obesity among male adolescents in rural population:  
Future risk of cardiovascular disease**

**Dr. Vasant R. Lunge\***

Associate Professor, Dept. of Community Medicine, Dr. P.D.M.M.College, Amravati (M.S.)

Corresponding author\*

**Abstract:**

**Background:** Obesity is a major global problem alongwith changes in lifestyle and stress day by day in modern era. India has paradox of having obesity as a major public health problem. This epidemic of obesity is also affecting rural population.

**Methodology:** The present study is a cross-sectional, observational and questionnaire-based study conducted in rural set up of vidharbha. We developed interview schedule as relevant to the objectives of the present study. A semi-structured pretested questionnaire was used to interview the participants. The questionnaire was pretested with 10 patients before starting the study. The questionnaire was finalized after incorporating grammar changes based on the pretesting. This questionnaire contained questions relevant to sociodemographic data, outside made food, and other associated factors. These questions were asked in the local language for better understanding of the study participants. House-to-house survey was done. Systematic sampling was carried out.

**Results:** In our present study , out of 200 subjects 130 were obese subjects. Out of 130 obese cases majority of were from lower educational background and from occupation related to farming. Very few were known about obesity and its complications , associated risks ,prevention etc.

**Conclusions:** From this study , we may conclude that obesity and overweight is more prevalent in rural set up.

**Introduction:**

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. Different aspects of the local environment play a key role in the occurrence of obesity. <sup>1</sup>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.<sup>2</sup>

There is an immediate need to address the burden of obesity, the greatest risk factor contributing to noncommunicable diseases. The present study was conducted to determine the prevalence of obesity among adult and its associated factors in rural set up in vidharbha.

**Methodology:**

The present study was a cross-sectional, observational and questionnaire-based study conducted in rural set up of vidharbha.

We developed interview schedule as relevant to the objectives of the present study. A semi-structured pretested questionnaire was used to interview the participants. The questionnaire was pretested with 10 patients before starting the study. The questionnaire was finalized after incorporating grammar changes based on the pretesting. This questionnaire contained questions relevant to sociodemographic data, outside made food, and other associated factors. These questions were asked in the local language for better understanding of the study participants. House-to-house survey was done. Systematic sampling was carried out.

For measurement of body mass index (BMI), digital weighing scale and stadiometer were used. Zero error was checked. The study participant was asked remove shoes and outer clothing. The study participant was asked to stand in the middle of the scale, feet slightly apart, and remain still until the weight appeared on display. This weight was recorded. Stadiometer was used for measuring the height. Shoes, socks, and hair ornaments were removed. The study participant was helped to stand on the baseboard with feet slightly apart. It was ensured that the back of the head, shoulder blades, buttocks, calves, and heels, all touch the vertical board. The study participant's head was positioned so that a horizontal line from the ear canal to the lower border of the eye socket runs parallel to the baseboard. Keeping the head in position, headboard was pushed down to rest firmly on the top of the head and compresses the hair. Height was measured and recorded. Each anthropometric index was measured twice. An average of the two readings was used for analysis purpose.

**Results:**

Table 1) Distribution of subjects

S.NO.	Category	Number of subjects ( N=200)
1	No obese	70
2	Obesity	130

Table no.2) Demographic profile of participant subjects

S.no.	Demographic profile	Number of subjects obese (N=200) / number of subjects
1	Occupation : Farming Business Workers Others  Total	92 / 120 22/30 15/42 01/08  130 /200
2	Education : Below high school High school Graduate Postgraduate  Total	80/90 27/60 21/35 2/15  130/ 200
3	Subjects associated with cardiovascular diseases.	52/130

Table 3) Knowledge of obesity and its complications

S.NO.	Level of knowledge	Number of subjects (N= 200)
1	Very superficial	38
2	Very well	18
3	Not upto mark level	144

In our present study , out of 200 subjects 130 were obese subjects. Out of 130 obese cases majority of were from lower educational background and from occupation related to farming. Very few were known about obesity and its complications , associated risks ,prevention etc.

### **Discussion:**

Overweight and obesity are major risk factors for a number of chronic diseases, including diabetes, cardiovascular diseases and cancer. Once considered a problem only in high income countries, overweight and obesity are now dramatically on the rise in low- and middle-income countries, particularly in rural settings as it is already occupied in urban set up in India.<sup>3</sup>

The fundamental cause of obesity and overweight is an energy imbalance between calories consumed and calories expended. Globally, there has been:<sup>4</sup>

- an increased intake of energy-dense foods that are high in fat; and
- an increase in physical inactivity due to the increasingly sedentary nature of many forms of work, changing modes of transportation, and increasing urbanization.

Changes in dietary and physical activity patterns are often the result of environmental and societal changes associated with development and lack of supportive policies in sectors such as health, agriculture, transport, urban planning, environment, food processing, distribution, marketing, and education.

Many low- and middle-income countries are now facing a "double burden" of disease.<sup>5,6,7</sup>

While these countries continue to deal with the problems of infectious diseases and undernutrition, they are also experiencing a rapid upsurge in noncommunicable disease risk factors such as obesity and overweight, particularly in urban settings. It is not uncommon to find undernutrition and obesity co-existing within the same country, the same community and the same household.<sup>8</sup>

### **Conclusions:**

From this study, we may conclude, obesity and overweight is more prevalent in rural set up in emerging set up and we should keep attentive towards it.

### **References:**

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