

# RISK FACTORS ASSOCIATED WITH OVERWEIGHT AND OBESITY AMONG REPRODUCTIVE AGED FEMALES RESIDING IN BHARATPUR METROPOLITAN CITY

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## Introduction



- **Overweight and obesity** are defined as abnormal or excessive fat accumulation that may impair health.
- A person with a BMI of 30 kg/m<sup>2</sup> or more is generally considered obese. A person with a BMI equal to or more than 25 kg/m<sup>2</sup> is considered overweight.
- WHR above 0.85 is considered as central obesity whereas WC alone above 80 cm is considered as being centrally or abdominally obese.
- Considering the age specific fertility rates, women of age group 15-49 years are called **reproductive aged women**.
- Age, parity, marital status, socio-economic status, physical activity, fruit consumption and many others factors have been reported as **causative factors** of overweight and obesity in reproductive aged females.
- The current prevalence of overweight and obesity is **more among females** as compared to males in Nepal.
- The combined prevalence of overweight and obesity in female has increased from 1.6% to 22.2% in 2016.

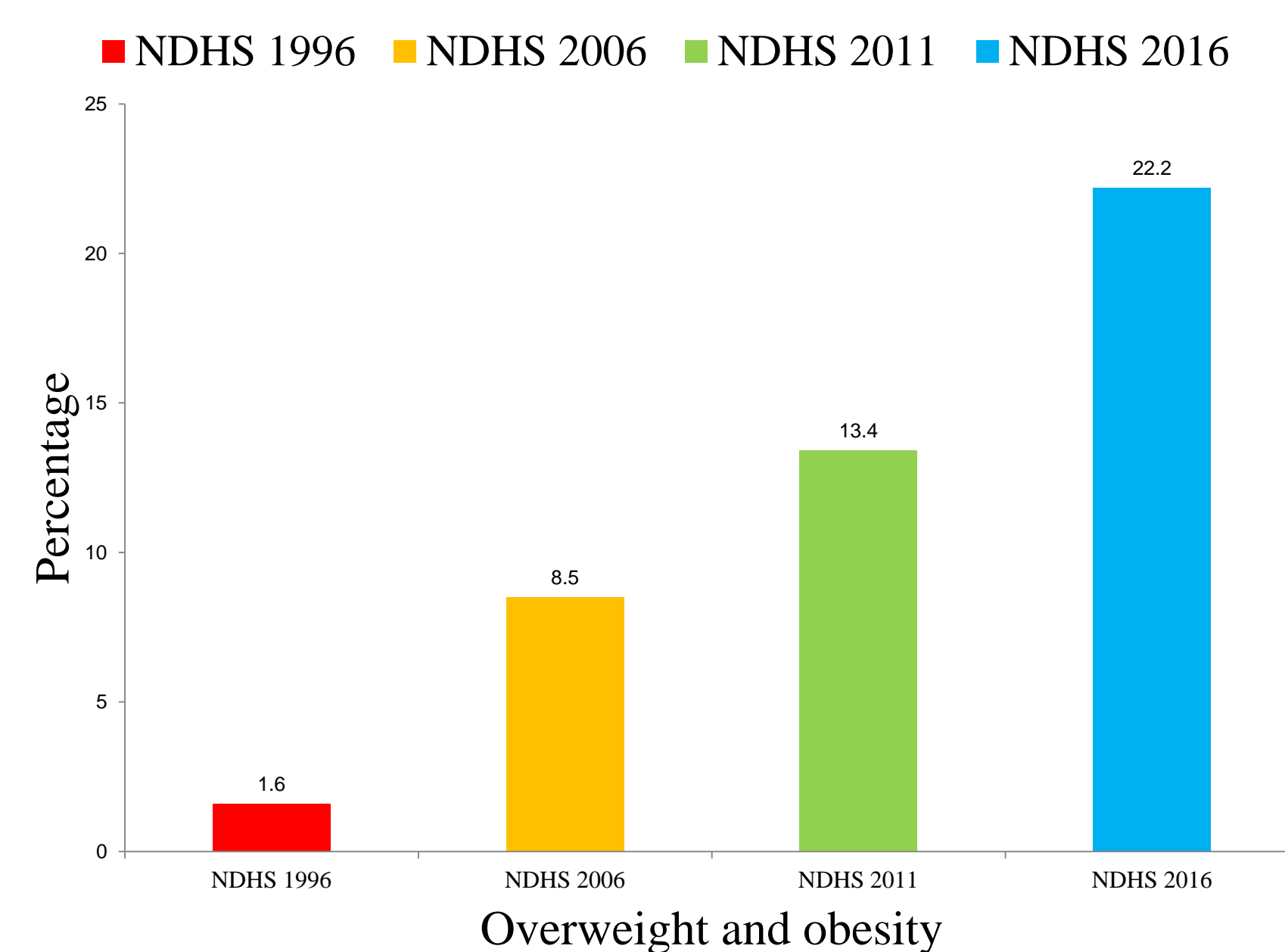


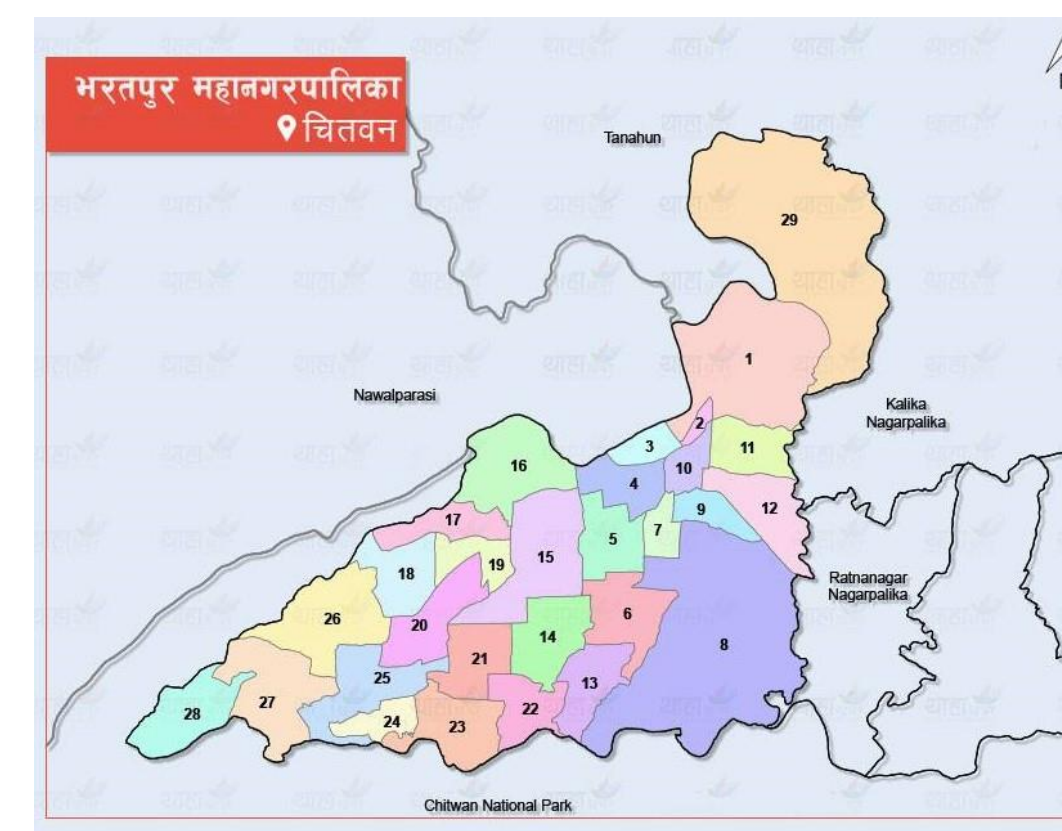
Fig.1 Trends in overweight and obesity in reproductive aged females (15-49 years).

## Objective of study

- The primary objective of this study was to identify the **risk factors associated with overweight and obesity among reproductive aged (15-49 years) females** residing in Bharatpur Metropolitan city.

## Methods

- This study employed a **cross-sectional design** to explain overweight and obesity and factors associated with overweight and obesity in the reproductive aged females residing in Bharatpur.
- The study was conducted in **Bharatpur Metropolitan city**, Chitwan district, and Narayani zone.



- Anthropometric measurement was done. Data on socio-demographic, physical activity, dietary and behavioral factors was collected using structured questionnaire.
- Data on physical activity were collected using the short form of "International Physical Activity Questionnaire (IPAQ) and dietary data was collected using a **food frequency questionnaire and the 24-hour recall method**.

### Sample size

Sample size was calculated by taking 95% confidence interval (CI), 5% margin of error (d) and adding 7% non-response rate. The total sample size was **300**.

### Statistical Analysis

All the data were first coded and entered into **SPSS version 20.0**. Chi square test was performed to analyze the factors associated with BMI, WC and WHR cut-offs at 95% confidence interval.

## Results

The result of this study revealed that **32.3% of females were overweight** and **9.7% of females were obese**. Similarly on the basis of waist circumference 69% of females were abdominally obese and on the basis of waist hip ratio 68% of females were abdominally obese. Mean BMI was found to be 24.1±10.01 kg/m<sup>2</sup>, waist circumference was found to be 86.41±13.091 cm and waist hip ratio was found to be 0.89±0.108

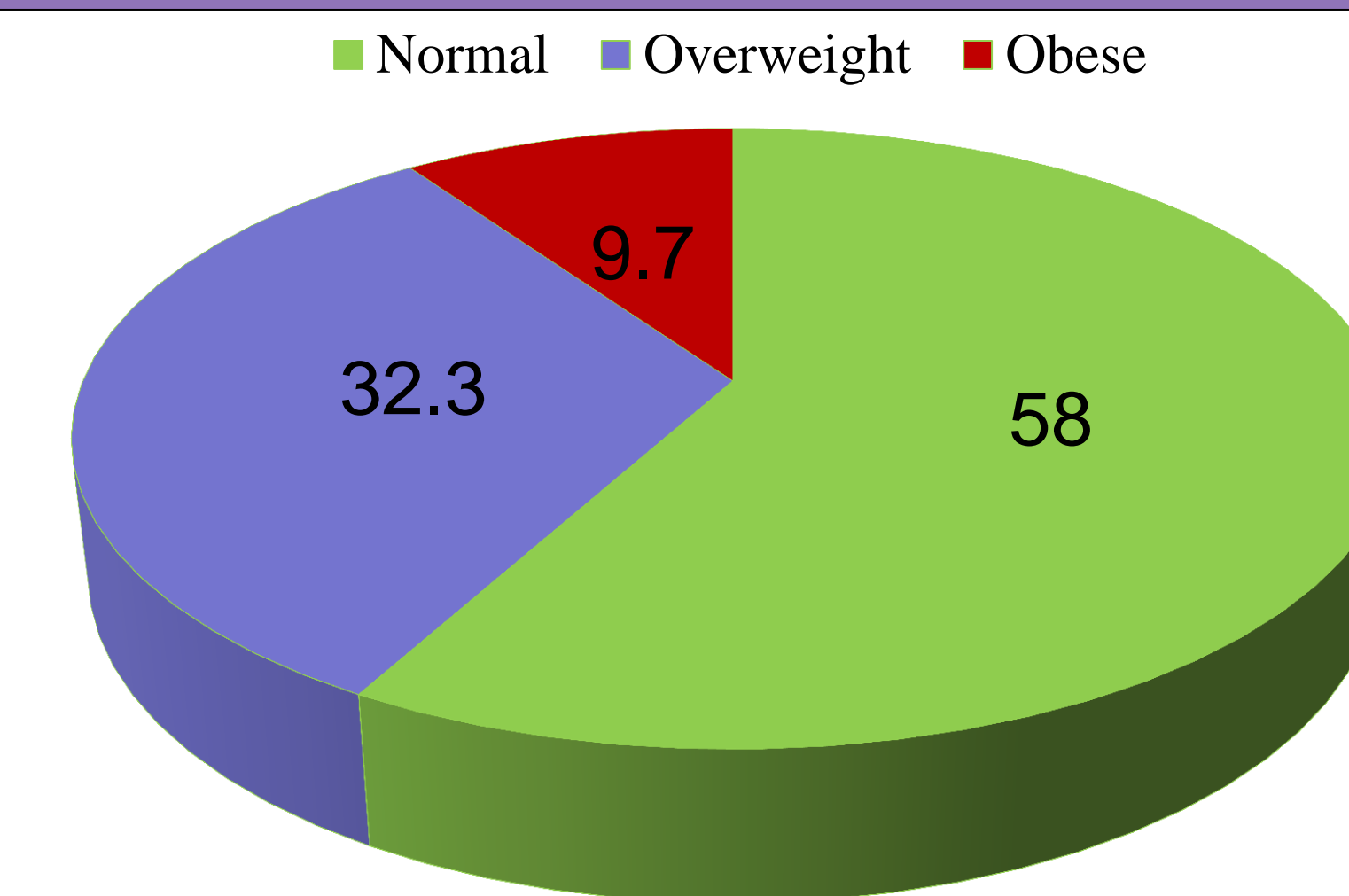


Fig.2 Prevalence of overweight and obesity in reproductive aged female residing in Bharatpur metropolitan city

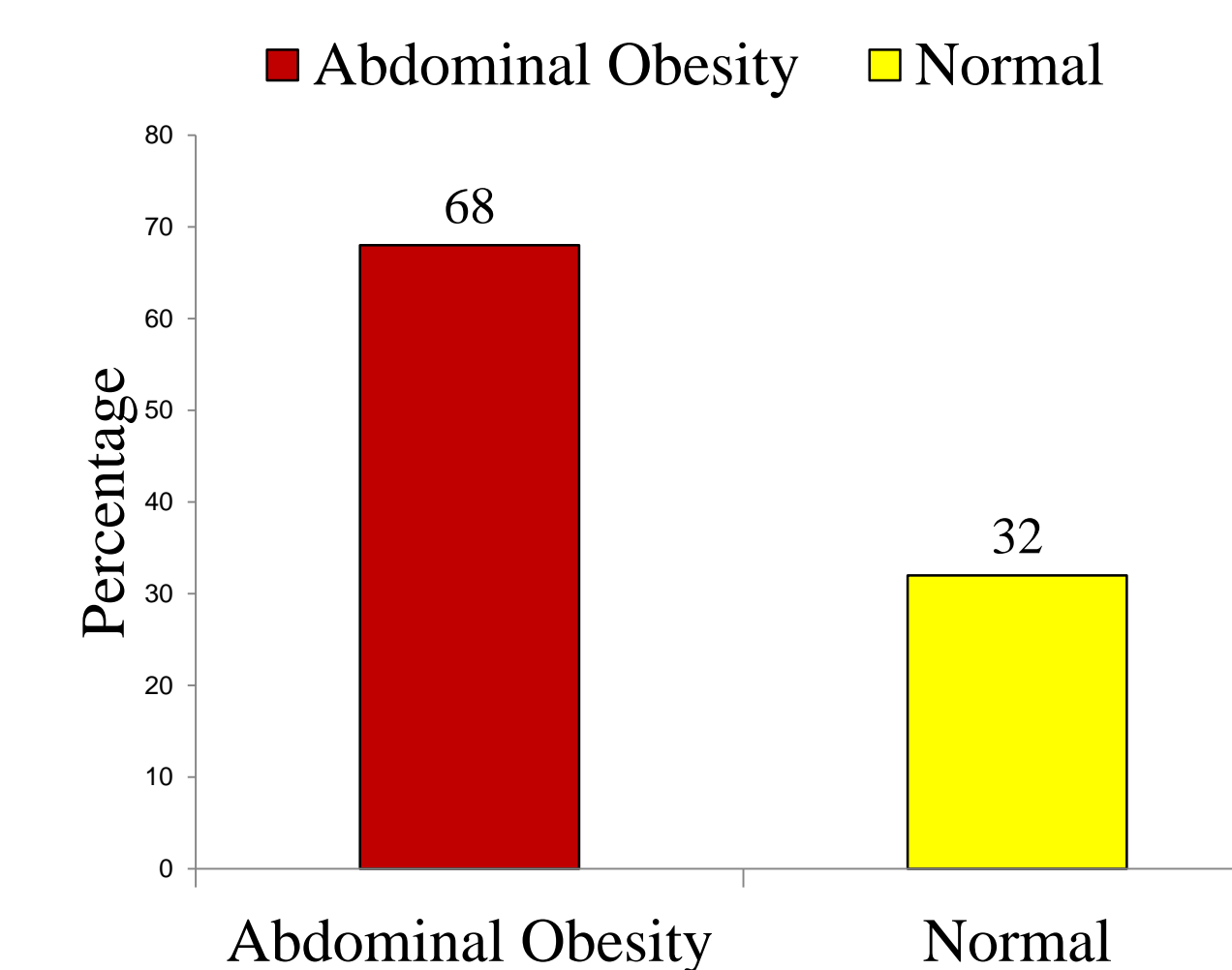


Fig. 3 Prevalence of Abdominal obesity by WHR in reproductive aged female residing in Bharatpur metropolitan city (n=300)

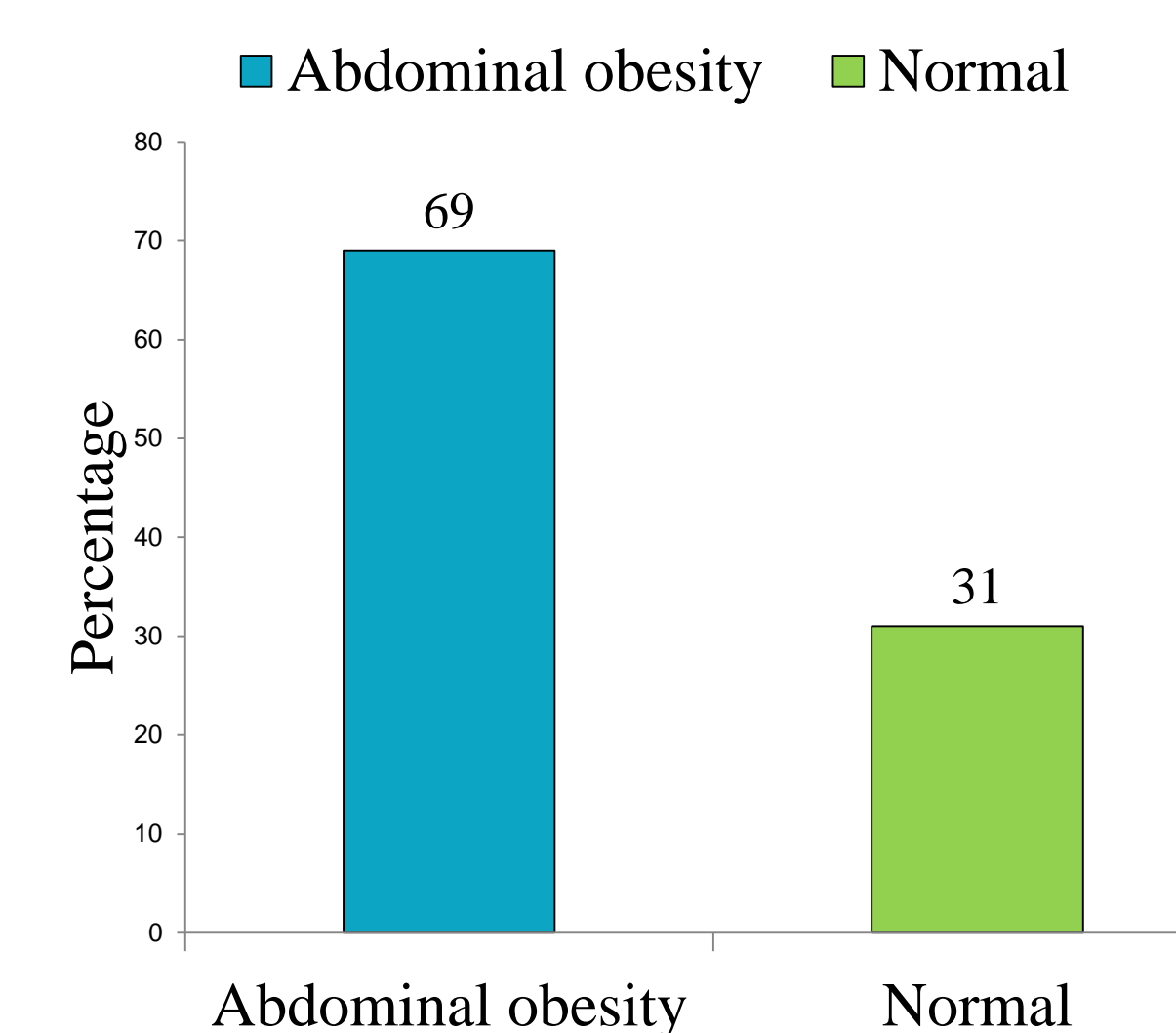


Fig. 4 Prevalence of abdominal obesity by WC in reproductive aged female residing in Bharatpur metropolitan city (n=300).

### Common factors associated with BMI, WC and WHR

Indicators of overweight and obesity	Factors	Common associated factors
BMI	Age, marital status, parity, sleeping time, Stress, calorie intake, carbohydrate intake	Age, Marital status, Parity, Calorie intake and Physical activity
WC	Physical activity and fruit consumption, Age, marital status, parity, calorie intake,	
WHR	Fat intake and Physical activity, Physical activity and fruit consumption, Age, marital status, parity, Cloth wear, calorie intake, carbohydrate intake, Physical activity	

Table 1 Common factors associated with BMI, WC and WHR

## Conclusions

- This study shows that **Nearly half of females (42%)** were overweight and obesity in reproductive aged females in Bharatpur metropolitan city.
- Age, marital status, parity, stress, sleeping time, calorie intake, carbohydrate intake, physical activity and fruits consumption were found to be significantly associated (P<0.05) with overweight and obesity.
- Age, marital status, parity, calorie intake, fat intake, physical activity and fruits consumption were found to have significant association (P<0.05) with waist circumference.
- Similarly, age, marital status, parity, cloth wear, calorie intake, carbohydrate intake and physical activity were found to be significant predictors (P<0.05) of WHR in the study.
- **Therefore the result of this conclude** rising prevalence of overweight/obesity as a serious health challenge, which must be taken seriously and preventive measure must be taken to prevent overweight and obesity.

## References

- IDF. (2006). The IDF consensus worldwide definition of the metabolic syndrome [Report]. Belgium, Retrieved from [www.idf.org/communicationidf.org](http://www.idf.org/communicationidf.org). [Accessed 18 March, 2018].
- Mawaw, P., Yav, T., Lukanka, O., Mukuku, O., Kakisingi, C., Kakoma, J. B. and Luboya, O. N. (2017). A cross-sectional study on obesity and related risk factors among women of the central market of Lusonga in Lubumbashi, Democratic Republic of Congo. *PanAfrican Medical Journal*. **28** (157).
- WHO. (2017e). "Overweight and obesity". Geneva. Retrieved from <http://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>. [Accessed 4 February, 2018].

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