

STA6112 Introduction to Biostatistics

Assignment 2

Introduction

A cross sectional study was conducted in a village to measure the prevalence of hypertension among 450 adults. The variables collected were age (year), gender (0=Female, 1=Male, weight (kg), height (cm), smoking status (0=No, 1=Yes), systolic blood pressure (mmHg) and diastolic blood pressure (mmHg).

Body mass index (BMI) is defined as $\frac{\text{weight (kg)}}{\text{height (m)} \times \text{height (m)}}$ and divided into Normal (BMI < 23 kg/m²), Overweight (BMI from 23 kg/m² to less than 27.5 kg/m²) and Obese (BMI 27.5 kg/m² and above).¹

Hypertension is defined as having systolic blood pressure of 140 mmHg or more; and/or diastolic blood pressure 90 mmHg or more.²

Tasks

1. Attached is the data collected in CSV (comma separated value) format. You can open it using Microsoft Excel, SPSS or any application.
2. Do necessary 'transformation' e.g. calculate BMI for each subject.
3. Use the data to answer the following questions. Present the results using relevant text, table or figures.

Questions

1. Describe the socio-demographic characteristics (age and gender) of the study subjects. Regroup age into 3 groups; 18-39, 40-59 and 60 years or more.
2. Describe the distribution of obesity (normal, overweight and obese), smoking status and hypertension.
3. Describe relationship between hypertension with age group, gender, smoking status and obesity.

References

1. Appropriate body-mass index for Asian populations and its implications for policy and intervention strategies. *The Lancet* 2004;363(9403):157-63.
2. Chobanian AV, Bakris GL, Black HR, Cushman WC, Green LA, Izzo JL, et al. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure. *JAMA: The Journal of the American Medical Association* 2003;289(19):2560-71.