

# STATISTICAL ANALYSIS OF THE RISK FACTORS OF MAJOR HEART DISEASES

**P.A.G.R Pannala**

Postgraduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka

Many people were ending their journey of life due to unexpected heart attacks. Some of them get paralysis until their death. Several heart attacks are silent killers for human being. They will come suddenly without showing any symptoms. This study mainly focused on finding the risk factors of getting major heart diseases. The cholesterol level, fasting blood sugar & blood pressure levels of medical reports help to identify the risk level of getting heart attack of patients. The risk levels of above factors vary according to age and gender. Also the risk level of getting heart attack varies with the relationship among demographic and behavioral factors.

The data for this study were collected through a structured questionnaire, from hospitals and clinics in the Western province. Clinics were taken as clusters. The total sample size was three hundred and thirty. The first part of this questionnaire was filled by the doctor and the second part of the questionnaire was filled by the research assistant. After the doctor's diagnosis, ten patients were randomly picked in each clinic by the research assistant. Patients were grouped into two categories using the doctors diagnosis extracted from the database namely 'had a heart disease-yes' and namely 'had not a heart disease-no' at the period.

Pearson chi-square test was used to find the association of the risk factors with the heart diseases. Abnormal plus rate, high value of low density lipoproteins, stress, lack of sleep duration per a day, doing lack of exercises and taking more fast foods are the highly correlated variables to get a heart diseases. The Factor analysis was used as a data reduction method, and it was noted that 64.58% of the variation of total variance is explained by using six factors. They were identified as health status, behavioral factors, hypertension, demographic, life style and job oriented. Three separate log-linear models were fitted for the prevalence of the heart diseases. These models are based on demographic factors, behavioral factors & health related factors. A logistic regression model was fitted to the study data set with the variables gender, age, food pattern and stress. This model was correctly classified 93.0% according to classification results of logistic regression analysis .