IDENTIFICATION OF FACTORS FOR PREVALENCE OF OBESITY IN SRI LANKA

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To My Beloved
Amma & Thaththa

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Abstract

Obesity is defined as an excessively high amount of body fat or adipose tissue in relation to lean body mass. This condition occurs as a result of higher energy intake than the energy expenditure. The Body Mass Index (BMI) is the tool utilized for the identification of obesity. A BMI greater than or equal to twenty five and less than thirty is considered as 'overweight' and a BMI greater than or equal to thirty is considered as 'obese'. Obesity is prevalent among people belonging to any layer of socio economic group or age group. The rate of increment of obesity prevalence has increased over the past few decades. The main causes of this have been identified as the environmental factor, the change in life style of people with the modernization and globalization trends and also genetics according to research experts. Obesity is revealed to be associated with many chronic diseases such as type 2 diabetes, cardiovascular disease, stroke and hypertension to name a few. In Sri Lanka obesity is being subject to much research and the Nutrition Coordination Department (NCD) has conducted a survey on prevalence of obesity island wide excluding North and East. NCD has analyzed the data at a descriptive level and the data set collected in the survey was used in this study for statistical analysis. The main objectives of this study were twofold. The first was to identify the possible risk factors for BMI based weight category of a respondent. The second was to statistically explore how the identified risk factors were related with BMI based weight category of a respondent.

A descriptive analysis and a univariate analysis were done followed by the main component, statistical modeling with an approach based on a proportional odds model. It was aimed to explore how the explanatory variables were associated with the BMI based weight category of a respondent which was the response variable under consideration. A recently developed accurate method of checking the goodness of fit of the proportional odds model was also used to ensure the adequacy of the model and the validity of the results of the analysis. The study focused for possible risk factors for prevalence of obesity in Sri Lanka with respect to respondent's socio-demographic information, respondent's history of diseases, family history of relevant diseases, smoking history, alcohol consumption and physical activity. As such there were thirty eight explanatory variables in these five areas and it was found that twenty two of them were significantly associated with the response variable which was BMI based weight category of the respondent. Fitting the proportional odds model revealed that BMI based weight category of a respondent is caused due to occupation, smoking, age, hypertension, walking, alcohol consumption, physical exercises and mother's diagnosis of Diabetes Mellitus. As such, physical activity in working and domestic life showed lesser probability of being overweight or obese. Alcohol consumers had a higher probability of being overweight or obese where as smokers were found to have an inverse relationship with BMI based weight category. Respondents who were diagnosed with Hypertension had a higher probability of being overweight or obese. Moreover people in the age group of 30-50 years were found to have the highest probability of being overweight or obese. Further it was found that a respondent is more vulnerable to be overweight or obese if the mother has been diagnosed with Diabetes Mellitus.

In conclusion, occupation, smoking, age, hypertension, walking, alcohol consumption, physical exercises and mother's diagnosis of Diabetes Mellitus was identified as the statistically significant risk factors for the prevalence of obesity in Sri Lanka. These statistically proven findings of this study are constructive of developing strategies and health policies in Sri Lanka for prevention of obesity, so as to ensure a healthier life style and to improve the quality of life of Sri Lankans.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES