



EVALUATION OF MODIFIABLE BEHAVIORAL AND DIETARY RISK FACTORS FOR DIABETES MELLITUS

M. N. T. N Ravihari^{1*} and U. L. H. A. K Uswaththa²

¹Faculty of Natural Sciences, ²Faculty of Health sciences, The Open University of Sri Lanka, Sri Lanka

Diabetes Mellitus (DM) is a metabolic condition associated with hyperglycaemia. DM is a non-communicable disease and results from insulin resistance or when the pancreas fails to generate enough insulin. DM has two subtypes, including DM type 1 and DM type 2. Modifiable risk factors are overweight, hypertension, hyperlipidaemia, physical inactivity, smoking, and alcohol intake. Non-modifiable factors are family history, ethnicity, age, and gender. The objective of this study is to evaluate the dietary and behavioural risk factors for DM by selecting a sample from the Gampaha District. It was a cross-sectional study and used self-reported questionnaire. A random sample of 106 individuals over 40 was selected and using a structured Google form, their dietary and behavioural characteristics were assessed, including smoking, alcohol consumption, body mass index (BMI), sleep duration, occupation, diet quality, and physical activity. It was distributed online. The study shows that 54.7% had DM. The study also reveals that 70.8% had a low diet quality, characterized by consuming high amounts of junk foods, which are low in essential nutrients like vitamins, minerals and fibre but high in calories, fat, sugar, and sodium. 48.1% had a habit of alcohol consumption and 17.9% individuals showed smoking as a habit. According to the study, 97.2% of individuals did not engage in any physical exercise. According to their BMI, 37.5% of them were overweight or obese. (overweight: 25.0 to 29.9 kg/m²; obesity: 30.0 kg/m² or higher). The study also revealed that the older population is likely to be physically inactive by watching television, using mobile phones, and sleeping during the day. Through the study, it can be concluded that the unhealthy and dietary and behavioral habits of individuals have contributed to DM. It can be suggested that if individuals have any family history of DM, the constant awareness of the risk factors of DM and regular testing aid in preventing DM, which helps to increase the quality of life of individuals.

Keywords: BMI, diabetes, dietary factors, risk factors

**Corresponding Author: tharushiravihari1999@gmail.com*



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M.N.T.N Ravihari^{1*}, U.L.H.A.K Uswaththa²

¹Faculty of Natural Sciences, The Open University of Sri Lanka, Sri Lanka

²Faculty Of Health science, The Open University of Sri Lanka, Sri Lanka

INTRODUCTION:

Diabetes Mellitus (DM) is a metabolic condition associated with hyperglycaemia. DM is a non-communicable disease and results from insulin resistance or insufficient insulin production by the pancreas. DM type 1 and DM type 2 are two of the subtypes. Type 2 is associated with insulin resistance, whereas type 1 is an autoimmune condition. The risk of diabetes mellitus is raised by genetics, unhealthy behaviours and dietary variables. The modifiable risk factors are overweight or obesity, high blood pressure, hyperlipidaemia, conditions like polycystic ovary syndrome (PCOS), physical inactivity, smoking, and alcohol consumption. Non-modifiable risk factors are family history, ethnicity (American), age, and gender. The objective of this study is to evaluate the dietary and behavioural risk factors for DM by recruiting a sample from the Gampaha District.

METHODOLOGY:

The questionnaire was a cross-sectional and self-reported. A sample of 106 individuals over 40 was randomly selected and their dietary and behavioural factors were assessed, including smoking, alcohol consumption, body mass index (BMI), sleep duration, occupation, diet quality, and physical activity using a structured Google form. It was distributed online (Figure 1). Diet quality was assessed by intake of high amounts of junk foods that are high in calories, fat, sugar, and sodium, but low in essential nutrients like vitamins, minerals and fibre. Hours of daytime and nighttime sleep were used to measure sleep.

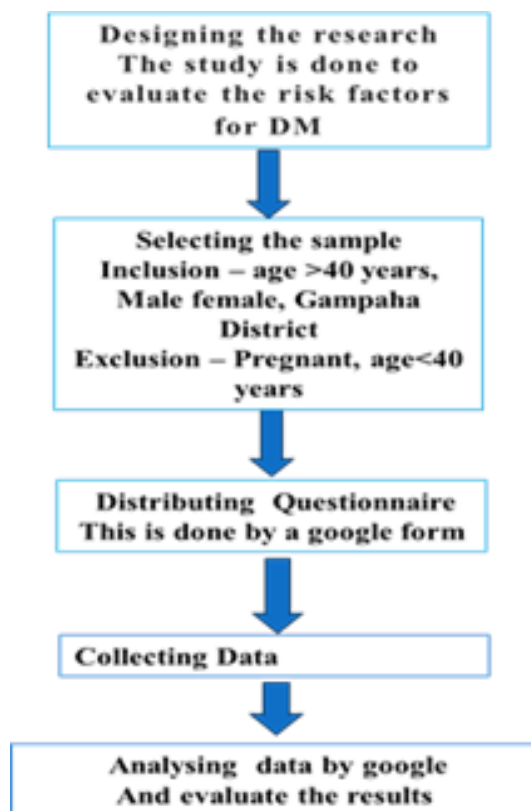


Figure 30

RESULTS AND DISCUSSION

The study shows that 54.7% were suffering from DM. Study also reveals that 70.8% had a low diet quality (including high amounts of junk foods that are high in calories, fat, sugar, and sodium, but low in essential nutrients like vitamins, minerals, and fiber in their diet). 48.1% had a habit of alcohol consumption, 17.9% individuals showed smoking as a habit. According to the study, 97.2% of individuals did not engage in any physical exercise. 37.5% indicated overweight and obesity based on their BMI value (overweight: 25.0 to 29.9 kg/m², obesity: 30.0 kg/m² or greater) (Table 1). The study also revealed that the older population is likely to be physically inactive by watching television, using mobile phones, and sleeping during the day. (Table 2).



Risk factor	Population percentage
High inflammatory diet	70.8%
Smoking	17.9%
Alcohol consumption	48.1%
Physical inactivity	97.2%
Obesity and overweight	37.5%

Table 1

A significant majority of participants (70.8%) consume a high inflammatory diet, which can increase the risk of diabetes. Nearly one-fifth of participants (17.9%) are smokers, which is a well-established risk factor for DM. Almost half of the participants consume alcohol. An alarming 97.2% of participants are physically inactive.

Physical inactive factors	Percentage
Mobile phone usage	28.30%
Watching tv	46.20%
Day sleep	22.60%

Table 2

The study found a significant association between diabetes and modifiable risk factors, including physical inactivity, unhealthy diet, smoking, alcohol consumption and overweight/obesity.

CONCLUSIONS AND RECOMMENDATIONS

These findings have a significant impact on public health policy and practice. Interventions aimed at promoting healthy lifestyles, including dietary improvements, physical activity promotion, smoking cessation and alcohol consumption, may be necessary to reduce the burden of dm in this population.

The study revealed that the unhealthy dietary and behavioral habits of individuals have contributed to diabetes mellitus. It can be suggested that if individuals have any family history of DM, the constant awareness of the risk factors of DM and regular testing aid in preventing DM, which helps to increase the quality of life of individuals. This study emphasizes the role of modifiable risk factors in the development of Diabetes Mellitus.



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