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## RESEARCH ARTICLE

# RISK ASSESSMENT FOR TYPE-2 DM AMONG THE POLICE AT 5TH KSRP, COMMENDED OFFICE, JOCKEY QUARTERS, MYSURU

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### ABSTRACT

**Background:** Diabetes is a major illness among the worldwide. In south Asia every year Diabetes affects 1 in 11 adults and cause 747,000 preventable deaths. The causes and risk of Type 2 DM is multifactorial and genetic factors and also food quality is having an effect on diet and influence on obesity, high living standards and changes in life styles. Affordable, quick and easily available validated tools are required for assessment of risk factors for type 2 DM. Using one such questionnaire tool we have conducted a descriptive study in among the Police at 5th KSRP, commended office, jockey quarters, Mysuru to identify and assess the risk of development of Type 2 DM. **Objective:** The objective of the study is to assess the risk of developing Type 2 diabetes mellitus among the Police at 5th KSRP, commended office, jockey quarters, Mysuru and to find the association between risk of developing Type 2 diabetes mellitus with their selected personal variables **Methodology:** Questionnaire on demographic proforma. *Finnish diabetes risk score* was used to collect data. An explorative descriptive method has been adopted and 100 patients were selected for the study using simple random sampling technique. **Results:** The result of the study revealed that 51.1% of participants have moderate risk, 33.3% of participants have high risk and 15.6% of participants have slightly elevated risk. **Conclusion:** The participants of this study have moderate risk of getting type 2 DM and Gender, Age, Occupation and BMI are significantly associated in contributing the risk of developing type 2 DM.

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## INTRODUCTION

Diabetes is a one of the major long-term disorders with an effect on individual families and societies. Its affects 1 in 11 adults in south Asia. Diabetes mellitus is a syndrome characterized by disturbance of carbohydrate, fat and protein metabolism leads to hyperglycaemia, associated with deficiency in insulin secretion or insulin action. The main types of DM is Type 1 diabetes and Type 2 diabetes and gestational diabetes mellitus, these types given by WHO in 1977. According to Mansukh Mandaviya, union ministers of health and family welfare estimated the number of DM patients in the 20-79 age group is 74.2 million in 2021 and is chance of increased to 124.8 million in 2045. One in 12 Adults or more than 74 million people living in India are DM patients according to international diabetes federation (IDF). The pancreas has two main functions, Exocrine helps in digestion and Endocrine helps in balancing of blood glucose with the help of insulin and glucagon pancreatic hormones.

Type 2 DM caused by impaired insulin secretion and changes in food styles, over eating, lack of exercise and stress. Untreated or chronic diabetes develops the complications are CRF(chronic renal failure) blindness, nerve damage and cardiac related problems like stroke, heart attacks. According to Australia medical journal the prevalence of DM is predicted to double globally from 171 million in 2000 and 366 million in 2030 with a maximum increase in India. Currently 25.2 million adults are estimated to have DM, which is estimated to increase to 35.7 million in the year 2045. From the ICMR survey was conducted in that Karnataka is having the place among the top of three states is having the prevalence of pre diabetic people and they are not aware of it until develop the complications and our study aims to identify these people and bring about early measures to prevent the early onset if diabetes.

**NEED FOR THE STUDY:** Diabetes mellitus is one of the oldest diseases known to people. It was first reported in Egyptian manuscript about 3000 years ago. In 1936, the distinction between Type-1 and Type-2 DM was clearly made. Type-2 DM was first described as a component of metabolic syndrome in 1988<sup>8</sup>. Type-2 is the most common form of DM characterized by hyperglycaemia, insulin resistance and relative insulin deficiency. Type 2 DM results from interaction between genetic, behavioural, environmental risk factors. According to International Diabetes Federation (IDF) in 2020 said that 463 million peoples have diabetes in world, out of that 77 million belong to India and stand in 2<sup>nd</sup> place in worldwide. Among Indians at younger age seeing the Type 2 DM because the rapid urbanization, sedentary life styles, intake of high junk and caloric food, Food environment have an effect on diet and obesity these two are high risk factors for Type 2 DM. it has relationship between food and environment in low- and middle-income countries. Research shows that one fast-food outlet is associated with 16% increase in the chance of being diagnosed with DM. so with the number of people with diabetic in south Asia projected to reach 113 million by 2030. The survey was conducted by ICMR shows Karnataka is one of the top three states in having the highest prevalence of pre diabetic individuals with 7.5% prevalence diabetes, stands at sixth position. But it is among the top 3 when it comes to prediabetes and risk factors like abdominal obesity, Hypertension.

The increasing numbers of Type-2 diabetes is a major problem in health care worldwide. In 2017, approximately 462 million individuals were affected by Type-2 diabetes. a prevalence rate of 6059 cases per 1,00,000 over 1 million deaths per year can be due to diabetes alone in the leading cause of mortality is rising globally. And faster rate in developed regions global prevalence of Type-2 diabetes is projected to increase to 7079 individuals per 1, 00,000 by 2030 reflecting a continued rise across all regions of the world. onset of Type-2 DM among Indians is gradually increasing in the age groups below 50 years of age group because of modify few risk factors initial identification and assessment of these risk factors becomes necessary. With this background, the present study was conducted with objectives to assess the risk factors associated with development of diabetes and to educate them about lifestyle modifications to live a better life with diabetes.

### OBJECTIVES:

- To assess the risk of developing Type 2 Diabetes Mellitus among the Police at 5th KSRP, commended office, jockey quarters, Mysuru.
- To find the association between risks of developing Type 2 Diabetes Mellitus
- among the Police at 5th KSRP, commended office, jockey quarters, Mysuru. with their selected demographic variables.

### METHODOLOGY

**Research design:** An Explorative Descriptive method has been adopted.

**Setting:** The present study was conducted among the Police at 5th KSRP, commended office, jockey quarters, Mysuru.

**Sample and sampling technique:** By simple random sampling technique, 100 Police at 5th KSRP, commended office, jockey quarters, Mysuru, were selected.

**Instrument used:** Finnish Diabetic risk score.

## RESULTS

### Section I: Data on demographic variables

**Table I. Frequency and percentage distribution of according to the demographic variables n=100**

Sl. No.	Variable	Frequency	%
1.	<b>Age in years</b>		
	30-39 years	14	14
	40-49 years	40	40
	50-59 years	26	26
	60-69 years	20	20
2.	<b>Gender</b>		
	Male	90	90
	Female	10	10
3.	<b>BMI</b>		
	<18.1	10	10
	18-24.9	52	52
	25-29.9	34	34
	30 and above	4	4

Among 100 participants the majority of the participants are in the age group 40-49 years and the majority of the participants are males also, the participant's occupation is police and the majority of the participants BMI is 18 to 24.9.

**Section II: Level of Risk Assessment for Type-2 DM among Police at 5th KSRP, commended office, Mysuru,**

**Table II: Frequency and percentage distribution of Level of Risk for type 2 DM among Police at 5th KSRP, commended office, jockey quarters, Mysuru, n=100**

Sl. No.	Risk level	Frequency	%
1	Slightly Elevated	24	24
2	Moderate Risk	73	73
3	High Risk	03	03
	Total	100	100

Among 100 participants 73% of participants are moderately risk, 03% of participants are high risk and 24% of participants are showing Slightly elevated blood sugar level. The table shows that majority of the participants are moderately risk of developing Type-2 DM.

**Table III: Mean, Median and SD of Risk Scores n=100**

Risk scores	No. of Items	Max Score	Mean	Median	SD
Overall	8	28	27.57	28	3.0

The data presented in Table III shows that, among 100 participants out of 8 items, maximum score obtained for screening was 28 with the mean score 27.57

### Section III: Association of the level of Risk for Type-2 Dm among Police at with their Demographic Variables

The data presented in Table-IV shows that, association of the level of risk for Type-2 DM among the police with their

Table IV. Association of the level of risk for Type-II DM among Police at with their Demographic Variables n=100.

Sl. No	Variables	Below Median	Median and above	Chi square	Df	P value (0.05)	Inference
1.	<b>Age in years</b>						
	a. 30-39 years	10	09				
	b. 40-49 years	33	29	1.82	4	0.481	NS
	c. 50-59 years	06	11				
2.	<b>Gender</b>						
	a. Male	26	34	2.33	1	0.000	S
	b. Female	24	16				
3.	<b>BMI</b>						
	a. <18.1	0	0				
	b. 18-24.9	10	10	0.0625	3	0.000	S
	c. 25-29.9	30	30				
	d. 30 and above	10	10				

demographic variables and the result shows that the Gender, Age, Occupation and BMI are significant.

## CONCLUSION

The study reveals that majority of participant's i.e., 73 % of showing moderate risk and 03% of participants are showing high risk. According to study Gender, Age, Occupation and obesity are influencing factors for the risk of Type-2 DM. So, as a health professional we have to educate the public regarding healthy lifestyles including foodhygiene like avoid junk food, stress management, regular exercise to prevent the risk of developing type 2 DM.

## RECOMMENDATIONS

On the basis of present study, the following recommendations can be made,

1. A similar study can be taken for larger sample to generalize findings.
2. A similar study can be conduct in different settings.
3. Comparative study can be conducted among rural and urban population.
4. Study recommended to conducting health education programmes on healthy lifestyles to prevent the complication of Type-2 DM.

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