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A STUDY TO ASSESS THE RISK FACTORS AND COMPLICATIONS OF TYPE II DIABETES MELLITUS AMONG THE SELECTED TYPE II DIABETIC PATIENTS ADMITTED IN DHIRAJ HOSPITAL, VADODARA.

Mrs. Neethu George Munduckal[1], Mrs. Vruti Patel [2]Rathva Meet[3], Rathva Megha[4], Rathva Nilam[5], Raulji Minal[6].

Assistant Professor Dept. Of Obstetrics and Gynaecological Nursing[1,2], Final year B.Sc. Nursing Students[3,4,5,6]
Sumandeep Nursing College, Sumandeep Vidyapeeth an institution deemed to be University,
Vadodara, Gujarat.

Corresponding Author
Mrs. Neethu George Munduckal
Assistant Professor, Department of Obstetrics and Gynaecology Nursing
Sumandeep Nursing College, Sumandeep Vidyapeeth an institution deemed to be University,
Vadodara, Gujrat.
Email: neethugeorge10121@gmail.com, Phone +91- 7874844758

ABATRACT

BACKGROUND: Diabetes mellitus (DM) is a metabolic disorder resulting from a defect in insulin secretion, insulin action, or both. Insulin deficiency in turn leads to chronic hyperglycaemia with disturbances of carbohydrate, fat, and protein metabolism. It is one of the chronic noncommunicable diseases (CNCDs) which have emerged as a leading global health problem. Diabetes occurs worldwide and incidence of both Type-I and Type-II are rising. Family history (FH) of diabetes mellitus, age, obesity, and physical inactivity are some of the risk factors for the development of type II diabetes. Risk factors for diabetes and hypertension have been ever increasing among children in most parts of the world, with many articles clearly warning about ominous outcomes, which are often overlooked by paediatric physicians. Morbidity and mortality can be reduced by secondary prevention through regular screening, early detection of DM and its complications, and appropriate treatment of chronic complications. To control DM, it is necessary to determine associated risk factors. **OBJECTIVE:** To assess the risk factors and complications of Type II Diabetes mellitus among the selected Type II Diabetic patients admitted in Dhiraj hospital, Vadodara. **METHODS & MATERIALS:** A descriptive research design was carried out for this study. The study was carried out on 100 Patients who are admitted in Dhiraj hospital, Vadodara, Gujarat. **RESULTS:** While assessing the risk factors and complications of Type II Diabetic patients, Diabetic retinopathy, oral thrush and diabetic heart diseases are the most relevant complications. The risk factors like cholesterol, hypertension and age are associated with complication of Type II Diabetic mellites.

KEYWORDS: risk factors, complications, type II diabetes mellitus patients

INTRODUCTION

Diabetes mellitus (DM) is a metabolic disorder resulting from a defect in insulin secretion, insulin action, or both. Insulin deficiency in turn leads to chronic hyperglycemia with disturbances of carbohydrate, fat, and protein metabolism [1]. It is one of the chronic noncommunicable diseases (CNCDs) which have emerged as a leading global health problem. It is also a known risk factor for blindness, vascular brain diseases, renal failure, and limb amputations [2].

Risk factors such as hereditary, ecological, and metabolic are interrelated and contribute to the development of type 2 diabetes mellitus. Family history (FH) of diabetes mellitus, age, obesity, and physical inactivity are some of the risk factors for the development of type 2 diabetes. Risk factors for diabetes and hypertension have been ever increasing among children in most parts of the world, with many articles clearly warning about ominous outcomes, which are often overlooked by pediatric physicians [5]. Although DM2 is associated with complications, it is a preventable disease. Morbidity and mortality can be reduced by secondary prevention through regular screening, early detection of DM and its complications, and appropriate treatment of chronic complications. To control DM, it is necessary to determine associated risk factors. Uncontrollable factors include socioeconomic status, age, sex, genetic susceptibility, and other environmental factors. Controllable risk factors include obesity [6], hypertension [7],dyslipidemia[8], and smoking[9]. It is very important to manage these risk factors to prevent or delay the onset of DM2 as well as avoid the occurrence of life-threatening

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complications [10]. Despite this, a high proportion of patients with risk factors for diabetes-related complications are not adequately controlled[11]. Thus we are intended to assess the complication and risk factors of diabetes type 2 patients, who are admitted in Dhiraj Hospital.

MATERIALS AND METHODS

A descriptive research design was carried out for this study. The study was carried out on 100 Patients. Patients were selected using Non- Probability Purposive-sampling technique. A check list was used to assess the complication of diabetes in patients. Descriptive and inferential statistics such as mean, standard deviation, chi-square test was applied to analyse the data.

STATISTICS

- Descriptive statistics is used for to assess the frequency and percentage
- Inferential statistics like Chi Square test used to find association

RESULTS

Section1– Distribution of sample according to complications

Complications	Frequency	Percentage (%)
Diabetic Retinopathy	76	76%
Diabetic Neuropathy	62	62%
Peripheral vascular Disease	58	58%
Oral Thrust	71	71%
Diabetic Nephropathy	57	57%
Diabetic Heart Disease	71	71%
Cognitive Impairment	58	58%

Table 1: shows that Diabetic retinopathy, Oral Thrust and Diabetic heart disease are the most frequent complication among type II diabetes patients

SECTION: 2 association between risk factors and complication of type II diabetes mellitus

Table -2: Relation between age and complications of type 2 diabetes mellitus patients.

(n=100)

Age(years)	**Low**	**Medium**	**More**	**Chi square**	**Df**	**Level of Significance**
20-29	4	6	1	14.21	6	**Significant**
30-39	6	22	5			
40-49	2	19	10			
50-59	0	17	8			

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60 or above	0	0	0			

Table 2: It shows that association between age and knowledge score was statistically significant at p> 0.05 level, using chi square value.

TABLE -3 Relation between presence of Hypertension and complications of type 2 diabetes mellitus patients. (n=100)

Hypertension	Low	Medium	More	Chi-square	DF	Level of significance
Yes	3	35	20	11.976	2	**significance**
No	9	29	4			

Table:3 shows that the association between presence of hypertension and complications score was statistically significant at p>0.05 level using chi square value.

TABLE -4 Relation between presence of cholesterol and complications of type 2 diabetes mellitus patients. (n=100)

Cholesterol	Low	Medium	More	Chi-square	DF	Level of significance
Yes	3	28	18	9.964	2	**Significance**
No	9	36	6			

Table:4 shows that the association between presence of cholesterol and complications score was statistically significant at p>0.05 level using chi square value.

DISCUSSION

The first objective was to assess the risk factors of type 2 Diabetes Mellitus among the selected diabetic patients of Dhiraj Hospital Vadodara.

In our present study majority of the patients belongs to age 30-39 years. Most of them belongs to vegetarian dietary pattern (75%). 72% were non-smokers and 79% is non-alcoholic. 52% of the sample had no family history of diabetes mellitus.

The study result was not in corelation with the result of a study conducted in Telengana to assess prevalence of diabetes mellitus and its associated risk factors. The study showed that most of the subject 43.3% belongs to 51-60 years age group. And had history of smoking, alcoholism and non- vegetarian diet.

The second objective was to find out the complications of type 2 Diabetes Mellitus among the selected diabetic patients of Dhiraj Hospital Vadodara.

In this study, patients with Diabetic retinopathy were 76%, Oral Thrust were 71% and Diabetic heart disease where 71%, sample had most frequent complication among type II diabetes patients

The study result was corelated with the result of a study conducted in Sri lanka prevalence of chronic complications, Their Risk Factors, and the Cardiovascular Risk Factors among Patients with Type 2 Diabetes Attending the Diabetic Clinic at a Tertiary Care Hospital. The study showed that complications like CVD, peripheral neuropathy, retinopathy were the high-risk complication seen in the Type 2 diabetes patients.

The third objective was find out the association between the risk factors and complications of type 2 Diabetes Mellitus among the selected diabetic patients of Dhiraj Hospital Vadodara.

In our study there is a significant association between the risk factors such as age with chi square value of 14.21 which is significant at p<0.05, hypertension with chi square value of 11.976 which is significant at p<0.05and cholesterol with chi square value of 9.964 which is significant at p<0.05 with complications of type 2 Diabetes Mellitus among the selected diabetic patients.

The study result was corelated with the result of a study conduced in Khammam A study to 'Assess prevalence of diabetes mellitus and its associated risk factors among adult residents of rural. The study shows that The prevalence of DM was 16.22% in 30-40 years age group, 24.32% in 41-50 years age group, 43.34% in 51-60 years age group and 16.2% in 61-70 years age group which shows that DM increases with age and the association between age and prevalence of type 2 DM was found to be statistically significant.

CONCLUSION

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The finding of the study concluded that Diabetic retinopathy, Oral Thrust and Diabetic heart disease are the most frequent complication among type II diabetes patient. The study find out significant association between age, hypertension and cholesterol with complications of type II diabetes mellitus.

CONFLICT OF INTEREST : The authors declare that there is no any conflict of interest.
ETHICAL CLEARANCE : As the study conducted on humans , approval from institutional ethical committee was obtained before commencement of the study.

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