Type-2 DM and Its Complication and Relationship among the Patients at Rajshahi Diabetes Association General Hospital: Socio-demographic Characteristics

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ABSTRACT

The aim of this cross-sectional study of Type-2 diabetes mellitus and its complication among the patients admitted in Rajshahi Diabetes Association General Hospital and its relationship with their socio-demographic characteristics. Total fifty (50) respondents were selected for the study. Complication of Type-2 diabetes mellitus were mainly investigated. The instrument developed by the researcher was divided into 2 sections including, 1) Demographic questionnaire. 2) Question regarding complications of type-2 diabetes mellitus patients. The main findings of this thesis are that the proportion of complication of type-2 diabetes mellitus patients. The age of the respondents which 14% were between 31-40 years of age about 30% between 41-50 years, about 40% between 51-64 years, 16% between 65-90 years. Type of family 46 (92%) were the members of nuclear family 4 (8%) were the member of joint family. This study would like to examine the respondents' ratings of different religions who were married or divorced. Socio-economic status 74% were poor, 26% respondents were middle. For this purpose, this study would like to investigate the complication of type 2 diabetes mellitus patients; the ratings of nephropathy, hypertension, the loss of sensation, heart problem, homeopathy, and Kobiraji treatment.

KEYWORDS

Type II Diabetes Mellitus; Socio-demographic Characteristics, Patients; Macro and Micro Vascular Complications; Retinopathy and Nephropathy.

INTRODUCTION

Diabetes is a chronic disease characterized by improper glucose, protein, and fat metabolism. Diabetes incidence among urban residents has increased markedly in the past two decades. The number of diabetics is expected to rise from 135 million in 1995 to 171 million in 2000, 300 million in 2025, and 366 million in 2030. (King et al., 1998; Wild et al., 2004). By 2025, diabetes will be the most common disease in India, China, and the US (WHO, 1998). A 170 percent rise from 84 million in 1995 to 228 million in 2025 is anticipated in emerging nations (WHO, 1998). Taiwan, Hong Kong, Singapore, and Mauritius have been recognized as having the highest prevalence of newly diagnosed diabetes patients (Zimmet, 2000).

Types of Diabetes Mellitus

Type-1 diabetes is an autoimmune illness in which the pancreas produces very little or no insulin. Type 1 diabetes typically develops in children or young adults under the age of 20. Some scientists believe Type 1 diabetes is a hereditary disease where pancreatic cells are assaulted and eventually die. Because the pancreatic insulin-producing cells are gone,

individuals with type-1 diabetes will always require insulin injections or an insulin pump. Exercise and nutrition are required in addition to insulin treatment to avoid blood sugar swings. (Oftalmol, AB, 2010) Type-2 diabetes is often seen in elderly overweight individuals. In certain countries, such as the United States, more children and young people are being diagnosed with Type-2 diabetes due to insufficient physical exercise. Type-2 diabetes mellitus affects 90% of diabetics. Diabetes prevalence is expected to rise from 4% in 1995 to 5.4 % by 2025. The WHO predicts that poorer nations will bear the main cost.

Micro Vascular Complication

Rheumatoid arthritis (RA) is a microvascular disorder. Diabetes retinopathy is caused by long-term hyperglycemia damaging the retina's microvascular system. An example of diabetic neuropathies is peripheral neuropathy. Peripheral, autonomic, proximal, and focal. Each affects various areas of the body. Diabetic foot ulcers occur due to improper pressure distribution. Early diagnosis of diabetic neuropathy reduces foot ulcer hospitalization and amputations. (Leung GM, Lam K. HKMJ 2000)

Macro Vascular Complications

Diabetes mellitus is an independent risk factor for the development of atherosclerosis. Depression is twice as prevalent among diabetics as in the general population, and severe depression affects 15% of diabetics. Erectile dysfunction is another diabetes consequence.

Risk Factors for Type-2 Diabetes Mellitus:

Individual risk factors for type-2 diabetes mellitus include:

1. Weight (a body mass index of 25 kg/m² more)
2. Low physical activity
3. A family history of type-2 diabetes mellitus
4. A history of gestational diabetes.

WHO diabetes diagnostic criteria:

Condition	2-hour glucose	Fasting glucose	HbA _{1c}	
Unit	mmol/l (mg/dl)	mmol/l (mg/dl)	mmol/mol	DCCT %
Normal	<7.8(<140)	<6.1(<110)	<42	<6.0
Impaired fasting glycaemia	<7.8(<140)	≥6.1(≥110) & <7.0(<126)	42-46	6.0-6.4
Impaired glucose tolerance	≥7.8(≥140)	<7.0(<126)	42-46	6.0-6.4
Diabetes mellitus	≥11.1 (≥200)	≥7.0(≥126)	≥48	≥6.5

RESEARCH METHODS

This study aimed to assess the prevalence of type 2 diabetes and associated complications among patients admitted to Rajshahi Diabetes Association General Hospital. The material in this research used the research strategy, demographic, study location, sample, equipment, data collecting and analytic procedures. The type of the study is a cross sectional type of descriptive study. This research was done in Rajshahi Nursing College. All the type-2 diabetes mellitus people residing at Rajshahi Diabetes Association General Hospital, Rajshahi was be sample population. Sample Techniques is Purposive sampling technique. Technique of Data Collection used Face to face formal interview. The Instrument of the Study is Partially structure questionnaire.

Variables of the Study

- ☐ Age
- ☐ Sex
- ☐ Type of Family
- ☐ Educational status
- ☐ Marital status
- ☐ Religion
- ☐ Occupation
- ☐ Socio-economic status

Dependent Variable

Complications of type 2 diabetes.

RESULTS AND DISCUSSION

Patient's Demographic Information

Table 1. Distribution of the respondents by age

Variable	Parameters	N=50	%
Age	18 – 30 years	0	0%
	31 – 40 years	7	14%
	41 – 50 years	15	30%
	51 – 64 years	20	40%
	65– 90 years	8	16%

50 patients were selected for study the age of which respondents 14% were between 31-40 years of age, about 30% between 41-50 years, about 40% between 51-64 years, 16% between 65-90 years respectively.

Figure 1. Sex: Distribution of the respondents by sex

The patients are presented by man than women among the 50 the sexes of the respondents were 54% (27 person) female and 46% (23 person) male.

Table 3. Distribution of the respondents by socio-economic status

Variables	Parameters	N-50	%
Socio-economic status	1-15000	37	74%
	15001-30000	13	26%
	300001to above	0	0%

Most of the sample from the sample which is 37 (74%) were poor.13 (26%) respondents were middle and there was no rich respondent found in my study.

Table 4. Distribution of the respondents by occupation

Variables	Parameters	N-50	%
Occupation	Jobless	0	0%
	Student	0	0%
	Housewife	22	44%
	Businessman	5	10%
	Service	6	12%
	Agricultural worker	14	28%
	Others	N-50	6%

Result shows that 22 respondents which were 44% worked as a housewife. 5(10%) respondents were businessman.6 (12%) respondent were involving in service.3 (6%) respondent were involving in others. There was no student and jobless found in my study.

Table 5. Distribution of the respondent by some type-2 DM relevant variable

Parameter	Answer			
	No. of Frequency		No. of Frequency	
	Yes	%	NO	%
Take diabetes medication	49	98	1	22%
Take diabetes medication regularly	39	78	11	22%
Complication of type-2 DM	47	94	3	6%
Diabetes remain control	17	34	33	66%
Maintain diabetic diet	29	58	21	42%
Know treatment of type-2 DM	50	100	0	0%
Take advice regularly from doctor	29	58	21	42%

This table is shows that majority of the respondents were 98% yes, 2% no answer. (Take diabetes medication) 78% yes, 22% no answer. (Take diabetes medication) regularly 94% yes,6% no answer. (Complication of type-2 DM)34% yes, 66% no answer. (Diabetes remain control) 58% yes, 42% no answer. (Maintain diabetic diet) 100% yes% no. (Know treatment of type-2) DM 58% yes, 42% no (Take advice regularly from doctor).

Table 6. Distribution of the respondent by some type-2 DM relevant variable

Variable	Answer					
	No. of Frequency		No. of Fre-quency		No. of Fre-quency	
	Yes	%	No	%	Don't know	%
Do you have cataract or retinopathy?	10	20%	40	80%	0	0%
Do you have nephropathy?	8	16%	42	84%	0	0%
Hypertension	14	28%	36	72%	0	0%
Do you have numbness in your feet?	14	90%	5	10%	0	0%
Do you have heart problem?	45	4%	48	96 %	0	0%

This table shows that majority of the respondents had cataract 20% yes, 80% no, 80% no, 0% don't know answer; Nephropathy 16% yes, 84% no, 0% don't know answer; numbness

on feet 90% yes, 10% no, 0% don't know answer. Heart problem 4% yes, 96% no, 0% don't know answer; Hypertension 28% yes, 72% no, 0% don't know answer.

Table 7. Distribution of the respondent by some type-2 DM relevant variable

Variable	Parameter	N-50	%
What kind of medication have you taken?	Oral medication	9	18%
	Insulin	41	82%
How long you suffer from DM?	1-5 years	13	26%
	5-10 years	8	16%
	10 to above years	24	48%
	Don't know	5	10%
Treatment of type-2 DM	Hospital	45	93%
	Homeopathy	2	44%
	Kobiragi	0	0%
	Others	0	3%

This table shows that the respondents were take oral medication 18%, insulin 82%, suffer from DM 26% are 1 to 5 years, 16% suffers from DM 5 to 10 years, 48% suffer from DM above 10 years, 10% were don't know. Take the treatment from hospital 90%, homeopathy 4% and kobiragi 0%, others 3%.

CONCLUSION AND RECOMMENDATION

At the end, the result on type- II Diabetes Mellitus and its Complication among the Patients indicates that maximum Patients' of Rajshahi Diabetes Association General Hospital had complication. Majority of the respondents were numbness/ tingling or loss of sensation on their feet, minority of the patients were heart problem, eye problem and kidney problem. Patients should be informed about lifestyle modifications that may help avoid diabetes and coronary artery disease, such as weight management, increased activity, and quitting smoking.

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