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Knowledge Regarding Diabetes among Medical and Non-Medical Person in Sumeru City Hospital, Lalitpur, Nepal.

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ABSTRACT
Diabetes is a chronic disease that occurs either when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produces. Insulin is a hormone that regulates blood sugar. Over time, diabetes can damage the heart, blood vessels, eyes, kidneys, and nerves.Combined with reduced blood flow, neuropathy (nerve damage) in the feet increases the chance of foot ulcers, infection and the eventual need for limb amputation. The objective of study was to access knowledge regarding Diabetes among medical and non-medical people. In this study cross-sectional descriptive study design, a structured interview was used, a total of 100 patients were interviewed. This shows that out of 100 respondents; 92% (57 male and 35 female) knew about diabetes. 62% (33 male and 29 female) respondents were from the medical field and the remaining 38% (28 male and 10 female) were from the non-medical field. 72 % (40 male and 32 female) knew about the complication of diabetes and the remaining 28% (21 male and 7 female) didn't know about the complications of diabetes. 3% (2 male and 1 female) had diabetes and the remaining 97% (59 male and 38 female) didn't have diabetes. The study showed that 92% of the respondents knew about diabetes and 8% of the respondent are not aware of it and its symptoms, complication, and prevention.

KEYWORDS: Clinical study, Diabetes, Knowledge.

I. INTRODUCTION

Diabetes is a chronic disease that occurs either when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produces. Insulin is a hormone that regulates blood sugar.[1] Hyperglycemia, or raised blood sugar, is a common effect of uncontrolled diabetes and over time leads to serious damage to many of the body's systems, especially the nerves and blood vessels.[2] Over time, diabetes can damage the heart, blood vessels, eyes, kidneys, and nerves.Combined with reduced blood flow, neuropathy (nerve damage) in the feet increases the chance of foot ulcers, infection and the eventual need for limb amputation.Diabetic retinopathy is an important cause of blindness and occurs as a result of long-term accumulated damage to the small blood vessels in the retina. Diabetes is also among the leading causes of kidney failure at present time.[3]

The number of people with diabetes rose from 108 million in 1980 to 422 million in 2014. Prevalence has been rising more rapidly in low- and middle-income countries like Nepal than in high-income countries.Between 2000 and 2016, there was a 5% increase in premature mortality from diabetes.In 2019, diabetes was the ninth leading cause of death with an estimated 1.5 million deaths directly caused by diabetes.The Nepal Diabetes Association reported that diabetes affects approximately 15% of people more than 20 years and 19% of people more than 40 years of age in urban areas. According to WHO, diabetes affects more than 436,000 people in Nepal, and this number will rise to 1,328,000 by 2030.[4-7]Diabetes can be treated and its consequences avoided or delayed with diet, physical activity, medication and regular screening and treatment for complications.

In the 21st century, diabetes researchers continue to pave the road toward a cure today. It is

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unclear what shape the road will take; perhaps another dramatic discovery like insulin waits around the comer, or possibly researcher will have to be content with the slow grind of progress.[8]Only a few studies have been conducted on knowledge regarding diabetes in the general population in Nepal. Effective utilization of the result of these studies can play a vital role inthe prevention of severity and number of death arising due to diabetes. Thus, this study was designed to assess the knowledge of diabetes and its management among medical and non–medical people along with their socio-demographic profiles who are visiting hospitals for medical purposes.

II. METHODOLOGY

Research Design

A cross-sectional descriptive study design was used to find out the knowledge regarding diabetes of a person who works in or visited Sumeru city hospital, Lalitpur.The study was focused on knowledge regarding diabetes among medical and non-medical people.

Population and Sampling [9]

The research was conducted among the medical and non-medical people in Sumeru City Hospital. The sample size of the study was 100. Sample size was determined by using formula as: Sample size (n) = z^2pq/d^2

Where, z = Confidence interval = 1.96

P = Prevalence study = 0.50

q = 1-p = (1-0.50) = 0.50

d = Precision = 0.098

Hence, n = 100

Data collection tools and technique

This study used a structured questionnaire ascertaining, socio-demographic status and questions concerning individual knowledge about Diabetes, its symptoms, complications.[10]People present in Sumeru City Hospital were included.Only the people who were agreed to give the interview were included.

Sampling technique

The study used a convenience sampling technique as per the availability, accessibility and proximity. The method was quick, inexpensive, and convenient.

Duration of the study period

This study was carried out for 4 months. (March - June)

Instrumentation

The data was collected with a questionnaire prepared.The questions were translated into Nepali versions for the interview.The questionnaire was divided into three parts.

- Part 1: Socio-Demographic Information
- Part 2: Knowledge Regarding Diabetes
- Part 3: Knowledge Regarding Management of Diabetes

Ethical consideration

The research was conducted only after the written approval of the Ethical Review Board of Hope International College, Purbanchal University. (IRB/77-78/043) Verbal consent was obtained from each participant before data collection.The participants were informed about the purpose and objective of the study. Participants were ensured that the collected data was used for research purposes only.

Data collection procedure

A self-administered questionnaire was developed to collect the data. Written informed consent was obtained from the respondents by explaining the objectives of the study before data collection. Voluntary participants were done.

Data analysis procedure

Data was collected, analyzed and interpreted according to the objectives and the nature of the research questionnaire. All the collected data were overviewed, checked and verified for their completeness, consistency and accuracy. Findings were analyzed by using descriptive statistics like percentage and frequency. Data then was presented in the table.

III. RESULT AND DISCUSSION

All the collected data were analyzed and interpreted based on research objectives. The analysis and interpretation were based on the objectives of the study.

Socio-Demographic Characteristics of the Respondents

The highest number of respondents (61%) were from the age group 21-25 years. Similarly, 35% of respondents were from the age group above 25 years. The lowest respondents were from the age group of 15 years or less than 15 and the age group of 16-20 years i.e. 2% each. Out of 100 respondents, 61 respondents were male i.e. 61% and 39 respondents were female i.e. 39%. Out of 100 respondents, 95 respondents were from the Hindu religion, 2 respondents were from the

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Buddhist religion, 2 respondents were from Christian and only 1 respondent was from another religion. Out of 100 respondents, 59 respondents were from Nuclear families, 7 respondents were from Extended families and 34 respondents were from joint families. Out of 100 respondents, 11 respondents were married and 89 respondents were unmarried. There was no response from the divorced/separated group and widowed group. Out of 100 respondents, 8 respondents were Literate (Under SLC/SEE), 1 respondent's education level is SLC/SEE, 16 respondents' education level was Diploma/+2, 68 respondents education levels were Bachelors Degree, 13 respondents education levels were Masters Degree. There was no respondent from Ph.D. Out of 100 respondents, 62 respondents were from the medical field and 38 respondents were from the non-medical field. So, the majority of the respondents were from the medical field i.e. 62%.

Table 1: Socio-Demographic Characteristics of the Respondents

On basis of					
Age	<15 (2%)	16-20 (2%)	21-25 (61%)	>25 (45%)	
Gender	Male (61%)		Female (39%)		
Marital status	Married (11%)		Unmarried (89%)		
Religion	Hindu (95%)	Buddhist (2%)	Christian (2%)	Muslim (1%)	
Family type	Extended (7%)	Joint (34%)		Nuclear (59%)	
Education	Under SEE/SLC (2%)	SEE/SLC (1%)	Diplopma/+2 (16%)	Bachelors (68%)	Masters (13%)
Background	Medical (62%)		Non-medical (38%)		

Knowledge regarding diabetes of the respondents

Table 2: Knowledge regarding the meaning of diabetes

Meaning of Diabetes	**Frequency (n=100)**	**Percentage**
When the body needs more carbohydrate	3	3%
When the body is unable to regulate the amount of glucose in blood	91	91%
Don't know	6	6%

Table 2 shows the distribution of respondents according to their knowledge regarding the meaning of diabetes. Out of 100 respondents, 3 respondents answered that Diabetes happens when the body needs more carbohydrates. Similarly, 91 respondents answered when the body is unable to regulate the amount of glucose in blood i.e. Diabetes and 6 respondents answered that they don't know about the meaning of diabetes. According to this information, 91% of respondents had good knowledge and the remaining 9% had poor knowledge regarding the meaning of diabetes.

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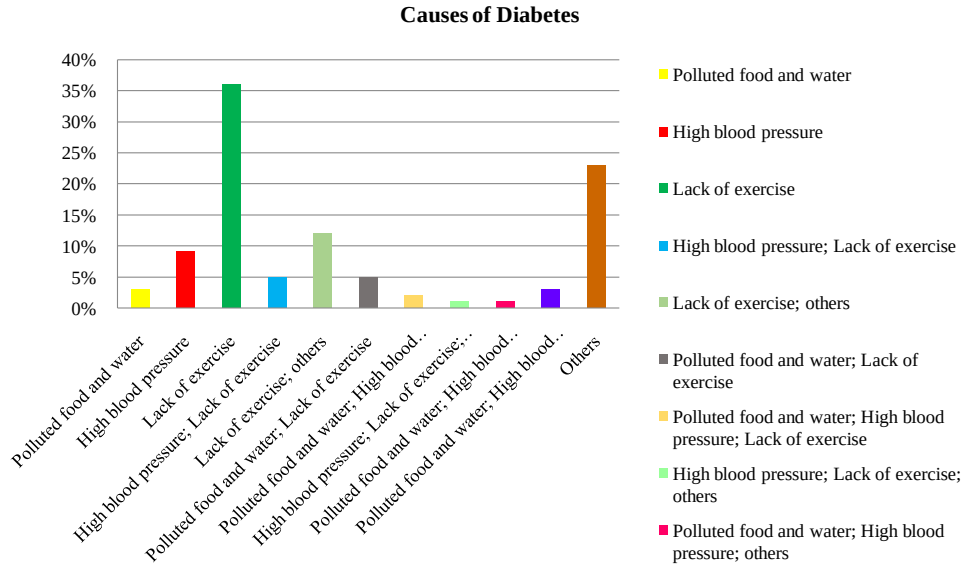

Figure 1: Knowledge regarding causes of diabetes

Figure 1shows the distribution of respondents according to their knowledge regarding the causes of diabetes. Out of 100 respondents 3 respondents answered that the causes of Diabetes are polluted food and water, 9 respondents answered that the causes of diabetes are high blood pressure, 36 respondents answered that the causes of diabetes are lack of exercise, 5 respondents answered that the causes of diabetes are high blood pressure; lack of exercise, 12 respondents answered that the causes of diabetes are lack of exercise; others. Similarly, 5 respondents answered that the causes of diabetes are polluted food and water; lack of exercise, 2 respondents answered that the causes of diabetes are polluted food and water; high blood pressure; lack of exercise, 1 respondent answered that the causes of diabetes is high blood pressure; lack of exercise; others. Similarly, another 1 respondent answered that the causes of diabetes is polluted food and water; high blood pressure; others, 3 respondents answered that the causes of diabetes are polluted food and water; high blood pressure; lack of exercise; others and 23 respondents answered that the causes of diabetes is others.

Out of 100 respondents 14 respondents answered that the symptoms of diabetes is dry skin, 50 respondents answered that the symptoms of diabetes is dry sticky mouth, 7 respondents answered that the symptoms of diabetes is others, 29 respondents answered that the symptoms of diabetes is sunken eyes and 7 respondents answered that they didn't know about the symptoms of diabetes.

Knowledge Regarding Non-Pharmacological Management of Diabetes

Out of 100 respondents, 3 respondents answered that Diabetes is a communicable disease, 93 respondents answered that is a non-communicable disease and 4 respondents answered they don't know the types of diabetes. Also out of 100 respondents, 80 respondents answered that diabetes can be prevented, 14 respondents answered that diabetes can't be prevented 6 respondents answered that they don't know that diabetes can be prevented or not.

Out of 100 respondents 93 respondents answered that Sugar-Free food is better to eat for diabetes, 1 respondent answered that solid food is better to eat for diabetes, 2 respondents answered that as usual food is better to eat for diabetes and 4 respondents answered that another kind of food is better to eat on diabetes. On questioning about the role of food in diabetes, out of 100 respondents, 96 respondents answered that diabetes patients should take care of food and the remaining 4 respondents answered that diabetes patients shouldn't take care of it.

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Table 3: Respondents reply on kind of food causing diabetes.

What food causes diabetes?	Frequency	Percentage
Fast foods	6	6%
Highly Processed Carbohydrate	56	56%
Highly Processed Carbohydrate; fast foods	7	7%
Highly Processed carbohydrate; Milk and dairy products	1	1%
Highly Processed carbohydrates; Milk and dairy products; Fast foods	4	4%
Highly Processed carbohydrate; Red meat	6	6%
Highly Processed carbohydrates; Red meat; fast foods	3	3%
Highly Processed carbohydrates; Red meat; Milk and dairy products; fast foods	6	6%
Milk and dairy products	2	2%
Red meat	3	3%
Red meat; milk and dairy products; fast foods	1	1%
Don't Know	5	5%

The mean age of the study participants was 24.98 ± 13.53 years. The study revealed that 58.8% had poor knowledge about diabetes. Higher education status was associated with higher odds of having accurate knowledge regarding diabetes ($p < 0.001$), while those with no family history of diabetes had lower odds of good knowledge status ($p < 0.001$)(23).

Comparing to the above references most (90%) of respondents received about diabetes care for health workers/institutions and in our study most (92%) of respondents received information about knowledge regarding diabetes among medical and non-medical people. Due to the higher education, the majority of the respondents had good knowledge regarding diabetes which includes causes of diabetes, symptoms of diabetes, prevention and management of diabetes. A notable proportion of the participants had good knowledge on diabetes mellitus. Education, occupation and family history of diabetes were associated with higher knowledge status.[11] A strong emphasis on health education based on diabetes risk factors, symptoms, prevention and control measures is necessary.

IV. CONCLUSION

This study found most of the respondents to be were aware of the causes, symptoms, treatment and prevention of diabetes. This study was conducted in one hospital and may not be representative of patients from an endemic area.Face-to-face interviews might be a more effective method to explore the knowledge and practices of the respondents. However, this study lays an outline and a comparative study can be carried out in a similar setting at a huge scale for a better understanding of the real scenario.

V. ACKNOWLEDGMENT

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CONFLICT OF INTEREST

None.

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