Type 2 Diabetes Prevalence, Complication and Awareness in the Local Population of Jabalpur

Parnavi Arya1*, Varsha Aglawe2

Abstract: Despite the lack of a cure for diabetes, the disease may be managed. Most occurrences of type 2 diabetes are caused by the pancreas failing to generate enough insulin or the body's inability to properly use the insulin it does produce. 687 people were surveyed, and 57.5 percent of them were found to have diabetes. People who tested positive for the disease had an increased risk of high blood pressure as well as retinal damage, neuropathy, nephropathy, skin problems, and thyroid problems. Many problems arose as a result of the fact that 34.4% of the people with diabetes in our research were unaware that they had diabetes. Regular medical checkups and early identification, according to medical professionals, are critical to treating and controlling the disease and maintaining a normal life style..

Keyword- The chronic nature of diabetes is reflected in its high incidence and many complications.

INTRODUCTION

Diabetic complications are often overlooked when compiling national mortality statistics because they are either not included on death certificates or are reported at a lower rate than they really are. Studies have revealed that persons with diabetes die earlier than those who do not have the disease, however this mortality varies by geography and study group. 1-4 Diabetic hyperglycemia is the common denominator in all kinds of diabetes mellitus, yet the pathogenic mechanisms that lead to it differ greatly. There are three forms of diabetes: type 1, type 2 and type 3. Type 1 diabetes is caused by a lack of insulin produced by the pancreas. "Insulin-dependent diabetes mellitus" (IDDM) and "juvenile diabetes" were formerly used to refer to this kind of diabetes. There is no known cause. There are two types of diabetes: Type 1 (insulin-dependent) and Type 2 (insulin-independent). A shortage of insulin may also occur as the condition advances. Non-insulin-dependent diabetes mellitus (NIDDM) or "adult-onset diabetes" were formerly used to describe this kind of diabetes. Having an excessive amount of body fat and not getting enough exercise are the key causes. Type 3 gestational diabetes affects pregnant women who do not have a history of diabetes or who acquire high blood sugar levels during pregnancy for no apparent reason.5

1Research Scholar. Department of Zoology and Biotechnology. Government Model Science College (Autonomous) Jabalpur M.P 482001 India

2 Professor. Department of Zoology and Biotechnology. Government Model Science College (Autonomous)

Jabalpur M.P 482001 Indiae-mail address- parnavi.arya109@gmail.com

METHODOLOGY

A cross-sectional research was conducted in the urban area of Jabalpur, Madhya Pradesh, to examine the prevalence of diseases. For this study, researchers surveyed individuals who had been prescribed by their doctors a blood sugar level test, either because of symptoms they had or because they had been scheduled for frequent examinations.

Preparation of Case Report- Patients were asked to fill out a questionnaire precisely as they were instructed, which made it easier to analyse data. People with diabetes were profiled based on the results of their pathology tests. The questionnaire was not available to people who were not diagnosed with diabetes. To begin, we conducted a patient-to-patient study to locate all of the persons in the 31-70-year-old age bracket.

It was determined that the positive study population was comprised of both male and female participants, as well as those who had a problem. Groups of participants were formed, and each group was comprised of

Group 1: ages 31 to 40

2-41 to 50-year-olds

ages ranging from three to sixty-one

Group 4: ages 61 to 70

According to the World Health Organization and the American Diabetes Association, prediabetes and diabetes were both classified as having a high risk of developing diabetes (International diabetes federation 2006; American diabetes association 2005).

6-7 A fasting blood glucose level of 6.1 mmol/L to 6.9 mmol/L was considered pre-diabetic. A blood glucose level of 7.0 mmol/L or above was deemed to indicate diabetes mellitus. People with type 2 diabetes must initially undertake dietary and lifestyle adjustments after receiving a diagnosis. Regular exercise, consuming more nutritious foods, and limiting caloric consumption are all critical in preventing and treating diabetic problems and getting blood glucose levels down to a manageable level.

RESULT

A total of 687 samples were used in the investigation, of which 365 were found to be diabetic. At 7.71 percent, people weren't responding at all.

Table-1 The age-standardized prevalence stratified by sex and age of diabetic population

Age Group	Male (N)	Female (N)	Total
31-40years	21	32	53
41-50years	58	43	101
51-60years	77	53	130
61-70years	50	31	81
Total	206	159	365

As shown in table-1 highest prevalence according to age group was seen in 51-60 years age group. Males (56.4%) showed highest prevalence of diabetes than females.

Table-2 complications and awareness of diabetic condition among local population.

Age Group	Complications						Aware Of Being Diabetic	
	Skin	Retinopathy	Neuropathic	Nephropathy	Blood Pressure	Thyroid	Yes	No
31-40years	15	31	12	36	23	6	24	29
41-50years	27	54	62	69	73	33	69	32
51-60years	42	63	71	66	83	52	72	58

61-70years	68	76	57	52	72	54	74	7
Total (%)	41.6%	61.3%	55.3%	61.9%	68.7%	39.7%	65.4%	34.4%

Table-2 represents every complication experienced by people with diabetes in the research area. These included issues with the skin and vision as well as nerve damage and hypothyroidism. Diabetics made up 53.1% of the population. 65.4 percent of the entire diabetic population was aware of their condition and received regular treatment for diabetes, while 34.4 percent of the total diabetic population was unaware of their illness and did not get regular treatment for diabetes..

CONCLUSION AND DISCUSSION

By comparing the number of individuals with type-2 diabetes in India now to the number of people with type-1 diabetes, we may determine how much awareness there is about diabetes in India and the rest of the globe. Diabetes is a major health concern for the people of Jabalpur, as well as the rest of India, where the prevalence of the disease is on the increase.The prevalence of diabetes was found to be 57.7%, with 365 of the study group testing positive for the disease out of a total of 687 participants. In line with previous research, we found an increase in the prevalence of diabetes as people aged in our sample. Older age was associated with a considerably greater risk of getting diabetes8. Retinopathy (61.3%), kidney disease (61.9%), neuropathy (55.3%), blood pressure (68.7%) and thyroid disease were also observed in the local population (39.7 percent). During our research, we discovered that high blood pressure is more frequent among the positive study group. There were also typical side effects such as nephropathy and retinopathy. Neuropathy, renal difficulties, retinopathy, and foot ulcers were among the most prevalent complications of diabetes, according to an international research. These findings were in accord with those of earlier studies including South Indian participants. Approximately 10% to 11% of the research group was receiving regular therapy and checks for their diabetes since they were aware of it. In contrast to the 64 percent who were already aware of their disease, 34.4% continued to ignore their diabetes symptoms until they had major issues that compelled their doctors to do a blood sugar test.Regular examinations and early discovery, say medical professionals, are critical to keeping the disease under control and treating it effectively. As a result of patients' lack of conviction that they are at risk for diabetes, many patients delay diagnosis and treatment, which may lead to serious problems. A government effort in the United Arab Emirates, according to Mathew E. et al., has established an expert council to provide recommendations for diabetes treatment and public awareness activities. Because of this, the growing number of diabetes cases in that nation may be slowed down12. Similar grassroots activities and services are needed in India to stem the tide of the modern-day diabetes epidemic. There is an immediate need for further research and treatment in Jabalpur since the sickness is now obvious to people from all walks of life.

ACKNOWLEDGEMENT

REFRENCES

1.   In this study, Raymond NT, Langley JD, Goyder E, Botha JL, Burden A.C., Hearnshaw J.R. Record linkage of Leicestershire, UK, population-based registries was used to establish the causes of mortality in patients with insulin-treated diabetes. 1995;49:570-4. J Epidemiol Community Health.

2.   A nationwide cohort of the US population with and without diabetes from 1971 to 1993 was studied for mortality rates. Diabetic Care 1998;21:1138-45

3.   Koskinen S, Reunanen AR, Martelin TP, and Valkonen T. Diabetes mellitus mortality in a large population-based cohort. 1998;88:765–70. Am J Public Health Koskinen S, Reunanen AR, Martelin TP, and Valkonen T. Diabetes mellitus mortality in a large

population-based cohort. 1998;88:765–70. Am J Public Health

4. Gatling W, Tufail S, Mullee MA, Westacott TA, Hill RD. Mortality rates in diabetic patients from a community-based population compared to local age/sex matched controls. Diabet Med 1997;14:316-20

5. 5) Varsha Aglawe and Parnavi Arya Morning walker's risk factors for diabetes Scientific and Research Communications.2018;7(7):643-645.

6. The International Diabetes Federation was founded in 1976. WHO/IDF report on diabetes mellitus and intermediate hyperglycemia definition and diagnosis. The World Health Organization, Geneva, Switzerland, 2006

7. Diagnosis and categorization of diabetes mellitus by the American Diabetes Association. Diabetes Care 2005; 28(1):37–42.

8. Wayne J. Miller and T. Kue Young. Finding out how common diabetes is and how to prevent it: Health reports. 2003;14(3):35-46.

9. Mohan V, Shah S, and Saboo B. are the authors of this paper. 9. Data from the A1chieve study show the current glycemic status and comorbidities associated with type 2 diabetes in India. (2013) 61:12-15 in JAPI (Suppl).

10. Ten. Prevalence of diabetic retinopathy in urban India: The Chennai Urban Rural Epidemiology Study (CurES) Eye Study. Invest Ophthalmol Vis Sci. 2005;46:2328-2333.

11. A study of the prevalence and risk factors for diabetes-related kidney disease in an urban South Indian population was conducted by Unnikrishnan RI and colleagues (CurES-45). Diabetes Care. 2007;30:2019–2024

12. 12. Mathew E, Ahmed M, Hamid S, Abdulla F, and Batool K. Hypertension and dyslipidaemia in Type 2 diabetes mellitus in the United Arab Emirates (in Arabic). Australia's Medical Journal, 2010; 3(11):699.