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Assessment of Diabetes mellitus Related Knowledge, Attitudeand Practice among Diabetics using Self Prepared Questionnaire to create Awareness for public Health

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ABSTRACT

Introduction: Knowing a population's level of awareness of a disease condition is crucial for future development, early identification, and illness prevention because diabetes mellitus is one of the major health problems of the twenty-first century**. Objective:** To assess the awareness and knowledgeregarding diabetes mellitus among diabetic subjects. **Methods:** A prospective and observational study was done in 100 diabetics. All in-patients and out- patients either gender,of age 20-80 years were included in the study. Paediatric patients, pregnant/lactating women were excluded.**Result:** After analysing the scores, it was found that among diabetic patients 46% had poor knowledge, 46% had medium knowledge and 9% had good knowledge regarding Diabetes Mellitus. **Conclusion:** Overall, our study concludes that diabetic patients had more knowledge regarding diabetes mellitus.

Keywords: *Awareness, Diabetes mellitus, knowledge, early detection, Prevention, Complications.*

INTRODUCTION

Since diabetes mellitus (DM) is one of the most difficult health issues of the twenty-first century. Over 366 million people are already affected by it worldwide, and by 2030, that number is expected to double. Knowing a population's level of knowledge of a particular condition is crucial for future development, early disease detection, and disease prevention. Evidence points to better long-term glycemic management in patients who are aware about DM self-care. Therefore, it is essential to make sure that patients have the necessary knowledge, attitudes, and habits.

Risk factors

To prevent diabetes in the general population as well as in high-risk groups like Impaired Fasting Glucose (IFG) and Impaired Glucose Tolerance (IGT), awareness of risk factors is a necessity. Obesity, family history, insulin resistance, hypertension, and hyperlipidemia are common risk factors.

Complications

The main issue with poorly managed diabetes is that it increases the risk of microvascular and macro vascular complications, including coronary artery disease, stroke, blindness, kidney failure, foot amputation, and poor blood supply to the limbs, which increases morbidity.

The prevention and management of disease increasingly depend on patient education.

Self-care practices

People's self-care behaviors are influenced by their understanding of diabetes; the more knowledge they have about their condition, the more self-management abilities they will possess.

METHODOLOGY

Study Design

The study was a Prospective and Observational study.

Study Site

This study was conducted at Sri Venkateshwara Medical College Hospital and Research Centre, Puducherry. It is an 1100 bedded multi-specialty hospital.

Study Period

The study was carried out over a period of 3 months.

Source of Data and Materials

Patient case note/prescription, patient counselling, self-questionnaire, patient permission form, patient data collection form, diet chart, and chart on insulin delivery technique are all examples of data gathering methods.

Study Criteria

Suggested Inclusion Criteria

- Male and female Diabetic population between 20 to 80 years old.
- Patients with type1 and type 2 diabetes.

Exclusion Criteria:

- Pediatric Patients.
- Patients who are not willing to give the consent form.
- Pregnant/lactating women.

Study Procedure: Method of data collection

A customized data collection form was created and filled out for each of the 100 subjects who were interviewed. 100 of those participants had diabetes. The data collecting form includes information on sociodemographic traits, a questionnaire regarding patient knowledge of illness, risk factors, symptoms, and complications, as well as self-care routines, lifestyle changes, and management. By assigning grades based on the responses provided by the interviewees, the level of awareness was evaluated. For the benefit of those who could not read or comprehend English, the surveys were translated into the local languages.

Research and Ethical Committee Approval

Institutional research and ethical committee approvedthe study and issued a letter of permission to conductthe study

Statistical Methods

Descriptive statistical analysis has been carried out in the present study. Mean + Standard deviation (Min-max), one way ANOVA and p value as wellas Percentages.

RESULTS AND DISCUSSION

The eyes, kidneys, nerves, heart, and blood arteries are particularly vulnerable to long-term damage, dysfunction, and failure due to the chronic hyperglycemia of diabetes.

The goal of this study was to further understanding of the features, course, complications, and treatment of diabetes mellitus. The three-month trial took place in a multispecialty hospital from January 2022 to March 2022. 100 participants in all, 100 of them are diabetic patients, were chosen for the study.

The lowest age range for patients was 20–40 years, while the age range that made up the majority of them was 41–59 years. Patients with diabetes comprise 36 (36%) women and 64 (64%) men. Regarding gender, the diabetes patients' means and SDs were 50 and 19.8, respectively. Graduates' awareness of diabetes mellitus increased in our study, which was similar with the research conducted by Neha M. Hadi et al. in 2015. The educational status of diabetic patients had a mean and standard deviation of 19.8 and 5.44.

While 64% of diabetics had no family history of the disease, 36% of diabetics did. The family history of diabetic patients' mean and standard deviation was 50 19.8. While 27% of respondents had a sickness duration of less than one year, the majority of respondents had a disease duration of more than five years. Their disease lasted 33 days on average, with a standard deviation of 7.77. The majority of the overweight diabetes participants had a mean and standard deviation of 20 22.29.

Knowledge regarding risk factors of diabetes mellitus

Table 3 displays information on diabetes risk factors. 63% of diabetic patients believed that one of the main risk factors for diabetes mellitus was genetic. The fact that obesity can lead to diabetes mellitus was known by 48% of diabetics. Regarding other risk factors, 27% of diabetics and 19% of those with hypertension are aware of the importance of physical activity. One cause, smoking, was discovered to be known to 19% of diabetic individuals. In the current investigation, it was discovered that 34% of diabetic patients were unaware of any diabetes risk factors. Regarding risk variables, diabetes patients' means and standard deviations were found to be 23.1 and 20.73, respectively.

Knowledge regarding complications of diabetes mellitus

In this study regarding knowledge and awareness on diabetes Table 6 shows the percentage of knowledge on complications of diabetes diabetic subjects. It shows 4%diabetic was aware on all complications.

Eye Complications: 69% diabetic patients knew that DM can affect your eye.

Cardiac complications: 51% diabetic patients knew that sDM is a risk factor for developing heart diseases.

Kidney complications: As regards the kidney complication of DM, 59% diabetic were aware that DM is a riskfactor for renal diseases.

CNS complications: 28% diabetic and 18% non-diabetic respondents wereaware that Diabetes can affect nerves leading to neuropathy while 1% diabetic knew thatit can affect the blood vessels. 21% diabetic patients were unaware of diabetes mellitus.

Knowledge regarding symptoms of diabetesmellitus

The results showed that the respondents had a fairly good understanding of the symptoms of diabetes.Early recognition of symptoms may aid in early detection of the disease, allowing for prompt treatment, thepublic would not take the symptoms lightly and wouldseek prompt medical attention. The symptoms of Type 2 diabetes are so mild those patients who are fortunateto be diagnosed early do not require long term therapy.It is important to educate the public about the complications of diabetes mellitus, so that they could encourage their diabetic friends or relatives to comply with therapy. This may reduce the burden of diabetes and its complication. Only 1% diabetic and none of diabetic patients were aware on diabetic symptoms. Majority of Responders (71% diabetic) were aware on Polyuria as a diabetic symptom for where 37%diabetic were aware on polydipsia as a diabetic symptom, 33% diabetic, 67% diabetic and numbnessof hands as 38% diabetic and, 48% diabetic and, 6% diabetic and were aware on abnormal sensation of feet, numbness of hands, nocturia weight loss as a symptoms of diabetes mellitus. 4% diabetic participants were unaware of any of the symptoms of diabetes.

Knowledge regarding management of diabetes

90% knew that diabetes canbemanaged with dietary modification and drugs, onlyabout a third (Mostly males) of our study participants knew that exercise is an essential component of diabetes management. Lifestyle patterns and exercise is known to be very important in management of metabolic disorderslike type 2 diabetes mellitus. This study included a setof questions addressing the lifestyle and exercise status of the respondents. 27% diabetic subjects check their glucose levelsby the glucometer. 50% diabetic patients are aware on the advantage of physical activity in diabetic patients. 28% diabetic and participants gave correct responses to the daily physical activity. 72% diabetic and gave in-correct response to daily physical activity. But only 23% diabetic with sedentary lifestyle did walking, 8% diabetic subjects did the aerobic exercises for 30 minutes a dayfor four or more days a week. The general awareness about the metabolic disorders and associated conditions was found to be much lower in the study Population.

By using the study done by (Shnashi Javad *et al* 2018) we gave scores for each question. (Aware =2, partially aware=1, unaware=0) answered by diabetic patients The mean score for each section (risk actors, and complications, symptoms and self-care practices) was calculated based on the total possiblescore in each; then it was expressed as mean ± standard deviation (SD) and then analysis was done by using one way ANOVA. The P value = 0.001 which is highly significant. It shows that diabetic patients had more knowledge than non-diabetic patients. Overall study show that in diabetic male patients have good knowledge towards DM etiology and complications than females. But in non-diabetics, females have more knowledge towards risk factors and low knowledge towards DM clinical manifestation than males.

CONCLUSION

A brief summary of the current status of knowledge and awareness on diabetes mellitus is provided in the current

study. The current study emphasizes the need for enhanced education and knowledge of diabetes mellitus among people with and without diabetes in order to prevent diabetes and effectively regulate its risk factors, complications, and care. Analysis of the results revealed that 46% of diabetic patients had low understanding about diabetes mellitus, 45% had medium knowledge, and 9% had strong knowledge.

51% of the male participants who had diabetes and 26% of the female subjects who had diabetes in the whole study population were also aware of the risk factors for developing diabetes. 35% of diabetic female patients and 61% of diabetic male patients were aware of the complications connected with diabetes and its symptoms. Both male and female diabetes participants were found to have poor levels of general awareness.

Regarding knowledge of diabetes self-care techniques, 28% of the participants and diabetic patients in our entire study sample engaged in daily physical exercise. 83 percent of diabetes individuals adhered to their dietary restrictions.

CONFLICT OF INTEREST

No conflicts of interest.

ABBREVIATION USED

PCOS: Polycystic ovarian syndrome; GDM: Gestational diabetes mellitus; MODY: Maturity onset diseaseof young; BMI: Body mass index; DM: Diabetes mellitus; IGT: Impaired glucose tolerance; IFG: Impairedfasting glucose; RBS: Random blood sugar; FBG: Fasting blood glucose; PPBG: Post prandial blood glucose; HbA1c: Glycosylated hemoglobin; ANOVA: Analysis of variance; SD: Standard deviation; CNS: Central nervous system; TV: Television; SC: Sub cutaneous; PO: Per oral; OD: Once daily; BD: Twice daily; TID: Thrice daily; HIV: Human immune deficiency virus; AIDS: Acquired immunodeficiency virus.

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