

Knowledge and self care practices among type-2 diabetics attending tertiary care hospital, Visakhapatnam City.

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ABSTRACT

INTRODUCTION: Diabetes mellitus is a chronic disease requiring continuous medical care and strict glycemc control along with multiple risk-reduction strategies. Knowledge regarding diabetes and self-care practices are critical to prevent complications and to improve diabetes outcome. The present study was undertaken among type 2 diabetics to assess knowledge and self-care practices regarding diabetes.

METHODS: A descriptive cross-sectional study was conducted from September 2014 to December 2014 among 110 type 2 diabetics in tertiary care hospital, Visakhapatnam. A semi structured pretested questionnaire was administered prior consent. Results were analyzed by using SPSS - 21 trial version. Statistical methods used were frequencies, proportions, standard error of difference between two proportions and $p < 0.05$ was considered for statistical significance.

RESULTS: Among 110 study subjects, 38.2% were males and 61.8% were females. Majority of participants were of age group 51-60 years. Knowledge regarding various activities such as performing regular physical activity, dietary modifications and blood glucose monitoring seen in 70.9%, 72.72%, 74.54% of study participants respectively. Whereas knowledge regarding symptoms of hyperglycemia, hypoglycemia seen in 46.36% and 30.9% of participants respectively. Among self-care practices, following healthy diet plan ($z=2.12$), regular physical activity ($z=2.14$) and regular intake of medication ($z=2.19$) were practiced well and were significantly associated with attaining glycemc control. Self-care practices like foot care, periodic eye-checkups, carrying quick acting sugars were poorly practiced.

CONCLUSION: As evidenced by study there is a need to promote self-care practices among the diabetics and integrate all the components of self-care education in clinical practice for better outcome in the management of diabetes.

KEY WORDS: Knowledge, self-care, type 2 diabetes, glycemc control, tertiary care hospital

Introduction

Diabetes mellitus (DM) is a chronic progressive metabolic disorder characterized by hyperglycemia mainly due to absolute (Type 1 DM) or relative (Type 2 DM) deficiency of insulin hormone (1). World Health Organization (WHO) estimates that more than 347 million people worldwide have DM of these more than 90% are type 2 diabetics. This number is likely to be more than double by 2030 without any intervention. Almost 80% of deaths due to diabetes occur in low and middle-income countries (2). WHO projects that diabetes will be the 7th leading cause of death in 2030. India today heads the world with over 32 million diabetic patients and this number is projected to increase to 79.4 million by the year 2030 (3). Increased prevalence in India is attributed to the epidemiological transition coupled with urbanization, industrialization and unfavourable lifestyle changes like sedentary lifestyle, high saturated fat intake, increase in consumption of alcohol and stress (4). Lack of knowledge about the disease and self-care practices among diabetic patients are some of the important variables influencing the progression of diabetes and its complications, which are largely preventable. Self-care in diabetes has been defined as an evolutionary process of development of knowledge or awareness by learning to survive with the complex nature of the diabetes in a social context (5,6). These are behaviours undertaken by people with or at risk of diabetes in order to successfully manage the disease on their own

(7). Because the vast majority of day-to-day care in diabetes is handled by patients or families (8), there is an important need for reliable and valid measures for self-management of diabetes (9-11).

The American Association of Clinical Endocrinologists emphasizes the importance of patients becoming active and knowledgeable participants in their care (12). Likewise, WHO has also recognized the importance of patients learning to manage their diabetes (13). With this background, the present study aimed to know the knowledge regarding diabetes and self-care practices among type 2 diabetics.

Materials and Methods

A hospital-based, cross-sectional, observational study was conducted among patients with type 2 diabetes mellitus attending a diabetes clinic in a tertiary care hospital during study period from September to December 2014. The study population comprised of all the patients aged above 30 years diagnosed with type 2 diabetes and visiting the hospital for follow-up care. The purpose of the study was explained and informed consent was obtained from the participants. A questionnaire was developed and tested on 20 patients and suitably modified after consultation with experts. This pretested, predesigned questionnaire was used to interview the participants regarding their sociodemographic characteristics, knowledge and self-care practices related to diabetes mellitus.

Socio-demographic information includes patient's age, gender, residence, marital status and socioeconomic status. Socioeconomic status of the patient was calculated by using

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Modified Kuppaswamy classification 2012 (14). Knowledge had questions regarding general awareness on diabetes mellitus, its symptoms, complications, prevention and control. Questions related to self-care practices were regarding life-style and dietary habits, monitoring of blood glucose, drug compliance, eye examination, foot-care, carrying quick acting sugars. Questions regarding information related to diabetes included- the duration of the diabetes among study subjects, recent fasting blood glucose levels, family history of diabetes, any complications related to diabetes, anthropometry (height, weight, body mass index) and current status of smoking and alcohol intake among them.

Patients were classified into those who had achieved glycemic control and those who did not achieve, based on the fasting blood glucose levels (fasting pre-prandial glucose target) <110 mg/dl according to Consensus Statement on Guidelines for Glycemic Control provided by American College of Endocrinology (15). Self-care practices were compared across the two groups and significant associations evaluated. Statistical methods used include frequencies, proportions and standard error of difference between proportions. Data analyzed using SPSS 21 trial version.

Results

A total of 110 type 2 diabetic patients consented and participated in the study of whom 42 (38.18%) were male and 68 (61.81%) female. Age ranged from 34 to 70 years in the sample with maximum number of the respondents (34.54%) in the age group of 51-60 years with mean age of 53.45 years (SD= 9.79). Among study participants 41.81% belonged to lower and 49.08% to middle socioeconomic class as shown in table 1. Majority of respondents (54.54%) had duration of diabetes between 1 to 5 years with overall mean duration of 5.84 years (duration of diabetes ranged from 6 months to 31 years). Among the study participants 61.81% had family history of diabetes; 15.45% were smokers; 11.81% were alcoholics; most of them (48.16%) were obese with BMI > 30 as shown in table 2.

Regarding study participants' knowledge about diabetes and its self-care 69.09% of subjects knew about the cause and nature of the disease, 78.18% knew about the importance of regular health checkups, 74.54% about the importance of regular monitoring of blood sugar, 72.72% knew about the importance of dietary modifications whereas 46.36% and 30.9% of participants knew about symptoms of hyper and hypoglycemia respectively as shown in figure 1. Self-care activities followed by participants revealed that 90% regularly monitored blood glucose, 75.45% followed regular healthy diet plan, 74.54% attended regular health check-ups. Whereas less than 40% of participants followed practices like carrying quick acting sugars, foot-care, annual eye checkups as shown in figure 2.

Among 110 study subjects, 68 (61.81%) achieved glycemic control and 42 (38.18%) did not achieve (based on their fasting blood sugar levels less than 110 mg). Among self-care practices, following a healthy diet plan ($z=2.12$), regular physical activity ($z=2.14$), regular intake of medication ($z=2.19$) and foot care ($z=2.58$) were significantly associated with the achieving

glycemic control as shown in table 3.

Discussion

The present study was conducted to know about the knowledge and self-care practices in type 2 diabetics attending out-patient clinic in tertiary care hospital. Majority of the participants belonged to the age group between 51-60 years similar to studies done by Shah et al in Saurashtra region of Gujarat (16) and by Priyanka et al (17). The findings of our study revealed that participants were aware of only few aspects related to symptoms, complications, prevention and control of diabetes. Even though more than 70% knew about complications due to diabetes; self-care practices to detect complications like periodic eye checkups, foot examination were followed by very few subjects. Among the study subjects 70.9% were aware of importance of physical activity but only 38.18% did regular exercise this was found to be mostly due to lack of time. These findings were similar to the study done by Priyanka et al (18) in Kolkata, in which maximum number of participants showed compliance to dietary modification and medication but very few had gone for eye checkups (25%) even though most of them (63%) knew about complications. Majority of study subjects thought that the disease can be controlled by mostly medication, healthy diet, regular blood glucose monitoring and periodic health check-ups. This might be due to fact that the consultation with doctors and dieticians during their regular follow up was responsible for directly motivating them to adopt such activities. Other authors have shown that physician's barriers like constraints of time and facilities, sub-optimal knowledge of guidelines, focus on acute management than preventive care led to poor management of disease (19). In our study few subjects knew the disease is inheritable, chronic and not curable. Only 30.9% were aware of symptoms of hypoglycemia and thus few of them carried quick acting sugars. Among the participants 62% achieved glycemic control in the present study. Most of those who achieved glycemic control followed practices like following healthy diet, regular intake of drug. These findings are consistent with the study conducted by Nyunt S et al and Het al (20,21). As evidenced by the study, patients with good knowledge and self-care practices regarding diabetes achieved better glycemic control. The CURES study concluded that awareness and knowledge regarding diabetes among general population and in diabetics are still grossly inadequate in India, and massive education programs are urgently needed (22).

Conclusion

The study showed that there was a gap between knowledge and self-care practices among the diabetics. Some of the self-care practices like foot-care, carrying quick acting sugars, and annual eye-checkups were less practiced by patients. Limitation of the study is that the findings are restricted to the patients attending diabetic clinic attending tertiary care hospital and hence may not be generalizable. As most of the diabetics consult clinicians for treatment, role of clinicians in promoting self-care practices among diabetics is vital. There is a need to integrate all the components of self-care education in health-care system to ensure

that people with diabetes have access to the basic requirements essential to practice self-care. Self-care improves the quality and safety of therapy and minimizes complications, disabilities related to chronic diseases like diabetes.

Tables 1: Socio demographic profile of study participants.

variable	Number(n=110)	Proportion%
Age(years)		
<40	15	13.63
41-50	29	26.36
51-60	38	34.54
>60	28	25.45
Gender		
Male	42	38.18
Female	68	61.81
Socioeconomic status		
Upper	10	9.09
middle	54	49.08
lower	46	41.81

Table 2: Information related to diabetes in study subjects

Duration of diabetes(years)	Numbe(n=110)	Proportion%
<1	5	4.54
1-5	60	54.54
5-10	34	30.9
>10	11	10
Family history of diabetes present	68	61.81
smokers	17	15.45
alcoholics	13	11.81
BMI		
Normal(18.5-24.99)	10	9.09
Pre obese(25-29.99)	47	42.72
Obese >30	53	48.18

Figure1: Respondents knowledge regarding diabetes and self-care practices.

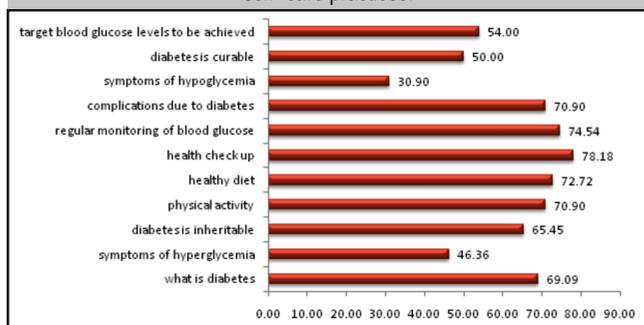


Figure 2: Respondents self-care practices.

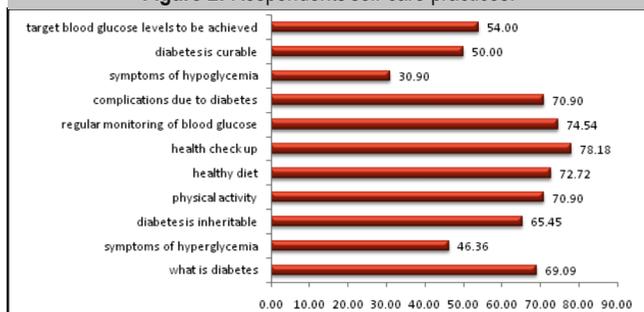


Table 3: Self-care activities and its association with glycemic control

Variable	Glycemic control achieved(n=68)	Glycemic control not achieved(n=42)	Z value
Blood glucose monitoring(n=99)	61	38	1.65(ns)
Healthy diet(n=83)	56	27	2.12(s)
Physical activity(n=42)	31	11	2.14(s)
Drug compliance(n=74)	51	23	2.19(s)
Foot care(n=14)	12	2	2.58(s)
Carry quick acting sugars(n=47)	32	15	1.18(ns)

(s)- significant (ns)-not significant

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3 years - Master of Public Health (Honours) course: An overview

Rajiv Gandhi University of Health Sciences (RGUHS), Karnataka established its first constituent post graduate college – Rajiv Gandhi Institute of Public Health and Centre for Disease Control (RGIPH & CDC) in September 2013. RGIPH & CDC, currently based in annexe building of RGUHS, 4th T block, Jayanagar, Bengaluru, offers a 3 years Master of Public Health (Honours) course [MPH (H)] since July 2014. The course is approved by the Universities Grants Commission, New Delhi.

MPH (H) is offered through a choice based credit system with a competency based curriculum, broadly encompassing public health research, systems development and management. The course is composed of 20 credits based programs in addition to a dissertation (6 months) and internship (6 weeks); offered through 6 semesters. Teaching-learning methods include lectures, group activities, critical reading sessions, journal clubs, field work and institutional visits. Students are assessed through formative and summative methods in each credit program along with an exit examination at the end of 3 years.

RGIPH & CDC has an annual intake of 10 students to MPH (H) course with 2 seats reserved for candidates serving with Karnataka Government bodies. Admission is based on merit, drawn through a national post graduate entrance examination. Students with MBBS / BDS / BAMS / BHMS / BUMS / BYNS / BSc (Nursing) / BPT from a university established under law and recognised by respective councils of India (where applicable) are eligible to apply for the entrance examination; usually held in the month of May. Examination and admission procedures follow post graduate admission rules of Government of Karnataka. Admitted students, not receiving salary or fellowship from any other source - are provided a monthly stipend.

Further details are available at www.rguhs.ac.in

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