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Research Article

An Online Knowledge-Attitude-Practice Survey in the Community about Diabetes Mellitus in India

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Abstract

Background: To address the reasons for it is important to understand the Knowledge, Attitude and Practices (KAP) of all pertinent stakeholders. This multicentrrising burden of Diabetes mellitus in India this survey is aimed at understanding the KAP quotients of the community regarding knowledge of laypersons regarding diabetes mellitus as this is lacking in Indian studies.

Methods: A cross-sectional survey was conducted through online mode in India using a validated, field-tested questionnaire incorporating KAP domain questions regarding Diabetes Mellitus (DM). Scores to questions were appropriately assigned.

Results: The mean (SD) age of the respondents was 35.2 (12.61) y and 62% had a graduate or higher level of education. The median (IQR) KAP scores were 10 (8-12), 5 (3-5) and 2 (2-3) out of a maximum of 18, 5 and 6, respectively. Higher educational and socioeconomic levels were associated with better attitude scores, but knowledge levels were comparable. Correlations between KAP scores were poor.

Conclusions: This study reveals that laypeople have appropriate knowledge and attitude regarding diabetes mellitus to some degree but there are important lacunae and practices are often found wanting. These issues need to be addressed in sustained public sensitization and motivational campaigns to improve the future and treatment outcomes of Diabetes mellitus in India.

Keywords: KAP (Knowledge-attitude-practices); Diabetes mellitus; T2DM; Community; Survey; India

Introduction

Diabetes Mellitus (DM) is a complex chronic illness associated with a state of high blood glucose level, or hyperglycemia, occurring from deficiencies in insulin secretion, action, or both [1] Type 2 Diabetes Mellitus (T2DM) is a disease that affects more than 400 million people around the world. By 2040, it is projected that there will be more than 640 million people with diabetes worldwide [2] the number of people with diabetes mellitus has quadrupled in the past three decades, and diabetes mellitus is the ninth major cause of death [3].

Asia is a major area of the rapidly emerging T2DM global epidemic, with China and India the top two epicenters [3] with the increasing global epidemic of diabetes, especially type 2 diabetes, all major pharmaceutical companies are focusing on new molecules for the treatment of diabetes and obesity. With the better management of diabetes (improved HbA1c values), the microvascular complications have significantly reduced over the past two decades. This has been achieved without increasing hypoglycemia especially with newer technological advances [4] it is a progressive disease characterized by insulin deficiency and insulin resistance or both. The fasting and post-prandial blood glucose is elevated, exposing the patient to acute and chronic complications (micro- and macro-vascular) leading to blindness, kidney failure, heart disease, stroke and amputations [5-10].

Diabetes mellitus is perceived universally as a significant general medical issue with a huge dreariness and mortality; it is related with an assortment of genuine confusions. The aftereffects of this examination will support doctors, Diabetes mellitus patients and the general population to have a superior comprehension of the present status of KAP of Diabetes, and to build up wellbeing instruction programs for self-care in ongoing ailments [11-17]. What's more, we trust this examination will urge medical services experts to enquire about diabetes use among their patients before settling on clinical choice [18-26]. This examination might be a stage forward towards managing diabetic patients.

Methods

In this single Centre study analytical cross-sectional study, a simple survey method was done in 391 people through Google survey form in this case the Google form was circulated through electronic media. The Knowledge, Attitude and Practice (KAP) survey questionnaire was prepared in English construct validity check through peer review. Forward translation was done by (English and Bengali). The questionnaire was then back translated to English to ensure the original meaning was unchanged. The final questionnaire comprised of responder details and 31 questions (knowledge domain 15, attitude 8 and practice 8) [27-30].

Inclusion criteria were both diabetic and non-diabetic individuals aged above 18 years. Exclusion criteria were patients with gestational

diabetes mellitus, patients younger than 18 years. After approving the validity and reliability of the questionnaire, 391 patients were enrolled. They filled out the questionnaire and their level of knowledge, attitude, and practice as well as the affecting factors were evaluated [31-37]].

The study was designed as a four-week-long questionnaire-based cross-sectional survey from a tertiary care teaching hospital in Kolkata (IPGMER) coordinated by the authors. The participating institution caters to patients of diverse socio-cultural and economic backgrounds. Respondents were visitors to the hospital without any doctor or healthcare provider in their immediate family. Sampling was purposive and involved visitors to (a) various departments and administrative office (b) out-patients and indoor patients of the hospitals [38].

The Knowledge, Attitude and Practice (KAP) survey questionnaire was designed by the authors (KS and RC) and approved by the rest. The master version was prepared in English and underwent face and construct validity check through peer review. Forward translation was done by bilingual (English and either Bengali, Gujrati or Hindi) professional health care worker [39,40], and a public health expert. An expert panel resolved any discrepancies in translation. The questionnaire was then back translated to English by the original translators to ensure the original meaning was unchanged. The final questionnaire comprised of responder details and 31 questions (knowledge domain 15, attitude 8 and practice 8) related to diabetes mellitus. The questionnaire was administered to each respondent in an online mode (through Google forms) and scores were assigned for each question - one point for each correct answer and 0 for incorrect or uncertain response. Consolidated scores were obtained after summing across each of the three domains - knowledge, attitude and practice - individually. The scores on each domain were compared between centers, educational and socioeconomic subgroups. The study questionnaire (English version) is provided as supplementary material.

Sample size calculation assumed that the population of eligible respondents over a 4-week period was found to be 377. In the absence of supporting data, we also assumed that roughly 50% of the surveyed population is likely to have satisfactory knowledge-attitude-practice regarding antibiotic use. Thus, we estimated that the survey required 377 respondents to be interviewed so as to refine this 50% estimate with 4% margin of error and at 95% confidence level. Rounding off, we kept a sample size of 400, RAOSOFT (Seattle, USA) sample size calculator, which is available online (http://www.raosoft.com/samplesize.html), was used for sample size estimation.

Data were analysed using SPSS version 20.0 (Illinois; Chicago: IBM) and Medcalc version 15.8 (Mariakerke, Belgium: MedCalc Software bvba; 2015) software. Descriptive summary has been reported as frequency, mean (Standard Deviation [SD]) or median (Interquartile Range [IQR]). Mann Whitney U or Kruskal Wallis with Dunnet post hoc tests (for non-parametric data) or unpaired t test (for parametric data, Chi square test (for categorical data) were employed for comparing subgroups. Analyses were two-tailed and the cut-off for statistical significance was set at p <0.05. Association between scores in different domains were quantified by Spearman's correlation coefficient rho on the presumption of linear associations on corresponding scatterplots.

Results

63.7% respondents were male, 96.9% respondents stated not suffering from DM

For the 391 study participants, the mean (SD) age was 26.36 ± 10.50 years. Among the respondents a male (58%) preponderance was observed. A higher proportion of the respondents (53%) lived in rural area. Most of them (36%) had primary education (up to 8th grade of school), while 32% of them had up to higher secondary education. Next were those with graduate level education (19%) and those who never attended school (13%) [41-44].

Therefore, various issues need to be addressed in order to close the gaps between KAP. Although education is considered as an integral part of diabetes management, it remains low in the practical priorities of clinicians. The results of this study encourage a positive outlook: all that is required is trained diabetes educator in diabetes management to counsel patients during their every visit. As a result it is expected that counselling may have an impact in improving the perception about disease, diet, and lifestyle changes and thereby on glycemic control to prevent the complications of diabetes.

However all participants had similar access to information and to readily accessible education. Therefore considering the average illiteracy rate (40.18%) in Bangladesh [45], recent study findings regarding KAPs among rural populations [33,46-49], and the demographic spread of the study participants from rural to urban, the findings of this study may be considered to represent those of the general population [50,51]. Conclusions the study shows average level of diabetes awareness and good level of positive attitudes towards the importance of diabetes care. At the same time it has found moderate levels of diabetes practice in India.

There is a need to carry out large-scale awareness programs, after identifying the appropriate means to spread the message to the general population. There is also a need to develop of innovative tools and educational models that improve patient compliance and practices. Education and counselling on all aspects of diabetes is needed. Planning for group as well as individual education programs will deliver preventative and management techniques for DM.

There is room for practice to be improved by the provision of adequate information, increasing the availability of educational materials and proper guidance towards diabetes management. The study reinforces the view that the main approach to managing this problem is to improve all stakeholders' understanding, compliance and management of the disease by means of suitable health provisions and widespread educational campaigns.

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