

Diabetic Retinopathy Education Treatment and Training (DRETT) Knowledge Attitudes and Practice Survey Results

OVERVIEW

Diabetic retinopathy (DR) is a complication of Type I and Type II diabetes and is a leading cause of early onset blindness among working-age diabetics worldwide. The risk of retinopathy is related directly to the duration of one's diabetes and the level of glycemic control he or she has maintained over the years. It is possible, therefore, to delay or even prevent visual loss by practicing optimal diabetes care. As a leader in eradicating preventable blindness worldwide, Helen Keller International Bangladesh (HKI) in collaboration with Chittagong EYE Infirmary and Training Complex (CEITC) is developing patient-training and education materials to address knowledge gaps and encourage adherence to diabetes and eye health messages for 5,000 diabetic patients. Despite significant advances in medicine and treatment, prevention of retinopathy is considered the best approach for reducing the risk of blindness among diabetics. DR prevention relies heavily on optimal diabetes self-care practices.

METHODS

To gain insight into the population and determinants of self-care, HKI and CEITC conducted a knowledge, attitudes, and practice (KAP) survey of diabetics seeking treatment in Bangladesh. The results of the survey will inform development of behavior change communication (BCC) materials to address knowledge gaps and encourage adherence to key diabetic care and eye health messages.

A sample of 378 patients was identified in four hospital sites and the KAP survey was administered to them. The KAP survey was designed to provide information about current self care practices of diabetics in southeast Bangladesh, the area where HKI's DR project is operating.

RESULTS

The survey results suggest that most patients had insufficient understanding of diabetes, its management and related complications, regardless of sex or socio-demographic characteristics. Further, knowledge and practice of related eye disease and eye care was quite poor. Presumably, the development of relevant behavior-change communication strategies and activities for diabetes management and eye care will benefit patients seeking diabetes treatment in diabetes hospitals in Bangladesh.

Socio-demographic data

Most socio-demographic characteristics of the participants did not differ significantly among the four hospital locations despite known underlying differences in the neighborhoods of the facilities. The survey revealed a significant difference between male- and female-headed households and the mean number of years of formal education among the participants. More than 98% of participants reported owning their own homes.

Diabetic history and co-morbidities

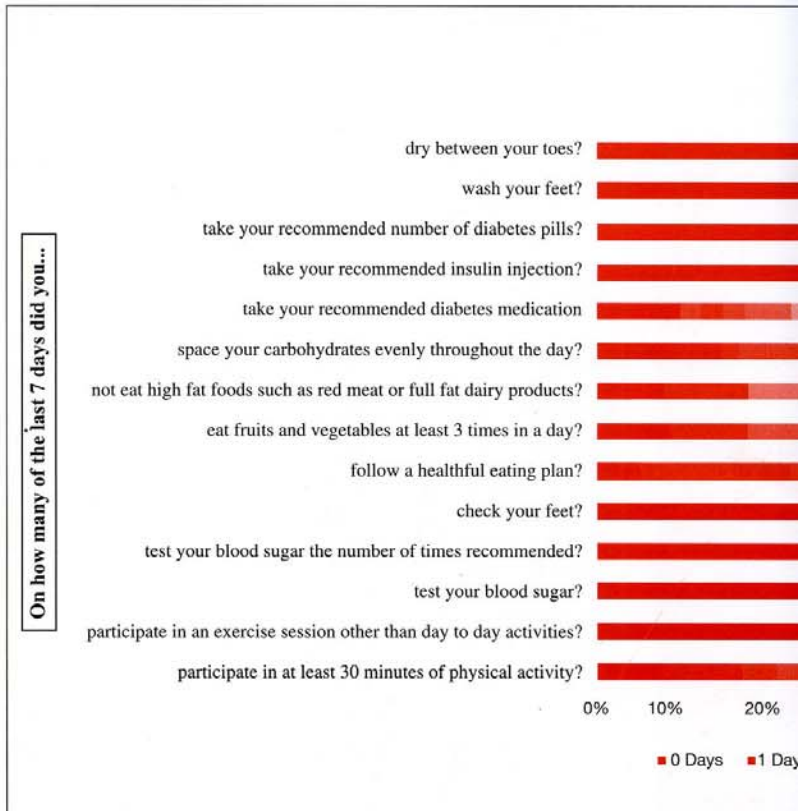
There were no statistically significant differences in responses between men and women regarding the background and history of their diabetic condition. More than 60% of participants reported having received diagnosis within the past five years. Conversely, nearly the same proportion of patients was unable to identify the type of diabetes they were living with. Pills to control blood sugar were the most commonly prescribed medication followed by insulin shots. Most participants had a mean body mass index (BMI) score that lay within "normal" range, whereas 33% of the sample had a BMI score indicating an overweight or obese condition. Only 11% of participants characterized themselves as smokers—all were men. Most participants did not feel their diabetes had limited their normal daily activity within the past six months.

Regarding co-morbidities, one-third of patients identified themselves as having eye-related problems, but were unable to recall or did not know their specific condition. The most frequently cited eye-related problems were blurred vision, refractive error and cataract(s). Nearly one-third of

participants had been diagnosed with high blood pressure and most were on medication to control it. Participants who were aware of a heart or kidney condition often did not know what their specific condition was.

Diabetes-related healthcare and guidance

To determine what type and to what extent healthcare professionals divulge critical diabetes and diabetic retinopathy treatment, management, and care messages, participants were asked to list the advice they received from their health team (nurse, doctor, etc.). With respect to dietary instruction, patients most frequently recalled "eat rice once and roti twice," followed by "eat fruits and vegetables," and "follow a low-fat eating plan." When asked to list diabetes-testing information, participants first remembered "go to the lab regularly," while citing testing blood sugar or urine testing next. Finally, less recollection of exercise-related advice occurred than that of dietary and testing guidance, although patients knew to engage in low-level exercise daily. Encouragingly, only a low percentage of patients "had not been given advice" in each



of the three categories. Fewer than half of self-identified smokers received smoking cessation counseling at their last medical visit.

Knowledge

Overall, participants displayed inconsistent and disparate understanding of the etiology of diabetes. Alarming, “don’t know” was the most frequent reply when patients were asked to identify diabetes as a condition of improper glucose metabolism or complicated by high blood pressure. Half of the responders recognized one or more long-term complications. Participants had less difficulty stating symptoms and risk factors for diabetes.

Of 760 responses, 28% realized “regular exercise” as a factor to help control blood sugar. However, this response was followed by “don’t know” (23%) against nutritious diet, weight control, and blood pressure and cholesterol control. Patients were less certain what a well-balanced diet for a diabetic should include; 23% of answers were “don’t know.”

Patients’ knowledge of diabetic-related eye health and diabetic retinopathy was poor in nearly all categories.

Understanding of risk factors, eye disease, and a desirable eye exam schedule occurred at less than 40% frequency for all questions asked.

Attitudes

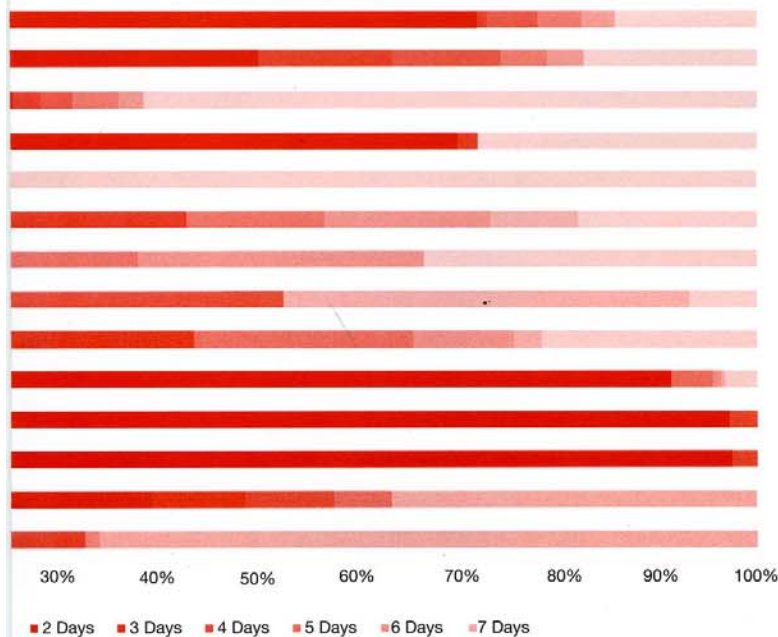
More often than not, participants did not know or disagreed with the nine positive questions asked. Particularly, nearly half of all patients disagreed, strongly disagreed, or could not identify knowing what aspects of caring for their condition they were ready to change or if they could motivate themselves to do so. Although most patients knew how they felt about their diabetes and could identify the ways it caused stress in their lives many felt unable to cope and/or not adequately informed to make appropriate self-care choices. Finally, despite their apparent uncertainty, nearly all the patients knew where to get support for their conditions although 73% felt they could get such support when they needed it

Practices

Patients were asked to recall how many of the last seven days they engaged in adequate exercise, adherence to medical prescriptions, dietary discipline, and foot care.

Fourteen positive questions were asked —0 days per week alerting poor practices and 7 days per week suggesting optimal adherence. Participants reported they spent more days on average engaging in exercise than following a healthful eating plan. When asked to recall adherence over the previous month, participants could account for less days on average eating healthily. Further, participants were more likely to space their carbohydrate intake than consume the recommended amount of fruits and vegetables over a seven-day period. Patients who were prescribed insulin medication and/or diabetes pills appeared to comply with recommended treatment at an above-average level but not all the time. Overwhelmingly, patients spent less than two days per week, on average, checking and caring for their feet.

Adherence to common diabetes practices



DISCUSSION

An overwhelming proportion of patients identified their doctors as their primary contact to learn about diabetes treatment and management —yet, most expressed knowing less than they needed to manage their conditions. The findings of this survey provide some evidence that

hospitals provided similar levels of diabetes education and/or counseling resources. Healthcare professionals such as dietitians, dentists or eye doctors did not provide recent treatment for a majority of participants, regardless of which hospital site they attended.

Certainly, patients' knowledge of their condition and of the methods to treat and manage it determines their ability to make appropriate self-care and health-seeking decisions. For this reason, the level of knowledge (or lack thereof) among participants in this survey is particularly alarming. Survey findings indicate an important need for educational programming to both increase and link self-care messages such as "diet" and "exercise" with methods and strategies to implement them.

An effective behavior change curriculum should engage those likely to be sought for "support" (doctors) in order to take advantage of their influence to communicate diabetes self-care messages. Likewise, messages should be reasonable strategies that patients can practice without feeling dissatisfaction and/or stress.

Some correlations between knowledge and practice are encouraging. In accordance with knowledge frequencies, patients spent more days per week, on average, exercising

than maintaining their diet plan. Also, patients performed reasonably well adhering to their recommended medication schedule. These results indicate that patients do implement the knowledge they have —by either attempting to exercise because they understand its importance, or taking medication prescribed by a health professional.

The results of this survey reveal many gaps in knowledge, attitudes, and practices of diabetic patients seeking care at diabetic hospitals in Bangladesh. Health facilities had a significant difficulty communicating and encouraging diabetic patient care messages. An overwhelming 93% of participants cited their doctors as their primary source of diabetic treatment and management knowledge; therefore, the findings of this study both question the effectiveness of doctors and indicate them as influential partners to increase knowledge and encourage behavior change. In particular, knowledge must be comprehensive but clear and supported with strategies that are practical and feasible for patients to maintain.



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