Original Article

Hospital-based KAP Study on Diabetes in Bijapur, Karnataka

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Abstract

Background: India harbours the largest number of diabetic patients in the world. Poor awareness and practices are some of the important variables influencing the development and progression of diabetes and its complications, which are largely preventable. Preventive strategies need to be formulated based on factors contributing to the development and progression of diabetes. Knowledge, attitudes and practices among diabetics from backward areas of the country like Bijapur are not readily available. This study was undertaken to assess the knowledge, attitudes and practices regarding prevention and control of diabetes mellitus among patients attending the diabetic clinic at B.M. Patil Medical College and Hospital, Karnataka.

Methods: A hospital based cross-sectional study in 730 type 2 diabetic patients aged $\geqslant$ 20 years was undertaken.

Results: Mean age was 56.64 ± 11.38 years, 67% were males. 15.35% of respondents had poor, 59.9% average and 24.8% had good knowledge. Majority (60-90%) of the respondents had positive attitudes. 36.4% of the respondents were taking extra care in case they were injured and 40.7% were exercising regularly.

Conclusions: Though good number of respondents had positive knowledge and attitude regarding diabetes, the same cannot be said about practices.

Key words: Knowledge; attitude; diabetes mellitus

Introduction

Demographic transition combined with urbanisation and industrialisation has resulted in drastic changes in lifestyles globally. Consequently, lifestyle related diseases like diabetes mellitus, have emerged as a major public health problem. Diabetes is characterised by a state of chronic hyperglycemia resulting from a diversity of aetiologies, environmental and genetic, acting jointly [1]. Diabetes affects 10-16% of urban population and 5.33-6.36% of rural population and this is projected to double by 2030 [2]. Self-care in the form of adherence to diet and drug regimens, blood glucose monitoring, self-administration of insulin, maintenance of optimum weight, blood pressure, recognition of symptoms associated with glycosuria and hypoglycemia etc. are crucial elements in secondary prevention.

Unfortunately, there is still inadequate awareness about the existing interventions for prevention and control of diabetes and its complications among general public and among diabetics. Information regarding knowledge, attitudes and practices among diabetics from backward areas of the country like Bijapur, an economically and educationally backward district of northern Karnataka are not readily available. This study has been conducted to assess the knowledge, attitude and practices of diabetic patients regarding prevention and control of diabetes mellitus.

Methods

The present study is a hospital-based, descriptive, cross-sectional study conducted in the diabetic clinic of Shri B. M. Patil Medical College & Hospital, Bijapur. A sample size of 726 was calculated based

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Received : 12-06-2010 | Accepted : 11-09-2010 | Published Online : 22-09-2010

on a diabetic prevalence rate of 12.1% from a national survey [3] with allowable error of 20% (5% risk) using the statistical formula, $n = 4pq/L^2$. In the present study, 730 type 2 diabetic patients aged ⩾ 20 years attending diabetic clinic were interviewed over one and a half year period (2005-2006).

The pre-designed and pre-tested interview questionnaire contained information on various study variables. The questionnaire for the assessment of knowledge included factors (risk factors) contributing to diabetes, self care, treatment, complications and their prevention; 8 items were considered. Each correct response was assigned score 1 and wrong response was assigned 0 (zero). Thus for 8 items, the maximum attainable score was 8 and minimum was 0. The mean score for the respondents was 4 ± 2. The level of knowledge was classified according to the score, poor knowledge corresponded to score < 2 (i.e. < Mean - 1S.D), average knowledge to score between 2 and 6 (i.e. Mean ±1S.D) and good knowledge referred to score > 6 (i.e. > Mean + 1 S.D). The questionnaire also included questions regarding attitudes and self care practices with regard to diabetes like if they were taking extra care on getting injured and while travelling if they were carrying medications, glucose, sugar (as precautions), performing regular exercise, and consuming sugar with beverages, regular medications and blood glucose monitoring.

Data analysis was done using Microsoft excel (5.0), Epi-Info softwares. Chi-square test was applied to test for associations.

Results

Among the study population, half of the respondents (49.2%) were aged ⩾ 60 years followed by respondents from age group 50-59 years (27.8%) and the least (2.3%) were from 20-29 years age group. The mean age of study population was 56.64 ± 11.38 years. Two-thirds of the respondents were males (n=490, 67.1%) and majority (87.4%) had some formal education with only 12.6% illiterate. Overall in the study population, 15.35% had poor knowledge scores, 59.9% had average scores and 24.8% had good scores. Among the respondents who were diagnosed within the last 1 year and between 1 to 5 years and 5 years and above, 8%, 20% and 35% had good knowledge respectively. Chi square test showed association between duration of diabetes and level of knowledge to be significant (Table 1).

Sixty percent (n=434) considered diabetes a serious disorder, while 109 (14.93%) disagreed and 187 (25.62%) did not commit themselves. Diet was considered to play an important role by 662 (90.68%) respondents and only 14 (1.92%) persons did not feel it was important while 54 (7.4%) could not comment. Notably, 543 (74.38%) were inclined to learn more about diabetes while the remaining were not interested.

Among the study population only 36.4% of the respondents were taking extra care in case they were injured or developed a skin infection. Eighty percent of the respondents reported that they were strict about their diet but 37.8% were consuming beverages with sugar. Eighty-seven percent of the respondents were taking medications regularly and 67.1% of the respondents were taking precautions while travelling. Fifty-one percent were irregular with regard to blood glucose monitoring and only

Table 1- Distribution of respondents according to duration of diabetes and level of knowledge regarding diabetes (n= 730)

Duration	Level of Knowledge			
of diabetes	Poor	Average	Good	Total
	n (%)	n (%)	n (%)	n
<1 yr	33 (32.35)	61 (59.80)	8 (7.84)	102
1-5 yrs	46 (14.65)	205 (65.29)	63 (20.06)	314
> 5 yrs	33 (10.51)	171 (54.46)	110 (35.03)	314
Total	112 (15.34)	437 (59.86)	181 (24.79)	730

Chi square= 54.85, df = 4, p < 0.001

Table 2- Distribution of respondents according to self care practices (n=730)

Extra care for injury/ infection	
Yes	266 (36.44)
No	464 (63.56)
Consume beverages with	
With sugar	276 (37.81)
Without sugar	410 (56.16)
Artificial sweetener	40 (5.48)
No beverages	4 (0.55)
Regular medications	
Yes	637 (87.26)
No	93 (12.74)
Precautions while travelling	
Yes	240 (32.88)
No	490 (67.12)
Exercise	
Regular	297 (40.68)
Irregular	324 (44.38)
No exercise	109 (14.93)
Monitoring blood glucose levels	
Once a month	360 (49.32)
Irregular	370 (50.68)

(Figures in parentheses indicate percentage)

40.7% were performing physical exercises regularly (Table 2). It was noted that among the respondents (434) who considered their condition (diabetes) a serious disorder, only 174 (40%) of them were taking precautions while travelling (Table 3, p<0.001).

Discussion

A hospital based cross sectional study was undertaken to assess the knowledge, attitudes and practices of 730 type 2 diabetic patients attending the diabetic clinic at B.M. Patil medical college and hospital. The mean age of the respondents was comparable to the mean age of 53.3 ± 13 years found in a similar study [4]. Surveys indicate that prevalence rises steeply with age. Type 2 diabetes mellitus usually comes to light in the middle years of life and thereafter begins to rise in frequency. It is encouraging to note that majority of the respondents in our study had fair or good knowledge regarding diabetes and considered diabetes to be a serious condition, with diet playing an important role in control of diabetes and were inclined to learn more regarding the disease. Findings further revealed that with increasing duration of diabetes, knowledge also increases. This could be because with longer duration, there are more occasions for exposure to information regarding diabetes. Similar association between knowledge and longer disease duration has also been reported among diabetic respondents [5].

Though a good number of respondents had positive knowledge and attitude regarding diabetes, the same was not practiced. With regard to practices, it was unfortunate to note that majority of the respondents were not taking extra care if they were

Table 3- Distribution of respondents according to their attitudes and practices with regard to precautions while travelling (n= 730)

Attitude	Practice		
Consider diabetes a serious disease	Taking precautions while travelling		
	Yes	No	Total
	n (%)	n (%)	n
Yes	174 (40.09)	260 (59.91)	434
No	30 (27.52)	79 (72.48)	109
Don't know	37 (19.79)	150 (80.21)	187

Chi square = 26.41, df =2, p < 0.001

injured/developed skin infection, not taking precautions while travelling and not monitoring their blood sugars regularly. Notably, quite a few of the respondents were still consuming sugar with beverages. It was also noted that majority of the respondents weren't involved in any regular physical activity or exercise. Badruddin et al showed that only 20% of the respondents were exercising regularly, 13% were irregular and 67 % were not doing any exercise [6]. Diabetes and its complications can largely be prevented if appropriate and timely measures are taken. Health education plays a very crucial role in prevention and control of diabetes and its complications. Importantly, repeated health education /reinforcement and motivation are bound to bring about a positive change in self care practices with regard to diabetes control. Since there is a gap between knowledge, attitudes and practices among diabetics, it is important to formulate strategies so that positive attitudes can be converted into beneficial practices. Continuing medical education programmes on diabetes for medical and para-medical personnel should be held regularly in order to update their knowledge regarding diabetes so that better diabetes care and education can be imparted to the patients.

Key Points

- Level of knowledge regarding diabetes prevention and control is striking- 60% had average scores, only 15.35% obtained 'poor' scores.
- It is noteworthy that majority of the respondents considered diabetes to be a serious condition and had a realisation that diet played an important role in control of diabetes. Moreover, respondents were inclined to learn more about the disease.
- Although a good number of respondents had positive knowledge and attitude regarding diabetes, the respondents were found wanting on the practice front.
- Repeated reinforcement and motivation along with health education is likely to bring about a positive change in practices (self care, etc.).

Conflict of interest: None declared.

Source of funding: Nil.

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