

Original Article

A study of knowledge and self care practices in patients of type 2 diabetes mellitus

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Abstract:

Background: India is harbouring the largest number of diabetic patients in the world. Poor knowledge and practices are some of the important factors influencing the development and progression of diabetes and its complications, which are easily preventable. Though self care constitutes 95% of diabetes management it is not given due emphasis. This study was undertaken to assess the knowledge and self-care practices in type 2 diabetes mellitus.

Methods: A cross sectional, hospital based descriptive study was conducted in HIMS Medical college hospital, Hassan. Two hundred type 2 diabetes patients aged ≥ 40 years were interviewed over a period of 2 months from Feb-March 2011. A pre designed and pre tested interview questionnaire was used.

Results: Mean age of diabetic patients was 54.15 ± 10.05 years and mean duration of disease was 6.63 ± 5.54 years. Of the respondents 88% had average to good knowledge regarding self care. Knowledge of 'self care in type 2 diabetes' was significantly higher ($p < 0.001$) in respondents having diabetes for longer duration. Among the respondents, 24% had practice of regular eye check up, 23% took precautions while travelling and 48% practiced foot care.

Conclusion: Even though knowledge regarding self care in diabetics is high, the same is not practiced.

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1. Introduction

Diabetes is a complex disease characterised by a state of chronic hyperglycaemia requiring the adoption of numerous skills and behaviour changes in order for the disease to be managed successfully. Prevalence of type 2 diabetes is increasing globally (1). India leads the world with the largest number of diabetic subjects and is termed as diabetes capital of the world (2). Diabetes affects 10-16% of urban population and this is projected to double by 2030 (3). There is an increasing amount of evidence that the patient education is the most effective way to lessen the complications of diabetes and aid its management (4). Diabetic education helps to equip patients with self care knowledge and if integrated into the diabetic care in the primary care settings, results in improved disease knowledge and self care behaviour (5). Unfortunately there is still inadequate awareness about existing interventions for prevention and control of diabetes and its complications.

Self care is a critical element of diabetes management. 'Self care' are the activities which are undertaken by the individual itself in order to promote, maintain or restore health. Though self care constitutes 95% of diabetes management it is not given due emphasis (6). The objective of this study is to assess the knowledge and self care practices in type 2 diabetes mellitus patients.

2. Materials and Methods

This study is a cross-sectional, hospital based, descriptive study conducted in Hassan Institute of Medical Sciences, Medical College Hospital, Hassan. Type 2 diabetes mellitus patients aged ≥ 40 years who attended out-patient department (OPD) of the hospital from Feb-March 2011 were included in the study. Two hundred patients, after getting their written informed consent were given pre-designed and pre-tested questionnaire. The 'structured patient profile form' included parameters like age, gender, education, body mass index (BMI) and responses to knowledge and practices regarding self care in type 2 diabetes mellitus. The questionnaire had eight questions for knowledge and nineteen questions for practices regarding self care in type 2 diabetes mellitus. Each correct answer was given a score one and each wrong answer a score of zero. The maximum possible score for knowledge and practices was eight and nineteen respectively. The data was analyzed using SPSS Ver 11.0. Chi-square test was applied to test for association.

3. Results

Among the 200 study subjects 134 (67%) were males, 140 (70%) were literate and 106 (53%) were obese (Table 1).

Table 1. Distribution of respondents according to sex, education and BMI*

Details	Number (N=200)
Sex	
Male	134 (67)
Female	66 (33)
Education	
Illiterate	60 (30)
Literate	140 (70)
BMI	
Under weight (< 18.5)	6 (3)
Normal (18.5 – 24.9)	66 (33)
Over weight (25 – 24.9)	22 (11)
Obese (> 30)	106 (53)

*Note: Figures in parenthesis indicate percentage

Table 2: Distribution of respondents according to knowledge regarding self care in type 2 diabetes mellitus*

Knowledge	Number
Poor (< 2)	24 (12)
Average (2 -6)	144 (72)
Good (> 6)	32 (16)

*Figures in parenthesis indicate percentage

Table 3: Distribution of respondents according to duration of diabetes and knowledge regarding self care in type 2 diabetes mellitus*

Duration	Knowledge			Total
	Poor	Average	Good	
< 5 years	6 (6.5)	76 (82.6)	10 (10.9)	92
5 – 10 years	14 (22.6)	36 (58)	12 (19.4)	62
>10 years	4 (8.7)	32 (69.6)	10 (21.7)	46
	24 (12)	144 (72)	32 (16)	200

* Figures in parenthesis indicate percentage; $\chi^2 = 14.56$, degree of freedom = 4, $p < 0.001$

Mean age of subjects was 54.15 ± 10.05 years and mean duration of diabetes was 6.63 ± 5.54 years. Out of 200 respondents 24 (12%) had poor knowledge, 144 (72%) had average knowledge and 32 (16%) had good knowledge regarding self care in type 2 diabetes mellitus (Table 2). Knowledge of self care in type 2 diabetes mellitus increased with increasing duration of diabetes (Table 3). Chi-square test showed a significant association

($p < 0.001$) between duration of diabetes and level of knowledge regarding self care in type 2 diabetes mellitus. Of the respondents, 118 (59%) had irregular Random Blood Sugar (RBS) check up and 152 (76%) were not getting regular eye check up. However 150 (75%) of the respondents were strict about their diet and were consuming sugarless beverages. Regular physical exercise was practiced by 114 (57%). Only 46 (23%) were taking precautions while travelling and 48 (24%) practiced foot care (Table 4). Mean knowledge and practice score regarding self care in type 2 diabetes mellitus of the respondents according to their body mass index (BMI) were evaluated and the details are mentioned in Table 5.

Table 4. Distribution of respondents according to self care practices*

Details	Number
Regularity in RBS Check-up	
Regular	82 (41)
Irregular	118 (59)
Regularity in Eye Check-up	
Yes	48 (24)
No	152 (76)
Regularity in Exercise	
Yes	50 (25)
No	150 (75)
Precaution while travel	
Yes	46 (23)
No	154 (77)
Foot care practices	
Yes	48 (24)
No	152 (76)
Consume sugar less beverages	
Yes	150 (75)
No	50 (25)

*Figures in parenthesis indicate percentage

Table 5. Distribution of respondents according to their BMI and mean knowledge and practice score

BMI	Number	Knowledge	Practice
Under weight (< 18.5)	6	5.01	5.5
Normal (18.5 – 24.9)	66	5.31	8.5
Over weight (25 – 24.9)	22	5.19	6.2
Obese (> 30)	106	5.52	5.0

4. Discussions

The mean age of the respondents was comparable with mean age in similar studies (6, 7). It was encouraging to note that majority of the respondents in our study had average to good knowledge regarding self care in type 2 diabetes mellitus and findings are comparable to other studies. With increasing duration of diabetes there was stepwise and statistically significant increase in knowledge about self care. This could be due to increased informative interaction with health care providers (8). It is well understood that diabetes management requires patient involvement for better complication prevention (9, 10). Even though 88% of the respondents had average to good knowledge regarding self care, the same was not practiced. With regard to practice it was unfortunate to note that majority of respondents were not getting their regular eyes checkup. It was also noted that majority of the respondents were not involved in any regular physical activity or exercise as noted by Badruddin et al and Priyankraj et al (11). Majority of the respondents were not taking any precaution while travelling and same was observed with the foot care practices. Notably, majority of the respondents were consuming sugarless beverages. It may be due to their perception that avoiding sugar beverages alone can prevent the complications. Although mean knowledge of respondents was similar, corresponding BMI and practices were not observed, as knowledge was not put into practice and BMI levels corresponded to practice levels but not to knowledge levels (Table-5).

5. Conclusion

Knowledge regarding self care practices in type 2 diabetes mellitus is high but it is not put into practice. Since there is a gap between knowledge and practices among diabetics regarding self care, it is important to formulate strategies that convert knowledge into beneficial practices. This suggests the need for awareness programme for the patients to improve their self care practices. Limitation of the study was that it was conducted only among the outpatients and hence may not be generalizable to the overall diabetic population.

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References

1. Kuller LH. Dietary fat and chronic diseases epidemiology overview. *J Am Diet Assoc.* Jul; 97 (7 Suppl: S9-15).
2. Mohan V, Sandeep S, Deepa R, Shah B, Varghese C. Epidemiology of Type 2 Diabetes: Indian Scenario. *Indian J Med Res* 125 (3), 2007: 217-30.
3. Pradeepa R, Mohan V. The changing scenario of the diabetes epidemic: implications for India. *Indian J Med Res.* 2002; 116: 121-32.
4. Mazza SA, Moorman NH, Wheeler ML, Norton JA, Fineberg NS, Vinicor F, et al. The diabetes education study: a controlled trial of the effects of diabetes patient education. *Diabetes care.* 1986; 9(1):1-10.
5. Van den Arend IJM, Stolk RP, Rutten GEHM, Schrijvers GJP. Education integrated into structured general practice care for type 2 diabetic patients results in sustained improvement of disease knowledge and self care. *Diabet Med.* 2000; 17(3):190-7.
6. Priyanka Raj CK, Angadi MM. Hospital based KAP study on diabetes in Bijapur, Karnataka. *Indian J Med Spec.* 2010; 1(2):80-3.
7. Raheja BS, Kapur A, Bhoraskar A, Sathe SR, Jorgensen LN, Moorthi SR, et al. DiabCare Asia-India Study: Diabetes care in India- Current Status. *J Assoc Physicians India.* 2001; 49:717-22.
8. T'ang J, Chan C, Chan NF, Ng CB, Tse K, Lau L. A survey of elderly diabetic patients attending a community clinic in Hong Kong. *Patient Educ Couns.* 1999; 36(3):259-70.
9. McElany IC, Andrews J. The importance of patient education and patient involvement in the treatment of diabetes. *Pharma J.* 2000; 265.
10. Suppapitiporn S, Chindavijak B, Onsanit S. Effect of diabetes drug counselling by pharmacist, diabetic disease booklet and special medication containers on glycemic control of type 2 diabetes mellitus: a randomized controlled trial. *J Med Assoc Thai.* 2005 Sep; 88 suppl 4: S134-41.
11. Badruddin N, Basit A, Hydrie MZI, Hakeem R. Knowledge, attitude and practices of patients visiting a diabetes care unit. *Pak J Nutrition.* 2002; 1:99-102.