

DIABETES MELLITUS: AWARENESS OF DISEASE AND LIFE STYLE CHANGES IN FEMALE PATIENTS

Aamir Shahzad, Shahid Mumtaz Abbasi, Uzma Ashraf, Sumera Gul

Department of Medicine,
Foundation University Medical College, Rawalpindi

ABSTRACT

Objectives: To test the knowledge of female diabetic patients about basic facts of their disease and life style changes required for effective control of diabetes mellitus

Material and Methods: This descriptive study was conducted on patients visiting the outdoor patient department or admitted in Fauji Foundation Hospital Rawalpindi. One hundred female patients with diabetes mellitus for at least six months were included and interviewed about their knowledge of diabetes mellitus and required life style changes.

Results: Fifty (50%) patients had absolutely no idea of the cause/symptoms of their illness. Thirty five percent gave polyuria and weakness as the cardinal symptoms of the disease. Regarding dietary modifications required, 65% reported importance of reducing refined sugars, 27% knew that along with refined sugars total calories also need to be curtailed. None of them had any idea of importance of reduction of fat or substitution of unsaturated fats. Regarding exercise, only 39% knew the benefits of a regular exercise and only 26% tried to follow a regular exercise program. Finally when patients were inquired about symptoms/management of hypoglycemia, 47% were not clear on how to recognize or treat such a potentially fatal emergency. Forty four patients were on insulin and of these 28 (63%) could not inject themselves. Someone else in the family had to do this job for them. Only 13 admitted use of indigenous medicine along with regular treatment.

Conclusion: We conclude that apart from therapeutic efforts, serious attention should be paid toward patient's education otherwise all efforts to control diabetes will fail.

Key words: Diabetes, Lifestyle changes, Patient education.

INTRODUCTION

Diabetes mellitus (DM) is an important disease with significant mortality and morbidity. The disease is gaining more importance due to a rapid increase in its incidence, mainly in type 2 diabetes mellitus. Type 2 diabetes mellitus results from interaction between genetic predisposition and behavioral and environmental risk factors¹. Of various modifiable risk factors, obesity and physical inactivity are the main non-genetic determinants of the disease². Since current methods of treating diabetes remain inadequate, prevention is preferable. The hypothesis that type2 diabetes is preventable is supported by observational studies^{3, 4} and clinical trials⁵.

Modification of life style requires efforts to educate the patients. If the patient does not have

an understanding of management objectives, all therapeutic plans are bound to fail. The present study was planned to assess the level of awareness of these life style changes among diabetic patients already receiving treatment. Study was carried out in female patients to assess their level of understanding of disease and preventive strategies.

MATERIAL AND METHODS

It was a descriptive study carried out in Fauji Foundation Hospital Rawalpindi, which is a tertiary care hospital affiliated with Foundation Medical College. The hospital caters to the medical care of ex-army personnel and their families. Selection of patients was by convenient sampling. Diabetic patients reporting to medical OPD or admitted to Medical unit III were included. The study was carried out in July 2008, a

group of 100 female patients reporting to OPD or admitted in medical ward included. They were interviewed by a questionnaire. The study was completed in 15 days (from 7th July to 22nd July 2008).

Both type I and type II diabetics were included as the aim was to assess the general awareness of patients, which is required which are common in both types.

Diabetic patients within 6 months of diagnosis were excluded from study, similarly unconscious, disoriented, and aphasic or patients mentally subnormal were not included for analysis.

Following questions were asked in the interview.

1. Age, education & socioeconomic status
2. Duration of disease
3. What are the common symptoms of disease?
4. What type of diet is to be avoided in this disease?
5. Do you know the exercise is important in control of diabetes?
6. Do you exercise regularly?
7. Have you an idea of importance of weight reduction?
8. (For those on insulin injection), who injects the insulin; patient or someone else?
9. Do you use indigenous medicine (from 'hakims', homeopathic medicine) or do you feel they are also effective?
10. What are the symptoms of hypoglycemia?
11. What immediate steps are to be taken in case of suspected hypoglycemia.

RESULTS

This study was conducted on 100 female patients ranging in age from 21-85 years with a mean age of 53 years. Almost all patients were from poor or middle class of society. They had poor educational achievements; out of these 100 patients 69 (69%) were totally illiterate. Only 7 (7%) were matriculate or above.

Their knowledge about symptoms was inadequate. Fifty patients (50%) had absolutely no idea of the cause/symptoms of their illness. Thirty five (35%) gave polyuria and weakness as the cardinal symptoms of disease. When they were asked on dietary modifications required, 65 (65%) reported importance of reducing refined sugars, 27 (27%) knew that along with refined sugars total calories also need to be curtailed. None of them

CHARACTERISTICS AND AWARENESS STATUS OF DIABETES MELLITUS IN FEMALE DIABETIC PATIENTS

Information	No of patients (Total 100)
Age (years)	
<20	--
21-40	9
41-60	69
61-80	21
>80	1
Educational profile	
Nil	69
Primary	15
Middle	9
High school	5
College	2
Socioeconomic status	
Poor	54
Middle class	43
Upper class	3
Duration of disease(year)	
<5	32
5-9	19
10-15	29
>15	20
Awareness regarding presentation of disease	
Feeling of weakness	50
No idea	21
Polyuria	14
Polydipsia	5
Awareness about diet modification	
No idea	08
Reduction of refined sugars	65
Reduction in total calories	27
Reduction of fat & saturated fats	----
Importance of exercise	
Yes	39
No	61
Regular exercise	
Yes	26
No	74
Importance of weight reduction	
Yes	37
No idea	63
Injection technique	(total 44)
Self	16
By someone else	28
Use of indigenous medicine	
Yes	26
No	74
Knowledge of patients about symptoms/management of hypoglycemia	
Adequate	47
Inadequate	53

Table 1

had any ideas of importance of reduction of fat or substitution of unsaturated fats. When they were asked about exercise, only 39 (39%) knew the benefits of a regular exercise and only 26 (26%) tried to follow a regular exercise program.

Finally when patients were inquired about symptoms/management of hypoglycemia, 47 (47%) were not clear on how to recognize or treat such a potentially fatal emergency. Forty four (44%) patients were on insulin and of these 28 (63%) could not inject themselves. Someone else in the family had to do this job for them. Only 13 (13%) admitted use of indigenous medicine along with regular treatment.

The result are summarized in the table I.

DISCUSSION

Diabetes exerts a huge toll in illness, death, loss of quality of life and economic consequences at societal and individual level. Type 2 Diabetes has long been linked with behavioral and environmental factors such as overweight, physical inactivity and dietary habits⁶.

In the past 10 years the diabetes control and complications trial (DCCT) and the UK prospective study (UKPDS) have shown that tight control of diabetes reduces the risk of complications in type 1 and type 2 diabetes^{7,8}. As a result of these studies we have set our patients demanding targets, which often require important changes in their life style. But we have failed to provide the education and self management training needed to help them meet these targets. In this context intensive modification to life style means structured education designed to facilitate changes in behavior.

A recent study by Diabetes Prevention Program Research Group has documented that an aggressive approach of patient education regarding life style modification is rewarding. They documented a 58% reduction in incidence of diabetes in high risk persons. The group concluded that it should be possible to delay or prevent the development of complications substantially reducing the individual and public burden of diabetes⁹. Another such study by Frank et al conducted on 84,000 female nurses has shown that a combination of several life style factors, including maintaining a body mass index of 25 or lower, was associated with an incidence of type 2 diabetes that was appropriately 90 percent lower than that found among women without these factors¹⁰.

Traditional education for diabetes mainly consists of distribution of pamphlets to the patients but to achieve changes in behavior; education must

encourage self motivation and self determination, and a professional who simply tells patient to make a change "for their own good" invites negative response¹¹. There is compelling evidence that modest lifestyle changes can prevent incidence / progression of type 2 diabetes. Nevertheless, translating these findings into effective intervention programs both at clinical and public health level may be challenging. The appeal of lifestyle interventions is that they are inexpensive, they have few side effects, and they actually reverse the proximal factors associated with diabetes. In the process these changes also promote health in general, empower people make them less reliant on medicine and improve quality of life. Afridi and his colleagues have recently highlighted importance of patient education in overall therapeutic strategy of diabetic care¹².

Thus focusing on lifestyle interventions truly shifts the paradigm from preventing disease to promoting health and wellbeing.

Nevertheless, there remain many questions: how to apply these findings in a variety of settings; how to effectively identify and target people who will benefit most from these interventions; how best to sustain these changes; and what are the appropriate roles for the clinical and public health sectors.

Data analysis in our study depicts a grim situation. Majority of patients had absolutely no idea of their disease or basic knowledge of preventive/therapeutic options. We especially selected females as subjects of study as they are the most neglected and uneducated section of society. The Fauji Foundation department is spending millions of rupees on its beneficiaries but most of the patients were still uncontrolled with a serious risk of macro and microscopic complications. A change of paradigm is required with shift of emphasis towards patient education rather than doling out medicines to those without preliminary knowledge of their illness.

In Pakistan one such study was reported from Hyderabad which assessed the knowledge and attitude of diabetic patients. A total of 127 male and female patients were included. The study also observed a poor knowledge of basic facts of disease and its preventive strategies. Only 55.4% of men and 38.8% women were declared to have adequate awareness of disease¹³.

A coordinated effort by health care professionals, dieticians, clinical psychologists and social workers is required to improve awareness level. The clinical setting is often not sufficiently effective in delivering lifestyle changes. Thus the next step may be to test and promote lifestyle

changes through a combination of well planned program of continuous patient education and community based strategies. A multi factorial approach is required to reduce the mortality and morbidity associated with this common illness.¹⁴

The moot question is 'how to translate this scientific information into public education campaign in our population'.

REFERENCES

1. Tuomilehto J, Wolf E. Primary prevention of Diabetes. *Diabetes care* 1987; 10:238-48.
2. Hamman RF. Genetic and environmental determinants of non-insulin dependent diabetes mellitus (NIDDM). *Diabetes Metab Rev* 1992; 8:287-338.
3. Mehbood, F, Zafar MM, Zaman SM. An impact of life style and Obesity on Diabetes, Hypertension and Hyperlipidemia. *J Fatima Jinnah Med Coll Lahore* 2007;1(3-4):59-63.
4. Yarmohammadian MH, Dare Esfahani M Abdare, Yoosefi A R, Sh Shooshtarizadeh. A study about the effects of health behavior on life style changes of the people affected by cardiovascular diseases *Pak Heart J* 2005;38(1-2):8-12.
5. Tuomilehto J, Lindstrom J, Eriksson JG, Valle TT, Hamalainen H, Ilanne-Parikka P. et al prevention of type 2 diabetes mellitus by changes in life style among subjects with impaired glucose tolerance. *N Eng J Med* 2001;344:1343-50.
6. Qidwai W, Mangi AR, Bux R. Life style related risk factors for cardiovascular disease among patients at a teaching hospital in Karachi. *J Ayub Med Coll Abbottabad* 2005;17(2):12-4.
7. The DCCT Research Group. The effect of intensive treatment of diabetes on the development and progression of long term complications in insulin-dependent diabetes mellitus. *N Engl J Med* 1993; 329:977-86.
8. United Kindom Prospective Diabetes Study Group. Intensive blood glucose control with sulphonyureas or insulin compared with conventional treatment and risk of complications in patients with type 2 diabetes. *Lancet* 1998;352:837-58
9. The Diabetes Prevention Program Research Group. Reduction in the incidence of type 2 diabetes with life style intervention or metformin. *N Eng J Med* 2002; 346:393-403.
10. Hu FB, Manson JE, Stampfer MJ, Colditz G, Liu S, Solomon CG, et al. Diet, lifestyle, and the risk of type 2 diabetes mellitus in women. *N Engl J Med* 2002; 345: 790-7
11. Fox, C. Kilvert, A. intensive education for life style changes in diabetes. *Br Med J* 2003; 327:1120-3.
12. Afridi MAR, Khan MN. Role of health education in the management of Diabetes Mellitus. *J Coll Physicians. Surg Pak* 2003;13(10):558-61.
13. Burney AA, Khowaja MA, Memon JI, Memon S, Siddiqui A, Sheikh IA. Awareness and attitudes of people with Diabetes regarding their disease in Hyderabad and adjoining areas. *Liaquat Uni Med Health Sci* 2006;5(2):66-70.
14. Gaede P, Lund-Andersen H, Parving HH, Pedersen O. Effect of a Multifactorial Intervention on Mortality in Type 2 Diabetes. *N Eng J Med* 2008; 358:580.

Address for Correspondence:

Dr Aamir Shahzad

Department of Medicine,
Foundation University Medical College,
Rawalpindi.