ORIGINAL ARTICLE J. Med. Sci. (Peshawar, Print) January 2010, Vol. 18, No.1: 40-44

DIABETES IN FEMALES: KNOWLEDGE, ATTITUDE AND PRACTICES

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ABSTRACT

Objectives: To assess the practices, attitude and knowledge of female patients with Diabetes Mellitus (DM) regarding their disease.

Materials and Methods: This descriptive study, involving 100 female patients with Type II DM, was carried out at a General Practitioner clinic at the outskirts of Peshawar, from June to August 2007. All patients were asked a specific set of questions using a questionnaire.

Results: Based on age, patients were divided in to Group A (>13-40 years) with 28 (28%) patients, group B (>40-60 years) with 66 (66%) and group C (>60 years) with 6 (6%) patients. Only 6 (6%) patients had received education up to or above middle standard examination. Sulfonylureas were used in 77 (77%) patients. Patients who purely consulted doctors for treatment were 80 (80%) and those who took homeopathic and hakimi medicines were 19 (19%). Diabetic diet was advised to 90 (90%) patients, exercise to 60 (60%) and hypoglycemic agents were prescribed to 95 (95%) patients. Though 93% patients said that they were observing diabetic diet and were compliant with hypoglycemic agents but results of glycemic control showed otherwise; fasting blood glucose was >126 mg/dl in 86 (86%) patients. Eighty-nine (89%) patients had some knowledge regarding hypoglycemia, 69 (69%) patients were checking monthly blood and urine glucose. HbA1C levels were not done by 99 (99%) patients, 94 (94%) had never had their urine checked for albumin, 67(67%) had not measured their blood for cholesterol and 99 (99%) had not checked their HBV and HCV status. Ninety two (92%) patients had felt a disturbance in their social life with the onset of DM. Eighty-two (82%) patients had some complication of diabetes. Of these, hypertension and weight loss were the most common (31% each). Ninety nine percent patients did not turn up for regular follow up of blood pressure levels and 73% patients did not have regular check on their blood glucose levels.

Conclusion: Diabetes is uncontrolled in majority of the patients leading to complications due to lack of self motivation, self learning and appropriate follow up.

Key Words: Diabetes Mellitus, female, knowledge, current practices.

INTRODUCTION

The pathogenesis of Diabetes Mellitus (DM) still remains an enigma. Apart from genetic factors, environmental factors, obesity, sedentary life style and dietary habits are said to play an obvious role[1]. DM is on the rise and so are its complications; cardiovascular diseases, kidney diseases, neuropathy, blindness, and lower-extremity amputation with consequent increased morbidity and mortality[2,3]. It is also responsible for the obstetric complications like abortions (12-16%) and fetal malformations [4].

The ATTICA study [5] suggests that age, physical activity, waist girth and fasting blood glucose levels are important predictors of diabetes. To reverse the trend of the increase in incidence, a sustained and effective public health response to focus on weight loss and increase physical activity by promoting life style changes is suggested. There is convincing evidence from randomized clinical trials and prospective epidemiologic studies that apart from blood glucose levels, life style modification, including healthy diet, cessation of smoking, exercise, and education can minimize the burden of the disease [6].

To reduce the impact of the disease on the health and socio-economics of the individual patient and the nation as a whole, it is mandatory to tackle the disease at primary, secondary and tertiary levels by applying a multimodality approach. Diet, exercise and drugs should go side by side for the strict regular control of blood glucose levels. Weakness in one aspect or the other would ultimately lead to progression of the disease. Our study was aimed at finding out the practices in our female diabetic population and their approach towards glycemic

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control, prevention of complications and follow up of the disease.

MATERIALS AND METHODS

This was a descriptive study carried out at a General Practitioner clinic in outskirts of Peshawar and Medical E Unit of Khyber Teaching Hospital, Peshawar, from June 2007 to August 2007 to know about the knowledge, attitudes and practices of female patients with Type II DM. Only female patients of > 13 years age with Type II DM of any duration were included. Male patients, deaf, mute, insensible, insane patients, patients less than 13 years age and patients with aphasia were excluded. All patients were asked a specific set of questions in the form of a questionnaire. The data thus collected was analyzed via SPSS10.

RESULTS

One hundred female patients with Type II DM were included in the study and were divided into three groups on the basis of age; group A, B and C: with maority of patients between age > 40 and 60 years (Table 1). Mean age was 40 years. The duration, symptoms, medications used, monitoring and complications of diabetes mellitus are given in Table 2. Forty two (42%) patients had non-specific symptoms at the time of diagnosis; joint pains, body aches and dizziness.

Table 1: Age Groups

Group	Age	Frequency
A	>13-40 years	28 (28%)
B	>40-60 years	66 (66%)
C	>60 - 80 years	6 (6%)

Only 6 patients (6%) had received education up to or above middle standard examination; the rest 94 (94%) were uneducated. Ninety eight (98%) patients were married and 99 (99%) were dependent financially on their families.

Only 3 (3%) patients had gestational diabetes. Half of the patients (50%) had no knowledge about gestational diabetes. Family history for DM was present in 89 (89%) patients; 58 (58%) patients had a first degree relative with DM and 31 (31%) had other relatives with DM. After diagnosis, 97 (97%) patients were counseled about their disease and its complications and 71 (71%) patients were given leaflet information and written literature about DM.

Eighty (80%) patients were purely consulting doctors for treatment, while 19 (19%) patients also took homeopathic and hakimi/folk medicines. Patients having some knowledge of hypoglycemia were 89 (89%) and those who were aware of the importance of observing the dietary restrictions were 93(93%).

Table 2: Duration, Symptoms, Medications, Monitoring & complications of DM

Duration of diabetes	Frequency
1 month-5 years	43 (43%)
>5 years-10 years	12 (12%)
>10 years-15 years	26 (26%)
>15 years-20 years	17 (17%)
>20 years	2 (2%)
Symptoms at the time of diagnosis	
Asymptomatic	7 (7%)
Weight Loss	16 (16%)
Dryness of mouth and polydipsia	22 (22%)
Polyphagia	1 (1%)
Polyuria	12 (12%)
Nonspecific symptoms	42 (42%)
Medications used by patient	
No Medications	5 (5%)
Sulfonylureas	77 (77%)
Biguanides	12 (12%)
Insulin	6 (6%)
Regular Measurement of Blood and Urine Glucose	
No regular check up at all	10 (10%)
Monthly Checkup	69 (69%)
3 Monthly Checkup	18(18%)
12 monthly Checkup	2 (2%)
>12 Monthly checkup	1(1%)
Fasting Blood Glucose Levels	
80- 126 mg/dl	14 (14%)
127-160 mg/dl	13 (13%)
161-250 mg/dl	48 (48%)
251-300 mg/dl	14 (14%)
>300 mg/dl	4 (4%)
Not Measured at all	7 (7%)
Complications of Diabetes Mellitus	
Nil	18 (18%)
Hypertension	31 (31%)
Depressive Illness	3 (3%)
Numbness in the Limbs	7 (7%)
Hypoglycemia	1 (1%)
Coronary artery Disease	2 (2%)
History of Weight Loss	31 (31%)
Cerebrovascular accident	4 (4%)
Retinopathy	3 (3%)

HbA1c level was not measured in 99 (99%) patients, urine for albumin was never checked in 94 (94%) patients, serum cholesterol was not measured 67 (67%) and Hepatitis B and Hepatitis C status was not known to 99 (99%) patients. Although 95 (95%) patients observed good compliance with medications, the disease had some impact on the social life in 92 (92%) patients.

Diabetic diet had been advised to 90 (90%) patients, exercise to 60 (60%) and hypoglycemic agents were prescribed to 95 (95%) patients. Sulfonylureas were used in 77 (77%) patients. Though 93% patients said that they were observing diabetic diet and that they are compliant with hypoglycemic agents but results of glycemic control showed otherwise; fasting blood glucose was >126 mg/dl in 86 (86%, including those who did not bother at all to have regular check on their blood sugar levels) patients.

DM was present in 82 (82%) patients with some complications. Of these, hypertension and weight loss were the most common (31% each). Ninety nine percent patients did not turn up for regular follow up of blood pressure levels and 73% patients did not have regular follow up of blood glucose levels.

DISCUSSION

DM is and will remain a threat to global health[7]. In 2000, according to the World Health Organization, at least 171 million people worldwide (2.8% of the world's population) suffered from DM[8]. Over 1 million people in UK have this disease. In US, 23.6 million people, i.e. 7.8 % of the population, have DM, with 17.9 million diagnosed cases, and 5.7 million undiagnosed ones [9].

The number is said to double in the next twenty years. Females outnumbering males in type II DM. Female population is a neglected part of our society, although they comprise about 50% of our total population. Only 6% of our study sample was educated up to or above middle standard examination with 99% dependent, financially, on their families.

Our study suggests a lack of a fair amount of knowledge of diabetic female patients regarding their disease and its complications. With the increasing burden of the disease, our female population needs to be educated properly to optimize the desired effect of therapy. The trend is more towards treating the disease and its complications rather than prevention. In the process, the trend of intervention into the disease has shifted from primary level to the tertiary level. This has largely contributed to the economical and social burden, on the patients, their families and the state.

Asif A Burney et al [10] reported positive attitude in 51.7% men and 51% women while 55.4% of men and 38.8% women had adequate awareness about DM. Adequately educated men were 68.8% and 62.8% women. We report 93% awareness about the significance of diabetic diet in female patients with DM. This high figure in our study is probably because of different set of population (Hyderababd Vs Peshawar) and the fact that we asked a specific question i.e. diabetic diet.

Aamir Shahzad et al[11] reported that 50% of the patients had no idea about the cause/symptoms of the disease and 47% patients were unable to recognize and know the treatment of hypoglycemia. Polyuria and weakness were the cardinal symptoms of 35% of patients while in our study it was 12% with majority (n=42, 42%) of our patients having non-specific symptoms.

Gestational diabetes occurs in about 2 to 5% of pregnancies, of which 20% to 50%, later on, develop full blown diabetes mellitus type II.[12] Three (3%) patients, in our study, had a history of gestational diabetes while 50% did not know about the term which is another proof of lack of awareness.

Blood Glucose Awareness Training (BGAT)[13] program, a psychoeducational therapeutic intervention program, has been introduced in past few years in US to improve the accuracy of patients' detection and interpretation of relevant blood glucose symptoms. When patients receiving BGAT training were compared with patients receiving dietary nutritional education, the BGAT group was found to have better-preserved hormonal counter regulation while undergoing successful intensive insulin therapy. The rising trend of consulting doctors for control of DM (81% in our study) and moving away from Hakimi/folk medicine (just 19% in our study) is probably the result of general awareness. Hakimi or folk medicines are usually cheaper as consultation fee and investigations are not involved. Failure to regularly check blood sugar levels (73%) and HbA1c (99%) is most probably due to poverty and financial dependence rather than awareness of the significance of such measurements (93% in our study). Diabetic diet was advised to 90 (90%) patients, exercise to 60 (60%) and hypoglycemic agents were prescribed to 85 (85%) patients. Thus current practices are under utilizing exercise with consequent difficulty in controlling DM. One reason for this under utilization may be the customs and culture. In our culture women are not allowed to move freely outside their homes as they are supposed to be responsible for household work and men are supposed to earn daily living. Though vast majority of patients claimed compliance to diet and medication, the results of glycemic control showed otherwise; fasting blood glucose was >126 mg/dl in 86 (86%) patients. Hashim uddin Azam et al[14] reported fasting blood sugar level of >126 mg% in 59% patients.

The lower figure for uncontrolled DM in their study could be due to two reasons; their study was conducted in a tertiary care hospital (more educated and more motivated patients) and it included both men and women. In contrast, our study included only women (neglected part of the society) and it was conducted in a General Practitioner setup (more close to and accurately representing the community). Majority (77%) of the patients were prescribed Sulfonylureas. This again reflects the poor socioeconomic status as sulfonylureas are the cheapest (hence affordable) and more conveniently available oral hypoglycemic drugs. Compliance with medications (95% in our study) and dietary restrictions, in our society, is relatively better than with exercise. This is because of the social norms and customs prevalent here especially among females about the use of dietary restrictions in illnesses. Although the role of diet and exercise is well established in the management of diabetes, the poor glycemic control despite of favourable norms and customs of the society may be due to lack of awareness about the carbohydrate contents of the food (inadvertent non-compliance) and/or interruptions in medications due to poverty and financial dependence. Inadvertent non-compliance is probably more important, especially in the wake of 93% awareness about the significance of observing diabetic diet in our study. Proper dietitian services need to be introduced to minimize inadvertent dietary non-compliance. Randomized controlled trials provide evidence that intensive lifestyle interventions can prevent or delay the onset of diabetes in high-risk individuals. In addition, adequate and sustained control of blood sugar levels, blood pressure, and blood lipid levels can prevent or delay the onset of diabetes-related complications in people with DM[15]. This is due to the fact that diet, exercise and glycemic control reduce the microvascular complications and the control of blood pressure and lipids levels reduces the macrovascular complications of DM[9]. Patient education, understanding, and participation is essential in controlling blood sugar levels with consequent reduction in the complications of diabetes and their severity[16,17]. Our study showed poor follow up by the patients with DM; 99% for blood pressure, 76% for blood glucose with no measurement of HbA1C levels (99 %), albuminuria (94 %) and serum cholesterol (67%). It is clear that they were poor in engaging laboratory to gauge the level of their disease in appropriate course of time. That is why despite medications, 82% patients had developed complications.

Social effects (present in 92% patients in our study) of diabetes should not be underestimated, as diabetic patients with neuropathic symptoms such as numbness or tingling in feet or hands are twice more likely to be unemployed than those without the symptoms[18].

CONCLUSIONS

It is evident from this study that;

- Majority of our female patients with DM is un educated, which is a hurdle in optimizing the treatment in all aspects.
- Sulfonylureas are the commonly prescribed oral hypoglycemic agents.
- Exercise is under utilized
- Proper dietitian services need to be introduced to minimize inadvertent dietary non-compliance
- DM is uncontrolled in majority of the patients.
- Follow up of the disease for appropriate control, prevention and progression of the dis ease is very poor.

We recommend that the education level of patients should be raised through self motivation and learning, schooling right from childhood and educating them through electronic media, newspapers, literature, walks, public meetings, seminars, clergy, tribal elders and every other source possible in a locality. Specialist primary and tertiary care units should be instituted and a system of follow up of the patients be designed for prevention of the progression of disease and development of its complications.

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