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Diabetes education and care in a developing country: Observations from Karachi, Pakistan

Muhammad Adil Sheikh[a,1], *Rubina Hakeem*[b,c,*], *Farzana Asar*[c,2], *Abdul Hakeem Shaikh*[d,3]

[a] *Dow University of Health Sciences, Karachi, Pakistan*
[b] *Department of Clinical Nutrition, Taibah University, Madinah, Saudi Arabia*
[c] *Department of Food and Nutrition, Raana Liaquat Ali Khan College of Home Economics, Karachi, Pakistan*
[d] *Department of Botany, Federal Urdu University of Arts, Science and Technology, Karachi, Pakistan*

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ABSTRACT

Objective: To explore the kind of care being received by a sample of middle income group subjects with diabetes in Karachi.
Design: Cross-sectional.
Place and duration of study: Raana Liaquat Ali Khan College of Home Economics, Karachi from January 2009 to September 2009.
Patients and methods: Information was collected from 105 type 2 diabetics through a structured, pre-tested, self administered questionnaire distributed in two colleges only to those students who had any adult onset diabetic in their family. SPSS version 16 was used for data entry and analysis (e.g., chi-square tests).
Results: The mean duration of diabetes was 8.9 years. Random blood sugar, blood pressure check and urine test for sugar were the most frequently performed tests. Many important diabetes related tests had not been performed even on subjects with duration of diabetes of 10 years or more such as HbA1c had never been performed for 74% of subjects in this class. Test for circulation had never been performed for 93% of subjects with 1 year's diabetes duration and for 62% of subjects with duration of 10 years or more. More than 90% subjects received information about diet and causes of diabetes; >70% had been informed about diabetes complications, foot care, dental care, self monitoring of blood glucose and testing sugar in urine and only 48% had been educated about insulin injections. Physician was the source of this information for more than 70% of subjects.
Conclusions: This study has explored insufficient clinical monitoring of diabetes complications and provision of casual diabetes education. These observations highlight the need for provision of appropriate diabetes education, both to health care team and professionals.

* *Corresponding author at*: Department of Clinical Nutrition, Taibah University, Madinah, Saudi Arabia. Tel.: +966 56 340 1976.
E-mail addresses: m.adil.shaikh@gmail.com (M.A. Sheikh), rubina.hakeem@gmail.com (R. Hakeem), humaasar@gmail.com (F. Asar), abdulhakeemshaikh@yahoo.com (A.H. Shaikh).
[1] Tel.: +92 0345 286 2851.
[2] Tel.: +92 0346 240 4866.
[3] Tel.: +92 0321 232 2060.

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1. Introduction

Pakistan is among the regions of the world having the highest prevalence of diabetes mellitus with 5.2 million people suffering from the diseases till 2000. This number is expected to swell up to 13.9 million by 2030 [1]. Pakistan currently ranking 6th in list of countries with the highest prevalence of diabetes worldwide is expected to move up to 5th by 2030 [1]. The urban–rural distribution of the diseases is 6% in men and 3.5% in women in urban areas and 6.9% and 2.5% in men and women respectively in rural areas [2].

Education and care are the cornerstones of diabetes management. Interventions such as diabetes educator programs and visits to dieticians are important in increasing awareness and knowledge among diabetics about their disease and its management [3]. There is ample evidence that diabetics with better knowledge of their disease and those receiving care in accordance with the established guidelines have better prognosis and delayed development of complications. Tight glycemic control results in delayed development of microvascular and macrovascular complications [4].

Evidence-based guidelines and standards for diabetes care that have potential for reducing diabetes complication are available worldwide. In developing countries meeting these standards is not assured not only due to lack of resources but also due to lack of awareness [5–8]. The high prevalence of macrovascular and microvascular complications like retinopathy, neuropathy, nephropahy and foot ulcers in diabetics in Pakistan highlights the need for improving the situation [9].

Studies showing high rates of diabetes related complications indicate need for assessment and evaluation of quality of care [10]. One hospital based study showed that adherence of healthcare professionals to ADA guidelines was suboptimal [11]. A few other studies have also been conducted in Pakistan to determine the awareness of diabetics about diabetes, the quality of care received by them and the adherence to recommendations of their physicians, all these studies are conducted in clinical settings [12–15] and hence do not take into account those diabetics that do not get medical treatment of the disease, self-treat themselves or opt for non-medical means of therapy. Estimating reports of care form subjects recruited from the community is likely to be a more comprehensive view of the situation. We therefore conducted a study to explore the kind of care being received by a sample of middle income group subjects with diabetes in Karachi as assessment of areas needing particular attention could assist in improving the situation.

2. Patients and methods

A cross-sectional pilot study was conducted among middle income adults living in Karachi. Information was collected from 105 type 2 diabetics through a structured, pre-tested, self administered questionnaire. After preliminary inquiry, the questionnaires were distributed to students in two colleges only to those students who had any adult onset diabetic in their family.

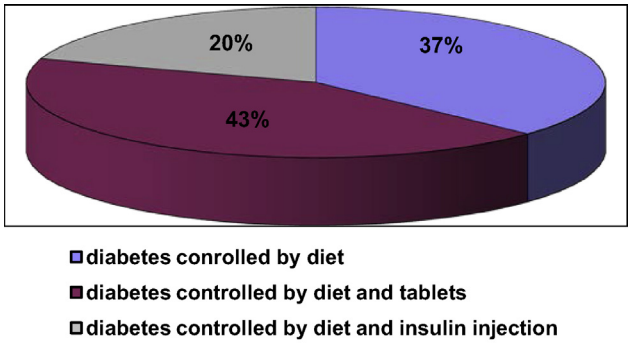

Fig. 1 – Characteristics of the sample.

The questionnaire was designed to collect general information and diabetes related characteristics of the subjects, and diabetes care received by the subjects. Data collected included: information about frequency of getting various diabetes-related clinical tests done (such as blood and urine glucose levels, eye exam foot exam, etc.) and availability of healthcare staff (e.g., doctor, nurse and dietitian).

The duration of diabetes of subjects was divided into three categories. Subjects with diabetes duration of 1–4 year, subjects with diabetes duration of 5–9 years and subjects with diabetes duration of 10 or more years.

Frequency of getting a clinical test done was divided into 5 categories: never, up to 6 times in year, 7–12 times in year >12 times in year, and at least once since diagnosis.

Accessibility of healthcare workers for consultation was asked and healthcare personnel available was also enquired form the subjects. Subjects were also asked if they had received information on various aspects of diabetes and its care and also the source of their information in order to ascertain the reliability of this information.

3. Results

Data was collected from 105 type 2 diabetics. Fifty-one (48.1%) were male and 54 (50.9%) were female. The mean age of subjects was 52 ± 11.8 years. The mean duration of diabetes was 8.9 years. Majority of the subjects controlled diabetes by diet and tablets (oral hypoglycemic agents) as shown in Fig. 1. Our study population comprised of educated people as 89.5% subjects had at least school level education among which 43.3% were graduates.

Only 38.7% of subjects had any healthcare worker accessible 24 h (on phone or at healthcare facility with or without appointment) for contact (in case of emergency). For 32% of the subjects it was the doctor who was available 24 h for consultation and very few subjects had access to nurse or dietician in case of emergency. Doctor was sometimes available at clinic without appointment and fee to 42.3% of subjects, but with both appointment and fee doctor was easily available at clinic to 83.1% of subjects. Nurses were available 24 h for contact in case of emergency for 11.3% subjects while dietitian was available 24 h for only 8.5% of subjects. About 5% subjects reported that there were some healthcare personnel other than