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Original Article

Quality of diabetic care in an urban slum area of Mysore: A community based study☆

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ABSTRACT

Aims:
(1) To understand the socio-demographic and clinical characteristics of diabetic patients residing in an urban slum, Medhar Block, Bamboo Bazar, Mysore.
(2) To determine the proportion of diabetic patients, advised according to standard guidelines.
(3) To assess the extent of compliance of the diabetic patients to doctor's advice.
(4) To identify reasons for not availing the advised treatment.

Materials and Methods: Community based cross sectional study was conducted in an urban slum of Mysore. Data was collected between July and August 2011. Known diabetics residing in this area were included in the study. Socio-demographic information of diabetic patients, history, physicians advice and the extent of compliance of patients towards treatment were assessed. Descriptive statistics, like percentages were calculated.

Results: Study comprised of 104 patients. Mean fasting and post prandial blood glucose was 163 ± 70 mg/dl and 239 ± 89 mg/dl respectively. Common co-morbid conditions were hypertension and obesity. Key process indicators of care, indicated that adherence to medication advice was maximum and less than one fourth of them had an annual Hba1c and lipid profile examinations.

Conclusions: To prevent long term complications associated with diabetes, doctors must adhere to the guidelines. There is a need to improve the health system, in terms of developing facilities to provide annual eye examination, annual lipid profile, urea, creatinine testing for diabetic patient.

Key message:

- There exists a wide gap between the standard recommended guidelines and diabetic care that is being delivered in an urban slum of Mysore.

1. Introduction

Diabetes mellitus has risen dramatically over the past two decades, from an estimated thirty million cases in 1985 to hundred and seventy seven million in 2000. Based on current trends, over

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three hundred and sixty million individuals will have diabetes by the year 2030 [1]. Seventy percent of current cases of diabetes occur in low and middle income countries, with India being top on the list [2]. To prevent end organ damage and other associated microvascular and macrovascular complications, it is important that for health care providers to follow the standard guidelines for disease management.

In urban slum areas, the array of health services for successful management of diabetes is limited. It was observed that primary care can be as effective as secondary care, if standard guidelines of management are followed by the health care providers [3]. Compliance is a paramount element in health care and affects all its areas. Degree of patient's compliance to diabetic self care is the extent to which a patient correctly follows medical advice which includes, dietary modification, exercise, taking medication, monitoring blood glucose, foot care along with time and integration of all these activities [4,5]. What is needed is evidence based intervention that fundamentally alters diabetes management and thereby improve diabetes outcome.

Before an intervention can be instituted to improve care of diabetic patients residing in urban slum, it was important to determine the quality of diabetic care that they are presently receiving. The current research has studied the glycemic control and the extent to which diabetic patients have received ADA recommended care.

2. Objectives

1. To understand the socio-demographic and clinical characteristics of diabetic patients.
2. To determine the proportion of diabetic patients, advised according to standard guidelines.
3. To assess the extent of compliance of the diabetic patients to doctor's advice.
4. To identify reasons for not availing the advised treatment.

3. Materials and methods

A community based cross sectional study was conducted in an urban slum, Medhar Block, Bamboo Bazaar, Mysore. This slum is a field practice area of the department of community medicine and the population of this area are served by an urban health centre. The urban health centre has maintained a database of 150 diabetic patients residing in that area. Any person who is on anti-diabetic treatment for a minimum of one year and residing in the above mentioned area was included for the study and patients who were diabetic for less than one year, refused to give consent or those who were severely ill were excluded from the study. There were ethical considerations of confidentiality and the freedom to participate or not. Ethical clearance was obtained from Institutional Ethical Review Board of JSS Medical College, Mysore. Informed consent from each of the study participant was obtained before interviewing.

3.1. Method of data collection

House to house survey was conducted. Patient had to be a known case of diabetes for a minimum period of one year for inclusion in the study. Totally 104 patients were interviewed during the study.

The data was collected from each patient by completing an interviewing questionnaire, reviewing prescription forms and laboratory investigations. The questionnaire was validated in the field by carrying out a pilot study.

Questionnaire covered the following data:

a. Personal socio-demographic data, like age, gender, marital status, education, occupation and socio-economic status.
b. Diabetes history: duration of diabetes, diagnosed during, type of treatment (insulin or oral hypoglycemic drugs), treatment taken from and course of disease (controlled or uncontrolled).
c. Compliance: questions on compliance dealt with the following:
   (i) Medication: taking medication as prescribed and taking medication on time.
   (ii) Dietary: adherence to dietary regimen.
   (iii) Exercise: taking a 20-minute walk a day.
   (iv) Self care: eye, foot, dental, and skin care.
   (v) Causes for noncompliance (if any): economic, lack of knowledge of the importance of compliance and difficulty of the regimen, etc.

Measurement of waist and hip circumference [7], blood pressure [8], examination of the nervous system, feet and complications were observed and records checked.

Health education provided to the patient: This included education on dietary regimen, conduct of physical exercise, and self care (foot care, eye, skin and dental care and general hygiene).

The number of prescribed drugs was recorded, and the consultation time (the time taken by the doctor with every patient attending urban health units including examination, education, and drug prescription) was asked. The conduct of patient's examination, health education on diabetes, instructions on drug use, and education on self care was determined. Prescription forms and laboratory reports were reviewed to find out types of anti-diabetic drugs prescribed (tablets or injections), examinations and investigations that were advised by doctor and extent to which diabetic patients have undergone these investigations.

3.2. Statistical analysis

Data entry was done in excel sheet and the data was analyzed using EPI-INFO 3.2.2 version. Mean and standard deviation were calculated for quantitative data. Percentages (frequency) were calculated for qualitative variables.

4. Results

The study comprised of hundred and four patients. The socio-demographic and clinical characteristics of these patients are presented in Table 1. Mean age of study group was 55.26 ± 12.46 years and male to female ratio was 1:1.6. Married patients comprised 78.0%. Fifty seven percent belonged to upper lower class as per modified Kuppuswamy scale. Thirty eight percent were educated up to high school level. Most of them were semi professionals

Table 1
Demographic profile of study respondents ($n = 104$).

Characteristic	Number (%)
Mean age	55.26 ± 12.46
$\leq$40 years	12 (11.5)
40–60 years	56 (53.8)
$\geq$60 years	36 (34.6)
Male	48 (46.2)
Married	78 (75.0)
High school and above level of Education	48 (45.3)
Residing in the same area for >10 years	74 (69.8)
Skilled workers	20 (19.2)
Petty business	16 (15.3)