



Short Communication

Diabetes Mellitus in Elderly Patients Attending a Medical Centre in Sudan

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Abstract

At the present time many people in the world tend to survive for more advanced age than previously. There is good evidence that the health system in the developing countries pay little (if any) attention to the health problems of the 'senior citizens'. Even more, we feel that these people (especially those with chronic diseases) are poorly managed by the doctors at any level of the health service.

Keywords: Diabetes Mellitus, Mental Capabilities, Health Problems

INTRODUCTION

In the recent years diabetes mellitus has become an increasingly important problem in the Sudan (and the other countries among all age groups of the population. The elderly pose particular problem to the diabetic services because they are less able to self-care and due to their diminished physical and cognitive abilities. The aim of this study was to investigate the impacts of the diabetes on the elderly patients in regards to their physical and mental capacities, glycaemic control and their response to the prescribed treatments.

METHODS

This study aimed at investigating the impacts of diabetes mellitus in the elderly and then to identify the different factors that affect their control. Our study involved primary data collection through a cross-sectional survey.

The study was done at a referred clinic run by consultant physicians in Omdurman city, Sudan in the period April through July 2002. Our study population was all the known diabetic patients above the age of 65 years who were consecutively seen in the clinic in the specified period. Two sets of data were collected from our patients who all gave their consent to participate.

Clinical Characteristics

1. Age, sex, living arrangements, blood pressure, body mass index (BMI), other chronic diseases.
2. Assessment of physical function: here, as an instrument for assessment we used a modified version of Barthel Index (based on the assessment of the activities of the daily living). The instrument consists of the following items (the scoring points are given in parenthesis).
 - Feeding: independent (2), needs some help (1), dependent (0).
 - Grooming face, hair, teeth, shaving: independent (1), needs help (0).
 - Dressing: independent (2), can do half (1), dependent (0).
 - Transfer: independent (2), needs help (1), unable (0).
 - Toilet use: independent (2), needs some help (1), dependent (0).
 - Walking: independent (3), walk with a stick (2), on wheelchair (1), unable (0).

A score of 8-12 indicates functionally independent elderly, and a score of 0-7 indicates functional dependency.

3. Assessment of the cognitive function: here we applied an eight-question instrument about age, time (to the nearest hour), month, year, name of place, year of birth, name of the President, and counting back from 20 to 1. Each correct answer was given one mark. A score of 6-8 indicates a normal cognitive function, a score of 5 indicates probable abnormality and a score of 0-4 indicates clear abnormality.

4. Control group: For the purpose of the control we recruited 35 age-matched patients who were referred to the clinic for minor or acute problems. None of them had a chronic disease. The points of comparisons were: physical and cognitive assessment, blood pressure, and BMI.

Diabetes data

Type, duration and current treatment of diabetes, degree of compliance to prescribed therapy. (and difficulties encountered and attitudes toward the therapy), and assessment of degree of the patient's knowledge about the disease especially about hypo- and hyperglycaemia.

Assessment of the glycaemic control

The glycaemic control was considered poor at fasting blood glucose (FBG) level above 8.8mmol /l, and fair at FBG level below this figure.

Assessment of chronic complications of diabetes (the minimal requirements)

- Peripheral neuropathy: glove and stocking numbness or parasthesia, absence of ankle reflex.
- Ischaemic heart disease: ECG signs or history of angina or myocardial infarction.
- Retinopathy: characteristic ophthalmoscopic finding of background or proliferative retinopathy.
- Nephropathy: persistent proteinuria in absence of urinary infections.
- Peripheral vascular disease: intermittent claudication, amputations

On statistical analysis, data that are approximately normally distributed were given as means and standard deviations. A p- value of less than 0.05 was regarded as significant.

RESULTS

Clinical characteristics

Our study included 140 patients (81 female, 59 male) of age average of 72 years (range: 65-91 years). All of them were living with their families. The mental assessment

showed that 17 patients (12.1%) had impaired cognitive function compared to 2 (5.7%) among the control group ($p < 0.05$). The physical function assessment showed that 24 (17.1%) patient were physically dependent compared to 4 (11.4%) among the control group ($p < 0.05$). The mean systolic blood pressure among the patients was 162.40 ± 33.07 mmHg (range: 127-230) whereas the mean diastole was 86.70 ± 11.31 mmHg (range: 55-115). Among the control the mean systolic pressure was 121.43 ± 25.75 mmHg whereas the mean diastole was 54.35 ± 21.66 mmHg (range: 50-95). The statistical analysis of the blood pressure in both groups showed that ($p < 0.05$). The mean BMI among the patients was 23.14 ± 6.14 and among the controls was 19.1 ± 5.36 ($p < 0.05$).

Diabetes data

The majority of the patients (131) had type 2 diabetes (93.5%). The average duration of diabetes was 16 years (range 1-27 years). The current prescribed treatments of diabetes included diet in 26 patients (18.6%), oral hypoglycaemic agents (OHAs) in 85 patients (60.7%) and insulin 29 patients (20.7%). Sixty nine patients (49.2) were found to be non-complaint to their prescribed treatments. The distribution of non-compliance included 13 patients in the diet-treated group (50%), 37 in OHAs group (43.5%) and 19 in the insulin group (65.5%). The patients stated the following reasons for non-compliance: non-availability of drugs, difficulty of insulin storage and delivery and dietary difficulties. The poor glycaemic control of diabetes was encountered in 72 patients (51.4%) distributed as 9 in the dietary group (34.6%), 43 in the OHAs group (50.6%) and 20 in the insulin group (68.9%). The full range of chronic diabetic complications was encountered among our patients which included: peripheral neuropathy in 39 patients (27.8%), ischaemic heart disease in 24 patients (17.1%), retinopathy in 21 patients (15%), peripheral vascular disease (including amputations in 13 patients (9.2%) and nephropathy in 7 patients (5 %).

Other chronic diseases were detected among 81 patients (57.8%) which included hypertension, arthritis, dementia, senile enlargement of the prostate.

Comments

Our study indicated that the diabetic elderly patients in our country suffer severe deficiencies and problems that need to be meticulously addressed by both the policy makers and caregivers. These problems included poor control, poor compliance to prescribed treatments, high incidence of chronic complications and lower cognitive and physical capacities compared to the non diabetic elderly. We suggest adopting a multidisciplinary approach

for health delivery system to ensure the participation of social workers, dieticians, diabetes educators, chiropractors in addition to diabetologists and other clinicians. The caregivers should pay great emphasis on the promotion of the well-being of the patient (physical and social) and not only to normalize their blood glucose levels.

The patients need to create major changes in their life especially in aspects such as diet, exercise and regular visits to their doctors. Here we should be aware to the inherent tendency of the elderly to resist changes.

Sometimes failure to receive medical care at reasonable costs can be a real problem, for the elderly. Attention should be made to the diabetic elderly in the few residential and nursing homes in our country.

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How to cite this article: Amir A.A., Ahmed A.M (2014). Diabetes Mellitus in Elderly Patients Attending a Medical Centre in Sudan. *Int. Res.J. Basic Clin. Stud.* **2**(2):27-29