

An Assessment of Quality of Care of Diabetes Clinic at Primary Health Care Setting: Divisional Hospital, Maskeliya, Sri Lanka.

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DOI: 10.29322/IJSRP.11.03.2021.p11152

<http://dx.doi.org/10.29322/IJSRP.11.03.2021.p11152>

Abstract- Diabetes Mellites (DM) is one of a major public health concern in both developed as well as developing countries. It is widely accepted that good glycaemic control, regular screening for complications, and early intervention, in the form of integrated services provided by a diabetes health care team prevents complications. This paper reports on the quality of services provided by the diabetic clinic of the Divisional Hospital, Maskeliya by an audit of its structure, process and outcome.

The knowledge score of DM among medical officers and nursers was 90% and 70% respectively. Only one medical officer was allocated to medical clinic. A sphygmomanometer, weighing scale, examination bed and seating facilities for patients were available in the clinic. Average space at a time per patient in the waiting area is 6.2 square feet.

422 patients were subjected to assess knowledge on DM and recorded 38% with the mean knowledge score being 15.1 from a possible maximum of 40 points. Mean travel time was 1.1hours (SD=0.7h). Mean waiting time to see medical officer was one hour and thirty minutes (SD=0.4h). Mean waiting time in the dispensary was 1.2hours (SD=1.5). Mean time taken for consultation per patient was 2.4 minutes.

The standards of the DM clinic were not consistent with the recommended levels of care stipulated by the WHO. Lack of human and physical resources, unavailability of proper referral system, Poor distribution of drugs, poor planning and lack of policy were the main issues identified.

Index Terms- Diabetes clinic, Primary Health Care Setting, Quality of Care, Sri Lanka

I. INTRODUCTION

Diabetes is a major health problem in the developed world [1]. As developing nations acquire 'westernised' lifestyles the importance of non-communicable diseases such as diabetes increases [2]. International Diabetes Federation (IDF) has estimated that 415million adults got Diabetes in 2015 and it will increase up to 642 by year 2040 across the globe [3]. Further countries have devoted 5%-20% of their health expenditure for management of Diabetes and its complications globally in 2015[4].

The age-sex standardized prevalence (95% CI) of diabetes for Sri Lankans aged ≥ 20 years is 10.3% [5]. This is expected to increase sharply in the next decade [6]. Thus, developing countries such as Sri Lanka will have to face the problems of both communicable and non-communicable disease in the next millennium [7].

Divisional Hospital Maskeliya is a primary care setting situated in NuwaraEliya where one of a deprived District in provision of health care. The Hospital consist of 120 beds and four wards. Four medical officers, fifteen nursers, twelve health assistances, two midwives and one dispenser were working as health care delivery team.

Mortality and morbidity from macrovascular disease, hyperlipidaemia and retinopathy are more common among diabetics [8]. Particularly the elderly, and this will pose increasing problems as the age structure of our population changes [9].

It is widely accepted that good glycaemic control, regular screening for complications, and early intervention, in the form of integrated services provided by a diabetes health care team prevents complications and is cost effective in a Sri Lankan setting [10]. This paper reports on the quality of services provided by the diabetic clinic of the Divisional Hospital, Maskeliya by an audit of its structure, process, and outcome.

II. MATERIALS AND METHODS

All medical officers, nursing staff and junior staff working in the diabetic clinic and every fifth patient on four weekdays and Saturdays (340 NIDDM and 82 IDDM patients) comprised the study population. The structure of care was assessed by descriptive study of available facilities such as space, equipment and utility, human resources, drug availability and relevant knowledge among the staff. The process of care was assessed by a retrospective study to determine the workload, frequency of blood (Blood sugar levels, HbA1C levels, Lipid profile) and urine glucose measurement, fundus examination and screening for albuminuria. These were then compared with the guidelines set by the World Health Organization.

Knowledge related to diabetes among patients, waiting times, time spent for consultation and screening activities were used to represent outcome measures. Knowledge of diabetes was assessed on a system found to be both valid and reliable in previous studies [11]. All patients were tested using a questionnaire design to evaluate basic knowledge about diabetes required by them to maintain adequate glycaemic control and avoid life-threatening hypo- or hyperglycaemia. All questions were of the multiple-choice type.

The questionnaire consisted of 10 questions. Some questions had more than one correct answer. Each correct response scored one point and each incorrect response 0. As the previous validation was for English speaking population, this questionnaire was translated into Sinhala and Tamil and retranslated to English by another two persons to ensure that no difference in meaning took place during the translation. The questionnaires, in English, Sinhala and Tamil, were then tested and validated on medical staff, nursing staff and patients not participating in the study.

III. RESULTS

422 patients were selected to complete the knowledge questionnaire. A response rate of over 90% was achieved. Response rate among staff was 100%.

The clinic room which included a consultation area, educational area, record storage area and injection area was 24 x 20 square feet. The waiting area was 40 X 30 square feet. A sphygmomanometer, examination couch and weighing scale available and in working condition but were sparingly used due to lack of time and overcrowding. One medical officer, two nurses, one junior staff and one Red Cross volunteer comprised the clinic staff. All of them were haphazardly assigned and all were transients. Oral hypoglycemic agents in the National Formulary were available time to time but no continuous supply of drugs throughout the study period.

The average daily attendance at the diabetic clinic was 120. A single blood glucose measurement was performed over a 06-month period in 58% of patients. Monthly blood glucose records were observed in only 12%. No blood glucose test was performed in 32%. In contrast, urine glucose measurements were done at least once a month in 58% of patients, once in six months in 10% and once a year in 16%. Documentation merely indicated patient attendance and the prescription for medication. There were no details pertaining to the consultation. No fundus examination or screening for albuminuria were performed at the clinic. HbA1C and Lipid profile were not available for patients as routine procedure.

Knowledge about diabetes among patients was 38% with the mean knowledge score being 15.1 from a possible maximum of 40 points. The mean knowledge score among doctors was 90% whereas the nurses scored a mean of 70% on the same questionnaire.

Table 1: Outcome of care

Outcome Indicator	Time	SD (Hours)
Mean travel time	1.1 Hours	0.7
Mean waiting time to see doctor	1.5 hours	0.4
Mean waiting time to obtain drugs	1.2 hours	0.1
Mean time for consultation	2.0 minutes	–

IV. DISCUSSION

The results of the Diabetes Control and Complications Trial (DCCT) have shown that good long term glycemic control in people with Insulin Dependent Diabetes Mellitus (IDDM) can reduce the risk of developing micro vascular complications by more than 50% [12]. The ultimate test of outcome of any intervention is the prevention of long-term complications of diabetes.

It is in this context that motivation and lifestyle modification become crucial in the management of diabetes. Knowledge about the disease is essential in changing lifestyle. The mean knowledge score among the patients in this study was less than 50%. Hence, if knowledge about diabetic and glycemic control are used as surrogate intermediate measures of outcome, the diabetic clinic appears to have failed in this respect.

The European Association for the Study of Diabetes (EASD) recommended that all patients with Non-Insulin Dependent Diabetes Mellitus (NIDDM) should be screened for complications and that control of diabetes should not be limited to glycaemic control along [13]. It is accepted that these recommendations should be implemented in Sri Lankan diabetic clinics.

V. CONCLUSION

Deficiencies in planning and resources in supportive services (Investigations), manpower and clinical management skills are the principal factors contributing to this poor outcome. None of the staff had received any form of especial training and, as all were transients, there was no continuity in service. Nor was it possible to implement any approved guidelines. The equipment available at the clinic was underutilized for the want of time thus curtailing proper screening. The single medical officer, overwhelmed by time constraints to treat about 120 patients in four hours, merely writes out the prescription. A patient on average spent 4.3 hours to have about 2 minutes with the doctor.

Patient satisfaction does not guarantee high quality. However, it does enhance compliance and use of services, both of which are vital in chronic diseases. It is also an important end result in its own right as patients are consumers of health services and are entitled to an acceptable system of health care. The diabetic clinic was clearly found wanting in this regard.

The deficiencies at the diabetic clinic only reflect an Indifferent attitude of policy makers, health planners and political leadership in handling a substantial public health problem that poses grave consequences for the future as projected by the WHO. If inundated system is to be prevented from being inundated by chronic ailments that would exhaust most of its resources, then the Health Services should consider the need for secondary and tertiary prevention of diabetic complications.

VI. RECOMMENDATIONS

It is recommended to establishment of diabetes health care teams consisting of a physician, nurse educator and dietician, at least at the selected primary health care settings. The aims of these teams would be to establish a diabetic clinic that delivers acceptable standards of care, provides comprehensive program of education, implements the use of standardized protocols for the management of diabetes and develops patient education publications. These teams should have access to auxiliary specialties (Nephrology, Ophthalmology, Neurology etc.) needed in the total management of diabetes in the way of proper referral system and shared care delivery model.

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