

MANAGEMENT OF TYPE 2 DIABETES MELLITUS: ASSESSMENT OF THE COMMUNITY PHARMACISTS' CONTRIBUTION IN SELECTED DISTRICTS OF TAMIL NADU STATE, INDIA

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Received: 14 Aug 2013, Revised and Accepted: 06 Jan 2014

ABSTRACT

Objective: The objective of this study is to assess the contribution of community pharmacist in selected districts of Tamil Nadu State, India towards diabetes management service.

Methods: A cross-sectional study was conducted from Sep 2012 to Jan 2013. Data were obtained for 14 services in three districts namely Coimbatore, Nilgiris and Chennai, Tamil Nadu, India. The results are analyzed using GraphPad Prism Version 6.02

Results: This study was performed in nearly 285 pharmacies in three districts namely Coimbatore, Nilgiris and Chennai (95 pharmacies for each district) of Tamil Nadu, India. The results of this study show that the awareness, understanding their importance and role towards diabetes management service are not sufficient.

Conclusion: Community pharmacy-based diabetes management services are need of the situation in India as they are the direct and final link in the process of drug therapy. Without their contribution the earlier detection of diabetes, proper management and delaying the diabetes related complications can't be achieved. The main reasons for above said shortcomings are lack of periodical continuing pharmacy education programmes, lack of interest in their knowledge update and certain participation barriers. Further there should be initiatives from India through which remuneration of pharmacists for the provision of pharmaceutical care services can be provided.

Keywords: Community Pharmacist, Contribution, Diabetes Management Services, Tamil Nadu, India

INTRODUCTION

Diabetes Mellitus (DM) is a group of metabolic disorders that share the common phenotype of persistent hyperglycemia through abnormalities in carbohydrate, fat and protein metabolism. Type 2 DM is a heterogeneous group of disorders and it accounts upto 90% of total DM. The type 2 DM is characterized by variable degree of insulin resistance, impaired insulin secretion and excessive hepatic glucose production. The poor glycemic control of DM can lead to various microvascular, macrovascular and neuropathic complications. The prevalence of diabetes according to 2013 WHO report is about 347 millions worldwide, among which 80% diabetes related death occurs in low - middle income countries. Also WHO projects that diabetes death will be doubled in world between 2005 and 2030[1]. India is called the diabetic capital as nearly 10% of the world total diabetes live here. As the diabetes population in India is high, now the greater challenge in front of India is delaying the onset and the management of the Type 2 Diabetes mellitus. There are enough evidence that pharmacist involved patient care service improves compliance and quality of life. By maintaining near - normal glycaemia, the risk of microvascular disease complications can be reduced whereas aggressive management are needed to reduce the risk of macrovascular disease. For achieving the above said goals Pharmacists are now becoming more and more patients oriented rather than product oriented. This includes goal setting, monitoring key clinical indicators for disease and complications; providing dietary and exercise advice; promoting the usage of self monitoring of blood glucose (SMBG). Given the potential contribution by the community pharmacist with the goal to achieve and maintain blood glucose level as close to normal as possible the type 2 diabetes and its complication can be well controlled. The purpose of this study is to evaluate the contribution of community pharmacist in Tamil Nadu, India towards diabetes management service as a patient with diabetes visits the community pharmacist 5 times more often than the primary care physician or diabetes specialist [1].

MATERIALS AND METHODS

A cross-sectional study was conducted from Sep 2012 to Jan 2013. Data were obtained from selected pharmacies from three districts namely Coimbatore, Nilgiris and Chennai. Each of the pharmacy was assessed for the following pharmacist's role in diabetes management services [2].

1. Patient education on disease by provision of relevant educational material (e.g., patient educational leaflet for diabetes, diabetes food chart)
2. Patient education on diabetes complications
3. Education aspects on diabetes self-care such as foot care, managing hypo - and hyperglycaemia
4. Education on the importance of Medical Nutritional Therapy (MNT) [3,4,5]
5. Assessment on MNT
6. Medication Adherence assessment and detection of drug-related problems (DRPs)
7. Education on importance of medication adherence
8. Encouragement for the usage of Self Monitoring Blood Glucose systems (SMBG) [5]
9. Periodical support for blood pressure and lipid level monitoring
10. Reminder of regular follow up for prevention of possible complications related to diabetes
11. Patient referrals: Referring patients to other members of the diabetes care team (e.g., Diabetes educators, Dieticians, Ophthalmologists, Podiatrists, Cardiologist, Nephrologists, Dentists and Neurologist) [6]
12. Assessment of the patients for the signs and symptoms of depression
13. Promoting and reminding about HbA1c testing once in 3 months
14. Documentation and evaluation of patient outcomes.
15. Many of these pharmacies were visited with diabetes prescription at their comfortable time (post lunch work time). Additional data collected include the pharmacist's awareness about diabetes disorder and the importance of their involvement in diabetes management service.

RESULTS AND DISCUSSION

This study was performed in nearly 285 pharmacies in three districts namely Coimbatore, Nilgiris and Chennai (95 pharmacies for each district) of Tamil Nadu, India. Figure 1 illustrates the awareness of pharmacist towards diabetes and their importance in managing diabetes. Comparing the three districts Chennai had shown better pharmacist awareness (About diabetes: 23.51%, about their importance in managing diabetes: 11.93%). Still this percentage is not sufficient for managing overwhelming population of Diabetes. In Coimbatore district nearly 22 and 20 pharmacists had awareness towards diabetes and their importance in managing diabetes respectively. In case of Nilgiris only 8 and 6 pharmacists had

awareness about diabetes and their importance in managing diabetes. Further each of the pharmacies was assessed for the provision of diabetes management services.

The results are shown in figure 2. None of the pharmacies in three districts offer the following diabetes management services viz. Assessment of MNT, Periodical support for Blood Pressure measurement and lipid level monitoring, Reminder of regular follow up for prevention of complication and Assessment of the patients for depression. None of the pharmacies in Coimbatore and Nilgiris offers the following services: Medication adherence assessment and detection of DRPs, Education on importance of medication adherence, and Documentation and evaluation of patient outcomes.

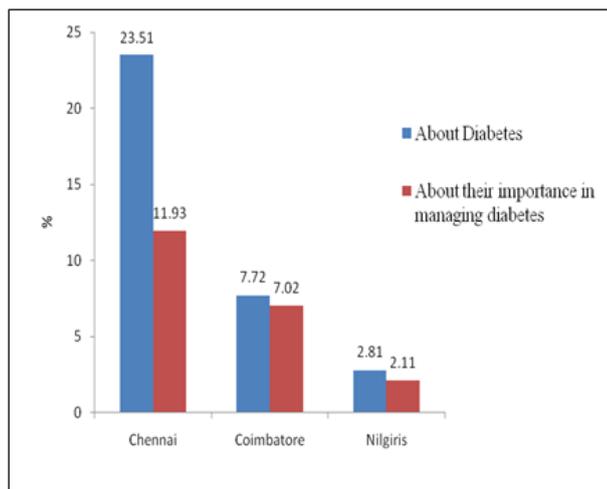


Fig. 1: Pharmacists' Awareness

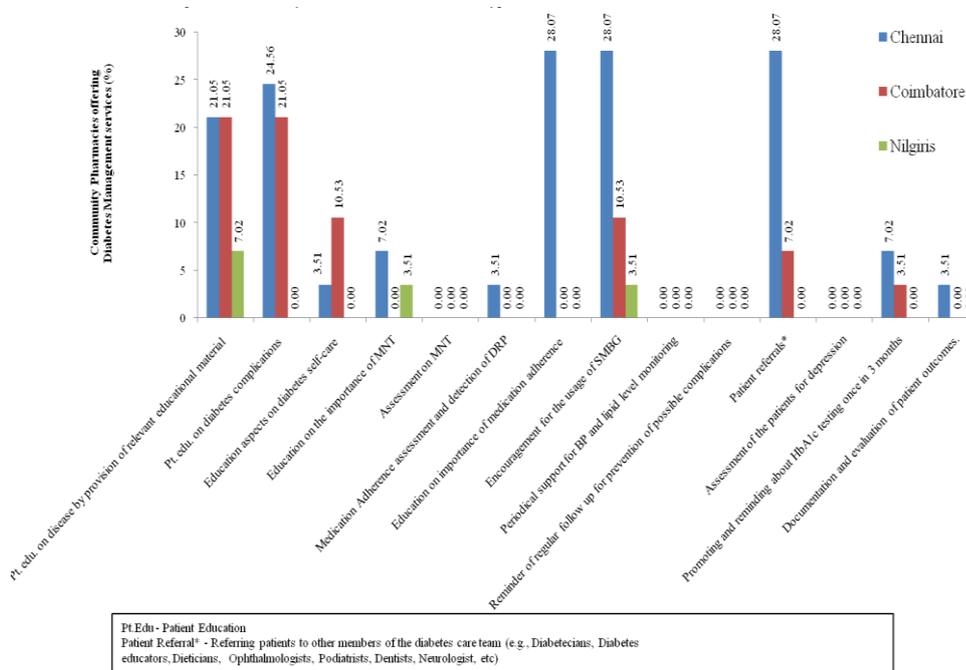


Fig. 2: Community Pharmacists' contribution in Type 2 Diabetes Mellitus in 3 districts of Tamil Nadu, India

In many countries, community pharmacies play a role where individuals can obtain their health care advice and assistance for managing their diabetes status with medication [7, 8]. Examples are available from United Kingdom (UK) where the community pharmacist play a vital role in primary care and public health; there are also several other examples

of where community pharmacy involvement in diabetes disease management [1]. Many studies suggests community pharmacy-based diabetes management services in Australia lead to a significantly greater reduction in HbA1c compared with controls [9,10]. Community pharmacists in Brazil provide vital services which include both

traditional roles like drug dispensing and management services such as blood pressure measurement, capillary glucose testing, lipid testing etc [1]. The World Health Organization (WHO) has long thought that pharmacists can provide greater contribution to the provision of health Care [11]. There is considerable evidence that community pharmacists involved diabetes management services in developed nations show improved patient care [12, 13]. In India community pharmacist are generally limited to their traditional role of drug dispensing and limited medication advice. Implementing diabetes management services requires a commitment of time, effort, resources, require training of staff members and changes in work patterns [6]. Further the other reasons are lack of periodical continuing pharmacy education programmes, lack of interest in their knowledge update and certain participation barriers like unavailability of leave facilities, loss of income, unavailability of alternative work force, need for closure of pharmacy for those days, unavailability of additional fee for consultation etc. The Brazil's Federal Council of Pharmacists encourages pharmacies to be a healthcare centres and to carry out health education campaigns, immunisations, and primary care and disease management activities through allotting funds for pharmaceutical care [1]. In 2003, family pharmacy contract was established nationwide among representatives of community pharmacy owners in Germany and its largest health insurance fund. In this remuneration of pharmacists for the provision of pharmaceutical care services was finalized [1, 14]. Such initiatives should be taken in India in order to encourage community pharmacist play an active role. The present study has some limitations. The study was conducted on pharmacies in selected districts in Tamil Nadu, India. Hence it is not generalizable. However the importance and need for community pharmacist role is undeniable.

CONCLUSION

Community Pharmacist plays a major role towards management of type 2 diabetes. They are the direct and final link in the process of drug therapy. Without their contribution the earlier detection of diabetes, proper management and delaying the diabetes related complications can't be achieved. The results of this study show that the awareness, understanding their importance and role towards diabetes management service are not sufficient. The outcome of this work is to sensitize the community pharmacist and regulatory authorities about their need and responsibility. Suitable continuing pharmacy education program national wide along with reasonable incentives, implementing diabetes monitoring program through collaboration with health care systems which also includes pharmacy colleges and Diabetic Associations are required to facilitate better diabetes management services in India.

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