

ASSESSMENT OF PHARMACIST MEDIATED EDUCATION ON KNOWLEDGE ATTITUDE AND PRACTICE IN TYPE 2 DIABETES MELLITUS PATIENTS IN RURAL SOUTH INDIAN POPULATION

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Received: 10 May 2018, Revised and Accepted: 28 June 2018

ABSTRACT

Objective: The objective of the study was to assess the influence of pharmacist mediated education on knowledge, attitude, and practice (KAP) in rural patients with Type 2 diabetes mellitus.

Methods: This is a prospective, randomized interventional study approved by the institutional Ethics Committee. Eligible Type 2 diabetic patients with written informed consent were enrolled and randomized into control and test group. Validated and local language translated KAP questionnaire was administered to all patients at baseline and three subsequent follow-ups. Patients in the test group received structured education at every follow-up whereas the control group patients received education only at the final follow-up. Statistical Package for the Social Sciences software was used to evaluate the data.

Results: Among the 72 patients enrolled, 35 were randomized into control group and 37 into test group. Majority of the study patients (65.2%) were males with an age range of 30–72 years and were from agricultural profession (34.72%) with school education (59.7%). The mean body mass index (BMI) of the study patients was 25.01. At baseline, the mean glycosylated hemoglobin value of patients was 6.48±1.39% in the control group and 6.23±1.16% in the test group. During the past follow-up, a significant ($p<0.05$) improvement was observed in KAP scores in test group patients compared to control group patients which were supported by statistically significant ($p<0.05$) improvement in capillary blood glucose values.

Conclusion: Pharmacist mediated structured education has shown a positive impact on KAP of test group patients toward their disease management.

Keywords: Diabetes, Therapeutic outcome, Knowledge, attitude, and practice.

INTRODUCTION

Diabetes mellitus (DM) is a metabolic disorder characterized by hyperglycemia. Increasing at an alarming pace particularly in developing countries [1] and it is estimated that globally about 382 million people are suffering from diabetes [2]. According to the World Health Organization, diabetes will be the 7th leading cause of death in 2030 [3]. The global expenditure due to diabetes is estimated to be 548 US billion dollars, and in India, it is estimated to be 6 billion US dollars, and the mortality rate is about 55% [2].

Inadequate management of diabetes leads to several health problems with increased risk of complications. This is mainly associated with patient's poor knowledge about the disease and its management. Medication non-adherence is another multifaceted problem especially with chronic diseases which play an important role in determining the therapeutic outcomes. Studies have confirmed about the positive influence of pharmacist mediated education on knowledge, attitude, and practices about disease and therapy which has shown a positive impact on health-related quality of life [4].

Diabetic patients often develop complications due to inadequate glycemic control mainly due to poor practices regarding the disease and management [5]. Patient education is one of the most effective ways to improvise patient responsibility toward disease management and minimize the diabetes complications and improve the outcomes. Diabetic patients wishing to lead a normal healthy life should understand about their illness and the strategies to put the disease in control [6]. This corroborates the importance of awareness among diabetics on DM management.

Research evidence available is suggesting that the influence of pharmacist mediated patient education in improving the patient's awareness and thereby improving medication adherence, good glycemic control, and reduced diabetes-related complications [7].

In a study conducted by Adepu *et al.* on effect of patient counseling on quality of life in Type 2 DM patients in community pharmacy settings in Kerala, the research findings suggest that structured patient counseling has improved knowledge, attitude and practices (KAP) significantly ($p<0.05$) and this has also improved significant health-related quality of life scores in test group patients suggesting the pharmacist mediated education has significant role in improving patients KAP [8].

In another prospective, an open-label randomized study conducted by Betsy *et al.* to assess the influence of patient counseling on diabetic patients in community pharmacy settings observed that post education on KAP scores was significantly improved ($p<0.05$) and influence on glycemic control and health-related quality of life [9].

In another study conducted by Gangwar *et al.* suggest that structured patient education resulted in a mean increase in the scores of knowledge. The increase in the scores was from baseline to first follow-up (1.42) and from first follow-up to second follow-up (1.59). The study findings suggest a positive impact of pharmacist mediated patient education on glycemic control [4].

METHODS

This is a prospective interventional study conducted in medicine Outpatient Department of Adichunchanagiri Hospital and Research Centre, Mandya, Karnataka, India, over a period of 6 months. Type 2 DM patients of both genders meeting the inclusion criteria were enrolled in the study using block randomization technique to avoid selection bias. Type 2 DM patients with disease duration of <3 years were included.

Pediatric, gestational diabetes, and psychiatric patients were excluded from the study.

to patients in the test group has shown a significant improvement in knowledge, attitude, and practice. **Thus supporting the educational interventional role of the pharmacist.**

ACKNOWLEDGMENT

Authors are thankful to Principal Dr. B. Ramesh, SAC College of Pharmacy, for providing necessary support to the study. We express our thanks to Mr. KV Ramanath, Associate Professor, SAC College of Pharmacy, for guiding us with his valuable support throughout the study. We express our special thanks to Dr. Shashikantha Bhat, MD general medicine to support us throughout the study with his timely suggestions and Dr. Adepu Ramesh Principal cum Director to give his valuable inputs in bringing out our thesis.

CONFLICTS OF INTEREST

Sai Pawan AR, Steny Sam, Cuckoo Omanakuttan, Ramanath KV, Yashaswini Yegurla hereby declare that they have no conflicts of interest.

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