

UNIVERSITI TEKNOLOGI MARA

**THE IMPACT OF PHARMACIST AND
PHYSICIAN'S COLLABORATIVE
PRACTICE ON PATIENTS'
GLYCAEMIC CONTROL IN
DIABETES MEDICATION THERAPY
ADHERENCE CLINIC (DMTAC) AT
PUBLIC HEALTH CLINICS**

FAJARATUNUR BINTI A. SANI

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ABSTRACT

Diabetes Medication Therapy Adherence Clinic (DMTAC) is an ambulatory care service which involves the collaboration between pharmacists and physicians in providing medication therapy management to patients with T2DM. There are 3 phases in this research. Phase one evaluates the Pharmacist-Physician collaboration using PPCI in measuring their level of collaboration. In Phase two, a quasi-experimental study was conducted to determine the association between patients' knowledge of diabetes and adherence to clinical outcome (HbA1c); to evaluate the association between DMTAC and control group to clinical outcome; and to determine the association between patients' knowledge and adherence among DMTAC and control group. The patients in both groups were asked to answer a self-administered questionnaire consisting of an 8-Morisky Medication Adherence Scale (8-MMAS) and 14-Michigan Diabetes Knowledge Test (14-MDKT) at baseline and in the 6th month. The HbA1c and fasting blood glucose levels; medication adherence; and patients' knowledge of diabetes were analysed at baseline, in the 3rd month, and in the 6th month. In Phase three, a FGD session consisting of pharmacists and physicians was conducted to explore the factors and challenges in the collaborative practice while implementing DMTAC programme at primary care health clinics. In Phase one, a total of 92 pharmacists and 176 physicians from 9 PKDs were involved in the study. The average score for the collaboration index among physicians (8.16) was higher than that of the pharmacists (7.61). The PPCI score of the participants in FGD showed almost similar findings: physicians, 7.93; and pharmacists, 7.70. In Phase two, 90 patients were recruited in each arm. The HbA1c level significantly improved in the intervention arm in all three follow-ups. The mean reduction of HbA1c levels in the intervention arm from the baseline and the 3rd month was 0.813% (95%CI: 0.490, 1.136), ($p < 0.05$); from the baseline and the 6th month was 1.157% (95%CI: 0.769, 1.544), ($p < 0.05$); and from the 3rd month and the 6th month was 0.344% (95%CI: 0.046, 0.641), ($p < 0.05$). The mean reduction of FBS levels in the intervention arm from the baseline and the 3rd month was 1.994% (95%CI: 1.344, 2.645), ($p < 0.05$); and from the baseline and the 6th month was 2.412% (95%CI: 1.910, 2.914), ($p < 0.05$). There was an association between patients' knowledge of diabetes and adherence to clinical outcome (HbA1c). Patients in the DMTAC group showed an increase in good knowledge (knowledge score > 11) on diabetes at post level of intervention. In Phase three, 12 pharmacists and 10 physicians participated in the study. Using the Donabedian Framework Analysis, the facilitating factors that contributed to the collaborative practice were categorised into three themes associated with structure, process, and outcome-related construct. Several factors that associated with pharmacist-physician collaboration were lack of workforce and communication skills. This study revealed the expectations of physicians about collaborative practices of which pharmacists should be more opened and willing to communicate effectively about the findings on medication related problems in improving patient care. Pharmacists in the government health clinics may have limitations in servicing the public, but they have the capability to cultivate and implement drug therapy management through DMTAC. Effective communication and collaboration between pharmacists and physicians may result in a better therapy management for patients with T2DM at the health clinics

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