

A Community Pharmacy Intervention In Type 2 Diabetes Mellitus Outcomes In Ramdan (Cpi-Dr): Should Be Considered In Egypt?

Magdy Mohamed Allam¹, Ramy Mohamed Ghazy², Noha Alaa Hamdy³

¹Internal Medicine department, Alexandria University Student Hospital (AUSH), Egypt.

²Tropical Health department, High Institute of Public Health, Alexandria University, Egypt.

³Pharmacy Practice Department, Faculty of Pharmacy, Alexandria University, Egypt.

Abstract

Introduction: Egypt has the ninth highest diabetes mellitus (DM) prevalence in the world. There is a growing interest in community involvement in DM management.

Aim of the study: To evaluate the tailored diabetes care model (DCM) implementation in Ramadan by community pharmacy-based intervention (CPBI) from clinical, humanistic, and economic aspects.

Methods: This is a cross-over cluster randomized control trial in Alexandria for 6-month. ten clusters owing 50 community pharmacies (CPs) recruited 495 health insurance-deprived T2DM patients with >7% HbA1c in a 6-month. The study was divided into two phases (three months before Ramdan) with a 11-month washout period in between. After CPs training on DCM, the interventional group received pictorial training for 45 min in first visit, and 15 min in weekly visits, whereas the control group patients received the usual care (UC). At baseline and end of each phase (3 months), patients had clinical and physical activity assessment, filled all forms of study questionnaire (knowledge, self-management, satisfaction, and adherence) and did all laboratory investigations (fasting blood sugar (FBS), HbA1c, protein-creatinine clearance (PCR), creatine clearance (GFR) and lipid profile).

Results: The enrolled patients had an insignificant difference in the basal systolic and diastolic blood pressure (SBP & DBP) between CBPI & UC, but the CBPI had significantly decrease the mean of SBP & DBP by (P=0.008, 0.04, respectively). Also, waist circumference and BMI (-5.82 cm & -1.86 kg/m², P=0.001) were observed in the CBPI. The CBPI patients achieved a greater reduction in FBS and HbA1C than the UC patients (102 mg /dL and 1.9 %, respectively P<0.001). Also, a significant reduction in total cholesterol, LDL, and triglyceride (-6.4, -15.4, and -6.3 mg/dL respectively, P=0.001) were achieved in the CBPI group. No significant differences were found in HDL, GFR and PCR. Moreover, a significant improvement of behavior, score of knowledge, self-management, satisfaction, and adherence were observed in CBPI patients. After multivariate analysis, HbA1C were significantly influenced by baseline HbA1C and eating habits. The cost saving for CPBI was -1581 LE per 1% HbA1c reduction.

Conclusion: This is the first study in Egypt that illustrated the positive impact of pictorial DCM delivered by CPBI collaborative care on

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***Corresponding author:** Allam MM, Ghazy RM, Hamdy NA Email: Drmagdyallam@gmail.com

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clinical, humanistic, laboratory and economic outcomes to local T2DM patients in Ramadan.

Key words: Diabetes mellitus; community pharmacy; patient education, diabetes education, cost effectiveness.

Dr. Magdy Allam, an Egyptian Endocrinologist & Diabetologist, works as associate professor of Endocrinology at Internal Medicine department, Alexandria University Students Hospital, Alexandria University, Egypt. Dr. Allam advocates and practices patient-self efficacy & patient centered approaches. Upon this, he established the Endocrinology department at Noor EL- Islam Center

of excellence where he spent seven years as a consultant of endocrinology. Dr. Allam has been certified from The University Of Copenhagen, The National Institutes Of Health Clinical Center, and University of Colorado, USA. Also, he is an active member in many national and international organizations as European Society of Endocrinology, International Diabetes Federation, European Atherosclerosis Society & Egyptian Society of Endocrinology and Obesity. Besides his international innovations & publications, he serves as an editor & a reviewer in many international journals. Also, he is a guest speaker & a chairperson in many national & international conferences.