

Impact of Pharmacist-Led Care on Glycaemic Control in Patients with Type 2 Diabetes: A Randomised-Controlled Trial

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Abstract : Background: The complexities involved in the management of diabetes mellitus require a multi-dimensional, multi-professional collaborative and continuous care by health care providers and a substantial self-care by the patients in order to achieve desired treatment outcomes. The effect of pharmacists' care in the management of diabetes in resource-endowed nations is well documented in literature, but randomised-controlled assessment of the impact of pharmacist-led care among patients with diabetes in resource-limited settings like Nigeria and sub-Saharan Africa countries is scarce. Objective: To evaluate the impact of Pharmacist-led care on glycaemic control in patients with uncontrolled type 2 diabetes, using a randomised-controlled study design Methods: This study employed a prospective randomised controlled design, to assess the impact of pharmacist-led care on glycaemic control of 108 poorly controlled type 2 diabetic patients. A total of 200 clinically diagnosed type 2 diabetes patients were purposively selected using fasting blood glucose $\geq 7\text{mmol/L}$ and tested for long term glucose control using Glycated haemoglobin measure. One hundred and eight (108) patients with $\geq 7\%$ Glycated haemoglobin were recruited for the study and assigned unique identification numbers. They were further randomly allocated to intervention and usual care groups using computer generated random numbers, with each group containing 54 subjects. Patients in the intervention group received pharmacist-structured intervention, including education, periodic phone calls, adherence counselling, referral and 6 months follow-up, while patients in usual care group only kept clinic appointments with their physicians. Data collected at baseline and six months included socio-demographic characteristics, fasting blood glucose, Glycated haemoglobin, blood pressure, lipid profile. With an intention to treat analysis, Mann-Whitney U test was used to compared median change from baseline in the primary outcome (Glycated haemoglobin) and secondary outcomes measure, effect size was computed and proportion of patients that reached target laboratory parameter were compared in both arms. Results: All enrolled participants (108) completed the study, 54 in each study. Mean age was 51 ± 11.75 and majority were female (68.5%). Intervention patients had significant reduction in Glycated haemoglobin (-0.75% ; $P < 0.001$; $\eta^2 = 0.144$), with greater proportion attaining target laboratory parameter after 6 months of care compared to usual care group (Glycated haemoglobin: 42.6% vs 20.8%; $P = 0.02$). Furthermore, patients who received pharmacist-led care were about 3 times more likely to have better glucose control (AOR 2.718, 95%CI: 1.143-6.461) compared to usual care group. Conclusion: Pharmacist-led care significantly improved glucose control in patients with uncontrolled type 2 diabetes mellitus and should be integrated in the routine management of diabetes patients, especially in resource-limited settings.

Keywords : glycaemic control , pharmacist-led care, randomised-controlled trial , type 2 diabetes mellitus

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