



Evaluating the Effectiveness of Peer-Led Diabetes Self-Management Education on Glycaemic Control in a Sudanese Clinical Setting: An Original Study from Khartoum North Teaching Hospital

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Abstract

Type 2 diabetes mellitus is a major public health challenge in Sudan, where many patients experience suboptimal glycaemic control. Conventional healthcare provider-led education can be limited in reach and sustained engagement, prompting the need to investigate complementary approaches. This study evaluated the effectiveness of a structured peer-led diabetes self-management education (DSME) programme on glycaemic control in adults with type 2 diabetes at a Sudanese teaching hospital. A quasi-experimental study with a control group was conducted. Participants were allocated to an intervention group, which received a 12-week peer-led DSME programme, or a control group, which received standard care. The primary outcome was the change in glycated haemoglobin (HbA1c) levels from baseline to a six-month follow-up. Data were analysed using appropriate statistical tests. The peer-led DSME group showed a statistically significant greater improvement in glycaemic control than the control group. The mean reduction in HbA1c was 1.2% (13.1 mmol/mol) in the intervention group, compared to 0.3% (3.3 mmol/mol) in the control group. The peer-led DSME programme was an effective intervention for improving glycaemic control in this setting. It represents a promising and culturally acceptable adjunct to standard diabetes care. Healthcare policymakers and clinicians should consider integrating structured

peer-led education into routine diabetes services. Further research should examine long-term sustainability and cost-effectiveness. Diabetes mellitus, type 2; Peer group; Patient education; Glycaemic control; Sudan; Self-management This study provides original evidence on the implementation and outcomes of a peer-led DSME model in a Sudanese clinical context, contributing to the literature on alternative strategies for diabetes management in resource-limited settings.

Keywords: *Type 2 diabetes mellitus, glycaemic control, peer-led education, self-management, Sudan, randomised controlled trial, patient education*

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