Effectiveness of Educational Intervention on Diabetic Knowledge and HbA1c Levels of Kenyan Adults With T2DM

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Purpose:
Type II Diabetes Mellitus (T2DM) is a chronic non-communicable disease that accounts for over two thirds of global deaths (World Health Organization, 2014). According to WHO (2011), T2DM accounted for 1% of deaths in Kenya. The limited knowledge concerning T2DM contributes to the negative impact of this disease in Kenya (Jones, 2013). Park and Pastakia (2018), observed the knowledge of effective glycemic control strategies as a significant step in realizing improved health outcomes, and Tol, Alhani, Shojaeazadeh, Sharifirad, and Moazam, (2015), discovered the need to educate patients on T2DM as a strategy towards individual glycemic control. Many Kenyans are usually under-educated regarding T2DM and seek diabetes care when the complications have already become grave and irreversible (WHO, 2014). This study aimed to explore the effect of structured diabetes educational intervention on diabetes knowledge, self-efficacy, and HbA1c levels for people with T2DM living in Eldoret, Kenya.

Methods:
This study utilized a non-randomized experimental design. Sixty-three subjects were assigned to the experimental group and 60 into the control group. Data on diabetic knowledge, self-efficacy, and HbA1c levels were collected pre and post-intervention. The intervention involved a once a week structured diabetic education instruction for three consecutive weeks. The study utilized the Health Belief Model (Rosenstock, Hockbaum, Kegels, & Leventhal, 1974) for its theoretical framework, and the Kenyan adapted American Diabetes Association plate method for diet education (ADA, 2018). Data were analyzed with ANOVA using SPSS version 24 (IBM, 2016). T-tests were completed for within and between-group analyses. The variables measured were diabetic knowledge, self-efficacy, and HbAlc.

Results:
Fifty-three percent of participants were 55 to 65 years of age, while 32% were farmers. Forty-eight percent were college graduates. Forty-six percent of participants earn less than KSH 25,000 ($244) per month. There were no significant differences in demographic variables between control and experimental groups. The educational intervention showed significant differences in HbA1c levels (F (1, 122) = 9.989, p=.002), diabetic knowledge (t=7.218, p<.001), and self-efficacy (F (1, 117) = 14.342, p<.001) for pre and post measures in the experimental group. None of the variables was significant for the control group.

Conclusion:
This study supports the use of structured diabetes education to improve the health outcomes of individuals with T2DM in Eldoret, Kenya. Such educational intervention should be structured to reflect the existing culture of the affected population and focus on the change of negative cultural perceptions while reinforcing positive cultures. Nurse practitioners, dietitians, and physicians managing Kenyan clients with T2DM diabetics can utilize this educational intervention to develop patient-centered diabetes education that would help achieve better health outcomes.

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Keywords:
HbA1c, Kenya and T2DM diabetic knowledge

Abstract Summary:
This study explored the effect of structured diabetes educational intervention on diabetes knowledge, self-efficacy, and HbA1c levels for people with T2DM living in Kenya. The improvement observed in the variables measured attests to the importance of diabetic education for this population. Keys to success are cultural adaptation and patient-centered care.

References:

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