

Educational Intervention Impacts on Knowledge and Performance of Self-Care Practices among Type 2 Diabetes Mellitus Patients in Selected Hospitals in Southwestern, Nigeria - Oluwaseun Oluwafunmilayo Abiodun - Achievers University, Nigeria

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Abstract

Background

Neglecting the importance of adequate knowledge and correct performance of self-care practices are major causes of many complications that are experienced by T2DM patients. The objective of this study was to assess the impact of educational intervention on the level of knowledge and performance of self-care practices among patients with T2DM in selected tertiary hospitals.

Materials and Methods

A quasi-experimental design that utilized purposive sampling method was used. The study was conducted at the University of Medical Sciences Teaching Hospital, (UNIMEDTH) Akure, Ondo-State and Ekiti-State University Teaching Hospital (EKSUTH), Ado-Ekiti. Participants in UNIMEDTH (58) and EKSUTH (31) formed the experimental and control groups respectively. A structured questionnaire, an educational package and a focus group guide were used. Performance of SCP was evaluated with checking of recorded blood glucose, recall, demonstration and inspection.

The study was conducted at University of Medical Sciences Teaching Hospital, Akure (UNIMEDTHA), Ondo-State and Ekiti-State University Teaching Hospital (EKSUTH), Ado-Ekiti. Ethical clearances were obtained from the Ethics and Research Committees of both hospitals. The inclusion criteria were; Patients that have been diagnosed of T2DM who were 18 years and above (both with fair and poor T2DM control), T2DM patients without diabetes complications like blindness, renal failure, and attending out-patient diabetes clinic in the study settings. The last one is that participants must not have attended any formal diabetes educational training in the last one year. The exclusion criteria were having serious mental

challenges and being diagnosed less than three months before the commencement of the study. The participants in UNIMEDTHA formed the experimental group with 58 participants while those in EKSUTH formed the control group with 31 participants.

The total number of T2DM patients who attended the endocrine clinic of UNIMEDTHA between January and December 2018 was 2,833. This was the eligible population, this number was divided by 12 and it gave an average of 236 per month. Also, the total number of T2DM who were eligible at EKSUTH was 1,608, this number was divided by 12 and it gave an average of 134 per month. The number of participants in each group was calculated based on these. Initially, 82 and 48 participants were screened for the experimental and control groups respectively while 58 and 31 participants who met the inclusion criteria and consented to participate in the study after explaining all it entailed to them in both groups respectively were recruited.

Results

Results show that at the pre-intervention and six months post-intervention phases, 39.7% and 98.3% of the experimental group had good knowledge of SCP respectively. Similarly, 39.2% and 91.4% had good performance of SCP at the pre-intervention and six months post-intervention phases respectively. Lastly, the glycated hemoglobin (HBA1c) levels of participants in the experimental group improved significantly < 0.0001 with the intervention.

Conclusion

Adequate education and training on SCP of T2DM patients improved the level of knowledge and performance of SCP with satisfactory improvements in the levels of HBA1c of participants in the experimental group.

However, in order to achieve normal blood glucose level which is needed to forestall the numerous complications and deaths

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from the disease, it is necessary for a person who has DM to make a lot of daily self-care decisions and engage in complex self-care activities [8,9]. These are otherwise known as self-care practices, they are; self-monitoring of blood glucose (SMBG), exercise, healthy eating, use of medications as prescribed, general body and foot care among others [10]. Self-care practices are activities engaged in on a daily basis with the aim of preventing the negative effects or complications of a disease that is affecting an individual [10]. At a broad level, it was defined as daily management of serious health conditions by individuals through adequate knowledge, abilities and skills' facilitation in diabetes self-care [8,11]. It further demands acquiring knowledge and necessary skills to be involved in the complex set of behaviours that are useful in health maintenance as individuals with a chronic disease in the context of day-to-day survival [10]. Diabetes self-care practices are considered key and very important in glycaemic control and individuals concerned use their resources, including personal attributes such as courage, skills, knowledge, determination, positive attitudes, will-power as well as optimism to make their health better [11-13].

Prevention of major and minor complications is one of the most valued goals in the management of type 2 diabetes mellitus (T2DM) [14]. Positive health outcomes of T2DM are tied to the level of patients' knowledge of the disease through health education and self-management using the health resources of the nations' [15]. According to [16], a well-informed patient will have the best advantage to attain and maintain glycaemic and cardiovascular risk factors control. Consequently, poor knowledge of self-care can cause poor long-term metabolic disorder which may lead to the development of diabetic complications such as retinopathy, nephropathy, neuropathy and atherosclerotic changes

Also, the results of the binary logistic regression showed that female participants were twice more likely to have performed SBGM and more likely to have had better medication adherence and engaged in healthy eating and exercise than males. This is in contrast with the finding that showed that males had more knowledge of SCP [48]. Also, participants who were 65 years and above were more likely to have had good levels of medication adherence, general body and foot care as well as exercise. The contrast may be as a result of the comprehensive intervention that was given on SCP to the experimental group in this study. It was also revealed that a higher income and higher level of education were associated the SCP domains to a large extent, these findings are consistent with those of these authors [32,48]. However, the level of knowledge of the control group was consistently poor with variations in the levels of performance of SCP.

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