Impact of Health Education Intervention on Knowledge of Home Management of Diabetes Mellitus among Booked Diabetics in Selected Hospitals in Edo State, Nigeria

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ABSTRACT

This study examined the impact of health education intervention on knowledge of home management of diabetes mellitus among booked diabetics in selected hospitals in Edo State, Nigeria. A quasi-experimental design involving experimental and control groups was adopted. A sample of 60 booked diabetic patients (30 in the experimental group and 30 in the control group) was selected using purposive sampling technique from two purposively selected hospitals in Edo State. A structured 50-item questionnaire was used for data collection. The instrument was validated by three experts and yielded a test-retest reliability coefficient of 0.78. The experimental group received a structured health education intervention delivered over four weekly sessions of 60 minutes each, covering topics such as diabetes pathophysiology, medication adherence, dietary management, blood glucose monitoring, physical activity, and recognition of complications. The control group received no intervention during the study period. Mean and standard deviation were used to answer the research questions, while independent t-test and paired t-test, were used to test the hypotheses at 0.05 level of significance. Effect sizes (Cohen's d) and 95% confidence intervals were calculated to determine the magnitude of observed differences. The findings showed no significant difference between the pre-test knowledge scores of the experimental and control groups, indicating baseline equivalence. However, a significant difference existed between the pre-test and post-test knowledge scores of the experimental group, with higher knowledge after the intervention. A significant difference was also found between the post-test knowledge scores of the experimental and control groups, with the experimental group recording higher knowledge. The study concluded that health education intervention significantly improved knowledge of home management of diabetes mellitus among booked diabetics. It is recommended that healthcare providers integrate structured health education programmes into routine diabetes care. However, improved knowledge does not necessarily establish improved self-care behaviour or glycaemic control; future studies should include behavioural and clinical outcome measures.

Keywords: Diabetes mellitus, health education, home-management, knowledge, intervention, booked diabetics.

INTRODUCTION

Diabetes mellitus is a common chronic non-communicable disease that affects people across different age groups, socioeconomic backgrounds, and geographical locations. It is characterised by elevated blood glucose levels resulting from inadequate insulin production, impaired insulin utilisation, or both. When poorly controlled, diabetes can cause progressive damage to vital organs and lead to serious complications, including neuropathy, retinopathy, nephropathy, renal failure, and other debilitating conditions. The disease therefore constitutes an important public health concern because of its effects on individuals' health, quality of life, and economic well-being (Yang, 2016; McPherson et al., 2018).

Effective management of diabetes mellitus requires continuous self-care and active participation by patients. Patients are expected to adhere to prescribed medications, maintain appropriate dietary practices, monitor

blood glucose levels, engage in suitable physical activity, attend scheduled clinic appointments, and recognise signs and symptoms that may require medical attention. However, effective home management depends substantially on patients' knowledge and understanding of the disease, its risk factors, complications, and appropriate management practices. Inadequate knowledge may contribute to poor self-management and increase the risk of preventable complications.

Health education is an important strategy for improving patients' knowledge and encouraging appropriate health-related behaviours. It provides individuals with relevant information and skills that can facilitate informed decisions concerning disease prevention, treatment, and self-management. In diabetes care, health education can strengthen patients' understanding of medication adherence, dietary requirements, blood glucose monitoring, physical activity, and other measures necessary for effective management of the disease. Health education provides information and skills that can assist individuals in controlling diabetes and limiting its progression. Similarly, Shah et al., (2024) noted that health education promotes positive changes in habits and behaviours and encourages the adoption of healthy lifestyles. Health knowledge is particularly important for individuals living with diabetes because the disease requires long-term management beyond the hospital environment. Patients need to understand their condition and develop the capacity to apply recommended health practices in their daily lives. Health education can therefore serve as a means of reinforcing existing knowledge, correcting misconceptions, and equipping patients with practical skills for effective home management. Previous studies have similarly indicated that health education can improve health knowledge, attitudes, and practices and promote better management of chronic health conditions (Garg et al., 2019; Majumdar et al., 2025; Putri et al., 2026).

Despite the importance of health knowledge in diabetes management, patients may differ in their level of understanding because of differences in educational attainment, access to health information, socioeconomic circumstances, communication, and cultural beliefs. Patients with limited access to appropriate health information may experience difficulty understanding and implementing recommended diabetes-management practices. Consequently, continuous and structured health education is necessary to ensure that patients receive understandable and relevant information that can be applied to their everyday management of the disease. It is against this background that this study examined the effect of a health education intervention on knowledge of home management of diabetes mellitus among booked diabetic patients in selected hospitals in Edo State, Nigeria. For the purpose of this study, "booked diabetic patients" refers to registered diabetic patients with scheduled follow-up clinic appointments. The study focused on determining whether structured health education could improve patients' knowledge of appropriate home-management practices and thereby provide a stronger foundation for effective diabetes self-management.

Statement of the Problem

Diabetes mellitus requires adequate knowledge for effective home management, including medication adherence, dietary control, blood glucose monitoring, and other self-care practices. However, some diabetic patients may lack sufficient knowledge to manage the condition effectively, thereby increasing their risk of complications. Although health education is expected to improve patients' knowledge and self-management, its effectiveness among booked diabetic patients in selected hospitals in Edo State has not been sufficiently established. The problem of inadequate knowledge is particularly important because diabetes is a long-term condition that requires patients to make appropriate health decisions on a daily basis. Existing studies have examined health education in various populations and settings, but there is limited evidence on its effect on knowledge of home management among booked diabetic patients in the selected hospitals in Edo State. It is against this background that this study was undertaken to determine the impact of health education intervention on knowledge of home management of diabetes mellitus among booked diabetic patients in selected hospitals in Edo State, Nigeria.

Research Questions

1. What is the difference between the pre-test knowledge scores of the experimental and control groups regarding home management of diabetes mellitus before the health education intervention among book-

ed diabetic patients in selected hospitals in Edo State?
2. What is the difference between the pre-test and post-test knowledge scores of the experimental group regarding home management of diabetes mellitus following the health education intervention among booked diabetic patients in selected hospitals in Edo State?
3. What is the difference between the post-test knowledge scores of the experimental and control groups regarding home management of diabetes mellitus following the health education intervention among booked diabetic patients in selected hospitals in Edo State?

Research Hypotheses

1. There is no significant difference between the pre-test knowledge scores of the experimental and control groups regarding home management of diabetes mellitus before the health education intervention among booked diabetic patients in selected hospitals in Edo State.
2. There is no significant difference between the pre-test and post-test knowledge scores of the experimental group regarding home management of diabetes mellitus following the health education intervention among booked diabetic patients in selected hospitals in Edo State.
3. There is no significant difference between the post-test knowledge scores of the experimental and control groups regarding home management of diabetes mellitus following the health education intervention among booked diabetic patients in selected hospitals in Edo State.

RESEARCH METHOD

Research Design

A quasi-experimental design was adopted for the study. The design involved the use of intact groups without randomisation of participants and permitted the assessment of the effect of a health education intervention on patients' home-management of diabetes. According to Okorodudu (2013), a quasi-experimental design involves the administration of pre-test and post-test to participants without randomisation. The study comprised an experimental group and a control group. Both groups were pre-tested before the intervention. The experimental group was subsequently exposed to the health education intervention, whereas the control group received no intervention. Following the intervention, a post-test was administered to both groups to determine the effect of the intervention. This design was considered appropriate because random assignment of patients to groups would have been ethically and logistically difficult in the hospital setting, as it would have deprived some patients of potentially beneficial health education.

Study Area and Setting

The study was conducted in two purposively selected hospitals in Edo State, Nigeria. The selected hospitals were chosen based on the following criteria: (1) presence of an active diabetes clinic with a substantial number of booked diabetic patients, (2) availability of facilities for health education, and (3) willingness of hospital management to participate in the study. The two hospitals were similar in terms of patient population characteristics and available diabetes care services. Hospital A (experimental site) was a tertiary health institution with an established diabetes clinic serving approximately 150 booked diabetic patients, while Hospital B (control site) was a secondary health facility with approximately 120 booked diabetic patients. Both hospitals are located in urban areas of Edo State and provide similar standard diabetes care services, including routine consultations, medication refills, and basic laboratory investigations.

Participants

Participants were recruited from the diabetes clinics of the selected hospitals over a four-week period. The inclusion criteria for participation in the study were: (1) confirmed diagnosis of diabetes mellitus (Type 1 or Type 2), (2) registration as a booked diabetic patient with at least two previous clinic visits, (3) age between 18 and 75 years, (4) ability to read and write in English or understand Pidgin English, and (5) willingness to provide informed consent. Patients with severe cognitive impairment, those with acute medical conditions

requiring hospitalisation, and pregnant women with gestational diabetes were excluded from the study. The sample size was determined using the formula for comparing two independent means (Cohen, 1988):

$n = 2[(Z\alpha/2 + Z\beta)^2 \times \sigma^2] / d^2$

Where:

$Z\alpha/2 = 1.96$ (critical value at $\alpha = 0.05$)

$Z\beta = 0.84$ (power of 80%)

σ = estimated standard deviation from previous studies (1.80)

d = minimum detectable difference (1.5)

Using this formula, a minimum sample size of 23 participants per group was calculated. To account for potential attrition and ensure adequate statistical power, the sample size was increased to 30 participants per group, giving a total sample of 60 participants. This sample size was considered adequate to detect a clinically meaningful difference in knowledge scores between the groups.

Sampling Technique

A purposive sampling technique was used to select the two hospitals and the participants. The hospitals were purposively selected based on the criteria outlined above. Participants who met the inclusion criteria were consecutively recruited from the diabetes clinics until the desired sample size was achieved. Hospital A was assigned to the experimental group (n = 30), while Hospital B was assigned to the control group (n = 30). The assignment of hospitals to groups rather than individual randomisation of patients was done to prevent contamination of the control group through interaction with experimental group participants.

Research Instrument

The research instrument was a structured questionnaire titled "Questionnaire on the Impact of Health Education Intervention on the Home-Management of Diabetes Mellitus" (see Appendix A). The questionnaire comprised 50 items divided into two sections (A and B). Section A elicited information on the respondents' demographic characteristics, specifically age, educational qualification, and socio-economic status (employed/unemployed). Section B consisted of 50 items designed to assess issues relating to home-management of diabetes, including medication compliance, dietary patterns, health education, and the impact of health education intervention on diabetes home-management. The items were a mixture of yes/no questions, multiple-choice questions, and direct-response questions. Each item had one correct answer and was developed in line with the research questions. The content areas covered by the instrument included: Compliance with medication (items 1–9), Diet in diabetes (items 10–32). Health education and self-management practices (items 33–50).

Validity of the Instrument

The instrument was subjected to face and content validation by three experts. Two of the experts were the researcher's supervisors, while the third was a specialist in Measurement and Evaluation. The experts examined the instrument for clarity, relevance, adequacy, and appropriateness of the items. Their corrections, suggestions, and recommendations were incorporated into the final version of the instrument.

Reliability of the Instrument

The reliability of the instrument was established using the test-retest method. The questionnaire was administered to 20 respondents who were not included in the main study and was re-administered to the same respondents after an interval of two weeks. The scores obtained from the two administrations were correlated

using the Pearson Product Moment Correlation Coefficient, which yielded a reliability coefficient of 0.78. This indicated satisfactory stability of the instrument for the study.

Health Education Intervention Programme

The health education intervention was a structured programme developed based on the content areas of the questionnaire and existing literature on diabetes self-management education (Garg et al., 2019; Majumdar et al., 2025). The intervention was designed to improve participants' knowledge of home management of diabetes mellitus.

Content and Topics: The intervention covered the following topics:

Session 1: Understanding diabetes mellitus (pathophysiology, types, risk factors, and symptoms)

Session 2: Medication management and adherence (types of medications, proper use, and side effects)

Session 3: Dietary management and blood glucose monitoring (meal planning, portion control, and glucose monitoring techniques)

Session 4: Physical activity, complication recognition, and prevention (exercise recommendations, signs of hypo- and hyperglycaemia, foot care, and when to seek medical attention)

Teaching Materials: Various teaching materials were used to facilitate learning and comprehension. These included illustrated posters, pictorial flip charts, sample food models, glucometers for demonstration, informational pamphlets in simple English and Pidgin English, and presentation slides where audiovisual equipment was available.

Duration and Schedule: The intervention was delivered over four consecutive weekly sessions, with each session lasting approximately 60 minutes. Each session included a 30-minute presentation, followed by a 20-minute interactive discussion and question-and-answer period, and a 10-minute summary and take-home assignment.

Implementation Process: The intervention was delivered face-to-face in small groups of 10–15 participants at the diabetes clinic of the experimental hospital. Sessions were facilitated by the researcher with assistance from trained research assistants. The facilitator used a combination of didactic presentations, group discussions, demonstrations, and practical activities to enhance learning. Participants were encouraged to ask questions and share their experiences. At the end of each session, participants received informational handouts summarising the key points covered. To reinforce learning, participants were given simple assignments between sessions, such as monitoring their food portions or checking their blood glucose levels and recording the values.

Fidelity of Implementation: To ensure consistent delivery of the intervention, a detailed facilitator's manual (lesson note) was developed, outlining the content, time allocation, and teaching methods for each session. The researcher observed at least one session per week to ensure that the content and methods were delivered as planned. Attendance was recorded at each session, and participants who missed a session received a brief catch-up session before the next scheduled session.

Data Collection Procedure

Before the commencement of data collection, three research assistants were briefed on diabetes, including its causes, risk factors, signs and symptoms, and management. The briefing was conducted in 45-minute sessions to equip the research assistants with the knowledge and procedures required for administering the instrument. They assisted in the administration and retrieval of the questionnaires and, where necessary, explained the items in the respondents' local or native language to participants who experienced difficulty understanding the questions because of low literacy levels. For the intervention, the experimental group received health education

on diabetes and its home-management, while the control group received no health education intervention during the study period. Pre-test scores were obtained from both groups before the intervention, and post-test scores were obtained after the intervention. The pre-test and post-test scores were subsequently compared to determine the effectiveness of the health education intervention.

Statistical Analysis

The data collected were coded and analysed using appropriate statistical techniques. Data analysis was performed using the Statistical Package for the Social Sciences (SPSS) version 23.0. Descriptive statistics (mean and standard deviation) were used to answer the research questions. For hypothesis testing, the following statistical tests were employed: Hypothesis was tested using independent samples t-test was used to compare the pre-test knowledge scores of the experimental and control groups to establish baseline equivalence. Hypothesis 2 was tested using Paired samples t-test was used to compare the pre-test and post-test knowledge scores within the experimental group and Hypothesis 3 was tested using Independent samples t-test was used to compare the post-test knowledge scores of the experimental and control groups. All hypotheses were tested at the 0.05 level of significance. To enhance the interpretation of findings, effect sizes were calculated using Cohen's d for t-tests, with values of 0.2, 0.5, and 0.8 interpreted as small, medium, and large effects, respectively (Cohen, 1988). Additionally, 95% confidence intervals were calculated for mean differences to provide a range of plausible values for the true effect.

RESULTS

Research Question 1: What is the pre-test scores of both the experimental group and control groups in their knowledge of home management of diabetes mellitus on health education intervention among booked diabetics in selected hospitals in Edo State?

Table 1: Descriptive statistics of home management of diabetes mellitus in pre-test experimental group and pre-test control groups on their knowledge of home management of diabetes following health education intervention among booked diabetics in selected hospitals in Edo State.

Groups	N	Mean	SD	Mean Difference	95% CI
Experimental Group	30	19.3	1.88	3.33	[-0.55, 1.21]
Control Group	30	15.97	1.75		

Table 1 shows that the pre-test mean knowledge score of the experimental group was 15.97 (SD = 1.75), while that of the control group was 15.63 (SD = 1.65). The mean difference was 0.33, indicating that the two groups had similar levels of knowledge before the intervention. The 95% confidence interval for the mean difference was [-0.55, 1.21], which includes zero, suggesting no practically meaningful difference between the groups at baseline.

Hypothesis 1: There is no significant difference in knowledge of home management of diabetes mellitus in pre-test experimental group and pre-test control group following health education intervention among booked diabetics in selected hospitals in Edo State.

Table 2: T-test of Independent Sample Analysis on the difference in knowledge of home management of diabetes mellitus of experimental group and control groups on health education intervention among booked diabetics in selected hospitals in Edo State.

Groups	N	Mean	SD	Df	t-cal	Sig.(2-tailed)	Cohen's d
Experimental	30	15.97	1.75				
				58	1.245	0.218	0.2
Control	30	15.63	1.65				

a = 0.05

Table 2 shows a t value of 1.245 and a p value of 0.218. Testing at an alpha level of 0.05, the p value is greater than the alpha level. Therefore, the null hypothesis which states that there is no significant difference between the pre-test knowledge scores of the experimental and control groups is accepted. This indicates that the two groups were statistically comparable at baseline regarding their knowledge of home management of diabetes mellitus. The effect size (Cohen's d = 0.20) was small, further confirming the equivalence of the groups at baseline.

Research question 2: What is the difference between the pre-test and post-test knowledge scores of the experimental group regarding home management of diabetes mellitus following the health education intervention?

Table 3: Descriptive statistics of pre-test and post-test knowledge scores of the experimental group.

Groups	N	Mean	SD	Mean Difference	95% CI
Pre-test	30	15.97	1.75		
				4.36	[3.58, 5.14]
Post-test	30	20.33	0.62		

Table 3 shows that the pre-test mean knowledge score of the experimental group was 15.97 (SD = 1.75), while the post-test mean score was 20.33 (SD = 0.62). The mean difference was 4.36, with a 95% confidence interval of [3.58, 5.14], indicating a substantial improvement in knowledge following the health education intervention. The post-test standard deviation was notably smaller than the pre-test standard deviation, suggesting that the intervention reduced variability in knowledge levels among participants.

Hypothesis 2: There is no significant difference between the pre-test and post-test knowledge scores of the experimental group regarding home management of diabetes mellitus following the health education intervention.

Table 4: Paired samples t-test of pre-test and post-test knowledge scores of the experimental group

Groups	N	Mean	SD	Df	t-cal	Sig.(2-tailed)	Cohen's d
Pre-test	30	15.97	1.75				
				29	18.456	< 0.001	2.87
Post-test	30	20.33	0.62				

a = 0.05

Table 4 shows a t value of 18.456 and a p value of < 0.001. Testing at an alpha level of 0.05, the p value is less than the alpha level. Therefore, the null hypothesis which states that there is no significant difference between the pre-test and post-test knowledge scores of the experimental group is rejected. The effect size (Cohen's d = 2.87) was very large, indicating that the health education intervention had a substantial impact on participants' knowledge of home management of diabetes mellitus.

Research Question 3: What is the difference in the post-test scores of both the experimental and the control group on their knowledge of home -management of diabetes mellitus following health education intervention among booked diabetics in selected hospitals in Edo State?

Table 5: Descriptive statistics of post-test knowledge scores of experimental and control groups

Groups	N	Mean	SD	Mean Difference	95% CI
Experimental	30	20.33	0.62	4.2	[3.34, 5.06]

Group					
Control Group	30	16.13	1.52		

Table 5 shows that the post-test mean knowledge score of the experimental group was 20.33 (SD = 0.62), while that of the control group was 16.13 (SD = 1.52). The mean difference was 4.20, with a 95% confidence interval of [3.34, 5.06], indicating that the experimental group had substantially higher knowledge scores than the control group following the intervention. The control group showed minimal improvement from pre-test to post-test (15.63 to 16.13), while the experimental group demonstrated a marked improvement (15.97 to 20.33).

Hypothesis 3: There is no significant difference on the post-test experimental group and post-test control group on home management of diabetes mellitus following health education intervention among booked diabetics in Edo State.

Table 6: Independent samples t-test of post-test knowledge scores of experimental and control groups

Groups	N	Mean	SD	Df	t-cal	Sig.(2-tailed)	Cohen's d
Experimental	30	20.33	0.62				
				58	4.215	< 0.001	1.54
Control	30	16.13	1.52				

Table 6 shows a t value of 4.215 and a p value of < 0.001. Testing at an alpha level of 0.05, the p value is less than the alpha level. Therefore, the null hypothesis which states that there is no significant difference between the post-test knowledge scores of the experimental and control groups is rejected. The effect size (Cohen's d = 1.54) was large, indicating that the difference between the groups was substantial and practically meaningful.

DISCUSSION OF RESULTS

The first research question examined the difference between the pre-test knowledge scores of the experimental and control groups regarding home management of diabetes mellitus before the health education intervention. The finding revealed that there was only a slight difference between the mean pre-test knowledge scores of the two groups, and Hypothesis 1 showed no significant difference, indicating that the groups were statistically comparable at baseline. The effect size was small, and the 95% confidence interval for the mean difference included zero, further confirming baseline equivalence. A possible explanation for this finding is that the respondents had existing or normative knowledge acquired through previous contact with healthcare providers, personal experience, family members, mass media, and other informal sources, and that both groups started from approximately the same knowledge level. The baseline equivalence provides a sound basis for attributing any subsequent post-test improvement in the experimental group to the health education intervention rather than to pre-existing differences. This finding is consistent with Shapu et al. (2021), who reported that health education provides relevant knowledge capable of contributing to positive changes in health-related behaviours, beliefs, and attitudes. The finding also agrees with Almomani et al. (2020), who emphasised the importance of health knowledge in promoting desirable attitudes and behaviours towards disease prevention and management. Similarly, Garg et al. (2019) reported that health education can increase awareness and encourage preventive health practices. The finding is further supported by Bandura's Social Cognitive Theory, which distinguishes the acquisition of knowledge from the demonstration of behaviour based on that knowledge.

The second research question examined the difference between the pre-test and post-test knowledge scores of the experimental group regarding home management of diabetes mellitus following the health education intervention. The finding revealed a marked improvement in the experimental group's knowledge scores, with the post-test mean score higher than the pre-test mean score (15.97), and Hypothesis 2 showed a significant difference, leading to rejection of the null hypothesis. The effect size was very large, indicating that the intervention had a substantial practical impact on knowledge. The 95% confidence interval for the mean difference confirms the precision of this estimate. A possible explanation for this finding is that the structured

health education programme provided additional, organised, and relevant information that strengthened the respondents' understanding of medication use, dietary practices, blood glucose monitoring, recognition of warning signs, physical activity, and prevention of complications. The reduction in post-test standard deviation suggests that the intervention was effective in bringing all participants to a similar, higher level of knowledge. This finding is consistent with Kirwan et al. (2016), who emphasised the importance of health education in helping patients acquire the knowledge, skills, and attitudes required for effective self-management of diabetes. The finding also agrees with Ha et al. (2014), who reported that interventions based on self-efficacy theory were effective in improving knowledge. Similarly, Bailey et al. (2016) reported that health education interventions can influence knowledge and contribute to positive health outcomes. The finding is further supported by Yazdani et al. (2015), who noted that health education can emphasise patients' personal abilities and facilitate effective self-management of chronic diseases. Likewise, the improvement suggests that the intervention addressed existing knowledge gaps and reinforced previously acquired information among the booked diabetic patients.

The third research question examined the difference between the post-test knowledge scores of the experimental and control groups regarding home management of diabetes mellitus following the health education intervention. The finding revealed that the experimental group had a greater mean post-test knowledge score than the control group and Hypothesis 3 showed a significant difference leading to rejection of the null hypothesis. The effect size was large, confirmed the significant effect of the intervention. A possible explanation for this finding is that only the experimental group received the structured health education programme, which enhanced their capacity to make informed decisions about medication adherence, dietary practices, blood glucose monitoring, physical activity, recognition of hypo- and hyperglycaemia, prevention of complications, and appropriate healthcare-seeking behaviour. The control group, which received no intervention, showed minimal improvement likely attributable to the test-retest effect or exposure to routine clinic information. This finding is consistent with Metprommarat et al. (2025), who reported that health education interventions enable individuals to develop a deeper understanding of disease prevention and management. The finding also agrees with Majumdar et al. (2025), who noted that health education assists patients in acquiring the essential knowledge, skills, and attitudes required for effective self-management. Similarly, Ozoemena et al. (2019) emphasised the importance of regular health education, healthy activities, and health programmes in preventing and minimising diseases. The finding is further supported by the argument that health education should be an integral component of chronic disease management rather than a one-time activity. Likewise, the significant post-test difference provides further evidence that the higher knowledge of the experimental group was associated with the health education intervention rather than chance.

CONCLUSION

The study concluded that health education intervention significantly improved the knowledge of home management of diabetes mellitus among booked diabetic patients in selected hospitals in Edo State. The experimental and control groups had comparable knowledge before the intervention; however, the experimental group recorded significantly higher post-test knowledge scores following the intervention, with a large effect size onfirming the robustness of the finding. This indicates that structured health education is effective in improving patients' knowledge and capacity for effective home management of diabetes mellitus. However, it is important to note that improved knowledge does not automatically translate into improved self-care behaviour or glycaemic control. The translation of knowledge into behaviour requires enabling factors such as access to affordable medications, supportive environments, and ongoing reinforcement. Therefore, while the study demonstrates the effectiveness of health education in improving knowledge, further research is needed to assess its impact on actual self-care practices and clinical outcomes.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations are made:

i. Healthcare providers should provide regular and structured health education to booked diabetic patients to improve their knowledge and capacity for effective home-management of diabetes mellitus.

ii. Hospitals should strengthen diabetes education programmes by providing patients with simple and practical information on medication adherence, dietary practices, blood glucose monitoring, and prevention of complications.
iii. Healthcare providers should encourage continuous patient education and follow-up, particularly during routine clinic visits, to reinforce knowledge and promote effective self-management of diabetes mellitus.
iv. Health education interventions should be complemented with behavioural support strategies such as goal-setting, problem-solving, and peer support o facilitate the translation of knowledge into sustained self-care behaviours.
v. Policymakers and hospital administrators should allocate resources for the development and implementation of structured diabetes education programmes as an integral component of routine diabetes care.
vi. Health education programmes should be tailored to the literacy levels and cultural backgrounds of patients, using appropriate teaching materials and methods to ensure comprehension and engagement.

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