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A Study to Evaluate the Effectiveness of Planned Teaching Strategy (PTS) on Knowledge, Attitude and Self-Care Practices Among Patients with Diabetes Mellitus in Selected Hospital at Meerut

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ABSTRACT

Background: *Diabetes mellitus is a chronic, lifelong condition that requires continuous management through appropriate knowledge, positive attitudes, and effective self-care practices. Lack of awareness and poor adherence to lifestyle modifications often lead to uncontrolled blood sugar levels and complications. Educational interventions such as Planned Teaching Strategies (PTS) have shown promise in improving patient outcomes.*

Objectives:

To assess the pre-test level of knowledge, attitude & self-care practice regarding diabetes mellitus among patients with Diabetes mellitus. To evaluate the effectiveness of planned teaching strategy on knowledge, attitude and self-care practices among diabetes mellitus patients. To determine the correlation between knowledge, attitude & self-care practice. regarding diabetes mellitus among patients with diabetes mellitus. To find out the association between post-test level of knowledge, attitude & self-care practice among patients with diabetes mellitus with their selected demographic variable.

Methodology: *A quasi-experimental pre-test post-test control group design was adopted. The study was conducted in SVBP Hospital, Meerut. A purposive sample of 100 diabetes mellitus patients (50 in experimental and 50 in control group) was selected. Data were collected using a structured knowledge questionnaire, an attitude scale, and a self-care practice checklist. The Planned Teaching Strategy was delivered using lectures, demonstrations, and audiovisual aids, followed by a post-test after seven days. Data were analyzed using descriptive and inferential statistics, including paired t-test and chi-square test, at a 0.05 level of significance.*

Results: *In the experimental group, the mean knowledge score improved from 12.4 ± 3.6 (pre-test) to 25.5 ± 2.1 (post-test). Attitude scores increased from 42.8 ± 5.4 to 61.2 ± 4.7, while self-care practice scores improved from 18.6 ± 3.2 to 32.7 ± 3.9. The differences were statistically significant ($p < 0.001$). A positive correlation was observed between knowledge and attitude ($r = 0.62$), knowledge and practice ($r = 0.58$), and attitude and practice ($r = 0.65$). Significant associations were also found between post-test outcomes and selected demographic variables such as education and duration of diabetes ($p < 0.05$).*

Conclusion: *The findings revealed significant improvement in knowledge, attitude, and self-care practices among patients after the implementation of PTS in the experimental group, compared to the control group. A positive correlation was also observed between knowledge, attitude, and self-care practices. The study concluded that PTS is an effective educational intervention for empowering diabetic patients to improve self-management and prevent complications.*

Keywords: *Diabetes Mellitus Planned Teaching Strategy, Knowledge, Attitude, Self-Care Practices, And Patient Education.*

INTRODUCTION

Diabetes mellitus (DM) is a chronic metabolic disorder characterized by persistent hyperglycaemia due to defects in insulin secretion, insulin action, or both. It is a major global health problem, contributing significantly to morbidity, mortality, and economic burden. According to the International Diabetes Federation (IDF), an estimated 537 million adults worldwide were living with diabetes in 2021, a number projected to rise to 783 million by 2045 if current trends continue. In India, the prevalence of diabetes is approximately 8–9% of the adult population, with urban areas like Meerut reporting higher rates due to sedentary lifestyles, dietary habits, and stress.

Uncontrolled diabetes is associated with complications such as cardiovascular disease, stroke, neuropathy, nephropathy, and retinopathy, making effective management essential. However, many patients lack adequate knowledge, hold negative attitudes, and demonstrate poor self-care practices, which hinder disease control. Structured education programs have been shown to improve patients' awareness and adherence to lifestyle modifications, medication, and monitoring practices.

OBJECTIVES

1. To assess the pre-test level of knowledge, attitude & self-care practice regarding diabetes mellitus among patients with Diabetes mellitus.
2. To evaluate the effectiveness of planned teaching strategy on knowledge, attitude and self-care practices among diabetes mellitus patients.
3. To determine the correlation between knowledge, attitude & self-care practice. regarding diabetes mellitus among patients with diabetes mellitus.
4. To find out the association between post-test level of knowledge, attitude & self-care practice among patients with diabetes mellitus with their selected demographic variable.

RESEARCH HYPOTHESES

H1: There will be significant difference between pre-test and posttest level of knowledge among patients with diabetes mellitus receiving planned teaching strategy program.
H2: There will be significant difference between pre-test and posttest level of attitude among patients with diabetes mellitus receiving planned teaching strategy program.
H3: There will be significant difference between pre-test and posttest level of self-care practice among patients with diabetes mellitus receiving planned teaching strategy program.
H4: There will be a significant correlation between knowledge and attitude regarding diabetes mellitus among patients with diabetes mellitus.
H5: There will be a significant correlation between knowledge and practice regarding diabetes mellitus among patients with diabetes mellitus.
H6: There will be a significant correlation between attitude and practice regarding diabetes mellitus among patients with diabetes mellitus.
H7: There will be significant association between posttest knowledge among patients with diabetes mellitus with their selected demographic variables.
H8: There will be significant association between posttest attitude among patients with diabetes mellitus with their selected demographic variable.
H9: There will be significant association between posttest self-care practices among patients with diabetes mellitus with their selected demographic variables.

Null hypothesis

H01: There will not be any significant difference between pre-test and posttest level of knowledge among patients with diabetes mellitus receiving planned teaching strategy program.
H02: There will not be any significant difference between pre-test and posttest level of attitude among patients with diabetes mellitus receiving planned teaching strategy program.
H03: There will not be any significant difference between pre-test and posttest level of self-care practice among patients with diabetes mellitus receiving planned teaching strategy program.
H04: There will not be any significant correlation between knowledge and attitude regarding diabetes mellitus among patients with diabetes mellitus.
H05: There will not be any significant correlation between knowledge and practice regarding diabetes mellitus among patients with diabetes mellitus.
H06: There will not be any significant correlation between attitude and practice regarding diabetes mellitus among patients with diabetes mellitus.
H07: There will not be any significant association between post-test knowledge among patients with diabetes mellitus with their selected demographic variables.
H08: There will not be any significant association between post-test attitude among patients with diabetes mellitus with their selected demographic variable.
H09: There will not be any significant association between post-test self-care practices among patients with diabetes mellitus with their selected demographic variables.

METHODOLOGY

Research Approach: Evaluative research approach
Research Design: Quasi-experimental pre-test post-test design with a control group.
Setting: SVBP Hospital, Meerut
Population: Diabetes mellitus patients
Sample Size: 100
Sampling Technique: Nonprobability Purposive sampling
Tool: Demographic tools, self-structured questionnaire for knowledge, likert scale for attitude, checklist for self-care practices.
Intervention: A structured planned teaching strategy on management of diabetes. The programme lasted 45–60 minutes. Post-test was conducted after 7 days.
Data Analysis: Descriptive statistics (mean, percentage, SD), inferential statistics (paired t-test, Chi-square test).

RESULTS

PRESENTATION OF DATA:

The data collected was organized and presented under following sections:

Section 1: Description of the demographic variables of the subjects.

Section 2:

I. Findings related to knowledge, score among diabetes mellitus patients in experimental group and control group.
II. Findings related to attitude score among diabetes mellitus patients in experimental group and control group.
III. Findings related to self-care practices score among diabetes mellitus patients in experimental group and control group.

Part - 2: Findings related to knowledge, attitude and self-care practices level among diabetes mellitus patients in experimental group and control group.

Section 3: Findings related to Evaluate the effectiveness of Planned Teaching Strategy (PTS) on knowledge, attitude and self- care practices among patients with diabetes mellitus.

Section 4: Finding related to correlation between knowledge, attitude & self-care practice. regarding diabetes mellitus among patients with diabetes mellitus.

Part1: Finding related to Correlation between Knowledge and Attitude regarding diabetes mellitus among patients with diabetes mellitus
Part 2: Finding related to correlation between Knowledge and Self-Care Practices regarding diabetes mellitus among patients with diabetes mellitus.
Part 3: Finding related to correlation between Attitude and Self-Care Practices regarding diabetes mellitus among patients with diabetes mellitus.

Section 5: Deals with association between post-test level of knowledge, attitude and self-care practices with their selected demographic variables in experiment group.

Part 1: Finding association between levels of knowledge with their selected demographic variables in experiment group.
Part 2: Finding with association between levels of attitude with their selected demographic variables in experiment group.
Part 3: Finding with association between self-care practices with their selected demographic variables in experiment group.

Section – 1: - Description of Demographic Variables of the Subjects.

Table- 1: Distribution of respondent according to Age group
(N=100)

	Experimental Group (50)		Control Group (50)	
Age group	**Frequency**	**Percentage**	**Frequency**	**Percentage**
20 – 30 years	6	12.0%	5	10.0%
31 – 40 years	5	10.0%	10	20.0%
41 – 50 years	17	34.0%	17	34.0%

51 – 60 years	22	44.0%	18	36.0%
Total	**50**	**100%**	**50**	**100%**

Table: 2 Distribution of respondent according to Gender
(N=100)

Gender	Experimental Group (50)		Control Group (50)	
	Frequency	Percentage	Frequency	Percentage
Male	27	54.0%	22	44.0%
Female	23	46.0%	28	56.0%
Total	**50**	**100%**	50	100.0%

Table: 3 Distribution of respondent according to Marital Status
(N=100)

Marital status	Experimental Group (50)		Control Group (50)	
	Frequency	Percentage	Frequency	Percentage
Single	3	6.0%	7	14.0%
Married	47	94.0%	43	86.0%
Divorced	0	0%	0	0%
Widowed	0	0%	0	0%
Total	**50**	**100%**	**50**	**100%**

Table: 4 Distribution of respondent according to residence
(N==100)

Residence	Experimental Group (50)		Control Group (50)	
	Frequency	Percentage	Frequency	Percentage
Urban	29	58.0%	31	62.0%
Rural	21	42.0%	19	38.0%
Total	**50**	**100%**	50	100.0%

Table: 5 Distribution of respondent according to education level
(N=100)

Education level	Experimental Group (50)		Control Group (50)	
	Frequency	Percentage	Frequency	Percentage
No formal education	5	10.0%	7	14.0%
Primary education	19	38.0%	26	52.0%
Secondary education	16	32.0%	11	22.0%
Higher education (Diploma, Degree, Postgraduate)	10	20.0%	6	12.0%
Total	**50**	**100%**	**50**	**100.0%**

Table: 6 Distribution of respondent according to occupation
(N==100)

Occupation	Experimental Group (50)		Control Group (50)	
	Frequency	Percentage	Frequency	Percentage
Un employed	18	36.0%	21	42.0%
Farmer	8	16.0%	4	8.0%
Private employed	11	22.0%	7	14.0%
Government employed	1	2.0%	4	8.0%
Own business	12	24.0%	14	28.0%
Total	**60**	**100%**	**50**	**100.0%**

Table: 7 Distribution of respondent according to diabetes type
(N==100)

Diabetes type	Experimental Group (50)		Control Group (50)	
	Frequency	Percentage	Frequency	Percentage

Type 1	2	4.0%	1	2.0%
Type 2	48	96.0%	49	98.0%
Total	**50**	**100%**	50	100.0

Table: 8 Distribution of respondent according to duration of diabetes (in Years)
(N==100)

	Experimental Group (50)		Control Group (50)	
Duration of diabetes (in Years)	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Less than 1 year	7	14.0%	9	18.0%
1 – 5 years	27	54.0%	21	42.0%
6 – 10 years	3	6.0%	11	22.0%
More than 10 years	13	26.0%	9	18.0%
Total	**50**	**100%**	**50**	**100.0%**

Table: 9 Distribution of respondent according to previous education on Diabetes
(N=100)

	Experimental Group (50)		Control Group (50)	
Previous education on Diabetes	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Yes	1	2.0%	1	2.0%
No	49	98.0%	49	98.0%
Total	**50**	**100%**	50	100.0%

Table: 10 Distribution of respondent according to family history of diabetes
(N=100)

	Experimental Group (50)		Control Group (50)	
History of diabetes	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Yes	22	44.0%	19	38.0%
No	28	56.0%	31	62.0%
Total	**50**	**100%**	50	100.0%

Section 2:

Part - 1: Findings related to knowledge, attitude and self-care practices score among diabetes mellitus patients in experimental group and control group.

Table 11-Distribution of Respondent according to knowledge, attitude and self-care practices score among diabetes mellitus patients in experimental group and control group.
(N=100)

Aspect	**Max Score**	**Group**	**Experimental (50)**		**Control (50)**	
			Mean	**SD**	**Mean**	**SD**
Knowledge	30	Pre-test	12.92	3.91	13.44	2.78
		Post-test	20.14	3.05	15.50	2.33
Attitude	50	Pre-test	32.02	3.48	31.46	1.69
		Post-test	40.70	2.76	32.50	2.84
Self-care practice	28	Pre-test	12.82	3.26	12.10	2.26
		Post-test	17.00	3.00	13.58	1.90

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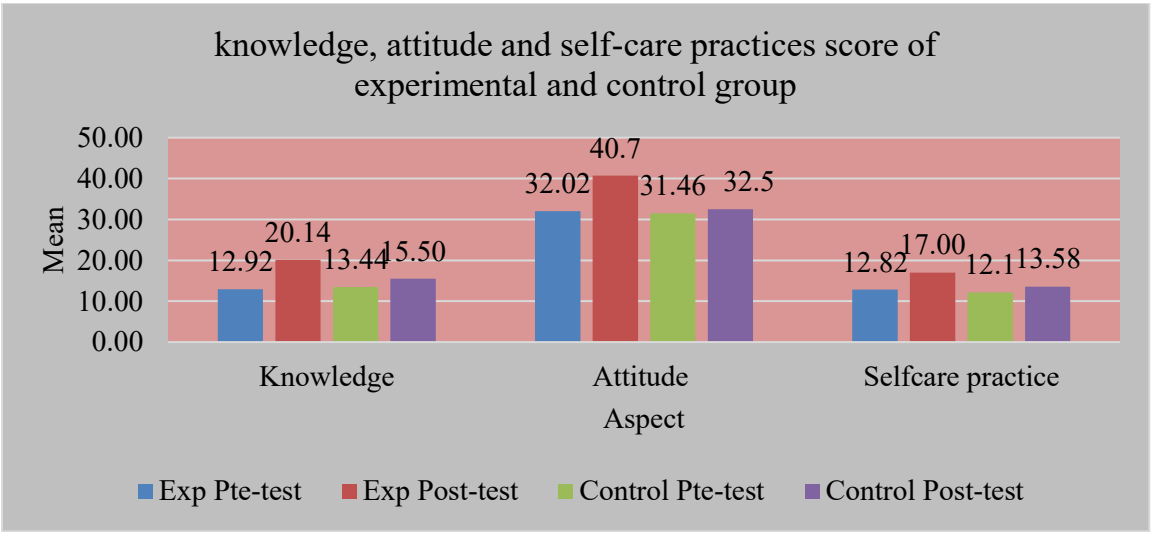

Figure 1 : Distribution of Respondent according to knowledge, attitude and self-care practices score among diabetes mellitus patients in experimental group and control group.

Part - 2: Findings related to knowledge, attitude and self-care practices level among diabetes mellitus patients in experimental group and control group.

Table 12-Distribution of respondent on knowledge level among diabetes mellitus patients in experimental group and control group.
(N=100)

Sl. No	Knowledge Level	Experimental Group (50)				Control Group (50)			
		Pre-test		Post-test		Pre-test		Post-test	
		F	%	F	%	F	%	F	%
1.	Inadequate knowledge	11	22.0%	0	0%	9	18.0%	2	4.0%
2.	Adequate knowledge	36	72.0%	33	66.0%	41	82.0%	48	96.0%
3.	Proficient knowledge	3	6.0%	17	34.0%	0	0%	0	0%
	Total	50	100%	50	100%	50	100%	50	100%

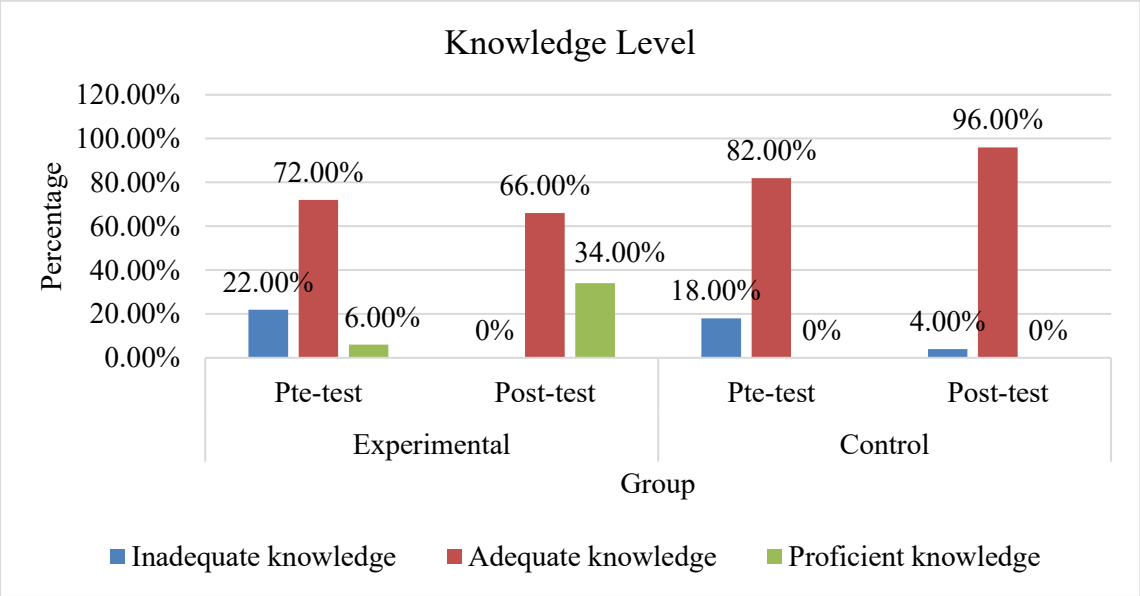

Figure 2- Distribution of respondent on knowledge level among diabetes mellitus patients.

Table 13-Distribution of respondent on attitude level among diabetes mellitus patients in experimental group and control group.
(N=100)

Sl. No	Attitude Level	Experimental Group (50)		Control Group (50)	
		Pre-test	Post-test	Pre-test	Post-test

		F	%	F	%	F	%	F	%
1.	Poor attitude	0	0%	0	0%	0	0%	0	0%
2.	Fair attitude	0	0%	0	0%	0	0%	0	0%
3.	Good attitude	15	30.0%	0	0%	15	30.0	13	26.0%
4.	Very good attitude	33	66.0%	22	44.0%	35	70.0	36	72.0%
5.	Excellent attitude	2	4.0%	28	56.0%	0	0%	1	2.0%
Total		**50**	**100%**	**50**	**100%**	**50**	**100%**	**50**	**100%**

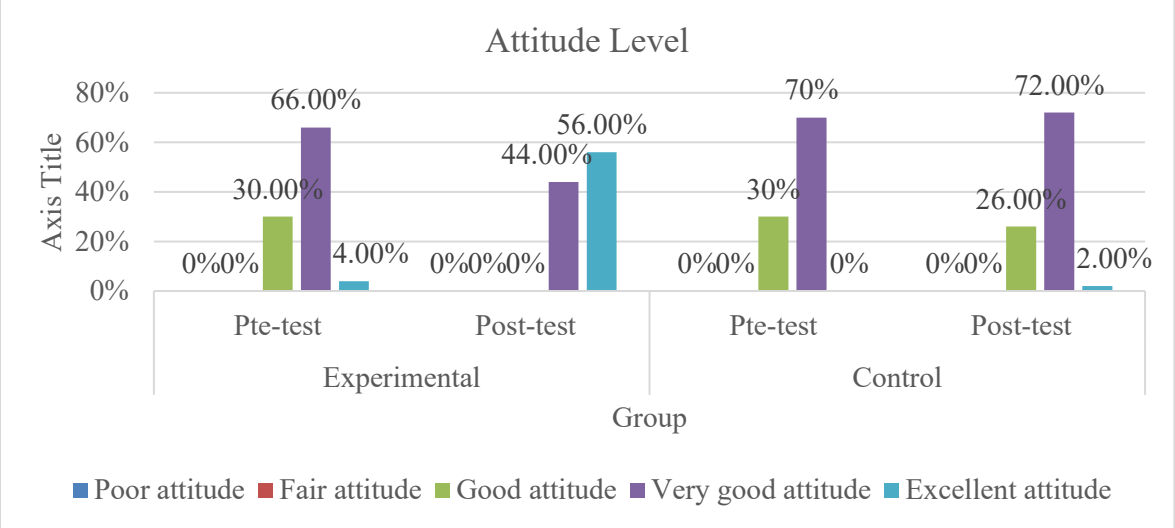

Figure 13- Distribution of respondent on attitude level among diabetes mellitus patients.

Table 14-Distribution of respondent on selfcare practice level among diabetes mellitus patients in experimental group and control group.
(N=100)

Sl. No	Selfcare practice Level	Experimental Group (50)				Control Group (50)			
		Pre-test		Post-test		Pre-test		Post-test	
		F	%	F	%	F	%	F	%
1.	Poor self-care practice	2	4.0%	0	0%	0	0%	0	0%
2.	Fair self-care practice	39	78.0%	8	16.0%	45	90.0%	36	72.0%
3.	Good self-care practice	8	16.0%	40	80.0%	5	10.0%	14	28.0%
4.	Excellent self-care practice	1	2.0%	2	4.0%	0	0%	0	0%
Total		**50**	**100%**	**50**	**100%**	**50**	**100%**	**50**	**100%**

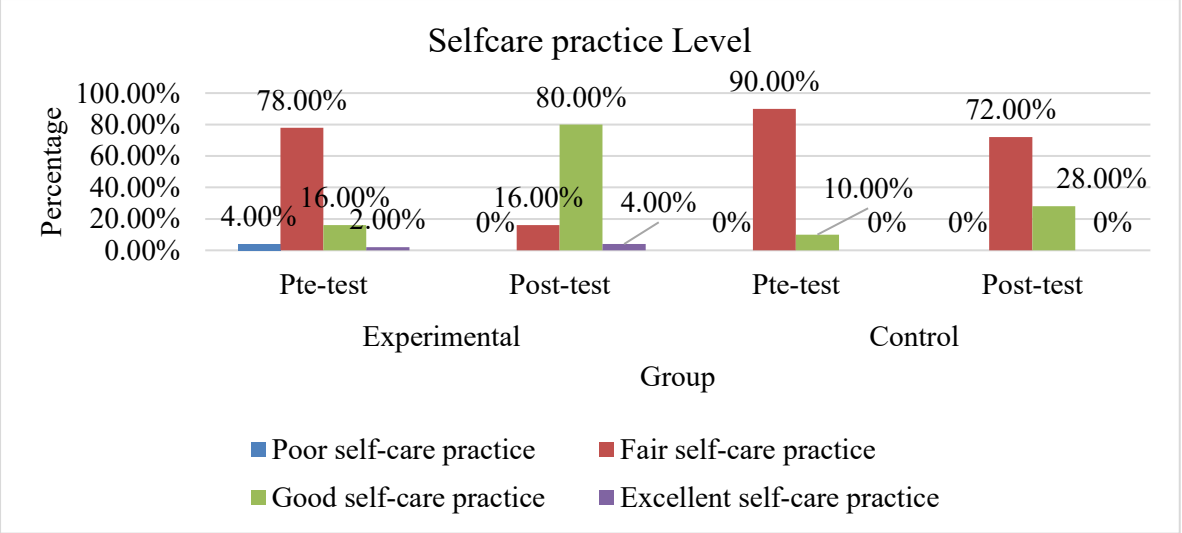

Figure 14- Distribution of respondent on self-care practice level among diabetes mellitus patients.

Section 3: Findings related to Evaluate the effectiveness of Planned Teaching Strategy (PTS) on knowledge, attitude and self- care practices among patients with diabetes mellitus in experimental group and control group.

Table 15: Distribution of respondent on effectiveness of Planned Teaching Strategy (PTS) on knowledge, attitude and self- care practices among patients with diabetes mellitus in experimental group and control group. (N=100)

Group	Aspect	Group	Mean	Mean difference	SD	't 'value	df	p-value
Experimental group	Knowledge	Post-test	20.14	7.22	3.05	34.61	49	0.000
		Pre-test	12.92		3.91			
	Attitude	Post-test	40.70	8.68	2.76	28.90	49	0.000
		Pre-test	32.02		3.48			
	Self -care practice	Post-test	17.00	4.18	3.00	22.65	49	0.000
		Pre-test	12.82		3.26			
Control Group	Knowledge	Post-test	15.50	2.06	2.33	9.86	49	0.000
		Pre-test	13.40		2.78			
	Attitude	Post-test	32.50	1.04	2.84	2.32	49	0.024
		Pre-test	31.46		1.69			
	Self -care practice	Post-test	13.50	1.48	1.90	10.31	49	0.000
		Pre-test	12.10		2.26			

*** Significant at 0.05 level**

Section 4: Finding correlation between knowledge, attitude & self-care practice. regarding diabetes mellitus among patients with diabetes mellitus.

Table 16 Distribution of respondent on correlation coefficient (r) and corresponding p-values for the relationships between knowledge, attitude, and self-care practices among the study participants.

Variables	r value	p value	Strength & Direction	Statistical Significance
Knowledge & Attitude	0.11	0.45	Weak positive correlation	Not significant (p > 0.05)
Knowledge & Self-care Practice	-0.13	0.38	Weak negative correlation	Not significant (p > 0.05)
Attitude & Self-care Practice	-0.23	0.11	Weak negative correlation	Not significant (p > 0.05)

Section 5: Deals with association between post-test level of knowledge, attitude and self-care practices with their selected demographic variables in experiment group.

Table 17- Association between the knowledge level with their selected demographic variables in experiment group. (N=50)

Variable	Adequate	Proficient	Df	Chi-square value	P value	Inference
Age group						
20-30 years	2	4	3	6.263	0.099	NS
31-40 years	5	0				
41-50 years	10	7				
51-60 years	16	6				
Total	33	17				
Gender						
Male	15	12	1	2.853	0.082	NS
Female	18	5				

Variable	Adequate	Proficient	Df	Chi-square value	P value	Inference
Total	33	17				
Marital status						
Single	0	3	1	6.195	0.035	S
Married	33	14				
Divorced	0	0				
Widowed	0	0				
Total	33	17				
Residence						
Urban	18	11	1	0.475	0.351	NS
Rural	15	6				
Total	33	17				
Education level						
No formal education	4	1	3	1.681	0.705	NS
Primary education	13	6				
Secondary education	11	5				
Higher education	5	5				
Total	33	17				
Occupation						
Unemployed	13	5	4	4.131	0.410	NS
Farmer	6	2				
Private employed	8	3				
Govt employed	0	1				
Own business	6	6				
Total	33	17				
Diabetes type						
Type-1	0	2	1	4.044	0.111	NS
Type-2	33	15				
Total	33	17				
Duration of diabetes diagnoses (in year)						
Less than 1 year	4	3	3	0.590	0.887	NS
1 – 5 years	19	8				
6-10 years	2	1				
More than 10 years	8	5				
Total	33	17				
Previous education on diabetes						
Yes	1	0	1	0.526	0.660	NS
No	32	17				
Total	33	17				
Family history of diabetes						
Yes	15	7	1	0.083	0.506	NS
No	18	10				
Total	33	17				

NS = not significant 0.05 level of significant

Table 18- Association between the attitude level with their selected demographic variables in experiment group. (N=50)

Variable	Excellent	Very good	Df	Chi-square value	P value	Inference
Age group						
20-30 years	5	1	3	8.768	0.029	S
31-40 years	0	5				
41-50 years	9	8				
51-60 years	14	8				
Total	28	22				
Gender						
Male	16	11	1	0.253	0.414	NS
Female	12	11				
Total	28	22				
Marital status						
Single	3	0	1	2.508	0.167	NS
Married	25	22				
Total	28	22				
Residence						
Urban	17	12	1	0.192	0.440	NS
Rural	11	10				
Total	28	22				
Education level						
No formal education	3	2	3	0.185	1.000	NS
Primary education	10	9				
Secondary education	9	7				
Higher education	6	4				
Total	28	22				
Occupation						
Unemployed	8	10	4	2.462	0.727	NS
Farmer	5	3				
Private employed	6	5				
Govt employed	1	0				
Own business	8	4				
Total	28	22				
Diabetes type						
Type-1	2	0	1	1.637	0.309	NS
Type-2	26	22				
Total	28	22				
Duration of diabetes diagnoses (in year)						
Less than 1 year	4	3	3	4.748	0.196	NS
1 – 5 years	12	15				
6-10 years	3	0				
More than 10 years	9	4				
Total	28	22				
Previous education on diabetes						
Yes	0	1	1	1.299	0.440	NS
No	28	21				
Total	28	22				
Family history of diabetes						
Yes	11	11	1	0.574	0.319	NS
No	17	11				
Total	28	22				

NS = not significant 0.05 level of significant

Table 19- Association between the self-care practices level with their selected demographic variables in experiment group (N=50)

Variable	Excellent	Fair	Good	Df	Chi-square value	P value	Inference
Age group							
20-30 years	1	0	5	6	8.430	0.139	NS
31-40 years	0	2	3				
41-50 years	1	4	12				
51-60 years	0	2	20				
Total	2	8	40				
Gender							
Male	1	8	18	2	8.132	0.007	S
Female	1	0	22				
Total	2	8	40				
Marital status							
Single	0	0	3	2	0.798	1.000	NS
Married	2	8	37				
Total	2	8	40				
Residence							
Urban	1	4	24	2	0.328	0.852	NS
Rural	1	4	16				
Total	2	8	40				
Education level							
No formal education	0	0	5	6	11.678	0.131	NS
Primary education	0	3	16				
Secondary education	0	2	14				
Higher education	2	3	5				
Total	2	8	40				
Occupation							
Unemployed	0	1	17	8	17.178	0.022	S
Farmer	0	0	8				
Private employed	0	3	8				
Govt employed	0	1	0				
Own business	2	3	7				
Total	2	8	40				
Diabetes type							
Type-1	0	0	2	2	0.521	1.000	NS
Type-2	2	8	38				
Total	2	8	40				
Duration of diabetes diagnoses (in year)							
Less than 1 year	0	1	6	6	2.147	0.961	NS
1 – 5 years	1	4	22				
6-10 years	0	0	3				
More than 10 years	1	3	9				
Total	2	8	40				
Previous education on diabetes							
Yes	0	0	1	2	0.255	1.000	NS
No	2	8	39				
Total	2	8	40				
Family history of diabetes							
Yes	1	3	18	2	0.183	1.000	NS
No	1	5	22				

Variable	Excellent	Fair	Good	Df	Chi-square value	P value	Inference
Total	2	8	40				

NS = not significant 0.05 level of significant

DISCUSSION

The study comprised 100 patients with diabetes mellitus, equally divided into experimental (n=50) and control groups (n=50). The majority of participants were in the 51–60 years age group, followed by 41–50 years. Both males and females were almost equally represented. Most participants were married and resided in urban areas. Regarding education, a large proportion had primary or secondary education, while a smaller number had higher education or no formal education. In terms of occupation, many were unemployed or self-employed, with fewer engaged in private or government jobs. The majority were diagnosed with type 2 diabetes, with varying duration of illness, and a significant proportion reported a family history of diabetes.

I. Findings related to knowledge score among diabetes mellitus patients in experimental group and control group.

The pre-test mean knowledge scores of the experimental group (12.92 ± 3.91) and control group (13.44 ± 2.78) were comparable. After intervention, the experimental group's mean score increased significantly to 20.14 ± 3.05, whereas the control group showed only a slight improvement to 15.50 ± 2.33, indicating the greater effectiveness of the Planned Teaching Strategy.

II. Findings related to Attitude score among diabetes mellitus patients in experimental group and control group.

Pre-test: Both groups had similar attitude scores, with the experimental group at 32.02 (SD = 3.48) and the control group at 31.46 (SD = 1.69).

Post-test: The experimental group showed a notable increase to 40.70 (SD = 2.76), whereas the control group increased only slightly to 32.50 (SD = 2.84), indicating a positive shift in attitude due to the intervention.

III.Findings related to self-care practices score among diabetes mellitus patients in experimental group and control group.

Pre-test: The experimental group scored 12.82 (SD = 3.26), and the control group 12.10 (SD = 2.26), indicating similar starting points.

Post-test: The experimental group improved to 17.00 (SD = 3.00), while the control group increased modestly to 13.58 (SD = 1.90), suggesting better enhancement in self-care practices in the experimental group.

Part - 2: Findings related to knowledge, attitude and self-care practices level among diabetes mellitus patients in experimental group and control group.

Knowledge:

In the experimental group, inadequate knowledge decreased from 22% to 0%, and proficient knowledge rose from 6% to 34% after intervention, showing substantial improvement. In the control group, only a slight change was seen, with no participants reaching proficient knowledge.

Attitude:

In the experimental group, participants with an excellent attitude increased from 4% to 56%, while the rest remained very good, showing a major shift. The control group showed only minimal improvement, with just 2% reaching excellent.

Self-Care Practices:

In the experimental group, good self-care rose from 16% to 80%, and excellent from 2% to 4%, while poor practices disappeared. The control group showed only modest improvement, with most participants remaining at the fair level.

Section 3: Findings related to evaluate the effectiveness of Planned Teaching Strategy (PTS) on knowledge, attitude and self- care practices among patients with diabetes mellitus.

In the experimental group, there was a significant improvement across all three aspects after the intervention:

Knowledge scores increased from 12.92 to 20.14, with a mean difference of 7.22 and a highly significant p-value (0.000). So **H1 is accepted and Null Hypothesis H01 is rejected.**
Attitude improved from 32.02 to 40.70, with a mean difference of 8.68 ($p = 0.000$).
So H2 is accepted and Null Hypothesis H02 is rejected.
Self-care practice rose from 12.82 to 17.00, showing a mean difference of 4.18 ($p = 0.000$). So **H3 is accepted and**

Null Hypothesis H03 is rejected.

Section 4: Finding correlation between knowledge, attitude & self-care practice. regarding diabetes mellitus among patients with diabetes mellitus.
1. Knowledge & Attitude ($r = 0.11$, $p = 0.45$):
Weak positive correlation, not statistically significant. **Hypothesis H4 rejected, Null H04 accepted.**
2. Knowledge & Self-care Practice ($r = -0.13$, $p = 0.38$):
Weak negative correlation, not significant. **Hypothesis H5 rejected, Null H05 accepted.**
3. Attitude & Self-care Practice ($r = -0.23$, $p = 0.11$):
Weak negative correlation, not significant but closer to threshold. **Hypothesis H6 rejected, Null H06 accepted.**

Section 5: Deals with association between post-test level of knowledge, attitude and self-care practices with their selected demographic variables in experiment group.
Part 1: Finding Association between levels of knowledge with their selected demographic variables in experiment group
.Significant association found with:
Marital status ($\chi^2 = 6.195$, $p < 0.05$) hypothesis **H7 is accepted and Null Hypothesis H07rejected** for marital status
No significant association with:
Age group, gender, residence, education level, occupation, type of diabetes, duration of diabetes, previous diabetes education, family history of diabetes **H7 is rejected and Null Hypothesis H07**accepted. for these variables.

Part 2: Finding association between levels of attitude with their selected demographic variables in experiment group.
Significant association found with:
Age group ($\chi^2 = 8.768$, $p < 0.05$) **H8 is accepted and Null Hypothesis H08rejected**.for age group.
No significant association with:
Gender, marital status, residence, education level, occupation, type of diabetes, duration of diabetes, previous diabetes education, family history of diabetes hypothesis **H8 is rejected and Null Hypothesis H08**accepted.for these variables.

Part 3: Finding association between self-care practices with their selected demographic variables in experiment group.
Significant association found with:
Gender ($\chi^2 = 8.132$, $p < 0.05$ and Occupation ($\chi^2 = 17.178$, $p < 0.05$) **H9 is accepted and Null Hypothesis H09 rejected.** for gender and occupation.
No significant association with:
Age group, marital status, residence, education level, type of diabetes, duration of diabetes, previous diabetes education, and family history of **diabetes H9 is rejected and Null Hypothesis H09 accepted**. For these variables.

CONCLUSION
The Planned Teaching Strategy (PTS) significantly improved knowledge, attitude, and self-care in the experimental group. Knowledge: mean ↑ from 12.92 to 20.14 ($p < 0.001$).
Attitude: mean ↑ from 32.02 to 40.70 ($p < 0.001$).Self-care: mean ↑ from 12.82 to 17.00 ($p < 0.001$).Control group showed only minimal improvement → routine care alone insufficient.

H1 accepted.H2: mixed results – most demographic factors not significant, but some (marital status, age, gender, occupation) showed associations

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RECOMMENDATIONS

1. Structured Teaching Programs should be made a regular part of diabetic care in both hospital and community settings.
2. Similar studies should be conducted with larger sample sizes and diverse populations to enhance generalizability.
3. Studies comparing different teaching methods (e.g., video, mobile apps, pamphlets) can be undertaken to identify the most effective educational tool.
4. Incorporate family members or caregivers in the educational program to improve support and compliance

Ethical Clearance – Taken from ethical committee of L.L.R.M Medical College,
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