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Effectiveness of Structured Teaching Programme on Knowledge Regarding Lifestyle Modifications among Diabetes Mellitus Clients in a Selected Hospital, Indore

1Mr. Mukesh Choudhary, 2Dr. Manish Sharma
1Reseac Schoolar, 2Professor
1Malwanchal University,
2Malwanchal University

Abstract

Background: Diabetes mellitus is a chronic metabolic disorder requiring continuous lifestyle modifications for effective control. Lack of knowledge is a major barrier to adherence.

Aim: To assess the effectiveness of a structured teaching programme (STP) on knowledge regarding lifestyle modifications among diabetes mellitus clients.

Methods: A pre-experimental one-group pre-test–post-test design was conducted at Index Medical College Hospital & Research Centre, Indore (M.P.) among 100 purposively selected clients. Data were collected using a validated 30-item structured knowledge questionnaire. An STP covering diet, physical activity, medication adherence, blood glucose monitoring, foot care, stress management, and risk reduction strategies was delivered for 60 minutes. Post-test was conducted 7 days later. Data were analyzed with descriptive statistics and paired t-test.

Results: Pre-test knowledge was predominantly inadequate (60%), with only 10% showing adequate knowledge. Post-test showed marked improvement: 75% adequate, 22% moderate, and only 3% inadequate. Mean knowledge score improved from 12.1 ± 3.5 to 22.9 ± 3.8 (mean difference = 10.8; $t = 19.6$; $p < 0.001$).
Conclusion: The STP was highly effective in enhancing knowledge of lifestyle modifications among diabetes clients. Incorporation of structured education into routine clinical practice is recommended.

Keywords: Diabetes Mellitus, Lifestyle Modification, Structured Teaching Programme, Client Education, Knowledge

Introduction

Diabetes mellitus (DM) is a rapidly growing health problem worldwide. India is among the leading countries with high prevalence, and poor lifestyle practices often worsen disease outcomes. Lifestyle modifications such as diet, physical activity, and adherence to therapy form the cornerstone of management. However, clients frequently have limited knowledge, leading to inadequate self-care. Structured, nurse-led teaching interventions can bridge this knowledge gap.

This study aimed to evaluate the effectiveness of a structured teaching programme (STP) in improving knowledge regarding lifestyle modifications among diabetes mellitus clients at a tertiary hospital in Indore, Madhya Pradesh.

Methodology

Research Design:
The study adopted a **pre-experimental one-group pre-test–post-test design** to evaluate the effectiveness of a structured teaching programme (STP) on knowledge regarding lifestyle modifications among diabetes mellitus clients.

Setting:
The study was conducted at **Index Medical College Hospital & Research Centre, Indore, Madhya Pradesh**, a tertiary care hospital catering to a large population of diabetes mellitus clients.

Sample and Sampling Technique:
A total of **100 diabetes mellitus clients** were selected using **purposive sampling technique** based on inclusion and exclusion criteria.

Data Collection Tool:
A **validated structured knowledge questionnaire** consisting of **30 items** was used to assess knowledge levels. The maximum possible score was 30, with higher scores indicating better knowledge.

Intervention:
A **60-minute Structured Teaching Programme (STP)** was administered through lecture, discussion, flip charts, and handouts. The content focused on:

- Balanced diet and nutritional guidance
- Physical exercise and activity planning
- Adherence to oral hypoglycemic agents and insulin therapy
- Blood glucose monitoring techniques
- Foot care practices
- Stress management and sleep hygiene
- Prevention of long-term diabetes complications

Data Collection Procedure:
On **Day 1**, a pre-test was conducted using the questionnaire. Immediately after, participants underwent the STP. A **post-test** was administered after **7 days** using the same questionnaire to assess knowledge gain.

Data Analysis:
Data were analyzed using **descriptive statistics** (frequency, percentage, mean, and standard deviation) to summarize demographic and knowledge variables. **Paired t-test** was applied to determine the effectiveness of the STP. A **p-value < 0.05** was considered statistically significant.

Results

1. Demographic Characteristics

Among the 100 diabetes mellitus clients, the **majority were males (58%)**, and **62% belonged to the age group 40–59 years**. Nearly half (46%) had at least secondary level education. The **duration of diabetes was less than 5 years for 44%** of participants.

Table 1. Demographic Profile of Participants (n = 100)

Variable	Frequency (n)	Percentage (%)
Male	58	58%
Female	42	42%
Age 40–59 years	62	62%
Other age groups	38	38%
Education ≥ Secondary	46	46%
Other education levels	54	54%
Duration of DM < 5 years	44	44%
Duration of DM ≥ 5 years	56	56%

2. Knowledge Levels

A marked improvement in knowledge levels was observed following the structured teaching programme.

Table 2. Knowledge Level Distribution (Pre-test vs Post-test)

Knowledge Level	Pre-test (n, %)	Post-test (n, %)
Inadequate (0–10)	60 (60%)	3 (3%)
Moderate (11–20)	30 (30%)	22 (22%)
Adequate (21–30)	10 (10%)	75 (75%)

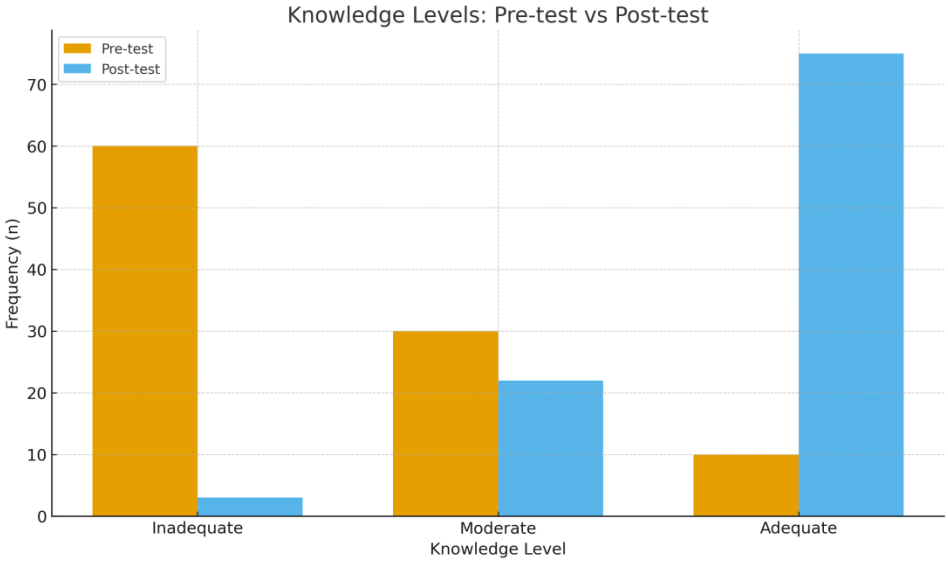


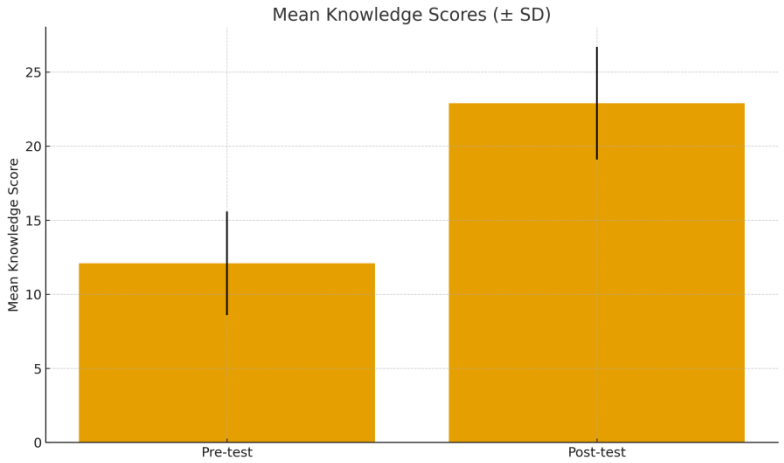
Figure 1. Knowledge Levels: Pre-test vs Post-test
(Bar chart showing shift from inadequate to adequate knowledge)

3. Mean Knowledge Scores

The mean pre-test score was **12.1 ± 3.5**, which improved to **22.9 ± 3.8** in the post-test. The mean difference of **10.8** was statistically highly significant (**t = 19.6, p < 0.001**).

Table 3. Mean Knowledge Scores and Significance Test

Test/Metric	Mean ± SD
Pre-test	12.1 ± 3.5
Post-test	22.9 ± 3.8
Mean Difference	10.8
Paired t-test	t = 19.6, p < 0.001



Discussion

The findings clearly demonstrate that structured teaching significantly improves clients' knowledge of lifestyle modifications. Similar studies in India and abroad have shown consistent results, supporting the role of structured education in chronic disease management. Knowledge improvement translates into better adherence to lifestyle practices, reducing complications and improving quality of life.

Conclusion

The structured teaching programme was highly effective in improving knowledge regarding lifestyle modifications among diabetes mellitus clients.

Recommendations

1. Routine integration of STPs in outpatient clinics for diabetes clients.
2. Use of culturally appropriate handouts and follow-up reinforcement sessions.
3. Further studies with larger samples and control groups to assess long-term impact on practices and glycemic outcomes.

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