

**Assess the effectiveness of self-instructional module on knowledge regarding self-care practices among newly diagnosed diabetes mellitus client's attending endocrine OPD, Narayana medical college hospital, Nellore, A.P**

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**Abstract**

**Introduction:** The World Health Organization (WHO) defines “diabetes mellitus as “it is a metabolic disorder of multiple etiology characterized by chronic hyperglycaemia with disturbances of carbohydrate, fat and protein metabolism resulting from defects in insulin secretion, insulin action, or both”. The effects of diabetes mellitus include long-term damage, dysfunction and failure of various organs. A pre experimental study was undertaken to “assess the effectiveness of self-instructional module on knowledge regarding self-care practices among newly diagnosed diabetes mellitus client's attending OPD, NMCH, Nellore, Andhra Pradesh”.

**Objective:** To assess the knowledge of self-care practices among newly diagnosed diabetes mellitus clients.

**Materials and methods:** Quantitative research approach with pre-experimental research design was adopted for the study which was conducted in NMCH, chinthareddy palem, Nellore, AP”. 30 newly diagnosed diabetes mellitus clients was recruited in the study by purposive sampling technique. The data was collected with the help of structured questionnaire and administered instructional module on diabetes mellitus, next after one week post test was conducted for the same subjects. Data was analysed by using descriptive and inferential statistics. Percentages of categorical variable were computed.

**Results:** In present study, The pretest mean score of newly diagnosed diabetes mellitus clients is 10.33 and posttest mean score is 28.13 Paired “t” test was applied to test the significant difference between knowledge scores. The calculated value of “t” is 38.41 which is very much greater than tabulated “t’ value 2.0452 at 29 degree of freedom with 5% level of significance. It indicates there is higher significance difference in pretest and posttest.

**Conclusion:** These findings have shown that effectiveness of self-instructional module was significantly high. The findings point out that self-instructional module would improve the newly diagnosed diabetes mellitus client's knowledge on self-care practices.

**Keywords:** Effectiveness, Self-instructional module, self-care practices, newly diagnosed diabetes mellitus clients

**1. Introduction**

The world diabetes mellitus day is conducted on 14<sup>th</sup> November every year. The date was chosen because it marks the birthday of Frederick Banting. Frederick Banting along with Charles Best is credited with the discovery of insulin while many events take place on or around the day itself. The long-term effects of diabetes mellitus include progressive development of the specific complications of retinopathy with potential blindness, nephropathy that may lead to renal failure, and neuropathy with risk of foot ulcers, amputation, Charcot joints, and features of autonomic dysfunction, including sexual dysfunction. People with diabetes are at increased risk of cardiovascular, peripheral vascular and cerebrovascular disease.

**2. Need for the study**

Diabetes mellitus is metabolic disorder caused by endocrine dysfunction. Recent studies have shown that diabetes mellitus is becoming more common in world. In 2011 according to World

Health Organization (WHO) 171 million people worldwide suffer from diabetes mellitus. Every 21<sup>st</sup> second someone is diagnosed with diabetes mellitus.

**3. Objectives**

- To assess the knowledge of self-care practices among newly diagnosed diabetes mellitus clients by pre test.
- To develop and administer self-instructional module on knowledge regarding self-care practices among newly diagnosed diabetes mellitus clients.
- To evaluate the effectiveness of self-instructional module on self-care practices of newly diagnosed diabetes mellitus clients by post test.

**Operational definitions**

- **Assess:** To determine the level of knowledge.
- **Effectiveness:** Refers to the outcome of planned teaching program.
- **Self-instructional module:** It refers to an informational

booklet, which include the instructions regarding self-care practices of diabetes mellitus clients, it includes- dietary patterns, exercises, foot care, self-administration of insulin, follow up care.

- **Newly diagnosed diabetic mellitus clients:** Caused due to endocrine dysfunction, clients who are diagnosed as diabetic mellitus within 1year period, attending OPD at NMCH.
- **Self-care practices:** Personal health maintenance, in diabetes mellitus it include- dietary patterns, exercises, foot care, self-administration of insulin, follow up care.

**Delimitation**

- The study is limited to newly diagnose diabetic mellitus clients.
- The period of study is limited to 6 weeks.
- The sample size limited to 30 only.

**Assumptions**

- All newly diagnosed diabetic mellitus clients may not have sufficient knowledge on self-care practices.
- The knowledge level may be differing from client to client.
- All the newly diagnosed diabetic mellitus clients may understand the self-instructional module.
- Knowledge level may increase after administering self-instructional module.

**4. Hypothesis**

There is significant difference between pretest and post test knowledge scores regarding self-care practices among newly diagnosed diabetes mellitus clients after administering self-instructional module regarding self-care practices.

**Criteria for sample selection**

**a) Inclusive criteria:** All newly diagnosed diabetes mellitus clients

- Who were attending OPD at NMCH,Nellore.
- Clients who were under medications and insulin therapy.
- Both genders.
- Who were willing to participate?
- Clients who can understand Telugu or English.

**b) Exclusive criteria:** All newly diagnosed diabetes mellitus clients

- Who cannot understand Telugu or English?
- Clients who were not willing to participate.

**5. Materials and methods**

Quantitative research approach with pre-experimental research design was adopted for the study which was conducted in NMCH, Chinthareddy palem, Nellore, Ap”. 30 newly diagnosed diabetes mellitus clients was recruited in study by purposive sampling technique. The data was collected with the help of structured questionnaire and administered self-instructional module on diabetes mellitus. After one week of period post test was conducted for the same subjects. Data was analysed by using descriptive and inferential statistics. Percentages of categorical variable were computed.

**6. Development and description of tool**

A structured questionnaire was to collect the data on the knowledge of self-care practices among newly diagnosed diabetes mellitus clients. The questionnaire for the present study was structured with part A and part B.

**Part A:** Deals with Socio demographic data of newly diagnosed diabetes mellitus clients.

**Part B:** Structure questionnaire on diabetes mellitus and consists of multiple questions.

**Score interpretation**

The knowledge scores were categorized into;

- 0 - 33.33% - Below average,
- 33.34 – 66.66% - Average,
- 66.67 - 100% -Above Average.

**Plan for data analysis**

It is planned to analyze and interpret data with the help of descriptive statistics and inferential statistics. The analysis and interpretation of the data is divided into in 2 sections.

▪ **Section-1**

Description of sample characteristics according to the socio demographical variables such as age, gender, education, occupation, Income of the family per month in rupees, family history of diabetes mellitus, duration of disease, and previous source of knowledge of the clients with the help of frequency and percentage distributions.

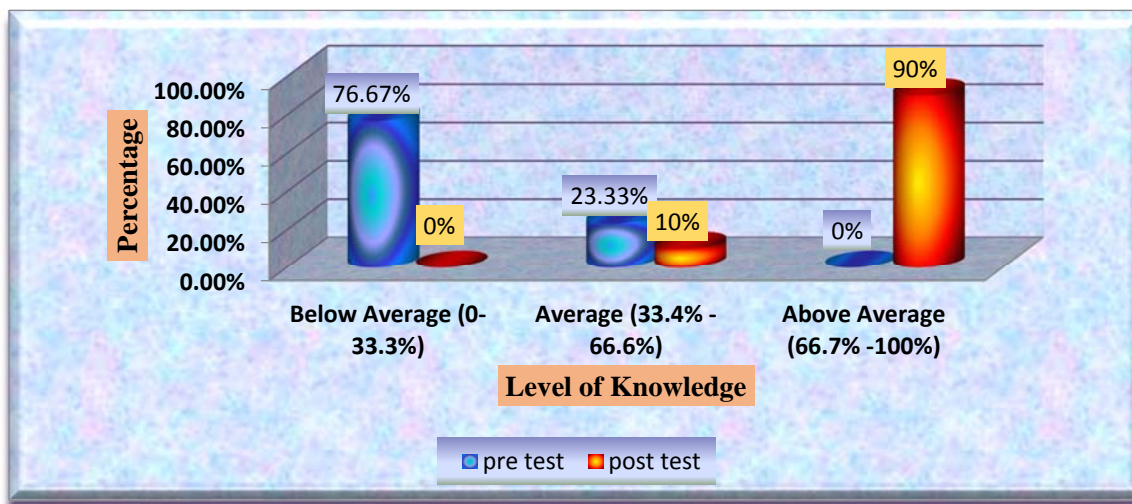
▪ **Section-2**

Comparison of knowledge scores of the clients regarding the self-care practices of diabetes mellitus in pretest and post test and assessing the effectiveness of self-instructional module by comparing the pretest and post test knowledge scores of the clients.

**Table 1:** Frequency and percentage distribution of knowledge scores of clients in pre test and post test on self-care practices among newly diagnosed diabetes mellitus clients (n=30)

Level of Knowledge	Pre test		Post test	
	Frequency	Percentage	Frequency	Percentage
Below Average (0-33.3%)	23	76.67%	0	0%
Average (33.4% -66.6%)	7	23.33%	3	10%
Above Average (66.7% -100%)	0	0%	27	90%
Total	30	100%	30	100%

According to above table 23(76.67%) were under below average knowledge level in pre test whereas below average knowledge level in post test were found nil, 7(23.33%) were under average knowledge level in pretest whereas 3 (10%) were average knowledge level in post test, above average knowledge level in pretest were found nil, whereas 27 (90%) were under above average knowledge level in post test. These differences indicated that self-instructional module was highly affected on clients.



**Table 2:** Pre test and post test mean knowledge scores and paired t-test of significance on self-care practices among newly diagnosed diabetes mellitus client’s (n=30)

Knowledge Scores	Pre test	Post test
Mean	10.3333	28.1333
Standard Deviation	3.0663	2.6747
Standard Error	0.5598	0.4883
Paired t-test	38.41	

29df; Table t-value 2.0452; p<0.05

The above table shows that the pre test mean was 10.3333 with 3.0663 standard deviation and that of post test mean was 28.1333 with 2.6747 standard deviation. The calculated ‘t’ value was 38.41, which is higher than the table ‘t’ value 2.0452 at 29df with 0.05 level of significance. It shows that there is significant difference ( $p < 0.05$ ) in pre test and post test knowledge scores.

Hence, it is concluded that after self-instructional module on self-care practices the knowledge scores of the clients have been increased. This positive result is a clear indication of effectiveness of self-instructional module on care practices among newly diagnosed diabetes mellitus clients. Hence,  $H_1$  was accepted.

**Discussion:**

The present study assessed the newly diagnosed diabetes mellitus clients knowledge regarding self-care practices. This study was conducted on 30 newly diagnosed diabetes mellitus clients attending outpatient department, NMCH, Nellore, A.P. The data collection was done with the help of structured questionnaire and the data was analyzed with the help of descriptive and inferential statistics.

In relation to demographic data, it was observed that out of 30 respondents 46.67% of newly diagnosed diabetes mellitus clients were in the age group of 30-39 years, 53.33 % of clients were females. Majority of clients 76.67 % were having family history of diabetes mellitus, the high score of duration of diabetes mellitus was 33.33% were 7-9 months.

The high score of educational status is 43.33% who completed intermediate, most of the clients 33.33% were employees. Most of the clients 50% belong to income group above Rs.16,000, most of clients 53.33% know the information about diabetes mellitus self-care practices from hospital services.

Area wise analysis of knowledge scores of clients and the effectiveness of self-instructional module in each area was done. There was a significant difference in pre test and post test knowledge scores. The pre test mean score of newly diagnosed diabetes mellitus clients is 10.33 and post test mean score is 28.13 Paired “t” test was applied to test the significant difference between knowledge scores. The calculated value of “t” is 38.41 which is very much greater than tabulated “t” value 2.0452 at 29 degree of freedom with 5% level of significance. It indicates there is higher significance difference in pre test and post test.

**Recommendations**

- A similar study can be replicated on a large scale and for longer period for more reliability and effectiveness.
- A descriptive study can be conducted on newly diagnosed diabetes mellitus clients.
- A similar study can be conducted to assess the knowledge of diabetes mellitus clients on self-care practices with larger sample.
- A study could be conducted to assess knowledge of general public regarding diabetes mellitus.

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