

## EFFECTIVENESS OF A STRUCTURED TEACHING PROGRAM IN IMPROVING KNOWLEDGE OF PRE-DIABETES AND DIABETES MELLITUS PREVENTION AMONG ADULTS AGED 35-45 IN A SELECTED RURAL AREA

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### ABSTRACT

*Prediabetes is a condition where blood sugar level are higher than normal, but not high enough to be diagnosed as diabetes. Prediabetes phase is a key factor in the development of type 2 diabetes. Nurses play an important role in educating people for prevention of diabetes mellitus. Objectives: To assess the existing knowledge regarding pre-diabetic phase 2) To determine effectiveness of structured teaching program on knowledge and awareness regarding pre-diabetic phase and diabetes prevention among 35 to 45 years of age group at selected rural area. Materials and methods: Quasi experimental study where pre test -post test design was undertaken. The data were collected from 30 adults among age group 35 to 45 years residing at Kawadadara, Dhamangaon, Nashik by purposive sampling technique based on sample selection criteria. The structured interview schedule was prepared for assessing the knowledge and awareness of the adults regarding prediabetes phase and prevention of diabetes Mellitus. Results: Major findings of the study were: 36.6% belong to the group of people with age group of 41- 45 years, 50% of them were male and 50% were female. Majority 53.4% are educated at primary school level, 40% of them were educated at higher secondary school level and 3.4% was in diploma graduate level. Highest percentage (56.6%) of them was daily wages earners and majority was (80%) belongs to nuclear families. It was found that in pretest the 56.6 % of them had average knowledge score and after the delivering self instructional module on knowledge and awareness, the score increased to good to excellent range (83.3 %). There was a significant association between pre test knowledge and post test knowledge score of 0.78 level of significance.*

**Keywords:** Knowledge, Prediabetes Phase and Diabetes Mellitus

## INTRODUCTION

Pre-diabetes is a condition where blood sugar levels are higher than normal but not high enough to be classified as diabetes. According to the International Diabetes Federation (IDF), pre-diabetes affects approximately 195 million people worldwide, with India accounting for approximately 72 million cases. In 2019 the projected 77 million Indians were living with diabetes, with an estimated prevalence of 8.9% among adults according to IDF. India has turned into the country with the second-largest diabetes inhabitants, with 1 in 6 adults with diabetes in the world impending from India.<sup>1</sup> International Diabetes Federation (IDF) guesstimates that virtually 500 million people worldwide are presently living with diabetes, a number that is expected to increase by a further 30% in 2045. Diabetes is a major complication, is a widespread cause of morbidity, reduced quality of life, and early mortality. It is anticipated that nearly 10% of the global all-cause mortality (20–99 years age group) is attributable to diabetes.<sup>2</sup>

## BACKGROUND OF STUDY

Diabetes is fast gaining the status of a potential epidemic in India with more than 62 million diabetic individuals currently diagnosed with the disease. In 2000, India (31.7 million) topped the world with the highest number of people with diabetes mellitus followed by China (20.8 million) with the United States (17.7 million) in second and third place respectively.<sup>3,4</sup>

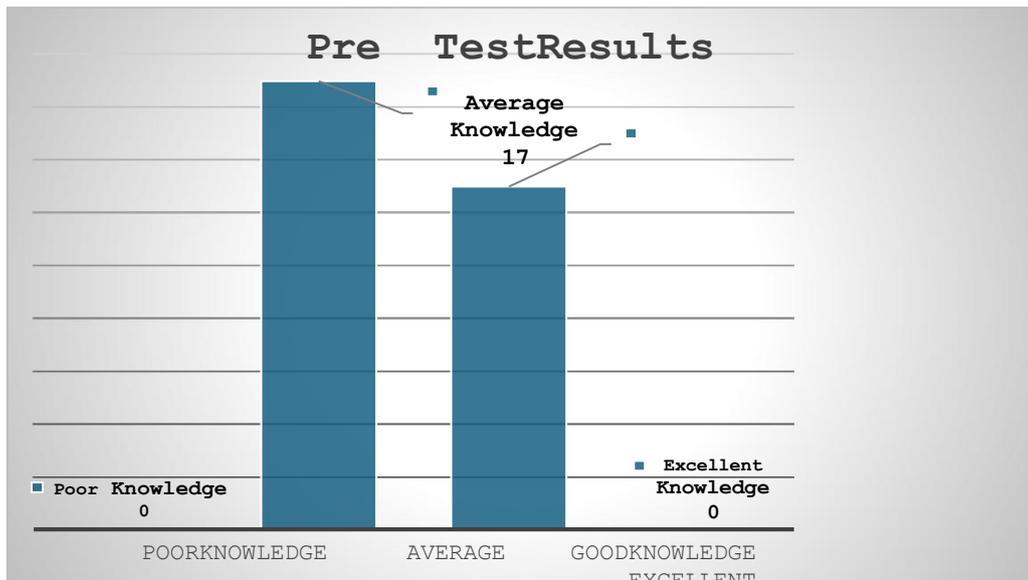
Nanditha A, Susairaj P, Satish K, Ragavan A, Snehalatha C and Ramachandran A (2024) study results shows that higher percentage increase in prevalence of Type 2 diabetes was seen among younger individuals over a 10-year period. Obesity and family history of diabetes were shown to be the primary contributing factors for the rise in prevalence.<sup>5</sup>

Many influences affect the prevalence of disease throughout a country, and identification of those factors is necessary to facilitate change when facing health challenges<sup>6</sup>

## MATERIAL AND METHOD

The research design used was quasi experimental pre test- post test study design. The structured interview schedule was prepared for assessing the knowledge and awareness of prediabetes and diabetes Mellitus prevention among adults age group of 35 to 45 years. The tool consists of two sections:- Section 1- It includes the 6 demographic variables. Age, Gender, educational status, occupation, Family history of Diabetes Mellitus and source of information Section 2- It consists of 20 items, Knowledge and awareness of prediabetes phase for prevention of diabetes, lifestyle modification, sign& symptoms, risk factors and complications.)

The data were collected from 30 adults among age group 35 to 45 years residing at Kawadadara, Dhamangaon, Nashik by purposive sampling technique based on sample selection criteria. The content validity was determined by expert. The structured interview schedule was prepared for assessing the knowledge and awareness of the adults regarding prediabetes phase and prevention of diabetes Mellitus. The level of knowledge is divided under following heading of poor, average, good and excellent. The pilot study was conducted from on 10 selected adults age group 35 to 45 years residing at selected area, to assess the feasibility of the study and to decide the plan for data analysis. The content validity was determined by expert. The reliability of tool was done by test re test method and was found to be 0.9870. The investigator approached the subjects, informed them regarding the objectives of the study and obtained consent after assuring the subjects about the confidentiality of the data. The data was collected through a Structured Interview Schedule.



**Fig .No:1Pre test results of knowledge and awareness of prediabetes phase and diabetes mellitus prevention.**

The pretest score was assessed and then structured teaching program were delivered to the selected sample. The pre test knowledge of pre diabetic phase and prevention of diabetes were average (Fig No: 1).The post tests were administered after delivering self structured module on prevention of diabetes mellitus and data were collected. The collected data were analyzed by using descriptive and inferential statistics and presented in the form of tables and figures.

## RESULTS

### 1. Description of Socio demographic Variables:

In this study 26.6% people belong to the age group of 30-35years 36.6% of people belong to the age group of 36-40 years and 36.6% belong to the group of people with age group of 41- 45 years respectively. Half (50%) of them were male and 50% were female. Majority 53.4% are educated at primary school level, 40% of them were educated at higher secondary school level and 3.4% were in diploma graduate level.

Highest percentage (56.6%) of them was daily wages earners and majority was (80%) belongs to nuclear families. Almost half of them (46.60%) of people gained knowledge from social media and 23.40% of people gained the information from hospital set-up.

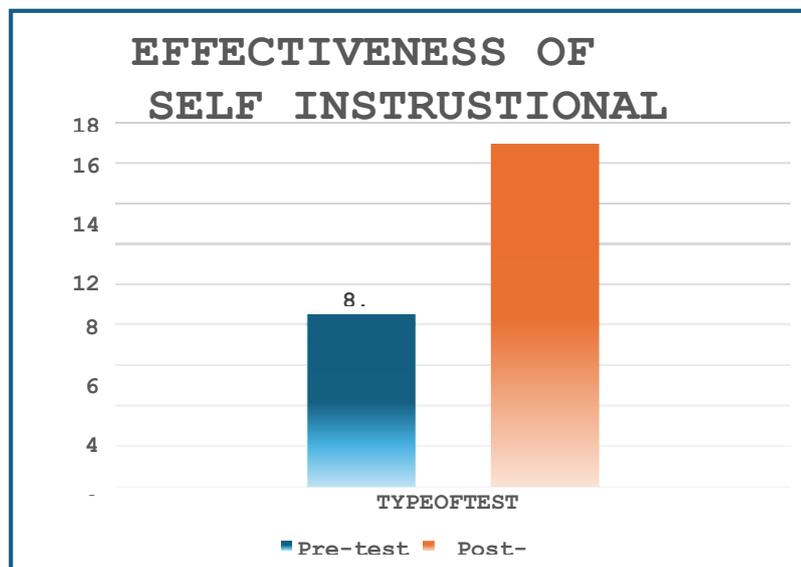
### 2. Assessment of post-test knowledge of Pre-diabetic phase for prevention of Diabetes mellitus.

Post-Test N=30				
SN	Score	Result	Frequency	Percentage
1	1-5	Poor Knowledge	0	0%
2	6-10	Average Knowledge	0	0%
3	11-15	Good Knowledge	5	16.67%
4	16-20	Excellent Knowledge	25	<b>83.33%</b>
TOTAL			30	100%

**Table No:1 Post-test knowledge of Pre-diabetic phase for prevention of Diabetes mellitus.**

The pretest score was assessed and then self-structured module were delivered to the selected sample. The pre test knowledge of pre diabetic phase and prevention of diabetes were average (Fig No:1).It was found that in pretest the 56.6 % of them had average knowledge score and after the teaching program the knowledge score increased to good to excellent range (83.3 %). (Table.No:1)

### 3. Effectiveness of self-instructional module on knowledge regarding Pre-diabetic phase for prevention of Diabetes mellitus among age group of 35-45 years of age group



**Fig:2 Effectiveness of self-instructional module on knowledge regarding Pre-diabetic phase for prevention of Diabetes mellitus among age group of 35-45 years of age group**

The pre-test mean was 8.5 and post-test mean was 16.96. The calculated t -value is 21.78, and the degree of freedom was much higher than the tabulated value at 0.78 level of significance that is highly Significant. Hence, it was statistically interpreted that H<sub>0</sub> is rejected and H<sub>1</sub> is accepted.

There was a significant association between pre test knowledge and post test knowledge score of 0.78 level of significance.

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