

“Effectiveness of advanced teaching programme on knowledge regarding Coronary artery disease among diabetic patient in selected hospitals of Bhopal, Madhya Pradesh”

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Abstract

The present study has been undertaken to assess knowledge score regarding Coronary artery disease among diabetic patient by advanced teaching programme in J.K. hospital, Kolar road, Bhopal. The research design adopted for the study was pre-experimental in nature. The tool for the study was self-structured knowledge questionnaire which consists of two parts-PART- I consisted questions related to Socio-demographic data, PART-II consisted of self -structured knowledge questionnaire to assess the knowledge score regarding Coronary artery disease among diabetic patient. The data was analyzed by using descriptive and inferential statistical methods. The most significant finding was that 30.4% of diabetic patient were having good knowledge regarding Coronary artery disease whereas 69.6% had excellent knowledge after post-test. It was suggested that the nurses must educate diabetic patient regarding Coronary artery disease.

Keyword- Effectiveness, advanced teaching programme , knowledge and Coronary artery disease.

1.INTRODUCTION

Coronary artery disease (CAD) causes impaired blood flow in the arteries that supply blood to the heart. Also called coronary heart disease (CHD), CAD is the most common form of heart disease and affects approximately 16.5 million Americans over the age of 20. It's also the leading cause of death for both men and women in the United States. It's estimated that every 40 seconds, someone in the United States has a heart attack. The most common cause of CAD is vascular injury with cholesterol plaque buildup in the arteries, known as atherosclerosis. Reduced blood flow occurs when one or more of these arteries become partially or completely blocked.

These arteries bring oxygen and nutrient-rich blood to your heart. Your heart is a muscle that's responsible for pumping blood throughout your body. According to the Cleveland Clinic, a healthy heart moves approximately 3,000 gallons of blood through your body every day.

Like any other organ or muscle, your heart must receive an adequate, dependable supply of blood in order to carry out its work. Reduced blood flow to your heart can cause symptoms of CAD.

Other rare causes of damage or blockage to a coronary artery also limit blood flow to the heart.

Symptoms of CAD- chest pain, heaviness, tightness, burning, squeezing

These symptoms can also be mistaken for heartburn or indigestion.

Lifestyle changes can also reduce your risk of heart disease and stroke. For example:

- quit smoking tobacco
- reduce or stop your consumption of alcohol
- exercise regularly
- lose weight to a healthy level
- eat a healthy diet (low in fat, low in sodium)

If your condition doesn't improve with lifestyle changes and medication, your doctor may recommend a procedure to increase blood flow to your heart. These procedures may be:

- balloon angioplasty:** to widen blocked arteries and smooch down the plaque buildup, usually performed with insertion of a stent to help keep the lumen open after the procedure
- coronary artery bypass graft surgery:** to restore blood flow to the heart in open chest surgery
- enhanced external counterpulsation:** to stimulate the formation of new small blood vessels to naturally bypass clogged arteries in a noninvasive procedure

2.NEED FOR STUDY

In a prospective cohort study of 15 486 participants with stable CAD from 39 countries, higher levels of PA were associated with lower risk of mortality such that doubling the exercise volume was associated with 10% lower risk of all-cause mortality after adjustment for potential confounders.⁸²

— Among 1746 CAD patients followed up for 2 years, those who remained inactive or became inactive had a 4.9- and 2.4-fold higher risk of cardiac death, respectively, than patients who remained at least irregularly active during the follow-up period.⁸³

— In a prospective cohort study of 3307 individuals with CHD, participants who maintained high PA levels over longitudinal follow-up had a lower risk of mortality than those who were inactive over time (HR, 0.64; 95% CI, 0.50–0.83)

3.OBJECTIVE OF THE STUDY

1. To assess the pre-test and post-test Knowledge score regarding Coronary artery disease among diabetic patient.
2. To assess the effectiveness of advanced teaching programme on knowledge regarding Coronary artery disease among diabetic patient.
3. To find out the association between the pre-test knowledge score regarding Coronary artery disease among diabetic patient with their selected demographic variables.

4.HYPOTHESES:

RH₀: There will be no significant difference between pre test and post-test knowledge score on Coronary artery disease among diabetic patient.

RH₁: There will be significant difference between pre test and post-test knowledge score on Coronary artery disease among diabetic patient.

RH₂: There will be significant association between the pre-test score on Coronary artery disease among diabetic patient with their selected demographic variables.

5.ASSUMPTION

1. Diabetic patient may have deficit knowledge regarding Coronary artery disease.
2. Advanced teaching programme will improve knowledge of diabetic patient regarding Coronary artery disease.

6.METHODOLOGY:

An evaluative approach was used and research design pre experimental one group pre-test post-test research design was used for the study. The samples consisted of 46 diabetic patient of preterm selected by Non probability purposive sampling technique. The setting for the study was J.K. hospital, Kolar raod, Bhopal. Data was collected with the help of demographic variables and administering a self structured knowledge questionnaire by the investigator before and after advanced teaching programme. Post-test was conducted after 7 days of pre test. Data were analysis using descriptive & inferential statistics.

7.ANALYSIS AND INTERPRETATION

SECTION-I Table -1 Frequency and percentage distribution of samples according to their demographic variables.

n = 46

S. No	Demographic Variables	Frequency	Percentage
1	Age in Years		
a.	22-26	14	30.4
b.	27-31	20	43.5
c.	32-36	12	26.1
d.	≥37	0	0.0
2	Gender		
a.	Male	21	45.5
b.	Female	25	54.5
c.	Transgender	0	0.0
3	Educational qualification		
a.	Primary	0	0.0
b.	Middle school	5	10.9
c.	High school	12	26.1
d.	Higher secondary	11	23.9
e.	Graduate and Post graduate	18	39.1
4	Occupation		
a.	Sedentary worker	23	50.0
b.	Moderate worker	18	39.1
c.	Heavy workers	5	10.9
5	Religion		
a.	Hindu	18	39.1
b.	Muslim	14	30.4
c.	Sikh	8	17.4
d.	Christian	5	10.9
e.	Others	1	2.2

SECTION-II- Table- 2.1.1- Frequency and percentage distribution of Pre-test scores of studied subjects:

Category and test Score	Frequency (N=46)	Frequency Percentage (%)
POOR(01-05)	39	84.8
AVERAGE (6-10)	7	15.2
GOOD (11-15)	0	0.0
EXCELLENT (16-20)	0	0.0
TOTAL	46	100.0

The present table 2.1.1 concerned with the existing knowledge regarding Coronary artery disease among diabetic patient was shown by pre-test score and it is observed that most of the 39 (84.8%) diabetic patient were poor (01-05) knowledge and some 7 (15.2%) diabetic patient have average category (6-10).

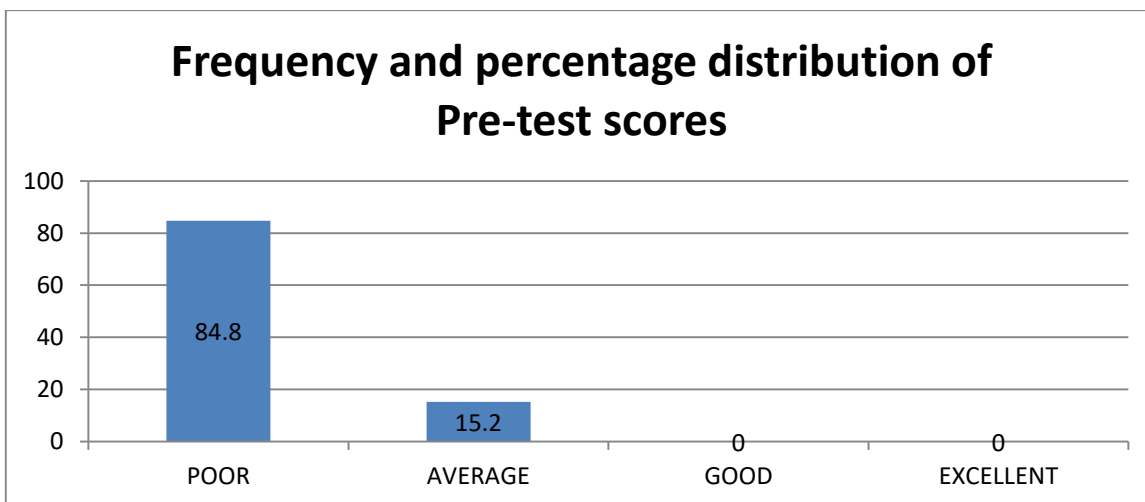


FIG.-2.1.1- Frequency and percentage distribution of Pre-test scores of studied subjects

Table-2.1.2. - Mean (\bar{X}) and standard Deviation (s) of knowledge scores:

Knowledge Pre -test	Mean (\bar{X})	Std Dev (S)
Pre-test score	1.15	0.36

The information regarding mean, percentage of mean and standard deviation of test scores in shown in table 2.1.2 knowledge in mean pre-test score was 1.15 ± 0.36 while in knowledge regarding Coronary artery disease among diabetic patientin J.K. hospital, Kolar raod, Bhopal.

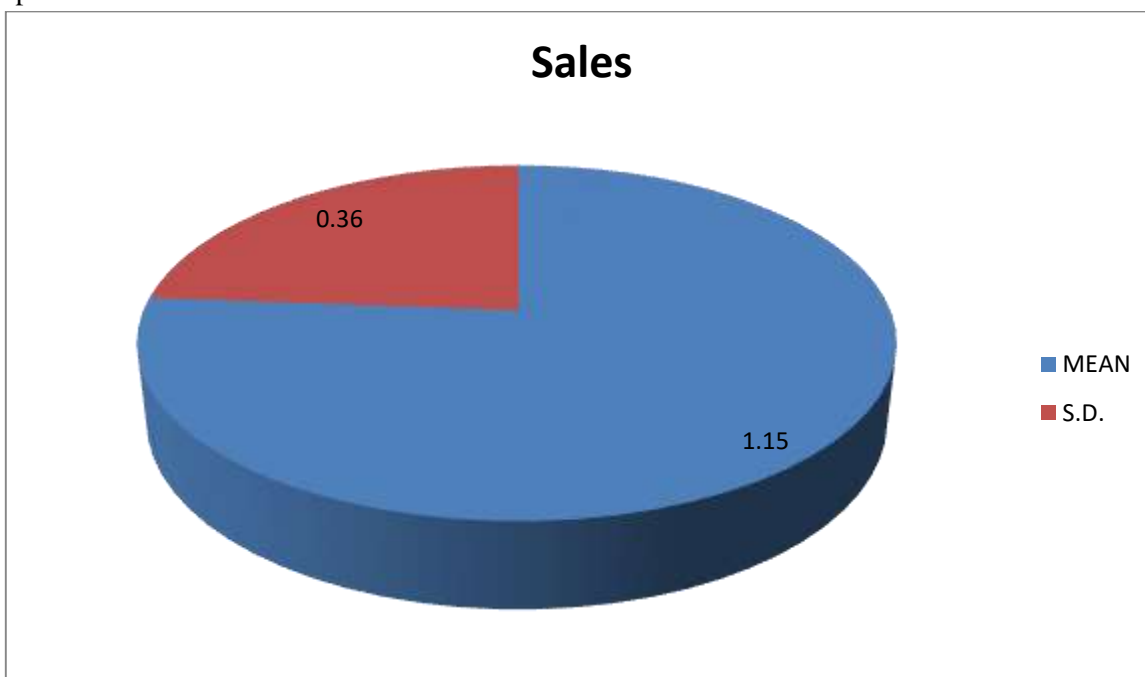
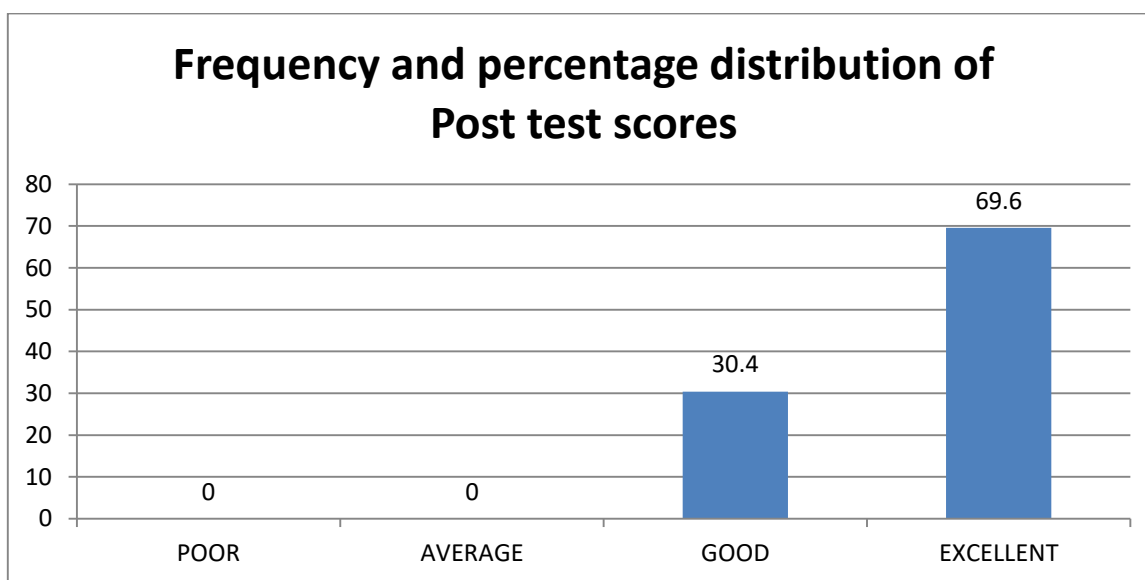


FIG.-2.1.1.1. - Mean (\bar{X}) and standard Deviation (s) of knowledge scores

Table-2.2.1- Frequency and percentage distribution of Post test scores of studied subjects:

Category and test Score	Frequency (N=46)	Frequency Percentage (%)
POOR(01-05)	0	0.0
AVERAGE (6-10)	0	0.0
GOOD (11-15)	14	30.4
EXCELLENT (16-20)	32	69.6
TOTAL	46	100.0

The present table 2.2.1 concerned with the existing knowledge regarding Coronary artery disease among diabetic patient was shown by post test score and it is observed that most of the 32 (69.6%) diabetic patient were **Excellent** (16-20) knowledge and other 14 (30.4%) diabetic patient have category which are **Good** (11-15) post test knowledge score in the present study.

**FIG.-2.2.1- Frequency and percentage distribution of Post test scores of studied subjects****Table-2.2.2. - Mean (\bar{X}) and standard Deviation (s) of knowledge scores:**

Knowledge Test	Mean (\bar{X})	Std Dev (S)
Post-test score	3.69	0.42

The information regarding mean, percentage of mean and standard deviation of post test scores in shown in table 2.2.2 knowledge in mean post test score was 3.69 ± 0.42 while in knowledge regarding Coronary artery disease among diabetic patient in J.K. hospital, Kolar road, Bhopal.

Hence, it is confirmed from the tables of section-II that there is a significant difference in mean of test scores which partially fulfill the first second objective of the present study.

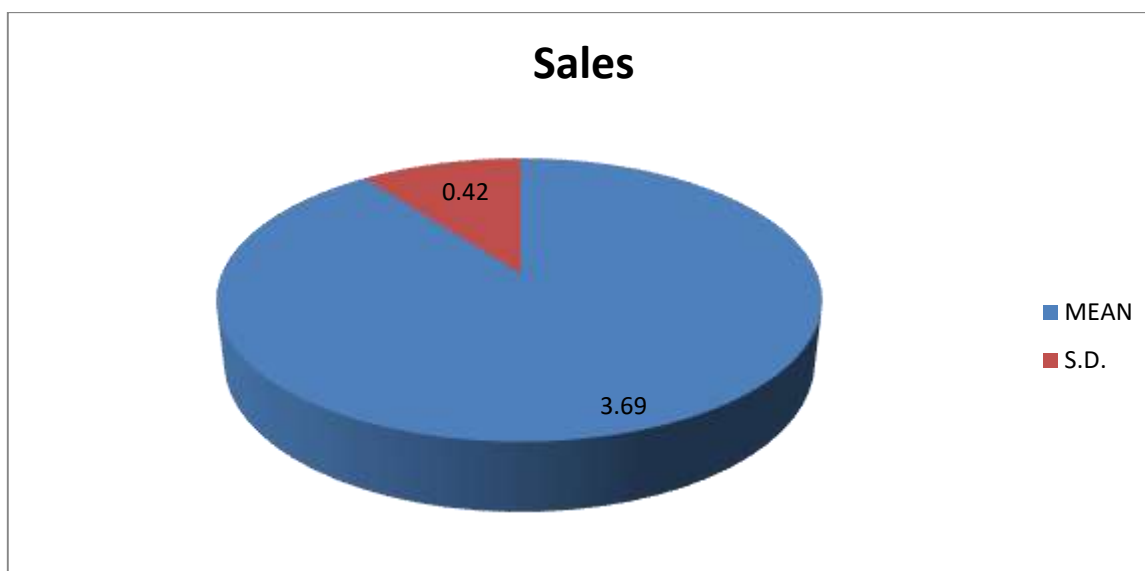


FIG.-2.2.2. - Mean (\bar{X}) and standard Deviation (s) of knowledge scores:

TABLE 2.2.3: Effectiveness of advanced teaching programme by calculating Mean, SD, Mean Difference and 't' Value of Pre-test and Post-test knowledge.

Knowledge Score of Diabetic patient	Mean (\bar{X})	S. D. (s)	Std. Error of Mean	D. F.	t-value	Significance
Pre-test	1.15	0.36	0.09	45	-27.17	P<0.0001*
Post-test	3.69	0.42				

When the mean and SD of pre-test and post-test were compared and 't' test was applied. It can be clearly seen that the 't' value was -27.17 and p value was 0.0001 which clearly show that advanced teaching programme was very effective in increasing the knowledge of diabetic patient.

SECTION-III Association of knowledge scores between test and selected demographic variables:

Table- 3.1 Association of age with pre-test scores:

Age (in years)	Test scores				Total
	POOR (1-5)	AVERAGE (6-10)	GOOD (11-15)	EXCELLENT (16-20)	
22-26	12	2	0	0	14
27-31	16	4	0	0	20
32-36	11	1	0	0	12
≥37	0	0	0	0	0
Total	39	7	0	0	46
	X=0.80 p>0.05(Insignificant)				

The association of age test scores is shown in present table 3.1. The probability value for Chi-Square test is 0.80 for 2 degrees of freedom which indicated insignificant value ($p>0.05$). Hence, it is identified that there is a insignificant association between age and test scores.

Table- 3.2 Association of gender with pre-test scores:

Gender	Test scores				Total
	POOR (1-5)	AVERAGE (6-10)	GOOD (11-15)	EXCELLENT (16-20)	
Male	17	4	0	0	21
Female	22	3	0	0	25
Transgender	0	0	0	0	0
Total	39	7	0	0	46
X=0.02 $p>0.05$ (Insignificant)					

The association of gender and test scores is shown in present table 3.2. The probability value for Chi-Square test is 0.02 for 1 degrees of freedom which indicated insignificant value ($p>0.05$). Hence, it is identified that there is a significant association between gender and test scores.

Table-3.3. Association of Educational qualification with pre-test scores:

Educational Qualification	Test scores				Total
	POOR (1-5)	AVERAGE (6-10)	GOOD (11-15)	EXCELLENT (16-20)	
CLASS					
Primary	0	0	0	0	0
Middle	4	1	0	0	5
Secondary	10	2	0	0	12
Higher sec	10	1	0	0	11
UG & PG	15	3	0	0	18
Total	39	7	0	0	46
X=0.45 $p>0.05$ (Insignificant)					

The association of educational qualification test scores is shown in present table 3.3. The probability value for Chi-Square test is 0.45 for 3 degrees of freedom which indicated insignificant value ($p>0.05$). Hence, it is identified that there is a insignificant association between educational qualification and test scores.

Table- 3.4 Association of occupation with pre-test scores:

Occupation	Test scores				Total
	POOR (1-5)	AVERAGE (6-10)	GOOD (11-15)	EXCELLENT (16-20)	
Sedentary worker	20	3	0	0	23
Moderate	17	1	0	0	18
Heavy	2	3	0	0	5
Total	39	7	0	0	46
X=9.15 p>0.05 (Insignificant)					

The association of occupation test scores is shown in present table 3.4. The probability value for Chi-Square test is 9.15 for 2 degrees of freedom which indicated occupation and test scores. Hence, it is identified that there is a insignificant association between occupation and test scores.

Table- 3.5 Association of Religion regarding Coronary artery disease with pre-test scores:

Religion	Test scores				Total
	POOR (1-5)	AVERAGE (6-10)	GOOD (11-15)	EXCELLENT (16-20)	
Hindu	15	3	0	0	18
Muslim	13	1	0	0	14
Sikh	6	2	0	0	8
Christian	5	0	0	0	5
Others	0	1	0	0	1
Total	39	7	0	0	46
X=7.79 p>0.05 (Insignificant)					

The association of religion test scores is shown in present table 3.5. The probability value for Chi-Square test is 7.79 for 4 degrees of freedom which indicated religion and test scores. Hence, it is identified that there is insignificant association between religion and test scores.

8.RESULTS

The result of this study indicates that there was a significant increase in the post-test knowledge scores compared to pre-test scores of Coronary artery disease. The mean percentage knowledge score was observed 1.15 ± 0.36 in the pre-test and after implementation of advanced teaching programme post-test mean percentage was observed with 3.69 ± 0.42 .

9.CONCLUSION

Thus after the analysis and interpretation of data we can conclude that the hypothesis RH1 that, there will be significance difference between the pre-test knowledge score with post-test knowledge score at the ($P < 0.05$) is being accepted.

Furthermore, advanced teaching programme regarding Coronary artery disease among diabetic patient may consider as an effective tool when there is a need in lacking, bridging and modifying the knowledge.

10.LIMITATIONS-

- The study was limited to J.K. hospital, Kolar road, Bhopal.
- The study was limited to 46 diabetic patients.

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