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A Study to Evaluate the Effectiveness of Video-Assisted Teaching Programme on Knowledge and Attitude Regarding Cardiac Rehabilitation Among Cardiac Patients in Selected Hospital in Meerut

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ABSTRACT

With view of a study to evaluate the effectiveness of video-assisted teaching Programme on knowledge and attitude regarding cardiac rehabilitation among cardiac patients in selected hospital in Meerut, Quantitative approach was used.

the data was collected from 60 cardiac patient through the Purposive sampling technique.

study reveals that Pre-test knowledge score poor 81.67% , adequate 18.33% and excellent 0% the mean and SD of the cardiac patients Pre-test knowledge is 4.18 ± 1.35 and the post-test knowledge score poor 5% , adequate 60% and excellent 35% the mean and SD of the cardiac patients Post-test knowledge is 13.15 ± 3.21.

The Pre-test Attitude score poor 30% , adequate 66 % and excellent 3.3% the mean and SD of the cardiac patients Pre-test Attitude is 20.83 ± 9.91 and the post-test Attitude score poor 0% , adequate 35% and excellent 65% the mean and SD of the cardiac patients Post-test knowledge is 42.15 ± 7.87.

INTRODUCTION

Cardiovascular disease (CVDs) has now become the leading cause of mortality in India. A quarter of all mortality to CVD. Ischemia heart disease and stroke are the predominant causes and are responsible from >80% of CVD deaths. The global burden of disease study estimates of the age-standardized CVD death rate of 272 per 100,000 populations in India is higher than global average of 235 per 100,000 populations. Coronary angiography is a common procedure performed by the cardiologist to evaluate coronary atherosclerotic disease (CVD) and the result is utilized by both cardiologist and cardiac surgeons to perform catheter and surgical intervention on the coronary artery. in addition to evaluating CVD, other useful investigative modalities such as left ventriculography and autography can be performed during coronary angiography despite its limitations and the emergence of newer investigative modalities like coronary computer tomography angiography. Intravascular ultrasound scan and magnetic resonance coronary angiography, conventional coronary angiography has remained the gold standard for evaluating coronary artery disease hence it remains an investigative modality that every member of the cardiothoracic team performing coronary artery bypass grafting must learn how to interpret.

CARDIAC REHABILITATION: Cardiac rehabilitation began to take shape in the mid -20th century with the first formal programs starting in the 1950s. the concept stemmed from the recognition that heart patient could benefit from structure, supervised exercise and lifestyle changes to improved heart health and recovery and reduce the risk of future heart events. Early cardiac rehabilitation programs primarily focused on physical exercise after a heart attack but over time they expanded to include education on diet. Stress management smoking cessation and emotion support cardiac rehabilitation is a medically supervised program designed to help heart patients recover and improve their health following a heart attack, heart surgery or other cardiovascular condition.

Early concept (pre-1950s): Before the formal development of cardiac rehabilitation there was little recognition that structure exercise of lifestyle changes could help individuals recover from heart disease

.after a heart attacks or surgery patient were often advised to rest and avoid physical exertion however some early pioneers, like Dr. Paul Dudley white (a renowned cardiologist) recognized the benefits of physical activity for heart health.

1960s-1970s: expansion and standardization in the 1960s and 1970s cardiac rehabilitation programs grew in popularity and the focus expanded beyond just exercise to include education about heart-healthy lifestyle(diet ,smoking, cessation ,and stress management). The American heart association (AHA) and other organization began recognizing and promoting the importance of cardiac rehabilitation in improving long-term health outcomes after heart events.

1980s-present comprehensive programs :by the 1980s .cardiac rehabilitation programs had become more comprehensive incorporating physical training, psychological support, and education they began to include components such as :

- Exercise to improve fitness and reduce risk of future cardiac events.
- Lifestyle changes to help patient improve their diet, manage stress, and stop smoking.
- Psychological support to address the emotional impacts of heart disease, such as depression and anxiety.

The WHO has developed a global action plan for the prevention and control of non communicable disease (NCDs). Including CVD. The plan aims to reduce the number of prevention deaths from NCDs by 25% by 2025 additionally. The WHO supports government in preventing, managing and monitoring CVD by developing global strategies to reduce risk factors and improve health system capacity.

Increasing global burden, the global bure of CVD is projected to increase due to aging population, urbanization and the rising prevalence of the risk factors.

OBJECTIVES

- To assess the pre-testing knowledge and attitude regarding cardiac rehabilitation among cardiac patient in a selected hospital.
- To evaluate the effectiveness of a video assisted teaching program on knowledge and attitude regarding cardiac rehabilitation among cardiac patient after the intervention.
- To compare the pre-test and post test score of knowledge and attitude among cardiac patients after the intervention.
- To determine the association between the pre-test knowledge and attitude score with selected demographic variables of cardiac patients.

HYPOTHESIS

H_1: There is significant difference between the pre and post test score on knowledge regarding cardiac rehabilitation.

H_2: There is significant difference between the pre and post test score on attitude regarding cardiac rehabilitation.

H_3: There is significant difference between knowledge and attitude regarding cardiac rehabilitation among cardiac patients.

H_4: There is significant association between post test score on knowledge regarding cardiac rehabilitation patients and their selected demographic variables.

H_5: There is significant association between post test score on attitude regarding cardiac rehabilitation patients and their selected demographic variables.

MATERIAL AND METHODOLOGY

A Quantitative research approach was used to carry out the study. The study population comprised of cardiac patients of SVB hospital Meerut. The sample size was 60.

Purposive sampling technique was used for selecting the sample of the study. The tools used for study were a questionnaire. It consists of three parts

Section 1: Data on demographic variable of cardiac patients.

Section 2: Data on the effectiveness of video-assisted teaching program on knowledge and attitude regarding cardiac rehabilitation.

Section 3: Data on comparison between knowledge and attitude regarding cardiac rehabilitation.
Section 4: Data on the association between the knowledge and attitude of cardiac patient with their demographic variables.

Table 4.1: frequency and percentage distribution of demographic variables of the cardiac patients (N=60)

S. NO	SOCIO-DEMOGRAPHIC VARIABLES	FREQUENCY (F)	PERCENTAGES (%)
1.	Age in year		
	30-40 year	7	11.67 %
	41-50 year	24	40.00 %
	51-60 year	18	30.00 %
	>60 year	11	18.33 %
2.	Gender		
	Male	35	58.33 %
	Female	25	41.67 %
3.	Religion		
	Hindu	47	78.33 %
	Muslim	12	20.00 %
	Christian	1	1.67 %
	Other	0	0 %
4.	Marital status		
	Married	55	91.67 %
	Unmarried	2	3.33 %
	Divorce	2	3.33 %
	separated	1	1.67 %
5.	Educational status		
	No formal education	11	18.33 %
	Up to 10^{th}	11	18.33 %
	Up to 12^{th}	22	36.67 %
	Other	16	26.67 %
6.	Monthly family income in(Rs)		
	10,000-20,000	5	8.33 %
	20,001-30,000	17	28.33 %
	30,001-40,000	23	38.33 %
	>40,000	15	25.00 %
7.	Patient had weight		
	40-50 kg	2	40-50 kg
	51-60kg	27	51-60kg
	61-70 kg	27	61-70 kg
	71-80kg	3	71-80kg
	>80 kg	1	>80 kg
8.	Area of residence		
	Rural	21	35.00 %
	Urban	39	65.00 %
9.	Occupation		
	Government employed	13	21.67 %
	Private	26	43.33 %
	Farmer	14	23.33 %
	Other	7	11.67 %
10.	BMI		
	Under weight	4	6.67 %
	Normal weight	50	83.33 %
	Over weight	4	6.67 %

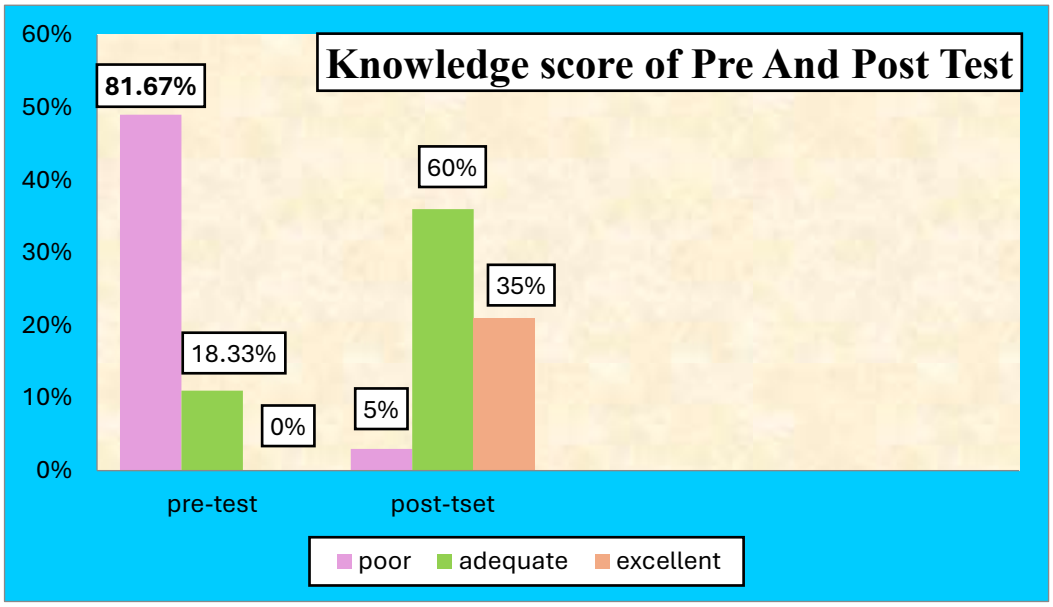
	Obese	2	3.33 %

Table 2: The effectiveness of video-assisted teaching program on knowledge and attitude regarding cardiac rehabilitation.

S.NO	SAMPLE SIZE	KNOWLEDGE				
	60	Mean	SD	MD	Df	't' test
1.	Pre –test	4.18	1.35	8.97	59	27.37
2.	Post-test	13.15	3.21			
		ATTITUDE				
1.	Pre –test	20.83	9.91	21.32	59	25.15
2.	Post-test	42.15	7.87			

Table 3: comparison between knowledge and attitude regarding cardiac rehabilitation.
Frequency and percentage distribution on knowledge regarding pre-test and post-test.
((N=60)

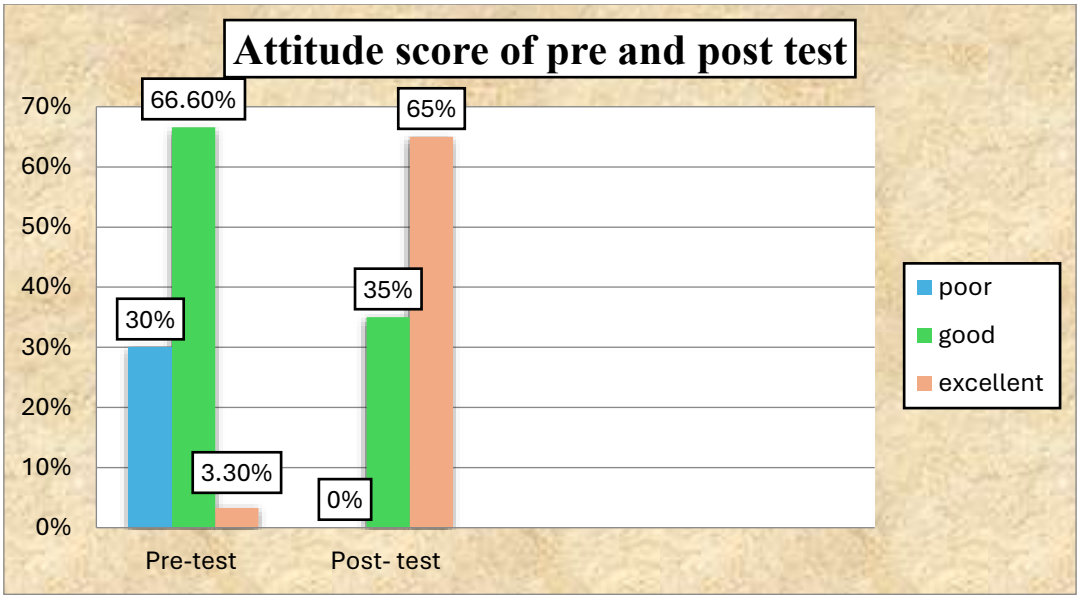
S.NO	LEVEL OF KNOWLEDGE	PRE-TEST		POST- TEST	
		(F)	(%)	(F)	(%)
1.	Poor	49	81.67%	3	5%
2.	Adequate	11	18.33%	36	60%
3.	Excellent	0	0%	21	35%



In pre-test among 60 sample 49(81.67%) had poor knowledge and 11(18.33%) had adequate knowledge and 0(0%) had excellent knowledge
In post-test among 60 sample 3(5%) had poor knowledge and 36(60%) had adequate knowledge and 21(35%) had excellent knowledge.

Frequency and percentage distribution on Attitude regarding pre-test and post-test.

S.NO	LEVEL OF ATTITUDE	PRE-TEST		POST- TEST	
		(F)	(%)	(F)	(%)
1.	Poor	18	30%	0	0%
2.	Good	40	66.6%	21	35%
3.	Excellent	2	3.3%	39	65%



In pre-test among 60 sample 18(30%) had poor attitude and 40(66.6%) had Good attitude and 2(3.3%) had excellent attitude.
In post-test among 60 sample 0(0%) had poor attitude and 21(35%) had Good attitude and 39(65%) had excellent attitude.

To find the correlation coefficient between the knowledge and attitude of cardiac patient with their demographic variables.

Variable	Max.Score	Pre-test		Post-test	
		Mean	SD	Mean	SD
Knowledge	20	4.18	1.35	13.15	3.21
Attitude	50	20.83	9.91	42.15	7.87
Correlation coefficient(r)		Knowledge 0.66		Attitude 0.75	

Table 4: association between the knowledge and attitude of cardiac patient with their demographic variables
Frequency percentage distribution, df, (chi square) χ^2 and 'p' value, of knowledge regarding cardiac rehabilitation among cardiac patients.(post-test)
(N=60)

S. NO	Demographic variable	Knowledge regarding cardiac rehabilitation			f	(%)	df	χ^2 value	'p' value
		Poor	Adequate	Excellent					
1.	Age (in year)								
	30-40 year	0	6	1	7	11.67 %	6	12.04	12.59 NS
	41-50 year	2	15	7	24	40.00 %			
	51-60 year	0	7	11	18	30.00 %			
	>60 year	1	9	1	11	18.33 %			
2.	Gender								
	Male	1	23	11	35	58.33 %	2	1.53	5.99 NS
	Female	2	13	10	25	41.67 %			
3.	Religion								
	Hindu	2	26	19	47	78.33 %	4	6.26	9.49 NS
	Muslim	1	10	1	12	20.00 %			
	Christian	0	0	1	1	1.67 %			
	Other	0	0	0	0	0 %			

4.	Marital status								
	Married	3	31	21	55	91.67 %	6	3.63	12.59 NS
	Unmarried	0	2	0	2	3.33 %			
	Divorce	0	2	0	2	3.33 %			
	Separated	0	1	0	1	1.67 %			
5.	Educational status								
	No formal education	2	6	3	11	18.33 %	6	8.29	12.59 NS
	Up to 10th	0	8	3	11	18.33 %			
	Up to 12th	0	15	7	22	36.67 %			
	Other	1	7	8	16	26.67 %			
6.	Monthly family income in(Rs)								
	10,000-20,000	0	3	2	5	8.33 %	6	4.57	12.59 NS
	20,001-30,000	0	10	7	17	28.33 %			
	30,001-40,000	2	16	5	23	38.33 %			
	>40,000	1	7	7	15	25.00 %			
7	Patient had weight								
	40-50 kg	0	2	0	2	3.33 %	8	22.64	15.51 S
	51-60kg	1	15	11	27	45.00 %			
	61-70kg	1	18	8	27	45.00 %			
	71-80kg	0	1	2	3	5.00 %			
	>80 kg	1	0	0	1	1.67 %			
8.	Area of residence								
	Rural	0	13	8	21	35.00 %	2	1.72	5.99 SN
	Urban	3	23	13	39	65.00 %			
9.	Occupation								
	Government employed	1	7	5	13	21.67 %	6	3.78	12.59 NS
	Private	1	14	11	26	43.33 %			
	Farmer	0	9	5	14	23.33 %			
	Other	1	5	1	7	11.67 %			
10.	BMI								
	Under weight	0	4	0	4	6.67 %	6	17.67	12.59 S
	Normal weight	1	31	18	50	83.33 %			
	Over weight	0	2	2	4	6.67 %			
	Obese	1	0	1	2	3.33 %			

There was statistical association found between knowledge among cardiac patients with there demographic variable, patient had weight and BMI and no statistical significant association found with the rest of the variable.

Hence the hypotheses H_4 was accepted only with significance of patients weight and BMI.

Frequency percentage distribution, df, (chi square) χ^2 and 'p' value, of attitude regarding cardiac rehabilitation among cardiac patients.(post-test)
(N=60)

S. No.	Demographic variable	Attitude regarding cardiac rehabilitation			F	(%)	df	χ^2 Value	'P' value
		poor	good	Excellent					
1.	Age (in year)								
	30-40 year	0	2	5	7	11.67 %	6	4.22	12.59 NS
	41-50 year	0	5	19	24	40.00 %			
	51-60 year	0	9	9	18	30.00 %			
	>60 year	0	3	8	11	18.33 %			

2.	Gender								
	Male	0	13	22	35	58.33 %	2	0.54	5.99 NS
	Female	0	7	18	25	41.67 %			
3.	Religion								
	Hindu	0	16	31	47	78.33 %	6	2.38	12.59 NS
	Muslim	0	3	9	12	20.00 %			
	Christian	0	1	0	1	1.67 %			
	Other	0	0	0	0	0 %			
4.	Marital status								
	Married	0	19	36	55	91.67 %	6	4.03	12.59 NS
	Unmarried	0	0	2	2	3.33 %			
	Divorce	0	0	2	2	3.33 %			
	separated	0	1	0	1	1.67 %			
5.	Educational status								
	No formal education	0	4	7	11	18.33 %	3	6.61	7.82 NS
	Up to 10^{th}	0	5	6	11	18.33 %			
	Up to 12^{th}	0	3	19	22	36.67 %			
	Other	0	8	8	16	26.67 %			
6.	Monthly family income in(Rs)								
	10,000-20,000	0	2	3	5	8.33 %	3	3.53	7.82 NS
	20,001-30,000	0	5	12	17	28.33 %			
	30,001-40,000	0	7	16	23	38.33 %			
	>40,000	0	11	9	15	25.00 %			
7	Patient had weight						8	2.04	15.51 NS
	40-50 kg	0	0	2	2	3.33 %			
	51-60kg	0	9	18	27	45.00 %			
	61-70kg	0	11	16	27	45.00 %			
	71-80kg	0	1	2	3	5.00 %			
	>80 kg	0	0	1	1	1.67 %			
8.	Area of residence								
	Rural	0	7	14	21	35.00 %	1	0	3.84 NS
	Urban	0	13	26	39	65.00 %			
9.	Occupation								
	Government employed	0	8	5	13	21.67 %	6	7.37	12.59 NS
	Private	0	5	21	26	43.33 %			
	Farmer	0	6	8	14	23.33 %			
	Other	0	2	5	7	11.67 %			
10.	BMI								
	Under weight	0	2	2	4	6.67 %	6	0.91	12.59 NS
	Normal weight	0	16	34	50	83.33 %			
	Over weight	0	1	3	4	6.67 %			
	Obese	0	1	1	2	3.33 %			

There was no association between attitude and there selected demographic variable including Age, Gender, Religion, Marital Status, Monthly income, Patient weight , Residence, Occupation and BMI . Thus the research hypotheses $\mathbf{H_5}$ was rejected.

DISSCUSION

The findings of the present study discussed with other related studies and organized under the following discussion.

Description of demographic data of the sample

- Regarding the age of the sample 11.67% of cardiac patients 30-40 years,40.00%were 41- 50,30.00% year 51-60 year and 18.33% > 60 year age group.
- Regarding sex of the sample 58.33% were male and 41.67% were female.
- According to religious of the sample 78.33% were hindu,20.00% were muslim 1.67% were Christian and 0% were others.
- Regarding to marital status of the sample 91.67% were married, 3.33% were unmarride,3.33% were divorce and 1.67% were separated.
- Regarding educational status of the sample 18.33% were no formal eduaction,18.33% were up to 10^{th} ,36.67%were up to 12^{th} and 26.67% were other.
- Regarding monthly family income(in rupees) of the sample less than 10,000-20,000 were 8.33%,20,001-30,000 were 28.33%, 30,001-40,000 were 38.33% and >40,000 were 25.00%.
- Regarding had weight the sample 3.33% were 40-50kg,45% were 51-60 kg, 45.00% were 61-70 kg ,71-80kg wre 5.00% and > 80kg were 1.67% .
- Regarding residence of the sample 35% were from rural area and 65% were urban area.
- Regarding the occupation of the sample 21.67% were government employees,43.33% were private, 23.33% were farmer and 11.67% were others .
- Regarding to BMI of the sample 6.67% were under weight, 83.33% were normal weight, 6.67% were overweight and 3.33% were obese.

The effectiveness of video-assisted teaching progarmme on knowledge and attitude regarding cardiac rehabilitation.

- After the assessment of knowledge regarding pre-test mean score is 4.18 with a standard deviation (SD) of 1.35,while the post-test mean score 13.15 with standard deviation (SD) 3.21.the t test results show a t- value 27.37 with degrees of freedom and a p-value 0.05 level, which is statistically significant ($p<0.05$). this indicates that the video assisted teaching program significantly improved the knowledge of cardiac patients regrading cardiac rehabilitation.
- The assessment of attitude regarding pre-test mean score is 20.83 with a standard deviation (SD) of 9.91,while the post-test mean score 42.15 with standard deviation (SD) 7.87 the t test results show a t- value 25.15 with degrees of freedom and a p-value 0.05 level, which is statistically significant ($p<0.05$). this indicates that the video assisted teaching program significantly improved the attitude of cardiac patients regarding cardiac rehabilitation.
- Thus the hypothesis $\mathbf{H_1}$ and $\mathbf{H_2}$ was accepted.

To Compare between knowledge and attitude regarding cardiac rehabilitation.

knowledge score

After the assessment of knowledge regarding cardiac rehabilitation among cardiac patients in pre-test the knowledge score of participants is 81.67% had poor knowledge and 18.33% had adequate knowledge and 0%had excellent knowledge.

The assessment of knowledge regarding cardiac rehabilitation among cardiac patients in post-test the knowledge score of participants is 5%had poor knowledge and 60%had adequate knowledge and 35%had excellent knowledge

Attitude score

After the assessment of Attitude regarding cardiac rehabilitation among cardiac patients in pre-test the Attitude score of participants is 30%had poor attitude and 66.6%had good attitude and 3.3%had excellent knowledge.

The assessment of Attitude regarding cardiac rehabilitation among cardiac patients in post-test the Attitude score of participants is 0%had poor attitude and 35%had good attitude and 65%had excellent attitude .

Thus the hypothesis $\mathbf{H_3}$ was accepted.

Association between knowledge and attitude of cardiac patient with their demographic variables.

There was statistical association found between knowledge among cardiac patients with there demographic variable, patient had weight and BMI and no statistical significant association found with the rest of the variable.

Hence the hypotheses **H_4** was accepted only with significance of patients weight and BMI.
There was no association between attitude and there selected demographic variable including Age, Gender, Religion, Marital Status, Monthly income, Patient weight , Residence, Occupation and BMI .
Thus the research hypotheses **H_5** was rejected.

CONCLUSION

This finding reveals that there is a significant association found between the level of knowledge and attitude regarding cardiac rehabilitation for the demographic variable Age, Gender, Religious, Marital Status, Education ,Monthly income, Patient weight , Resident ,Occupation ,BMI .(Hypothesis)**H_4** accepted with demographic variable, Patient weight and ,BMI.

RECOMMENDATION

To improve the knowledge and attitude regarding cardiac rehabilitation follow general guidelines of post exposure prophylaxis.

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REFERENCE

1. Sharma, S. K. (2011). Nursing research and statistics (1st ed.). Elsevier Health Sciences.
2. Polit, D. F., & Beck, C. T. (2021). Nursing research: Generating and assessing evidence for nursing practice (11th ed.).
3. Burns, N., & Grove, S. K. (2010). Understanding nursing research: Building an evidence-based practice (5th ed.). Saunders/Elsevier.
4. Armstrong, M. (2001). A handbook of management techniques: The best-selling guide to modern management methods (3rd ed.).

ONLINE RESOURCE

- Kanejima, masahiro et al.Health literacy is associated with activities of daily living of patients participating in cardiac rehabilitation. International Journal of Environmental Research and Public Health,9 December 2022 volume 19 ISSN No:1660-4601,DOI:10.3390
- https://doi.org/10.3390/ijerph192416550
- Ahmed, F. R., et.al. Barriers to cardiac rehabilitation–physical activities practices: An observational descriptive study. 21May 2022 International Journal of Africa Nursing Sciences, volume 16, ISSN: 2214-1391, DOI: 10.1016/j.ijans.2022.100429.
- Shabana, A. M, et al .effect of cardiac rehabilitation program on the quality of life in Egyptian patients after primary percutaneous coronary angioplasty, December 2023Medical Journal of Cairo University, volume 91, ISSN: 1460-2725, DOI: 10.1093