Assessment of knowledge among the Cardiac Patients regarding Cardiac Rehabilitation in a selected hospital of Shillong, Meghalaya.

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Abstract

The prevalence of Cardiovascular Diseases is expanding which leads to increase in mortality in India. Patients with Cardiovascular Disease can have better cardiac function through Cardiac Rehabilitation. It is imperative that the cardiac patients should be aware of cardiac rehabilitation.

The present study aims to assess the knowledge among the cardiac patients regarding Cardiac Rehabilitation and to find the association between knowledge with the selected demographic variables regarding Cardiac Rehabilitation in the selected hospital of Shillong, Meghalaya.

A cross-sectional study was conducted in NEIGRIHMS, Shillong, Meghalaya from April 2023. Data collection period was 2 weeks. Consecutive sampling technique was used to select 188 samples. Data was collected using semi structured questionnaire. Analysis was done using descriptive and inferential statistics (chi square).

Out of 188 cardiac patients who have participated in the study 111(59%) had poor knowledge and 77(41%) had good knowledge regarding Cardiac Rehabilitation with the mean of 12.07. Out of 4 domains, participants have highest knowledge in domain of general questions i.e. 842(63.98%), 229(60.9%) in psychosocial questions, 768(58.35%) in lifestyle questions and 427(56.78%) in

exercise questions domain. The study found significant association between knowledge of the participants and education qualification.

Awareness about Cardiac Rehabilitation among the participants was insufficient. This study had been done in order to emphasize the increasing need on knowledge of patients who are suffering from cardiovascular disorder regarding Cardiac Rehabilitation. By this we can improve disease outcome and reduce mortality ratio.

Keywords: Knowledge, Cardiac Rehabilitation and Cardiac patients.

Introduction

Background of the study

Cardiovascular disease (CVD) is emerging as major epidemic and a leading cause of death and disability in India. Global Burden of Disease studies age-standardised estimates (2010), nearly a quarter (24.8%) of all deaths in India are attributed to CVD.[1]

Cardiac Rehabilitation has been associated with improved cardiac function in patient with CVD. Cardiac rehabilitation program is designed to limit the physiological and psychological effect of cardiac illness, reduce the risk for sudden or rein fraction, control cardiac symptoms, stabilize the atherosclerotic process, and enhance the psychosocial and vocational status of selected patients.[2] It is an evidence based intervention that uses exercise, life style modification, medication adherence and psychological counseling to improve secondary prevention outcome in patient.

Need of the study

According to a study done Radbound Institute of Health Science, Netherland it is found that after Cardiac Rehabilitation programme the mortality among Cardiovascular disease patients have decrease by 32%.[3]

So it is important for the cardiac patients to have knowledge on cardiac rehabilitation to improve secondary prevention.

A descriptive study was conducted to assess the knowledge regarding cardiac rehabilitation among cardiac patients admitted in selected hospital, Vadodara by Ekta S. Patel et. al 2020. The result shows that out of 60 patients 63.33% were having inadequate knowledge, 36.67% were having adequate knowledge.[4] Therefore majority of the participants had inadequate knowledge.

On the view of the above two studies it is important to assess the knowledge of cardiac patients regarding cardiac rehabilitation. Similar studies have been conducted in international and national level. However no literature shows any study conducted on assessment of knowledge on cardiac rehabilitation in Meghalaya. So our study will give the brief information on knowledge of cardiac rehabilitation of cardiac patients

Objectives of the study

Primary objectives(s): To assess the knowledge among the cardiac patients regarding cardiac rehabilitation in a selected hospital, Shillong, Meghalaya

Secondary objectives(s): To determine the association between knowledge regarding cardiac rehabilitation with demographic data.

Operational definition

Knowledge: It refers to the known facts or information which the cardiac patients have regarding cardiac rehabilitation.

Cardiac: Cardiac is term that refers to heart.

Rehabilitation: In this study, it refers to the process of returning back to normal life after cardiac or heart disease.

Cardiac Patients: It refers to the patients diagnosed with heart disease.

Methodology

Research approach: In this study, the quantitative research approach was considered appropriate in order to assess the knowledge of cardiac patients regarding cardiac rehabilitation.

Research design: A Non-experimental, cross-sectional, quantitative study design was adopted in the present study to assess the knowledge regarding cardiac rehabilitation in the selected hospital of Shillong, Meghalaya.

Variables: Variables are the qualities, properties or characteristics of people, objects, situations, concepts, activities, attitudes etc., that can change or may vary according to the stimulus. The variables can be manipulated or measured.

Independent Variables are qualities or properties that can be manipulated by researcher to cause and effect on dependent variables.

In the present study,

Independent Variables: Socio demographic variable (Age, Gender, Education, Occupation, Residency)

Outcome Variables: Knowledge among the cardiac patients regarding cardiac rehabilitation.

Setting of the study: The present study was conducted in Cardiology Out-patient and In-patient department of NEIGRIHMS Hospital, Shillong from 10th April 2023 to 22nd April 2023.

Ethical considerations

Prior permission will be obtained from

1. Principal of College of Nursing, NEIGRIHMS
2. NEIGRIHMS Scientific Advisory Committee (NSAC)
3. Institutional Ethics Committee (IEC)
4. Director of NEIGRIHMS
5. Medical Superintendent of NEIGRIHMS
6. Informed consent from the participants.

Study population

In the present study, the population comprises of patients attending Cardiology IPD and OPD of NEIGRIHMS, Shillong, Meghalaya.

Sample technique: In our study, sampling design is consecutive sampling technique.

Sample size: The sample size of the study is 188.

Criteria for sample selection

Inclusion criteria: Patients attending cardiology outpatient and in-patient department in NEIGRIHMS hospital, Shillong, Meghalaya.

Exclusion criteria: Patients who do not give consent to participate and patients below 18years of age.

Data collection procedure

Prior to data collection, approval was taken from the Principal of College of Nursing, NEIGRIHMS and permission was obtained from the Medical Superintendent of NEIGRIHMS Hospital, Shillong, Meghalaya. Data was collected from Cardiology Outpatient and Inpatient Department from 10th April to 22nd April 2023, which was a period of two weeks. Participants who met the inclusion criteria were selected. Prior to data collection a written consent form was taken from the participants on the day of data collection.

Subsequently, the self-administered questionnaire was given to the participants which was validated by various experts. And approximate time of 15-20 minutes was given to the participants to complete the questionnaire.

Scoring of the tool

Section I: This section consists of 5 questions related to demographic variables of the participants and was not scored.

Section II: This section consists of 20 questions of knowledge based questionnaire concerning the following domains:

Domain 1: General questions about Cardiac Rehabilitation

Domain 2: Exercise questions about Cardiac Rehabilitation

Domain 3: Lifestyle modification questions about Cardiac Rehabilitation

Domain 4: Psychological questions about Cardiac Rehabilitation Each item was allotted a score of 1.

Interpretation of score

Scoring system: Each correct answer is assigned a score of "1" and a score of "0" for an incorrect answer. The maximum score is when the participant obtains a score of 20, which represents 100% and is categorizes into two level based on the mean calculated (i.e: 12.07) and the two levels are as follow:

Table 1: Showing the category of knowledge score.

Category of knowledge	Score	Percentage
Good	≥ 13	$\geq 65\%$
Poor	≤ 12	$\leq 64\%$

Analysis and interpretation

Analysis and interpretation of the data was done by using both descriptive and inferential statistics based on the objectives of the study.

Organization of the findings

The data are organized into three parts:

Section I: Findings related to the socio demographic data of the participants.

Section II: Level of knowledge regarding Cardiac Rehabilitation.

Section III: Association of knowledge with the selected demographic variables.

Section I: Findings related to socio-demographic data of the participants

Table 2: Table represents the distribution of the participants according to demographic variables. n = 188

Demographic Variables	Frequency	Percentage
	(f)	(%)
Age a) 19-34 b) 35-50 c) 51 and above	107 39 42	56.91 20.74 22.3
Gender a) Male b) Female	110 78	58.51 41.48
Occupation a) Employed b) Unemployed	116 72	61.7 38.29

Education		
a) Class 10 and below	76	40.4
b) Higher secondary and undergraduate	47	25
c) Graduate and above	65	34.5
Residence		
a) Rural	97	51.59
b) Urban	91	48.40

Table 2: Shows that majority of the participants are male (58.51%) within the age group 19-34 (56.91%). Majority of the participants are educated within class 10 and below (40.4%). Majority of the participants are employed (61.7%) and belongs to rural areas (51.59%).

Section II: Level of knowledge among the patients regarding the cardiac rehabilitation.

Fig. 1: Bar diagram showing the frequency and percentage distribution of knowledge score.

n =188
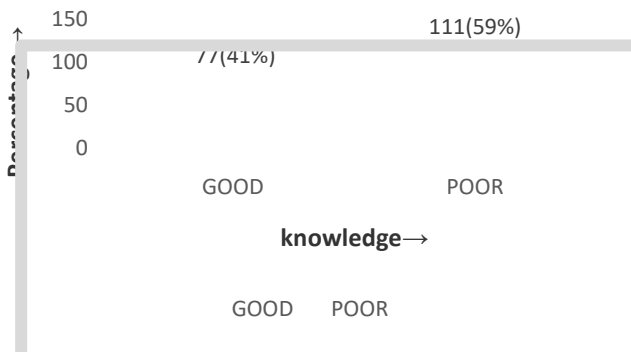
Data presented in Fig1. Shows that 41% of the participants have good knowledge about cardiac rehabilitation and 59% have poor knowledge about cardiac rehabilitation.

Table 3: Mean and standard deviation of knowledge score.

| Maximum Possible Score	Mean	Standard Deviation
20	12.07	4.716

Table 3 reveals that mean knowledge score is 12.07 and Standard deviation is 4.716.

Table 4: Table represents the frequency distribution of knowledge level of the participants regarding Cardiac Rehabilitation according to demographic variables. n =188

Sn.	Demographic Variables	Good Knowledge	Poor Knowledge
1	Age		
	a) 19-34	46	61
	b) 35-50	17	22
	c) 51 and above	14	28
2	Gender		
	a) Male	44	66
	b) Female	33	45
3	Occupation		
	a) Employed	50	66
	b) Unemployed	27	45
4	Education		
	a) Class 10 and below	15	61
	b) Higher secondary and undergraduate	18	29
	c) Graduate and above	44	21
5	Residence		
	a) Rural	38	59
	b) Urban	39	52

Data presented in Table 4 depicts that majority of the participants i.e 46 belonging to the age group 19-34 had good knowledge. 44 male participants had good knowledge. 50 participants who were employed had good knowledge. Most of the participants (44) who were graduate and above had good knowledge. Majority of the participants who were from urban areas (39) had good knowledge.

Fig. 2: Bar diagram showing the frequency and percentage distribution of level of knowledge of the participants on Cardiac Rehabilitation according to the domains. n = 188
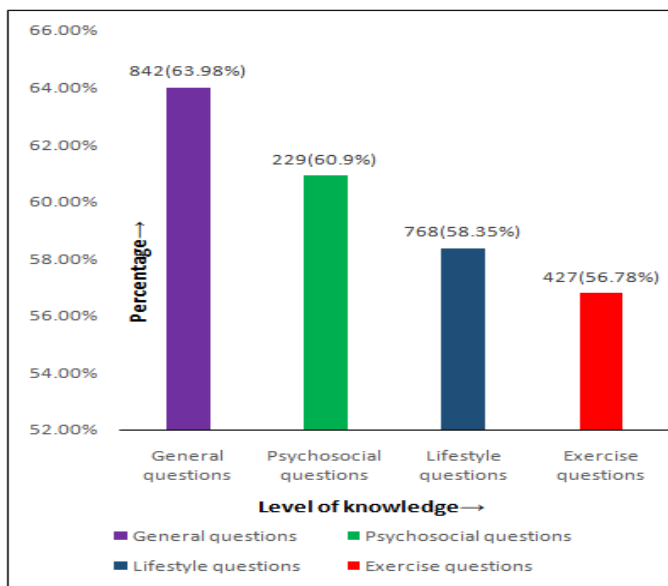
Data presented in Fig 2. Shows participants have highest knowledge in the domain of general question i.e 63.98%, 60.9% in psychosocial questions, 58.35% in lifestyle questions and 56.78% in exercise question.

Section III: Findings related to association with the selected demographic variables.

Table 5: Table represents chi square value showing association between knowledge and selected demographic variables. n =188

Demographic Variables	Good Knowledge	Poor Knowledge	df	Chi-Square	Tabulated Value
Age					
a) 19-34	46	61	2	1.304	5.99
b) 35-50	17	22			
c) 50 and above	14	28			
Gender					
a) Male	44	66	1	3.290	3.84
b)Female	33	45			
Occupation					
a) Employed	50	66	1	0.576	3.84
b) Unemployed	27	45			
Education					
a) Class 10 and below	15	61	2	52.699	5.99*
b) Higher Secondary and Undergraduate	18	29			
c) Graduate and above	44	21			
Residence					
a)Rural	38	59	1	0.263	3.84
b) Urban	39	52			

* Significance at 0.05.

-There is statistically significant association of knowledge with education as the chi square value of education is more than tabulated value at the level of significance <0.05.

The data represented in table.5 shows that the calculated chi square value of education (chi square =5.99), is found to be statistically significant. Hence there is an association of knowledge regarding cardiac rehabilitation with education of the participants.

Discussion

The present study is one of the studies focusing on cardiac patients to assess their knowledge so as to plan for future intervention regarding various cardiovascular diseases.

In the present study, it was found that out of 188 participants, 111(59%) participants had poor knowledge and 77(41%) participants had good knowledge on Cardiac Rehabilitation. It is also found that there is significant association between knowledge of participants regarding Cardiac Rehabilitation and education qualification.

A similar study was conducted by Ekta S. Patel et. al. (2020) with the problem statement "A descriptive study to assess the knowledge regarding cardiac rehabilitation among cardiac patients admitted in selected hospital, Vadodara". It was found that out of 60 participants, 63.33% had poor knowledge and 36.67% had good knowledge on Cardiac Rehabilitation. The study showed that there is no significant association between knowledge score and demographic variables.

In the present study it was found that50 participants who are employed had good knowledge and 44 participants who had higher education level i.e. graduate and above had good knowledge and 39 participants who belongs to urban area had good knowledge. The finding could be supported by the similar study conducted by Yi Zhou

et.al. (2016) among 500 participants to assess Cardiac Rehabilitation knowledge in patients with coronary heart disease in Baoding city of China. In which 66.40% were male participants and 33.60% were female participants. The study reveals that participants with higher education level and better income status had good knowledge. And participants who lived in rural areas and had no job had poor knowledge.

Further studies can be conducted in other parts of the country to assess the knowledge of the cardiac patients regarding cardiac rehabilitation.

Conclusion

Based on the findings of the study, the study concluded that majority of the participants attending IPD and OPD department had poor knowledge regarding cardiac rehabilitation. This study also revealed that there was a significant association between knowledge with education of the participants.

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