A Descriptive Study to Assess the Knowledge Regarding Cardiac Rehabilitation among Cardiac Patients Admitted in Selected Hospital, Vadodara

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Abstract--- Background of the study: *Cardiac Rehabilitation (Secondary Prevention programs) are reviewed as standard of care and implementing critically important treatment modalities for heightening the care of cardiac patients. Guidelines related to CR has stated that, it is beneficial in patients who are undergoing various heart related surgeries i.e. coronary artery bypass grafting, coronary stent placement and valve surgery. Implication of CR in these conditions proving advantageous clinical result. Involvement in CR has been shown to lessen morbidity and mortality, in a worthwhile manner.*

Objectives of the study: *The objectives of this study was to assess existing knowledge of patients regarding cardiac rehabilitation, and to identify association between knowledge score with selected demographic variables.*

Material and method: *An evaluatory research approach with descriptive research design was used. Total 60 Subjects were selected by using purposive sampling technique. The samples were patients who has been diagnosed with cardiovascular disease. Participants were informed about the study & written consent was taken prior to participation. The structured knowledge questionnaires were administered to assess knowledge regarding cardiac rehabilitation. The data was analyzed by using inferential and descriptive statistics.*

Result: *While assessing the existing knowledge of patients regarding Cardiac Rehabilitation the majority of patients shows inadequate knowledge level. Out of 60 patients 63.33% were having inadequate knowledge, 36.67% were having adequate knowledge. While assessing the association between knowledge score with selected demographic variables, there was no significant association between knowledge score with selected demographic variable. So H1 has been fail to accept.*

Conclusion: *The purpose of this study was to determine the awareness and to inspect the knowledge about existing knowledge regarding Cardiac Rehabilitation among patients. The study concluded that, participants were having inadequate knowledge regarding cardiac rehabilitation and require health care professional aid to enhance their knowledge, improve quality of life and decrease mortality rate due to cardiovascular disease.*

Keywords--- Awareness, Cardiac Rehabilitation, Cardiac Patients.

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I. INTRODUCTION

The increasing incidence of chronic diseases has emerged as one of the most important health issues in the 21st century. The heart, a vital internal organ, and is susceptible to several disorders, which account for mortality globally, as well as in India.[1]At least three quarters of the world's deaths from CVDs occur in low and middle income countries.[2]The Global Burden of Disease study estimate of age-standardized CVD death rate of 272 per 100 000 population in India is higher than the global average of 235 per 100 000 population.[3]Ischemic heart disease tops the chart currently in Gujarat for being the number one reason for death with 10.9% which was fourth in the chart back in 1990 with 4.6%.[4]

Cardiac rehabilitation (CR) is an outpatient secondary prevention program comprised of structured exercise training as well as comprehensive education and counseling.[5]Participation in CR has been shown to reduce morbidity and mortality by 20%, in a cost-effective manner.[6]The reasons cardiac patients do not access CR are multifactorial, including healthcare system, provider, and patient-related (e.g., financial, geographic) factors. One of the major contributory factors is lack of physician referral, which can be due to low CR knowledge/awareness.[7]There are four phases of cardiac Rehabilitation: Phase 1: inpatient rehabilitation, Phase: 2 safe physical Activity. Phase: 3 supervised rehabilitation Phase 4: this phase constitutes the components of long term maintenance.[8]

The nurse plays an important role since she/he is the mentor in cardiac rehabilitation program.[9]Nursing interventions such as patient education on disease condition, treatment modalities, home care management, adherence to cardiac rehabilitation and the importance of follow up have demonstrated benefits in patients with chronic heart failure. Heart failure Society of America and the American Heart Association agree that patient education is an important element in the care of patients with heart disease.[10]

OBJECTIVES: The investigator aimed to assess the existing knowledge regarding cardiac rehabilitation and to identify the association between knowledge score and selected demographic variables of patients.

Hypothesis

H1: There will be significant association between knowledge score with selected demographic variable.

II. MATERIAL & METHODS

In present study quantitative research approach was adapted with Descriptive research design. Socio-demographic variables were stated as age, gender, education, marital status, monthly income. The study was conducted at selected hospital of Vadodara. Total 60 participants were selected by using purposive sampling technique. Patients who are admitted in ICCU and Cardiac wards of selected hospital were the samples of study. Inclusion criteria of patients contains; patients admitted in ICCU and Cardiac wards of selected hospital, patients who are willing to participate and patients who having age between 25-65 years. Structured knowledge questionnaire was used for data collection, which is consist of two part. Part one Questionnaire pertaining to selected demographic variables and part two containing structured knowledge questionnaire was used to assess the knowledge of patients regarding cardiac rehabilitation. Part two questionnaires contains 30 questions. The data

collection was done within a given period of 2 weeks, dated 9th to 21st December 2019. Researcher has provided structure knowledge questionnaires for pre test. After conducting the pre-test researcher has provided the booklet which containing information regarding cardiac rehabilitation. For this study, the data obtain were analyzed in respect to the objectives of the study by using descriptive and inferential statistics; Master data sheets were prepared; Mean, mean % and SD of the knowledge score of both groups were analyzed and Hypothesis tested.

III. RESULTS

Section 1: (Description of Samples According to their Demographic Characteristics)

n=60

Table 1: Frequency and Percentages Distribution of Samples According to their Demographic Characteristic

Sr No.	Socio-demographic variable	Categories	Frequency	Percentage
1	Age	25-35	10	16.67%
		36-45	18	30%
		46-55	16	26.67%
		56-65	16	26.67%
2	Gender	Male	47	46.67%
		Female	13	53.34%
3	Education	Educated	47	78.33%
		Uneducated	13	21.67%
4	Marital status	Married	52	87.67%
		Single	07	11.67%
		Divorce	01	1.66%
5	Monthly income	Below 25000/- Rs	57	95%
		25000-35000/-	01	1.67%
		35001-45,000	02	3.33%

Above mentioned table depicted that majority of patients were between age of 46-65 years, female, educated, married and having income below 25000 Rs. Minimum patients belongs to age group between 25-35 years, male, uneducated, Divorcee and having monthly family income 25000-35000 Rs.

SECTION: 2 (analysis of present status of knowledge of cardiac patient regarding cardiac rehabilitation)

n=60

Table 2: Distribution of Respondents According to Knowledge Level

Sr No	Knowledge score	Frequency	Percentage
1	Inadequate	38	63.33%
2	Adequate	22	36.67%
3	Excellent	00	0%

Above mentioned table interpret that, the distribution of respondent according to the knowledge level. It was noticed that 63.33% patients are having inadequate knowledge, 36.67% of patients are having adequate knowledge, and 00% patients are having excellence knowledge.

Table 3: Distribution of Respondents Mean, SD, and Mean % According to Knowledge Level

Sr No	Maximum	Mean	Mean %	SD
1	30	11.5	38.33%	3.27

Above stated table described the distribution of respondent mean, SD, and mean% according to the knowledge

level. It was noticed that 11.5 MEAN, 3.27 slandered deviation, and 38.33% MEAN%.

SECTION: 3 (Association between knowledge score with demographic variable)

n=60

Table 4: Association between Knowledge Score and Selected Demographic Variables

Sr. No	Socio-demographic Variable	Variable	≤10 Inadequate	>10 Adequate	χ^2	DF	SIG.
1	Age	25-35	4	6	1.24	3	1.24<7.81NNS
		36-45	7	11			
		46-55	7	9			
		56-65	4	12			
2.	Gender	Male	9	19	0.44	1	0.44< 3.84 NS
		Female	13	19			
3	Education	Educated	15	32	2.09	1	2.09< 3.84 NS
		Uneducated	7	6			
4	Marital status	Married	20	32	0.83	2	0.83< 5.99 NS
		Single	2	5			
		Divorce	0	1			
5	Monthly income	Below 25000/-	22	35	1.81	2	1.81< 5.99 NS
		25000-35000/-	0	1			
		35001-45000/-	0	2			

*Significant at 0.05 level   * χ^2=Chi square

*S=Significant   * NS=Non Significant

Above table reveals the association between knowledge score with demographic variables. Knowledge regarding cardiac rehabilitation among cardiac patients with all demographic variable are not significant. Hence, hypothesis is failed to accept.

IV. DISCUSSION

Cardiac rehabilitation is complex intervention offered to patients diagnosed with heart disease, which includes components of health education, advice on cardiovascular risk reduction, physical activity and stress management. Evidence that cardiac rehabilitation reduces mortality, morbidity, and unplanned hospital admission addition to improvement in exercise capacity, quality of life and psychological well-being is increasing, and it is now recommended in hospital guidelines.[11]

This study has its findings in line with other studies; Mares has conducted research study on effectiveness of nurse-led cardiac rehabilitation programs following coronary artery bypass graft the sparse data available suggests improvements in health related quality of life at two months follow up among those who received a nurse-led program about cardiac rehabilitation.[12]Smart has conducted a study on exercise-based cardiac rehabilitation improves exercise capacity and health-related quality of life in people with atrial fibrillation which shown result that exercise capacity, cardiac function, symptom burden and health related quality of life were improved with exercise based CR in the short term (up to 6 months) targeted at patients with AF.[13]Dagner has conducted a study on prescribed physical activity maintenance following exercise based cardiac rehabilitation, the study suggested that cardiac rehabilitation was useful for patients for physical activity maintenance.[14]

V. CONCLUSION

Awareness about cardiac rehabilitation was insufficient among the samples of the study. This study had been done in order to emphasize the increasing need on knowledge of patients who are suffering with cardiovascular disorder regarding cardiac rehabilitation. By this we can improve disease outcome and reduce mortality ratio. As per guideline if nurses are giving one hour to the cardiac patient by the time of hospital discharge and providing them adequate knowledge regarding CR, than they can improve clinical outcomes, increase self-care measure adherence and reduced cost of care in patients.

Conflict Interest

The author declares that there is no conflict of interest to disclose

Source of Funding

For the present research study researchers' used their own fund.

Ethical Clearance

It was obtained from institutional ethical committee and informed consent was taken from the samples before data collection process.

REFERENCES

[1]   Balady GJ, Ades PA, Bittner VA, Franklin BA, Gordon NF, Thomas RJ, Tomaselli GF, Yancy CW. Referral, enrollment and delivery of cardiac rehabilitation/secondary prevention programs at clinical centers and beyond: a presidential advisory from the American Heart Association. *Circulation.* 2011; 124:2951–2960

[2]   Cardiovascular diseases (CVDs). World Health Organization. World Health Organization;. Available from: https://www.who.int/news-room/factsheets/detail/cardiovascular-diseases-(cvds)

[3]   Rubamusallam, Hala. MObeidat, Mohammad Y. N. Saleh & Inaamkhalaf, "Cross-Cultural Validation of the Pediatric Qualityof Lifeinventorytm3.0 Cardiac Module Arabic Language", International Journal of Applied and Natural Sciences, Vol. 7, Issue3,pp. 1-10

[4]   Global Burden of Cardiovascular Diseases Collaboration. The Burden of Cardiovascular Diseases among US States, 1990-2016. JAMA Cardiology. American Medical Association; 2018 https://jamanetwork. com/journals/jamacardiology/fullarticle/2678113

[5]   P. Sirish Kumar, M. Bala Krishna & M. Chaitanya Kumar, "Analysis of Biological Signals Using Wavelet Coefficients for Finding the Cardiac Diseases & Their Severity", *International Journal of Electronics, Communication & Instrumentation Engineering Research and Development (IJECIERD),* Vol. 4, Issue 3, pp. 111-118

[6]   The Worldwide Environment of Cardiovascular Disease: Prevalence, Diagnosis, Therapy, and Policy Issues: A Report From the American College of Cardiology [Internet]. *Journal of the American College of Cardiology.*

[7]   Abdulameerabdulbari Al-Ameri, Layla Othman Khalidal-Abdulla & Ahmedbadarab dual wahid, "Oxidative Stress during Cardiac Catheterization", *BEST: International Journal of Humanities, Arts, Medicine and Sciences (BEST: IJHAMS),* Vol. 3, Issue 9, pp. 63-72

[8]   Grace SL, Turk-Adawi KI, Contractor A, Atrey A, Campbell N, Derman W, Ghisi GL, Oldridge N, Sarkar BK, Yeo TJ, Lopez-Jimenez F. Cardiac rehabilitation delivery model for low-resource settings. *Heart.* 2016 May 16: heartjnl-2015.

[9]   Wong WP, Feng J, Pwee KH, Lim J. A systematic review of economic evaluations of cardiac rehabilitation. *BMC health services research.* 2012 Dec;12(1):243.

[10]   Roshan Anie Alex , "Personality Pattern of Female Cardiovascular Patients and Cancer Patients: An Analytical Study ", *IMPACT: International Journal of Research in Applied, Natural and Social Sciences (IMPACT: IJRANSS),* Vol. 2, Issue 3, pp. 61-72

[11]   Ghisi GL, Polyzotis P, Oh P, Pakosh M, Grace SL. Physician factors affecting cardiac rehabilitation referral and patient enrollment: a systematic review. *Clinical cardiology.* 2013 Jun; 36(6):323-35.

[12]   Meenal Agarwal1, Chaula Doshi & Vaishali Khot, "Emergency Cesarean Section in a Patient with Rheumatic Heart Disease with Gestational HTN & Neurocysticercosis: An Anesthetic Challenge ", International Journal of General Medicine and Pharmacy (IJGMP), Vol. 4, Issue 1, pp. 89-92

[13]   Cardiac rehabilitation past, present and future: an overview, Cardiovascular Diagnosis and Therapy. http://cdt.amegroups.com/article/view/108/180

[14]   Olga K. The role of nursing education after a cardiac event [Internet]. Health Science Journal. iMedPub; -1 [cited 2019Mar28].

[15]   Abla M. Habeeb-Allah & Jafar Alshraideh, "Delirium Post Cardiac Surgery: Review on Epidemiology and Associated Risk Factors", *International Journal of Applied and Natural Sciences (IJANS),* Vol. 7, Issue 2, pp. 33-40

[16]   Heart Disease and Stroke Statistics-2018 Update. American College of Cardiology. https://www.acc. org/latest-in-cardiology/ten-points-toremember/2018/02/09/11/59/heart-disease-and-stroke-statistics-2018-update

[17]   Irimia R, Gottschling M (2016) Taxonomic revision of Rochefortia Sw. (Ehretiaceae, Boraginales). *Biodiversity Data Journal* 4: e7720.

[18]   Mares MA, McNally S, Fernandez RS. Effectiveness of nurse-led cardiac rehabilitation programs following coronary artery bypass graft surgery: a systematic review. *JBI database of systematic reviews and implementation reports.* 2018 Dec 1; 16(12):2304-29.

[19]   Pearson MJ, Mungovan SF, Smart NA. Effect of exercise on diastolic function in heart failure patients: a systematic review and meta-analysis. *Heart failure reviews*. 2017 Mar 1; 22(2):229-42.

[20]   Dagner V, Clausson EK, Jakobsson L. Prescribed physical activity maintenance following exercise based cardiac rehabilitation: factors predicting low physical activity. *European Journal of Cardiovascular Nursing.* 2019 Jan; 18(1):21-7.