

Barriers to Patients Participation in Cardiac Rehabilitation

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ABSTRACT

Objective: To identify the barriers faced by patients to participate; both attendees and non-attendees, in cardiac rehabilitation.

Study Design: A cross-sectional study

Place and Duration of Study: This study was conducted at Different Hospitals providing Cardiology and Cardiac Surgery services in Karachi from June 2019 to June 2020.

Materials and Methods: The total duration of the study was 6 months and Modified Cardiac Rehabilitation Barrier Scale (CRBS) questionnaire was used.

Results: About 100 participants took part in the study, out of which 63% were male and 37% were female. The mean age of the participants was 57.2900; age 88 being maximum and age 35 being minimum. It was seen that majority of the adults were illiterate and almost 50% being unemployed. Additionally, it highlights that distance, cost, transportation, family responsibilities and patient referral system was the major barrier for the respondents not attending or missing few sessions of cardiac rehabilitation program. Subsequently, not major but, time constraints, energy to continue and work responsibilities were also a barrier.

Conclusion: It has been concluded from the study that non-attendees show more barriers to cardiac rehabilitation as compared to attendees. It is expected in the future that the scale of developing cardiac rehabilitation centers and its performance will be increased, and efforts will be made to overcome the major barriers.

Key Words: Cardiac Rehabilitation, Barriers, Patients

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INTRODUCTION

The diseases related to cardiac system are considered to be the first leading causative reason of death worldwide or over globe. Hence, least possible treatment measures and protocols are present or if they are available then it is beyond the reach of people. The term Cardiac Rehabilitation (CR) is a structured program of exercise and education, which not only helps in subsiding problems related to cardiac diseases but also helps in reducing other related co-morbidities. It helps the patient to return to optimal fitness and functioning following cardiac event.^(1,2)

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A variety of national entities have described cardiac rehabilitation with their own perspectives, which encompasses "Cardiac rehabilitation is a secondary preventive, long term and comprehensive approach which involves the process from patients evaluation to discharge planning; involving exercise prescription, counseling, education and knowledge, and cardiac risk factors."⁽³⁾

Cardiac rehabilitation is tailored to each cardiac patient according to his requirements. Although nearly all cardiac patients can benefit from rehabilitation but it is important that patients do not follow their own exercise program and only follow the program prescribed. Rehabilitation involves patient's education regarding the cardiac symptoms and issues, stress management and modification, nutrition and diet consultation and modification of lifestyle. On the other hand, patient should fully understand the significance of motivation and rehabilitation.⁽⁴⁾

It is considered that cardiac events are a major threat to patient's life physically as well as psychologically. If a person has had gone through Heart Failure (HF), Coronary Artery Bypass Graft Surgery (CABG), Myocardial Infarction (MI), Valve Repair or Percutaneous Coronary Artery Intervention than they have fear of having any of the condition again due to which they are psychologically disturbed. The fear takes the patient into anxiety and isolation and if these fear becomes dominant than counseling is a necessity.

In today's world counseling have profound beneficial effects on patient's health and life style, and rehabilitation not only treats cardiac issues but also treats fears and puts it to rest. ⁽⁵⁾

In 2001 by the Institute of Medicine, which is in United States, serious demands were raised because of safety failures and suboptimal benefits from the physical therapy practice. As a result, the health care system was redesigned and the main domains of quality were covered in it. These main domains which are necessary for quality appraisal are: safety, effectiveness, patient-centeredness, timeliness, efficiency, and equity. ^(5, 6)

Cardiac rehabilitation was prescribed for those who suffered or had heart failure. But with time elapse the inductions have changed. Among the heart failure group, only stable class II and II group who don't have complex arrhythmias can go for exercise trainings protocols. Cardiac rehabilitation is prescribed to heart transplant patients as well. ^(6,7)

Currently, it is seen that acute cardiac care and rehabilitation has already decreased the mortality rate so much that exercise training program, isolated interference, might not be able to cause any further change in the mortality and morbidity rate. Consequently, now for cardiac rehabilitation the outcome measure is to improve quality of life (QOL). Services of cardiac rehabilitation are safe and effective interventions and these services are potential for contemporary treatment of patients with multiple cardiac issues or problems.

MATERIALS AND METHODS

Study Design: Descriptive cross sectional study.

Setting: The study was conducted in cardiac hospitals/institutes; private and government, at Karachi

Sample Size: Sample size of 100 patients were selected for the study by convenient non-probability sampling technique.

Inclusion Criteria: Following criteria was considered to be necessary to the inclusion of the subjects:

- Patients with cardiac issues; inpatients and outpatients.
- Patients prescribed for cardiac rehabilitation but were not attending.
- Patients prescribed for cardiac rehabilitation but were not regular.

Exclusion criteria:

- Patients who did not have/ had cardiac issues and age less than 18 years. And with any visual, cognitive or serious mental conditions were excluded from the study.

Data collection tool: Modified Cardiac Rehabilitation Barrier Scale (CRBS) questionnaire was used in this study.

Data collection method: Data was collected from the participants by face to face interview. Consent form

was also given to ensure participants voluntary participation.

Data analysis Procedure: Data was analyzed by using the software Statistical Packages of Social Sciences (SPSS) version 21.0. Descriptive statistical methods such as mean, median and frequency were used for analysis.

RESULTS

The sample for this study comprised of 100 participants who consented to participate in the study and completed the Cardiac Rehabilitation Barrier Scale (CRBS). The mean age of the study was 57.2900, for which minimum age of the respondent was 35 years and maximum age of the respondent was 88 years. (Fig. 1). The quantitative data for the exceeding barriers in percentages is detailed as followed: 85% agreed and 15% disagreed to it; 82% agreed that and 18% disagreed to it; 86% agreed that I was unable to go to the CR program, or if I went to the program I missed few of the sessions for the reason: of transportation problems and 14% disagreed to it; 52% agreed that I was unable to go to the CR program, or if I went to the program I missed few of the sessions for the reason: travel (e.g., holidays, business, and cottage), 30% disagreed and remaining 18% neither agreed nor disagreed; 83% agreed that I was unable to go to the CR program, or if I went to the program I missed few of the sessions for the reason: I don't have any idea about CR program (example; my physician or health care provider did not tell me regarding it), 16% disagreed and only 1% neither agreed or disagreed; 81% agreed that I was unable to go to the CR program, my physician or health care provider didn't felt that it was needed and 19% disagreed; and 53% agreed that I was unable to go to the CR program, or if I went to the program I missed few of the sessions for the reason: of family responsibilities (e.g., care giving), 35% disagreed and 12% neither agreed nor disagreed (Table I; respectively for distance, cost, transportation, travel, didn't know about cardiac rehabilitation, doctor did not feel it was necessary and family responsibility).

41% agreed that I was unable to go to the CR program, or if I went to the program I missed few of the sessions for the reason: of time constraints (example; too busy, inconvenient class time), 39% disagreed and 20% neither agreed nor disagreed, and 42% agreed that I was unable to go to the CR program, or if I went to the program I missed few of the sessions for the reason.

And, when the respondents were interviewed about whether they find exercise tiring and painful or if they feel that they don't have energy to continue program then 47% disagreed, 33% agreed and 20% neither agreed nor disagreed and 48% disagreed that I was unable to go to the CR program, or if I went to the program I missed few of the sessions for the reason: I

do not have enough energy, 34% agreed and 18% neither agreed nor disagreed.

Furthermore, 71% disagreed that I was unable to go to the CR program, or if I went to the program I missed few of the sessions for the reason: I did not want CR, 18% neither agreed nor disagreed and 11% agreed, 74% disagreed that I was unable to go to the CR program, or if I went to the program I missed few of the sessions for the reason.

Compatibly it is seen that 68% disagreed that I was unable to go to the CR program, or if I went to the program I missed few of the sessions for the reason: most of the people with heart related conditions do not go, and they are absolutely well, 21% neither agreed nor disagreed and remaining 11% agreed and 64% disagreed that I was unable to go to the CR program, or if I went to the program I missed few of the sessions for the reason: I am capable of managing my own heart related conditions, 27 neither agreed nor disagreed and 9% agreed.

Moreover, when the participants were questioned about taking care of health alone or in group then 64% neither

agreed nor disagreed that I was unable to go to the CR program, 33% disagreed and only 3% agreed. Also, 65% neither agreed nor disagreed, 31% disagreed and only 4% agreed, and 66% neither agreed nor disagreed that I was unable to go to the CR program, or if I went to the program I missed few of the sessions for the reason. (Table I).

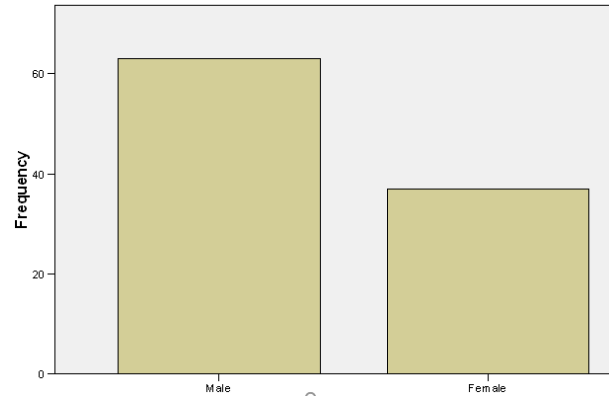


Figure No.1: Gender of participants

Table No.1: Barriers Faced by patients towards participation in cardiac rehabilitation

S #	Barriers	Strongly Disagree (Frequency)	Disagree (Frequency)	Neither Agree or Disagree (Frequency)	Agree (Frequency)	Strongly Agree (Frequency)
	I was unable to go to the CR program, or if I went to the program I missed few of the sessions for the reason of:					
1	Distance (e.g., not located in your area, too far to travel)	14	1	0	1	84
2	Cost (example; parking, gas)	16	2	0	2	80
3	Transportation problems (example; access to car, public transportation)	14	0	0	1	85
4	Family responsibilities (e.g., care giving)	35	0	12	4	49
5	I don't have any idea about CR program (example; my physician or health care provider did not tell me regarding it)	16	0	1	1	82
6	I did not want CR (example; heart problem treated, feel well, not severe)	71	0	18	1	10
7	I am exercising in my community, or at home	74	0	21	0	5
8	Severe weather	75	0	21	0	4
9	I find exercise tiring or painful	46	1	20	2	31
10	Travel (e.g., holidays, business, cottage)	30	0	18	5	47
11	Time constraints (example; too busy, inconvenient class	38	1	20	4	37

	time)					
12	Work responsibilities	40	0	18	2	40
13	I do not have enough energy	48	0	18	2	32
14	Additional health related issues restrict me from going; like kidney stones or dialysis, knee osteoarthritis, common flue or fever	72	0	19	2	7
15	I am too old	68	3	9	3	17

DISCUSSION

Cardiac Rehabilitation is a broad spectrum for the management of cardiovascular diseases and cardiac issues; whether recurring or may occur once. CR is significantly related to reduce mortality and morbidity rate and hence it is grossly practiced around the globe.

April 2007, an article was published by the name of barriers to participation in cardiac rehabilitation. In this article it was resulted that rural persons feel that lack of resources perceived distance is the major barrier.⁽⁸⁾

Many of the participants in this study said that they were never referred for cardiac rehabilitation program or their physician or health care provider didn't felt that it was needed. As depicted earlier as well that 83% agreed that I was unable to go to the CR program, 16% disagreed and only 1% neither agreed nor disagreed, and 81% agreed that I was unable to go to the CR program, or if I went to the program I missed few of the sessions for the reason, and 19% disagreed. Hence, in year 2016, "Assessing Physician Barriers to Cardiac Rehabilitation Referral Rates in a Tertiary Teaching Centre" article was published. This survey has concluded that there are physician barriers; which include staff and medicine residents.⁽¹⁰⁾

In year 2008, resulted that barriers were seen for both patients and health care professionals. It was concluded that health care professionals should take measures including making changes in health policies, increasing referral ratio and enhancing CR program with respective to women needs and preferences^(11,12).

It is seen one of the studies published in year 2013, mounting a questionnaire to recognize apparent obstacles to put into practice the Dutch physical therapy chronic obstructive disease, clinical practice principle, article was published. Whereas, this study shows that the quantitative data for the exceeding barriers, related to financial problems in percentage, is detailed as followed 82% agreed that I was unable to go to the CR program and 18% disagreed to it.

A study concluded that those who did not attended cardiac rehabilitation reported have more barriers as compared to those who attended it. It is expected that stipulation of CR will rise and developmental schemes would be in a proper way which subsides the major obstacles⁽¹³⁾. It is observed that attendance rate has been low in participating for cardiac rehabilitation. Out of all

84% said no they are currently not attending the CR program and reaming 14% said that they were attending CR program. And, when the respondents were asked about that did they ever attend the cardiac rehabilitation program, 96% of them said they never attend the CR program earlier in their life but only 4% said that they had previously attended the CR program as well.

CONCLUSION

It has been concluded from the study that there are numerous barriers at the level of health care system, patients, society and environment that prevent patients to participate in the program of cardiac rehabilitation. Many of the participants found distance, cost, travel, and transportation and family responsibilities as their major barrier.

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Conflict of Interest: The study has no conflict of interest to declare by any author.

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