



**The Abstracts Book of 29<sup>th</sup> One Day  
National Level Conference on**

**PROCARDIO - 2022  
CARDIAC REHABILITATION -  
THE INEVITABLE FUNCTIONAL  
BYPASS**

**29.12.2022**

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Institute of Physiotherapy  
**City Campus, Pandeshwar, Mangaluru**

**BOOK OF ABSTRACTS**

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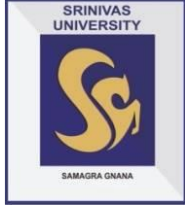
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Cordially invite you to the Inaugural function of

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One day National CME on

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(Secretary, A Shama Rao Foundation, Mangaluru)

will be the Guests of Honour

Date: 29/12/2022

Time: 9.30 a.m.

Venue: Hotel Srinivas Saffron, G.H.S Road, Mangaluru

**Dr.S.Rajasekar**

**Dean, Physiotherapy & Organising Chairperson**

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# **EFFICACY OF DIFFERENT MODES OF CARDIAC REHABILITATION AND ITS BENEFITS: A LITERATURE REVIEW**

**Dr. M. Premkumar (Associate Professor)**

**Shivani Patil,**

**Vidya Dadam**

**BACKGROUND-** The benefits of cardiac rehabilitation depend on which type of cardiac condition is being treated. Over the past three decades, cardiac rehabilitation has been shown to have numerous advantages, including improving emotional well-being, lowering cardiovascular risk, and improving several other outcomes. Though there are several publications which states that cardiac rehabilitation is an effective programme to improve patients' overall quality of life. There is a paucity of literature search for exactly which type of method is helpful in improving patient's condition also which mode of the treatment is beneficial for patients' recovery henceforth, this literature search is going to be carried out to find out the effective mode/method of cardiac rehabilitation and how helpful that mode is to improve QOL of patients.

**OBJECTIVES-** To determine the efficacy of different modes of cardiac rehabilitation in cardiovascular disease patients.

**METHODOLOGY -** Literature published after 2015 till 2022 was searched using Pub med, Google scholar, and Cochrane library these databases. The search was conducted using key words those keywords, Cardiac rehabilitation, Home based rehabilitation, Centre based rehabilitation, Tele rehabilitation. Papers were included according to inclusion criteria Full text written English language articles published after 2015 till 2022, all RCT's, systematic review and meta-analysis , pilot study. Articles other than RCT, systematic review and meta analysis which are published before 2015 were excluded.

**ANALYSIS AND INTERPRETATION -** According to previous studies it has been established that any mode of cardiac rehabilitation would be beneficial for the patient to improve the overall quality of life. All type of cardiac rehabilitation is similarly effective to improve the patient's overall health. Henceforth, patients can choose any mode of cardiac rehabilitation that is most comfortable for them as provided the rehabilitation will have the same beneficial effects in any chosen mode.

**CONCLUSIONS-** This literature review suggests even though application and modes of cardiac rehabilitation differs, the functional outcome and its benefits does not vary significantly. Thus, this literature review concluded that irrespective of modes and application of cardiac rehabilitation as a whole it is very effective and beneficial for patients with cardiovascular diseases.

**KEYWORDS:** Cardiac rehabilitation, Home based rehabilitation, Centre based rehabilitation, Tele rehabilitation.

## **ROLE OF VIRTUAL REALITY IN CARDIAC REHABILITATION TO IMPROVE FUNCTIONAL ABILITY – LITERATURE REVIEW**

**Hareesh HK (Intern),**

**Dr. Premkumar M (Associate Professor),**

**Dr. Prajna Rao, (Assistant Professor)**

### **INTRODUCTION:**

- The advance cardiac rehabilitation witnessed Virtual reality(VR) in a physical therapy protocol to boost the activity and encourage the rehabilitation process. VR used as man-machine integration allowing real-time, and Three-dimensional movement.
- Before VR has been used in many area's of health care like anxiety, post stroke and balance. It has least used in Cardiac Rehabilitation(CR).
- Several studies examined VR in combination with stage Three CR when patient is about to perform Physical activity in home. 64% patients motivated to continue the exercise with VR application. But there will be lack in stage Two CR.

### **OBJECTIVES:**

To know the effects of virtual reality in cardiac rehabilitation on body composition and functional capacity in patients with disease.

### **METHODOLOGY:**

Articles were obtained using these databases Google Scholar, Pubmed

Key words used: “virtual reality” “Cardiac rehabilitation”.

20 articles were obtained after using the keywords from the databases. 15 articles were excluded and 5 articles were included in the study.

### **ANALYSIS & INTERPRITATION:**

The studies which were included showed significant improvement in body composition, functional ability and psychological well being using VR in patients with cardiac disease Patients who undergone CR.

### **CONCLUSION:**

VR will help to increase the strength of the patient by physically and psychologically by improving their functional out come while performing CR.



**KEY WORDS** : “Virtual reality” “Cardiac Rehabilitation”

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**Abstract**



**EFFECTIVENESS OF COMPREHENSIVE CARDIAC REHABILITATION IN  
CORONARY ARTERY DISEASE PATIENT TREATED BASED ON CARDIAC  
REHABILITATION OUTCOME STUDY**

**Anju Elizebeth N Jose (Intern)**

**Christeena Jose (Intern)**

**ABSTRACT**

**INTRODUCTION**

Acute coronary syndromes have shown a remarkable disease which is associated with the implantation of acute coronary revascularization and long-term pharmacotherapy

The CROS aimed to evaluate the prognostic effect of CR after ACS and CABG

**AIM:**

The goal of the Cardiac Rehabilitation Outcome Study (CROS) was to assess the prognostic value of cardiac rehabilitation (CR) following coronary artery bypass grafting (CABG) and acute coronary syndrome (ACS). CROS confirmed a positive effect of CR on the basis of primarily controlled observational studies including a sizable number of patients.

**OBJECTIVES:**

The objective of this CROS update was to critically reassess the findings of CROS considering recently published CR studies that met the strict CROS inclusion criteria.

**NEED OF STUDY:**

The purpose of this update was also to clarify the CR effect on non-fatal and secondary clinical endpoints, which represents a diverse area of clinical CR research.

**METHODOLOGY:**

Articles were obtained using the databases from Google Scholar and PubMed.

Keywords:

Cardiac rehabilitation, cardiac rehabilitation delivery, acute coronary syndrome,

Coronary bypass grafting, coronary artery disease, mortality.

6 articles were obtained after using the keywords from the databases. 3 articles were excluded, and 3 articles were included in the study.

**ANALYSIS:**

The studies which were included shows significant improvement in cardiac rehabilitation health care decision makers and patient preference.

**CONCLUSION:**

CROS II confirms the effectiveness of cardiac rehabilitation participation after acute coronary syndrome and after coronary artery bypass grafting in acute clinical practice by reducing total mortality under the conditions.

**REFERANCE:**

1. Ford ES, Ajani UA, Croft JB, et al. Explaining the decrease in U.S. deaths from coronary disease, 1980– 2000. *N Engl J Med* 2007; 356: 2388–2398.
2. Puymirat E, Simon T, Cayla G, et al. Acute myocardial infarction: changes in patient characteristics, management, and 6-month outcomes over a period of 20 years in the FAST-MI Program (French Registry of Acute STElevation or Non-ST-Elevation Myocardial Infarction) 1995 to 2015. *Circulation* 2017; 136: 1908–1919.
3. Szummer K, Wallen tin L, Lindhagen L, et al. Relations between implementation of new treatments and improved outcomes in patients with non-ST-elevation myocardial infarction during the last 20 years: experiences from SWEDHEART registry 1995 to 2014. *Eur Heart J* 2018; 39: 3766–3776.

# **PHYSICAL FITNESS OF ADOLESCENT SMOKER**

**Ankita. Ahir** (Intern)

**Sanjay Baldaniya** (Intern)

**Dr. Premkumar M** (Associate Professor)

**Dr. Prajna Rao** (Assistant Professor)

## **ABSTRACT**

### **INTRODUCTION:**

Teenagers are the nation's future leaders. They are the primary driver of economic expansion and growth. Nowadays, this generation is more prone to smoking addiction. Smoking addiction has a negative impact on the body.

Smoking behaviour carried out by adolescents have a bed influence on health and fitness.

Lung cancer and chronic pulmonary disease are often suffered by smoker.

Acute respiratory infection (ARI) term is commonly used for diagnosing the respiratory disorders.

The children and adolescents have a greater potential for disease because of the nervous system is inhibited by some of the toxic substances that present in cigarettes.

### **OBJECTIVES:**

To know the effects of physical fitness in the adolescent smoking person.

To know thw effect of smoking in adolescent smoker.

### **METHEDOLOGY:**

This study was a quantitative observational analytic study using a cross sectional study design

Articles were obtained using these databases Google Scholar, Pubmed

Key words used: “physical fitness” “adolescent”.

60 articles were obtained after using the keywords from the databases. 46 articles were excluded and 14 articles were included in the study.

### **ANALYSIS & INTERPRITATION:**

This study used spirometer, Hb quick check test, field or flat surface of at least 22 meters, MFT mp3 audio test, speaker sound, ruler, cone, MFT form and stationery.

All statistical data were analyzed using SPSS version 22 software.

The studies which were included showed significant improvement in 1 smoker adolescent had very good physical fitness, 8 smoker and 12 non-smoker adolescents had good physical fitness, 4 smoker and 7 non-smoker physical fitness, while 7 smoker and 1 non-smoker adolescents had poor physical fitness

### **CONCULSION:**

Smoking behaviours have an impact on adolescent lungs' vital capacities, which are lower in smokers' lungs than in non-smokers' lungs. Teenagers who smoke have higher haemoglobin levels than teens who don't smoke, which has an impact on how fit they are. Adolescents are required to maintain their physical fitness through engaging in healthy activities. Teenagers who smoke are also expected to try to quit smoking and cut back on the number of cigarettes they smoke each day.

**KEY WORDS** : Physical fitness, Adolescent Smoker, Haemoglobin, Vital Capacity.

# **EFFECT OF EARLY MOBILIZATION THERAPY IN PATIENTS AFTER CARDIAC SURGERY –LITRATURE REVIEW**

**APARNA C O ( INTERN)**

**ANUSREE M (INTERN)**

## **ABSTRACT**

### **INDRODUCTION:**

- The risk of long-term cognitive and physical deficits is increased by prolonged hospitalization and immobilization in critical care patients.
- Because study populations, interventions, and outcome measures vary, it has been challenging to assess the therapeutic effects of E M.
- E M therapy for patients after non-emergency heart surgery in the intensive care unit is being evaluated in this systematic review and meta-analysis (ICU).

### **AIMS**

- To prevent post operative complication
- To decrease the length of hospital stay
- To return the daily activities

### **OBJECTIVES**

To evaluate the evidence for the effect of E M in patients after C S on length of hospital stay, functional capacity and post operative complications.

### **METHEDOLOGY**

Article we obtained using these databases Google scholar, pubmed

Keywords used “C S” “E M”

10 articles were obtained after using the key words 7 articles were excluded and 3 articles were included in the study.

### **ANALYSIS**

The studies which were included showed significant improvement in the E M seems to be important to prevent post operative complications, improve functional capacity, reduce length of hospital stay in patients after C S.

### **CONCLUSION**

Whatever mobilization methods are employed, it is crucial to avoid bed rest. E M appears to be crucial for patients who have undergone C S to avoid post operative complications, increase functional ability, and shorten hospital stays.

**KEY WORDS:** EARLY MOBILIZATION-E S  
CARDIAC SURGERY-C S

### **REFERENCE**

- Chen, B., Xie, G., Lin, Y., Chen, L., Lin, Z., You, X., Xie, X., Dong, D., Zheng, X., Li, D., & Lin, W. (2021). A systematic review and meta-analysis of the effects of early mobilization therapy in patients after cardiac surgery. *Medicine*, 100(15), e25314. <https://doi.org/10.1097/MD.00000000000025314>
- Ramos Dos Santos, P. M., Aquaroni Ricci, N., Aparecida Bordignon Suster, É., de Moraes Paisani, D., & Dias Chiavegato, L. (2017). Effects of early mobilisation in patients after cardiac surgery: a systematic review. *Physiotherapy*, 103(1), 1–12.
- <https://doi.org/10.1016/j.physio.2016.08.003> Doiron, K. A., Hoffmann, T. C., & Beller, E. M. (2018). Early intervention (mobilization or active exercise) for critically ill adults in the intensive care unit. *The Cochrane database of systematic reviews*, 3(3), CD010754. <https://doi.org/10.1002/14651858.CD010754.pub2>

# **ROLE OF CARDIAC REHABILITATION IN CHRONIC SMOKERS**

**CHILLA JOSE (Intern SCPT)**

**THERESA TOMY (Intern SCPT)**

## **ABSTRACT**

### **INTRODUCTION**

- Participation in cardiac rehabilitation and quitting smoking reduces morbidity and mortality.
- Smoking is major risk factor for all cardiac problems and biggest threat of the world.
- Continued smoking after a cardiac event greatly increases mortality risk.
- Cardiac rehabilitation improves overall health of the patients and it is the most cost effective intervention that can be undertaken.

### **OBJECTIVES**

To know the effect seen in chronic smoker with help of cardiac rehabilitation.

### **METHODOLOGY**

Articles were obtained using the data bases from Google Scholar , PubMed

Key words used: Cardiac rehabilitation, chronic smoking

5 articles were obtained after using key words from the data bases.2 articles were excluded and 3 articles were included in this study.

### **ANALYSIS**

The majority of patients believed that cardiac rehabilitation would enhance their general health, assist them in quitting smoking, and enhance everyone's health.

### **CONCLUSION**

Smokers who are hospitalized for severe cardiac problems have a strong desire to stop smoking and enroll in cardiac rehabilitation programs.

### **KEYWORDS**



## **SIGNIFICANCE OF CARDIAC REHABILITATION DURING COVID-19 PANDEMIC**

**Deeksha (Intern)**  
**Ravindra Rathod (Intern)**  
**Dr. Premkumar M**  
**(Associate Professor)**  
**Dr.Prajna Rao**  
**(Assistant Professor)**

### **ABSTRACT**

#### **INTRODUCTION:**

Cardiac rehabilitation is a structured program combining exercise, risk factor modification, and psychosocial support which reduces morbidity, mortality, and healthcare costs in appropriately selected patients with cardiovascular disease.

On March 11th, 2020, the World Health Organization declared the coronavirus disease 2019 (COVID-19) a pandemic. This has led to widespread disruption of center-based cardiac rehabilitation programmes and other social opportunities for cardiovascular disease patients to engage in healthy exercise.

#### **OBJECTIVES:**

To know the effect of cardiac rehabilitation in patient suffering from coronavirus during pandemic

#### **METHODOLOGY:**

Articles were obtained using these databases Google Scholar, PubMed

Keywords used: "Covid 19" "Cardiac Rehabilitation".

15 articles were obtained after using the keywords from the databases. 11 articles were excluded and 4 articles were included in the study.

#### **ANALYSIS:**

This study which was included shows significant improvement in body fitness and functional capacity improvement in covid patients following cardiac rehabilitation program.

## **CONCLUSION:**

This study concluded that patient with COVID-19 would require an exercise based cardiac rehabilitation which improves the outcomes and quality of life of patients during the pandemic, but it also serves to overcome barriers such as transportation and social issues which are prohibited during pandemic.

## **KEY WORDS:**

“Covid 19”

“Cardiac Rehabilitation”

## **REFERENCE:**

1. Mariaconsiglia Calabrese, Marina Garofano , Roberta Palumbo et al. Exercise Training and Cardiac Rehabilitation in COVID-19 Patients with Cardiovascular Complications: State of Art Journal of Life (2021)
2. Susan Marzolini, R Kin, PhD et al. Cardiac Rehabilitation in Canada During COVID-19 Journal of CJC Open (2021)

# **ROLE OF VIRTUAL REALITY IN CARDIAC REHABILITATION TO IMPROVE FUNCTIONAL ABILITY – LITERATURE REVIEW**

**HAREESH HK (Intern, SCPT)**

**DR. PREMKUMAR M**

**(ASSOCIATE PROFESSOR, SCPT)**

**DR. PRAJNA RAO**

**(ASSISTANT PROFESSOR, SCPT)**

## **ABSTRACT**

### **INTRODUCTION:**

- The advance cardiac rehabilitation witnessed Virtual reality(VR) in a physical therapy protocol to boost the activity and encourage the rehabilitation process. VR used as man-machine integration allowing real-time, and Three-dimensional movement.
- Before VR has been used in many area's of health care like anxiety, post stroke and balance. It has least used in Cardiac Rehabilitation(CR).
- Several studies examined VR in combination with stage Three CR when patient is about to perform Physical activity in home. 64% patients motivated to continue the exercise with VR application. But there will be lack in stage Two CR.

### **OBJECTIVES:**

To know the effects of virtual reality in cardiac rehabilitation on body composition and functional capacity in patients with disease.

### **METHODOLOGY:**

Articles were obtained using these databases Google Scholar, Pubed

Key words used: “virtual reality” “Cardiac rehabilitation”.

20 articles were obtained after using the keywords from the databases. 15 articles were excluded and 5 articles were included in the study.

### **ANALYSIS & INTERPRITATION:**

The studies which were included showed significant improvement in body composition, functional ability and psychological well being using VR in patients with cardiac disease Patients who undergone CR.

**CONCLUSION:**

VR will help to increase the strength of the patient by physically and psychologically by improving their functional out come while performing CR.

**KEY WORDS :** “Virtual reality” “Cardiac Rehabilitation”

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**Abstract**



# **CARDIAC REHABILITATION IN MYOCARDIAL INFARCTION PATIENTS**

**Josemon Johnson (Intern)**

**Basil Binoy (Intern)**

**Dr. Premkumar M**

**(Associate Professor)**

## **ABSTRACT**

### **INTRODUCTION:**

Cardiac rehabilitation (CR) has evolved from exercise only into a comprehensive program that also addresses other cardiovascular disease risk factors and provides education and social support. Cardiovascular diseases, in particular, myocardial infarction (MI), are the main threats to human health in modern times. Cardiac rehabilitation (CR), and especially increased physical activity, significantly prevent the consequences of MI.

### **OBJECTIVES:**

To know the effects of cardiac rehabilitation on myocardial infarction patients with disease.

### **METHODOLOGY:**

1. Exercise stress test
2. 6-minute walk test
3. Localized Training

### **RESULTS:**

The exercise stress test time and the metabolic equivalent of task (MET), the maximal oxygen consumption (VO<sub>2</sub>max), and 6MWT score increased significantly ( $p = 0.0001$ ) at two time-points of observation.

### **CONCLUSION:**

CR significantly improves physical performance in patients after MI and Younger patients benefit more from cardiac rehabilitation than older patients.

**KEY WORDS :**

myocardial infarction (MI)  
Cardiac rehabilitation (CR)

## **CARDIAC REHABILITATION WITH EXERCISE FOR CORONARY HEART DISEASE**

LINSA SAJI JOHN (INTERN )

JOMOL JOJI (INTERN)

### **ABSTRACT**

### **Introduction**

- Cardiac rehabilitation is a package of lifestyle secondary prevention strategies designed for patients with coronary heart disease. Globally, coronary heart disease (CHD) is the leading cause of death. However, a growing proportion of CHD patients may require assistance to manage their symptoms and prognosis as a result of declining CHD mortality rates.
- Cardiovascular rehabilitation (CR) focused on exercise seeks to enhance the health and results of those with CHD. Exercise training has been utilised for more than 2500 years to control diabetes, promote weight loss, build muscular strength and mass, and lower the “incidence of disease”
- The survival and quality of life of patients are believed to be improved by exercise training, which is currently seen as a crucial element of an all-encompassing CR programme. The debate about best practises persists despite the widespread use of exercise training in CR.

### **Objective**

To assess the clinical electiveness and cost-electiveness’ of exercise-based CR in coronary heart disease patients.

### **Methodology**

Articles were obtained using the data bases from “GOOGLE SCHOLAR” and “PUBMED

15 articles were obtained after using the keywords from the databases. 12 articles were excluded and 3 articles were included in the study.

Cardiac rehabilitation techniques:

- Comprehensive CR (The intervention could be exercise training alone or exercise training in addition to psychosocial or educational interventions, or both)
- Centre -based CR
- Tailored exercise techniques
- Aerobic interval or high intensity interval training (HIIT)
- Tele- based rehabilitation technique

## **ANALYSIS**

These studies has showed significant improvement in body composition, functional ability as well as psychological well being in wide range of heart disease patients. Thus , CR is a vital therapy tool. Effective behaviour modification strategies must be undertaken in order to sustain good lifestyle changes over the long term, and they must be uniquely adjusted to match the needs of each patient.

## **Conclusion**

Centre-based CR is the ideal therapy strategy for CHD patients. Future studies should look more closely at the effectiveness of home-based CR and tele-based CR because they can save time, money, effort, and resources and can even be preferred by patients.

## **Keyword**

Coronary heart disease, cardiac rehabilitation, exercise based cardiac rehabilitation, exercise training .

## **Reference**

1. Dibben, G., Faulkner, J., Oldridge, N., Rees, K., Thompson, D. R., Zwisler, A. D., & Taylor, R. S. (2021). Exercise-based cardiac rehabilitation for coronary heart disease. *The Cochrane database of systematic reviews*, 11(11), CD001800.  
<https://doi.org/10.1002/14651858.CD001800.pub4>

2. Nichols, S., McGregor, G., Breckon, J., & Ingle, L. (2021). Current Insights into Exercise-based Cardiac Rehabilitation in Patients with Coronary Heart Disease and Chronic Heart Failure. *International journal of sports medicine*, 42(1), 19–26. <https://doi.org/10.1055/a-1198-5573>
3. Xia, T. L., Huang, F. Y., Peng, Y., Huang, B. T., Pu, X. B., Yang, Y., Chai, H., & Chen, M. (2018). Efficacy of Different Types of Exercise-Based Cardiac Rehabilitation on Coronary Heart Disease: a Network Meta-analysis. *Journal of general internal medicine*, 33(12), 2201–2209. <https://doi.org/10.1007/s11606-018-4636-y>

## **EFFECTS OF CARDIAC REHABILITATION IN PATIENTS WITH ANXIETY AND DEPRESSION:A REVIEW**

**MERIN PAUL  
ANAGHA T.V**

**[INTERNS]**

### **ABSTRACT**

#### **INTRODUCTION:**

Exercise – Based Cardiac Rehabilitation often includes various psychological interventions for life style change or distress management. However, the additional benefit of specific psychological interventions on depression, anxiety, quality of life, cardiac morbidity and cardio vascular or total mortality is not well investigated.

#### **AIM:**

To examine the effectiveness of a cardiac rehabilitation programme on health related quality of life associated with symptoms of anxiety and depression in moderate risk patients.

#### **NEED OF STUDY:**

To improve the quality of life and to identify the need for additional psychological health support.

#### **METHODOLOGY:**

Articles were obtained using the databases from Googles Scholar; PubMed.



Keywords used: Cardiac rehabilitation, anxiety and depression, psychological intervention.

10 articles were obtained after using the keywords from the databases. 6 articles were excluded and 4 articles were included in this study.

### **ANALYSIS:**

The results of this study show that the type of cardiac rehabilitation program did not influence the improvement in quality of life but it achieved a decrease in anxiety and depression symptoms and improved functional capacity.

### **CONCLUSION:**

Monitoring depression and anxiety symptoms on entry and during cardiac rehabilitation can assist to improve adherence and may identify the need for additional psychological health support.

### **KEY WORDS:**

Cardiac rehabilitation, Patient with anxiety and depression.

### **REFERANCE:**

1. Albus, C., Herrmann-Lingen, C., Jensen, K., Hackbusch, M., Muench, N., Kuncewicz, C., ... & German Society of Cardiovascular Prevention & Rehabilitation (DGPR). (2019). Additional effects of psychological interventions on subjective and objective outcomes compared with exercise-based cardiac rehabilitation alone in patients with cardiovascular disease: a systematic review and meta-analysis. *European journal of preventive cardiology*, 26(10), 1035-1049.
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# **CHALLENGES IN CARDIOVASCULAR DISEASE TREATMENT USING CARDIAC REHABILITATION AND EXERCISE**

**ALKA RAGH V**

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**[INTERNS]**

## **ABSTRACT**

### **INTRODUCTION:**

- Cardiac rehabilitation [CR] is complex intervention that seeks to improve the functional capacity, well being and health related quality of life of patient with heart disease
- Regular dynamic exercise as a rehabilitative measure is accepted as the major component of cardiac rehabilitation programme.

### **OBJECTIVES:**

To evaluate the challenges in heart disease treatment using cardiac rehabilitation and exercise

### **METHODOLOGY:**

Articles were obtained using the data bases from Google Scholar, PubMed

Key words used: “cardiac rehabilitation” “cardiovascular disease”

9 articles were obtained after using the keywords from the data bases. 6 articles were excluded and 3 articles were included in this study.

### **ANALYSIS:**

The study which was included shows significant improvement during exercise in cardio vascular patients who had undergone cardiac rehabilitation programme

## **CONCLUSION:**

Cardiac rehabilitation will help to reduce the challenges in patients with cardiovascular disease and to improve the patient's quality of life

## **KEYWORDS:**

“Cardiac rehabilitation” “Cardiovascular disease”

# **CARDIAC REHABILITATION AND TELEMEDICINE DIGITAL TECHNOLOGY**

**SHILPA MANOJ K,  
SHARIKA R (INTERNS)**

## **ABSTRACT**

### **INTRODUCTION**

- Cardiac rehabilitation programs work to minimize the physical and psychological strains inflicted upon with cardiovascular illness, minimize the risk of death from it, and restore cardiovascular function to enable patients survive as comfortably as possible.
- These efforts have faced challenges due to the COVID19 pandemic. A virtual platform could be a practical answer to these challenges.
- Telemedicine is the provision of clinical services information and services via electronic technology and communication. It provides remote admissions as well as long-distance patient and clinician consultation, care, advice, alerts, instruction, intervention, and surveillance.
- Remote patient surveillance and Tele Cardiac Rehabilitation provide an excellent practical alternative.

### **AIM**

- For the people who reside in remote or isolated communities ought to have easier health care access.
- To reduce the expenses.
- To ensure contactless consultation during any outbreak of pandemic or epidemic

### **OBJECTIVES**

- Improving patient outcome in cardiac rehabilitation
- Reducing hospital readmissions
- Providing access to new specialties
- Providing 24/7 access to specialists
- Reducing emergency departments overcrowding

### **METHODOLOGY**

Articles were obtained using the data bases from google scholar, PubMed.

Keywords used; Cardiac rehabilitation, telemedicine, digital technology.

10 articles were obtained after using keywords from the data bases. 7 articles were excluded and 3 articles were included in this study.

The basic components of a modern digital tele communications systems must be capable of transmitting voice, data, radio, and television signals. Information transmitting technologies and communications infrastructures such as; wired phones, cell phones, microwave communications, fibre optics, satellites; radio and television broadcasting, the internet, the telegraphs.

## **CARDIOVASCULAR REHABILITATION AND THE SECONDARY PREVENTION OF CARDIOVASCULAR DISEASES**

**Shahbaz Hamza,**

**Mohamed Shakeelu Saman P.O [Interns]**

### **ABSTRACT**

#### **INTRODUCTION**

Cardiac rehabilitation is described as a secondary preventive strategy that lowers mortality, lowers the chance of recurrent events, and raises the quality of life for people with cardiovascular disease (QoL)

The major cause of morbidity and mortality is cardiovascular disease, and coronary artery disease is one of the leading causes of death. Due to the increased prevalence of cardiovascular (CV) risk factors such obesity, increased atherogenic lipids and blood pressure (BP), and type 2 diabetes mellitus

Cardiac rehabilitation (CR), which consists of various therapies achieving maximum social, psychological, and physical function, is an essential element of secondary prevention for patients with CAD.

#### **OBJECTIVE**

The goal is to understand intensive CR (ICR) and standard CR (SCR) programmed for enhancing cardiometabolic, psychosocial, and clinical outcomes in high-risk CVD patients taking guideline-based treatment

#### **METHODOLOGY**

Articles were obtained using the databases from google scholar, PubMed

Key words: cardiac rehabilitation, cardiovascular disease, quality of life, obesity

10 articles were obtained after using the key words from the databases. 6 article were excluded and 3 articles were included in the study

### **ANALYSIS**

The results of this study shows that the type of cardiac rehabilitation program did not influence quality of life but it achieved a decrease in cardiovascular disease and improve the quality of life

### **CONCLUSION**

This study advances on prior knowledge of the barriers and facilitators for exercise-based CR by demonstrating that patients with CAD experience existential considerations about exercise both throughout the rehabilitation process and for their future attitudes toward exercise.

### **KEYWORDS**

Cardiac rehabilitation, cardio vascular disease, obesity, quality of life

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# **HAEMODYNAMIC RESPONSES TO EXERCISES IN DIURNAL AND SEASONAL VARIATIONS: A LITERATURE REVIEW**

**Dr. M. Premkumar (Associate Professor),**

**Subha Shankar Sahoo, Sweety Agarwal, Harshitha Hugar**

**BACKGROUND-** Seasonal variations and hemodynamic parameters must be considered when prescribing physical exercise. Previous research evidence on physiological changes on hemodynamic parameters in response to diurnal and seasonal variation is available, but there is a lack of literature on changes in hemodynamic parameters in response to physical exercise. This review of the literature helps to configure the structuring exercises based on diurnal and seasonal variations to prevent cardiovascular diseases, resulting in a lower morbidity and mortality rate.

**OBJECTIVE-** To know the hemodynamic responses to exercise in diurnal and seasonal variation.

**METHODOLOGY-** The literature published after 2017 to 2022 was searched working on google scholar, PubMed, web of science, science direct these databases. The keywords to search these articles are “haemodynamic parameters, diurnal, seasonal variations and exercise”. The articles were chosen based on the inclusion criteria, Full-text written English articles published between 2017 and 2022, including all RCTs, systematic reviews, and meta-analyses. Other than Abstract, cross-sectional studies, cohort studies, case series, case reports, and articles published prior to 2017 were not considered.

**ANALYSIS AND INTERPRETATION-** Physical activity is more beneficial in hot weather (summer season) and also in the evening. Heat exercises improve skin blood flow, decrease visceral blood flow, and reduce VO<sub>2</sub>max and O<sub>2</sub> supply in less active muscle aerobic energy production. Seasonal variations, such as cold temperatures, increase the number of cases of heart failure, which is also a risk factor.

**CONCLUSION-** This review of the literature suggests that when prescribing physical exercise, Haemodynamic Responses to Exercises in Diurnal and Seasonal Variations may

vary significantly. Thus, the literature review concludes that when prescribing physical exercise to patients, seasonal and diurnal variation in haemodynamic parameters is important.

**KEYWORDS-** Haemodynamic parameters, Diurnal, Seasonal variations and Exercise

## **EFFECTIVENESS OF EXERCISE-BASED CARDIAC REHABILITATION IN PATIENTS WITH CORONARY ARTERY DISEASE**

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**Dr. Premkumar M (Associate Professor)**

Key words: “Exercise – based Cardiac rehabilitation” “Coronary artery disease”

### **ABSTRACT**

#### **INTRODUCTION:**

- Exercise-based cardiac rehabilitation (CR) is a crucial part of treating coronary artery disease (CHD).
- Developing exercise-based CR programs requires evaluating the effectiveness of contemporary alternative treatment modalities. For patients with coronary artery disease, home-based exercise programs have been used as an alternative to standard CR.
- recent clinical and scientific evidence supports the fact regular cardiovascular exercise participation is in the most potent lifestyle therapies to treat coronary artery disease (CAD)

#### **OBJECTIVES:**

To determining the efficacy of modern alternative treatment methods is the key to developing exercise-based CR programs.

#### **METHODOLOGY:**

Articles were obtained using these databases Google scholar, Pubmed.

Keywords: Exercise- based cardiac rehabilitation” “coronary artery disease”.

Time line: 2017-2022

16 articles were obtained after using the keywords from the databases. From the database 12 articles were excluded and 4 articles were included in the study.

### **ANALYSIS AND INTERPRITATION:**

The studies which were included showed improvement in cardio respiratory fitness, body composition, Physical activity. Aerobic exercise which improve the cardiovascular conditioning and decreases risk of heart disease .

### **CONCLUSION:**

Exercise based CR exerted important beneficial effects. Specially exercise Decreased the incidence of CV mortality and hospital readmission and improved health-related quality of life, findings that are consistent with those of our study. Exercise-based cardiac rehabilitation programme will need to take into account these and other aspects, such as building an exercise -based support system, in order to obtain better results in terms of quality of life.



# **POST CABG CARDIAC REHABILITATION – A LITERATURE REVIEW**

**Srichandh V P,**

**Tessy Benoy**

**(Interns)**

## **ABSTRACT**

### **INTRODUCTION:**

- Coronary artery bypass graft surgery (CABG) is a procedure used to treat coronary artery disease. Coronary artery disease (CAD) is the narrowing of the coronary arteries – the blood vessels that supply oxygen and nutrients to the heart muscle.
- Cardiac Rehabilitation is a comprehensive program, integrating individualized and supervised exercise with education, both important for patients after CABG.
- Its use in these conditions is supported by a robust body of research demonstrating improved clinical outcomes. Despite this evidence, cardiac rehabilitation referral and attendance remains low and interventions to increase its use need to be developed.

### **OBJECTIVES:**

This study was to evaluate the effects of different rehabilitation protocols used in inpatient cardiac rehabilitation on functional capacity and pulmonary function in patient status post-CABG surgery.

### **METHODOLOGY:**

- Articles were obtained using the data bases from google scholar, PubMed.
- Keywords used; CABG, Cardiac rehabilitation.
- 10 articles were obtained after using keywords from the data bases. 7 articles were excluded and 3 articles were included in this study.
- The purpose of this study was to evaluate the effects of different rehabilitation protocols used in inpatient cardiac rehabilitation on functional capacity and pulmonary function in patient status post-CABG surgery.

### **ANALYSIS & INTERPRETATION:**

This was a single-blind randomized controlled trial. The primary endpoint of functional capacity and secondary endpoints of lung capacity and respiratory muscle function were assessed in patients scheduled to undergo CABG.

**CONCLUSION:**

Patients with CABG will benefit from cardiac rehabilitation by having fewer difficulties and a higher quality of life.

**KEY WORDS:** CABG, Cardiac rehabilitation.

# **CARDIOVASCULAR REHABILITATION IN HEART FAILURE PATIENTS**

**Vishvesha Rao**

(Intern)

**Dr. Premkumar M**

(Associate Professor)

## **ABSTRACT**

### **Introduction:**

A multidisciplinary approach known as cardiac Rehabilitation comprises exercise instruction, reduction of Cardiac risk factors, psychosocial assessment, and results Evaluation. Exercise instruction and other cardiac Rehabilitation (CR) components are helpful and safe, and they Significantly increase functional capacity, quality of life, and Overall health. Exercise efficiency with HF patients' Hospitalization for HF-related reasons. CR is still Underutilized despite having positive outcomes, being cost-effective, and having solid practice guideline Recommendation. CR is defined as "a physician-supervised Program that factor modification, psychosocial assessment, And outcomes assessment"

### **Method:**

1. Inspiratory muscle training
2. Resistance training
3. Interval training and High intensity training
4. Localised training

### **Results:**

Exercise should be recommended using a customised approach, enhancing the rehabilitation programme, and taking into account the patient's characteristics. Older patients, individuals with HF with preserved ejection fraction, and recipients of cardiac implanted electronic devices or left ventricular support devices are all targeted by specific CR programmes.

**Conclusion:**

CR is beneficial in patients with HF and is recommended as a Class 1A indication in HF practice Guidelines. Clinicians, health care leaders, and payers Should show attention to incorporating CR as part of Standard care for patients with HF.

**Key words :** Cardiac Rehabilitation, Heart failure.