



# Patients with Cardiac Conditions' Awareness and Impression of Cardiovascular Physical Therapy in Saudi

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## ABSTRACT:

Worldwide, cardiovascular illnesses account for 30% of all deaths. It is common knowledge that cardiovascular physiotherapy plays an important part in the treatment of cardiac conditions. Despite this, there is evidence to show that many of these individuals do not stick to their treatment plans. This study provides valuable insight into the perspectives of cardiac patients on cardiovascular physiotherapy by revealing the extent to which they are aware of the therapy's significance and its potential effects on their condition. Patients with a cardiac diagnosis at different Saudi hospitals filled out a self-designed questionnaire, which was analyzed descriptively using Microsoft Excel. Poor awareness was found among Saudi patients with heart conditions, according to this research. Despite the generally favorable opinions held by the general public, most people with heart problems never see a physiotherapist. Reasons for this low rate of adherence include issues such as expensive price, long commute, fear, and lack of time.

## INTRODUCTION

In the United States (US), cardiovascular disease (CVD) is a major public health problem. In 2008, it was responsible for 32.8% of all fatalities (nearly 800,000) and was the top cause of mortality among adults. Every day in the United States, CVD kills around 2,200 people<sup>1</sup>. Over one-third of U.S. adults, or 82.6 million people, have at least one kind of cardiovascular disease.

“The condition is rated first among all disease classifications in hospital discharges, and in 2008 resulted in projected direct and indirect expenses of \$297. billion to the US economy.”The cultural significance of cardiovascular disease in the United States strongly underscores the urgent need for more studies into methods of preventing this disease.



The effectiveness of CVD prevention has been shown by several studies. Increasing one's level of physical activity has been linked to a lower risk of death from cardiovascular disease and other causes<sup>2</sup>. Evidence-based guidelines for physical exercise have been produced to help the seemingly healthy adult stay that way<sup>3</sup>. Evidence-based recommendations for increasing physical activity and altering sedentary lifestyle habits among people with cardiovascular disease have also been produced and widely disseminated<sup>4</sup>.

Primary cardiovascular disease prevention involves identifying and modifying cardiovascular disease risks in the seemingly healthy individual, whereas secondary cardiovascular disease prevention involves reducing and reversing the consequences of cardiovascular disease<sup>5</sup>. Prevention of cardiovascular disease is seen as important by the American Physical Therapy Association (APTA). "The Guide to Physical Therapist Practice<sup>6</sup> acknowledges the value of preventing cardiovascular disease and advocates for increasing public awareness of the importance of health and fitness programs. Further, it designates a preferred practice pattern of "primary prevention/risk reduction for cardiovascular/pulmonary disorders," and it indicates that, as part of the evaluative process of any patient, a physical therapist should perform a cardiopulmonary system review, which may include assessment of heart rate, blood pressure, respiratory rate, and presence of edema."

While evidence does exist to back up the idea that CVD prevention is useful, it also highlights obstacles to its actual implementation in clinical settings. "Secondary CVD prevention as reflected by involvement in cardiac rehabilitation programs reveals a high degree of under-utilization and uneven pro"<sup>6</sup> Poor adherence to advice for behavioral change and numerous medication regimens was cited as the main cause of perceived obstacles to therapy for individuals with CVD risk. However, 24 percent of doctors said they couldn't manage the treatment of patients with CVD risk because they didn't have enough time to advise patients<sup>7</sup>.

There is a dearth of data on physical therapists' actual contributions to CVD prevention, as well as their consistent practice standards for screening patients for

and educating them about CVD. "Physical therapists appear to be ideally suited to take the lead in secondary CVD prevention due to their extensive education and training in cardiopulmonary anatomy, physiology, and pathology, as well as their ability to assess patients' aerobic capacity, muscular strength, and endurance through the use of exercise. On the other hand, studies show that physical therapists have a small function in secondary CVD prevention." After polling 38 different cardiac rehabilitation centers in New York, DeTurk and Scott discovered that just one of them had a physical therapist in charge of issuing exercise prescriptions<sup>8</sup>. Most of the prescriptions filled via these initiatives came from exercise physiologists and nurses. When asked about the importance of assessing heart rate and blood pressure in patients, that only 45% of clinical instructors of physical therapy agreed that these metrics were crucial for primary CVD prevention<sup>9</sup>. "Only 3.6% of therapists examined BMI and 11.2% tested blood pressure at least once in patients with any condition, according to a study of orthopedic and private practice therapists about use of quality indicators conducted<sup>10</sup>. Basic principles of primary CVD prevention are jeopardized when a patient's CVD risk factor profile and overall cardiopulmonary state are not evaluated." This may lead to the missed diagnosis of CVD.

## METHODOLOGY

The research was given the go light by the school's ethics board. Patients in Saudi Arabia with a cardiac diagnosis but no history of cardiac surgery made up the study population. A standardized questionnaire was designed and verified to measure awareness and perception. There were 16 closed-ended questions on topics including familiarity with physiotherapy, treatment outcomes, therapy relevance, therapy hurdles, and therapy advantages for the cardiovascular system. The questionnaire was evaluated first, and then translated into a local language. After obtaining informed permission, 90 patients satisfying the inclusion criteria were asked to fill out the questionnaire in their preferred language. Patients who had undergone surgery or who had been admitted to the hospital for the same diagnosis as before were also not allowed to return. After finishing data collecting, descriptive statistics were performed in Microsoft Excel.



## RESULTS

**Table 1:** Cardiovascular physiotherapy: a topic of discussion

	Yes	No
Percentage of subjects	35%	65%

Three-fifths of respondents were familiar with cardiovascular physiotherapy, while the remaining 65% were not.

**Table 2:** Heart Health and Its Importance

scale	Percentage of subjects
Strongly agree	28%
Agree	38 %
Neutral Scale	8.80 %
Disagree	0 %
Strongly Disagree	26.20 %

On a Likert scale, 28% responded "Strongly Agree" to the assertion that cardiovascular physiotherapy is important for their cardiac condition, while 38% agreed with the statement, and 26.2% responded "Strongly Disagree."

**Table 3:** Influence of Cardiovascular Exercise on Their Heart Condition

Scale	Percentage of subjects
Very positive effect	24.80 %
positive effect	30.30 %
No effect	0 %
Negative effect	0 %
Very Negative effect	0 %
Don't know	43.80 %

Twenty-four percent of respondents rated the impact of cardiovascular physiotherapy on their cardiac condition as "very positive," while thirty percent rated it as "positive."

**Table 4:** Fees for Expert Advice

Scale	Percentage of subjects
Not consulted	86%
Consulted strongly agree	6 %
Consulted agree	5 %
consulted neutral	3 %
Consulted disagree	0 %

If they have sought advice, do they feel it was beneficial? The vast majority (86%) of people never saw a cardiac physiologist. Only 3% sought medical advice, but of those, 5% were "very satisfied" and 6% were "satisfied."

**Table 5:** Preconceived Limitations on the Benefits of Cardiovascular Physiotherapy

Barrier	Percentage of subjects
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No barrier	25 %
High cost	29 %
Time consuming	13 %
Commute	17.50 %
Fear	10 %
Don't know	30 %

Twenty-five percent of respondents stated they had no problems getting to treatment, 29 percent said they believe the high expense is a problem, 17 percent said the journey to the clinic is

an issue, 13 percent said the time commitment was too much, and 10 percent said they were afraid to attend.

**Table 6:** Cardiovascular Physiotherapy and Its Perceived Benefits

Benefits	Percentage of subjects
Relieving your symptoms	34.80 %
Strengthening your heart and body	45.80 %
Preventing future illness and complications	16.50 %
Reducing stress	20 %
Don't know	33.50 %

When questioned about the advantages of cardiovascular physiotherapy, 45.8% mentioned improved strength in order to perform activities of daily living. Among those surveyed, 34.8% agreed that the best way to deal with symptoms like chest discomfort,

shortness of breath, etc., Some 16.5 percent identified disease prevention and consequences, 20 percent identified stress reduction, mood enhancement, and a more generally healthy lifestyle, and 33.5 percent were unsure.

**Table 7:** Future Intent to Choose Cardiovascular Treatment

Scale	Percentage of subjects
Extremely likely	15 %
Very likely	47.30 %
Somewhat likely	20.30 %
Not so likely	2.45 %
Not at all likely	2.45 %

Fifteen percent said they were "very likely," 47.3% said they were "very likely," and 20.3% said they were "somewhat likely" to choose cardiovascular physiotherapy in the future.

## DISCUSSION

The goal of this research was to find out how local Saudi residents with heart conditions see cardiovascular physiotherapy. According to the World Health Organization, cardiovascular illnesses kill more people than any other disease or condition worldwide<sup>11</sup>. Research from different countries shows that between

21% and 75% of patients who are offered a spot in a cardiac rehabilitation (CR) program actually show up<sup>12</sup>.

"According to the analysis of the data obtained, it was observed that out of 90 subjects, only 35% were aware that there is a specialised branch called cardiovascular physiotherapy that deals with cardiac conditions, this tells us that there is low awareness about Cardiovascular physiotherapy in patient with cardiac condition who resides in Saudi." Another finding from this research reveals that among these 35%, 22% had learned about it via their physicians and 15% from their personal



networks. “And this lack of knowledge can be because to less-than-ideal referral rates to Cardiac-Rehabilitation. Sehi Kweon et al also observed that in their research that there was extrem'ely little knowledge of Cardiac rehabilitation and most of them had heard it from their doctors<sup>13</sup>.”

The outlook of these patients on cardiovascular physiotherapy was another focus of this research. The majority of respondents (65%) agreed that cardiovascular physiotherapy is helpful for their heart disease when asked on a Likert-type scale. However, on a Likert scale, 23.81 percent of participants reported that cardiovascular physiotherapy had a good effect on their heart condition. Despite this, it was found that 87.51 percent never sought the help of a cardio physiotherapist. According to a research conducted by K. Marwaha et al., patients' lack of adherence to physiotherapy is due to a combination of reasons, including a lack of knowledge about the benefits of physiotherapy, a lack of availability of physiotherapists, and a failure to effectively communicate with patients<sup>14</sup>. The majority of these were similarly found to be barriers to physiotherapy for cardio physiotherapy, with 27.5% of participants citing high cost, 17.5% citing travel time to the physiotherapy clinic, 13.8% citing time commitment, and 10% citing fear of exercise due to heart condition. Although 67.9% of respondents said they would participate, only 18.9% actually did so. This suggests that there are barriers to participation, with low awareness, geographic distance, a lack of time, and financial concerns being the most commonly cited reasons.

“Fewer than a third (32.5%) of respondents were able to correctly identify the benefits of cardiovascular physiotherapy, while nearly half (46.3%) correctly identified strengthening your heart and body to make your ADL's easier, and a further 33.8% correctly identified relief of symptoms like chest pain, breathlessness, and fatigue.” This indicates that more education about the advantages of cardiovascular physiotherapy is needed, since people will be more likely to participate in the treatment if they are aware of its benefits. Despite low levels of knowledge and perceived barriers, 46.31 percent of respondents are very likely, 15.2 percent are very likely, and 21.3 percent are probably going to seek out cardiovascular physiotherapy in the future.

“This study suggests that awareness is low and that 88.8 percent of respondents believed they should have more knowledge about Cardiovascular Physiotherapy before consulting;” when asked how they would like to learn more, 47.5 percent of respondents selected social media, 40.0 percent selected seminars, and 31.3 percent selected advertisements. “A home-based program can be a solution to address the perceived barriers and increase the utilization of cardiovascular physiotherapy, for example through the use of the internet, and for professionally active patients, offering flexible timing could help them to find a balance between work and the rehabilitation<sup>15</sup>.” Now that we live in a technologically advanced society, tele-rehabilitation may be a powerful tool for increasing engagement and reducing attrition. The referral rate for the CR program may be increased if doctors do a better job of spreading the word about its existence. Patients' knowledge of the benefits of cardio physiotherapy may be raised in this manner, and they will be better able to overcome any obstacles standing in their way.

A more in-depth qualitative investigation would improve our knowledge of awareness and perception in regards to cardiovascular physiotherapy since this study is confined to the viewpoints of Saudi residents exclusively.

## CONCLUSION

Poor awareness was found among Saudi patients with heart conditions, according to this research. Despite the generally favorable opinion of cardio physiotherapy, few people with heart problems have ever sought professional help from a physiotherapist. Factors including high cost, commuting, fear, and lack of time were shown to be contributors to this poor adherence.

## REFERENCES

- 1- Roger VL, Go AS, Lloyd-Jones DM, et al., editors. Heart disease and stroke statistics– 2012 update. *Circulation*. 2012; 125:2–220.
- 2- Paffenbarger RS., Jr Hyde RT. Wing AL. Hsieh CC. Physical activity, all-cause mortality, and longevity of college alumni. *N Engl J Med*. 1986; 314:605–613.
- 3- Haskell WL, Lee I-M, editors; Pate RR, et al. Physical activity and health: Updated



- recommendations for adults from the American College of Sports Medicine and the American Heart Association. *Med Sci Sports Exerc.* 2007;38:8:1423–1434.
- 4- Sharick Shamsi, Shabana khan, Comparative Study of Breathing Techniques After Coronary Artery By Pass Grafting, *International journal of medical science and clinical Invention*, 2014;1:6:333-338.
- 5- American Physical Therapy Association . Guide to Physical Therapist Practice. 2nd.Alexandria, VA: APTA; 2003.
- 6- Guidelines for Cardiac Rehabilitation and Secondary Prevention Programs. 4th.Champaign, IL: Human Kinetics; 2004. American Association of Cardiovascular and Pulmonary Rehabilitation (AACVPR)
- 7- Merz C, Buse J, Tuncer D, Twillman G. Physician attitudes and practices and patient awareness of the cardiovascular complications of diabetes. *J Am Coll ardiol.* 2002; 40:1877–1881.
- 8- DeTurk WE, Scott L. Physical therapists as providers of care: exercise prescription and resultant outcomes in cardiac and pulmonary rehabilitation programs in New York state. *Cardiopulm Phys Ther J.* 2008;19:2:35–43.
- 9- Frese EM, Richter RR, Burlis TV. Self-reported measurement of heart rate and blood pressure in patients by physical therapy clinical instructors. *Phys Ther.* 2002;82:1192–1200.
- 10- Jette DU, Jewell DV. Use of quality indicators in physical therapist practice: An observational study. *Phys Ther.* 2012;92:507–524.
- 11- WHO. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-cvds>.
- 12- Ghisi GLM, Britto R, Servio T C, et al. Perceptions of Cardiology Administrators About Cardiac Rehabilitation in South America and the Caribbean. *J Cardiopulm Rehabil Prev.* 2017;37:4:268-273.
- 13- Kweon, S., Sohn, M. K., Jeong, J. O, et al. Quality of Life and Awareness of Cardiac Rehabilitation Program in People With Cardiovascular Diseases. *Annals of rehabilitation medicine*,2017, 41:2:248–256.
- 14- Marwaha, Kanika, Horobin, Hazel and Mclean, Sionnadh. Indian physiotherapists& perceptions of factors that influence the adherence of Indian patients to physiotherapy treatment recommendations. *International Journal of Physiotherapy and Rehabilitation*,2010; 1:1: 9-18.
- 15- De Vos C, Li X, Van Vlaenderen I, Saka O, Dendale P, Eyssen M, Paulus D. Participating or not in a cardiac rehabilitation programme: factors influencing a patient& decis ion. *Eur J Prev Cardiol.* 2013; 20:2:341-8.