

RELATIONSHIP BETWEEN KINESOPHOBIA, PHYSICAL ACTIVITY AND HEALTH RELATED QUALITY OF LIFE IN PATIENTS WITH CHRONIC CORONARY ARTERY DISEASE

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ABSTRACT

OBJECTIVE: To find association between kinesophobia, physical activity and health related quality of life in patients with chronic coronary artery disease.

METHODS: The research study is cross-sectional which is carried out in hospitals of Rawalpindi, Islamabad (Pakistan), from May 2022 to July 2022 in which total sample size of study is 377. The selection is done through non-probability sampling. The inclusion criteria included both gender aged 45 to 65 years old with diagnosed cases of chronic coronary artery disease, ischemic heart disease including patient's undergone surgical procedure (CABG, angiography, stenting). The exclusion criteria were patient's having heart disease, any fracture, any neurological disease or patient's being evaluated for other cardiac disease (e.g valvular disease, etiology of cardiomyopathy, congenital heart disease). After taking prior consent from the participant and demographics will be taken using self-structure questionnaire. Kinesiophobia will be measured by Tampa scale, Quality of life will be measured through HRQOL and Physical activity will be measured by using IPAQ short-form.

RESULTS: After consideration of the study, the participants mean age of all the participants was 55.93±6.894 years. Among them 238 were males and 139 were females. The frequency of male 238(63.13%) and the frequency of female 139(36.87%). Kinesiophobia shows non-significant relation with physical activity ($p>0.05$) whereas health related quality of life includes further 8 domains and relation of kinesophobia was concluded with all 8 domains which includes; relation between kinesophobia and Physical Functioning(PF), role limitation due to physical health(PH), role limitation due to emotional problem(EB), energy-fatigue, emotional well-being(EMOTIONAL WB), social functioning(SF), General health(GH) shows statistically non-significant association whereas relation between kinesophobia and pain shows statistically significant association.

CONCLUSION: This study concluded that relation between kinesiophobia and physical activity shows very weak correlation with statistically non-significant association whereas health related quality of life includes further 8 domains and relation of kinesiophobia was concluded with all 8 domains which includes; relation between kinesiophobia and Physical Functioning, role limitation due to physical health, , role limitation due to emotional problem, energy-fatigue, emotional well-being, social functioning, General health shows very weak correlation with statistically non-significant association whereas relation between kinesiophobia and pain shows weak correlation with statistically significant association.

KEY WORD: Kinesiophobia, Physical activity, Quality of life, Chronic Coronary Artery Disease.

INTRODUCTION

The most common cause of death in the world is coronary artery disease (CAD). The highest emphasis for secondary prevention is given to patients who have endured a coronary event. The purpose of this study was to examine how physical activity affects kinesiophobia and other health-related aspects of life in people with coronary artery disease (CAD). We'll look at how active people with coronary artery disease are and see if any of them have kinesiophobia.

Kinesiophobia is described as an extreme, illogical, and crippling fear of movement and activity brought on by the perception of being at risk for traumatic injury or reinjury. Kinesiophobia has been linked to a number of illnesses in the literature, including persistent musculoskeletal pain, osteoarthritis, fibromyalgia, and low back pain that doesn't go away. There aren't many research in the literature looking at kinesiophobia and its impact in cardiac patients. Six months after the cardiac incident, 20% of CAD patients had a high level of kinesiophobia. In a different study, 86.7% of people who had cardiac surgery exhibited kinesiophobia before to the procedure. Lack of physical activity (PA) causes kinesiophobia and is a poor indicator of illness development. Modern kinesiophobia has a larger range and cannot be adequately explained as a straightforward fear of pain. It could manifest as a fear of bodily tiredness or exhaustion's symptoms, or more broadly, a fear of physical or mental discomfort. Given the biological factors that influence movement, it is reasonable to suppose that motor passivity, which is defined as a discrepancy between a person's actual possibilities and demands and their internal perception of their motor potential, is also a sign of

kinesiophobia. The innate stigma of motor potential, on the other hand, is solely a product of social influence. Kinesiophobia is an issue that many older persons with CAD experience. It is brought on by a lack of physical activity (PA), which negatively foretells the course of the illness. Higher educated individuals experience kinesiophobia less frequently. Patients with CAD should get information on PA, training in its use, and conditions that will promote it. Lack of exercise is gradually becoming a part of daily life, which causes morbidity to progress along with concomitant disability and mortality from illnesses of civilization, including cardiovascular disease. It's also important to note that Poles hardly ever consider physical inactivity to be a risk factor for cardiovascular disease.

The importance of health-related quality of life (HRQOL) in patients with known coronary artery disease is growing (CAD). To assess the medical efficacy of interventions from the patient's perspective, a supplementary method based on health-related quality of life (HRQOL) has been established. According to the patient's subjective perception, quality of life (QOL) refers to their physical and mental health as it relates to their living situation. Typically, cardiac patients' treatment does not focus on their physical or mental quality of life. Heart disease patients' HRQOL can be evaluated using either general or disease-specific techniques.

METHODS

RESULTS:

400 participants were targeted in our study out of which 377 participants fall under the inclusion criteria so the response rate was 94.25%. The mean age of all the participants was 55.93+₋6.894

years. Most of the participants minimum age 45(10.61%) and maximum age 65(12.73%) of CAD patient's. Frequencies of other are given in figure 1.

The mean of gender was 1.37 ± 0.483 . Among them 238 were males and 139 were females. The frequency of male 238(63.13%) and the frequency of female 139(36.87%) given in figure 2.

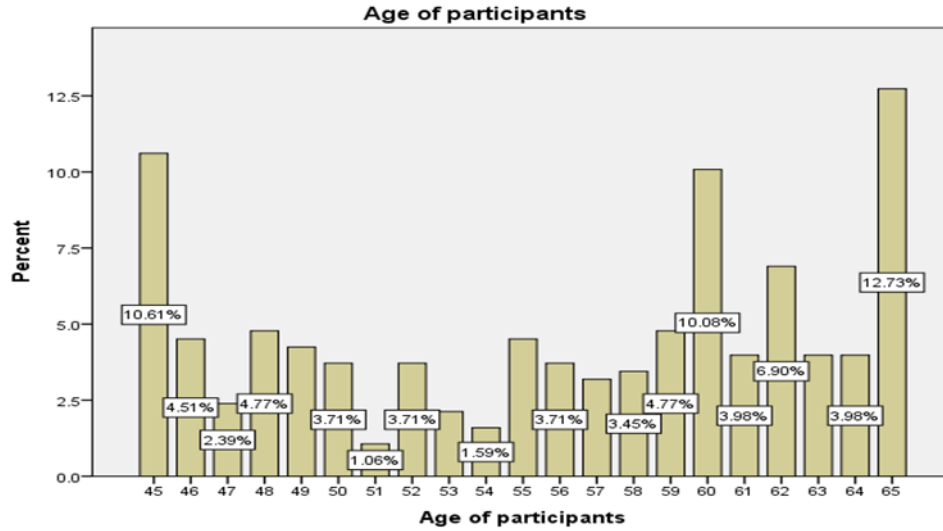


Figure 1 frequency of age of participants

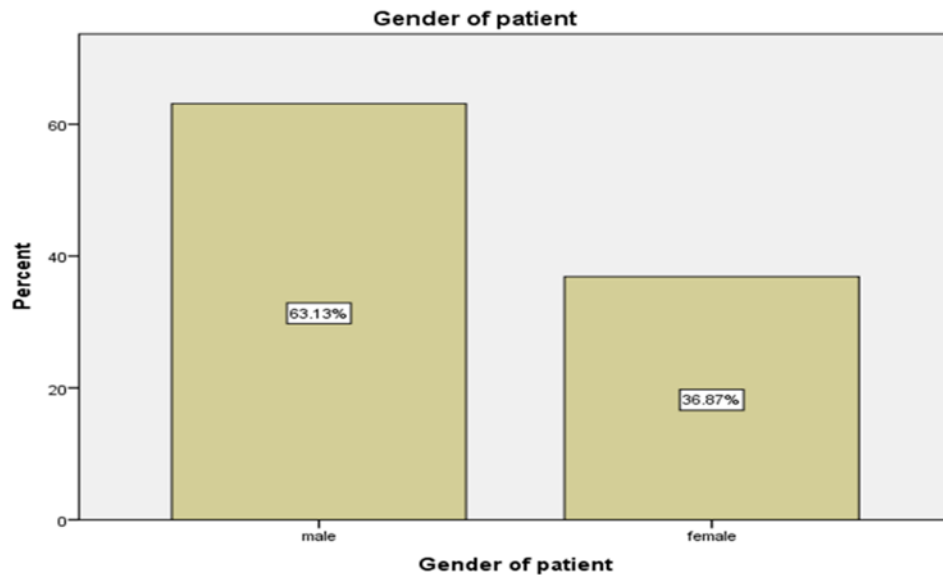


Figure 2 frequency of gender of total population

To determine association between kinesiophobia, physical activity and health related quality of life we applied Spearman correlation test.

Table 1 correlation between Tampa scale and compute PF mean

	Kinesiophobia scale	Compute PF
PF Correlation Coefficient	-.085	1.000
Sig.	.101	.101

TABLE 1 shows that Spearman’s correlation analysis at Tampa scale for kinesiophobia and compute PF mean was found to be very weak and statistically non-significant ($r=-.085, p>0.05$) the increase in kinesiophobia shows decrease in physical functioning(compute PF Mean).

Table 2 correlation between Tampa scale and compute Role PH Mean

	Kinesiophobia scale	Compute role PH
RolePH Correlation Coefficient	-.008	1.000
Sig.	.870	.870

TABLE 2 shows that Spearman’s correlation analysis at Tampa scale for kinesiophobia and compute role PH mean was found to be very weak and statistically non-significant ($r=-.008, p>0.05$) the increase in kinesiophobia shows decrease in role PH(compute role PH Mean).

Table 3 correlation between Tampa scale and compute Role EP Mean

	Kinesiophobia scale	Compute PF
Role EP Correlation Coefficient	-.008	1.000
Sig.	.869	.869

Table 3 shows that Spearman’s correlation analysis at tampa scale for kinesiophobia and compute role EP mean was found to be very weak and statistically non-significant ($r=-.008, p>0.05$) the increase in kinesiophobia shows decrease in role EP(compute role EP Mean).

Table 4 correlation between Tampa scale and compute energy-fatigue Mean

	Kinesiophobia scale	Compute PF
Energy fatigue Correlation Coefficient	.000	1.000
Sig.	.993	.993

Table 4 shows that Spearman’s correlation analysis at tampa scale for kinesiophobia and compute energy-fatigue mean was found to be very weak and statistically non-significant ($r=.000, p>0.05$) the increase in kinesiophobia shows increase in energy-fatigue(compute energy-fatigue Mean).

Table 5 correlation between Tampa scale and compute emotional wb Mean

	Kinesiophobia scale	Compute PF
emotionalwb Correlation Coefficient	.096	1.000
Sig.	.063	.063

TABLE 5 shows that Spearman’s correlation analysis at tampa scale for kinesiophobia and compute emotionalwb mean was found to be very weak and statistically non-significant $r=.096, p>0.05$) the increase in kinesiophobia shows increase in emotionalwb (compute emotionalwb Mean).

Table 6 correlation between Tampa scale and compute SF Mean

	Kinesiophobia scale	Compute PF
SF Correlation Coefficient	-.051	1.000
Sig.	.326	.326

TABLE 6 shows that Spearman's correlation analysis at tampa scale for kinesiophobia and compute SF mean was found to be very weak and statistically non-significant ($r=-.051$, $p>0.05$) the increase in kinesiophobia shows decrease in SF (compute SF Mean).

Table 7 correlation between Tampa scale and compute pain Mean

	Kinesiophobia scale	Compute PF
Pain Correlation Coefficient	-.110	1.000
Sig.	.033	.033

TABLE 7 shows that Spearman's correlation analysis at Tampa scale for kinesiophobia and compute pain mean was found to be weak and statistically significant ($r=-.110$, $p<0.05$) the increase in kinesiophobia shows decrease in pain (compute pain Mean).

Table 8 correlation between Tampa scale and compute GHealth Mean

	Kinesiophobia scale	Compute PF
GHealth Correlation Coefficient	.082	1.000
Sig.	.110	.110

TABLE 8 shows that Spearman's correlation analysis at tampa scale for kinesiophobia and compute GHealth mean was found to be very weak and statistically non-significant ($r=.082$, $p>0.05$) the increase in kinesiophobia shows increase in GHealth (compute GHealth Mean).

Table 9 correlation between Tampa scale and IPAQ

	Kinesiophobia scale	Compute PF
IPAQ Correlation Coefficient	-.008	1.000
Sig.	.880	.880

TABLE 9 shows that Spearman's correlation analysis at tampa scale for kinesiophobia and IPAQ was found to be very weak and statistically non-significant ($r=-.008$, $p>0.05$) the increase in kinesiophobia shows decrease in IPAQ.

DISCUSSION:

Previous study was conducted by Şahin, Hanife Baykal, Ezgi Kalaycıoğlu and Mürsel Şahin , 2021 Jun , Turk J Phys Med Rehabil. The topic was the Effect of Cardiac Rehabilitation on Kinesiophobia Patients with Coronary Artery Disease. Tampa Scale for Kinesiophobia, International Physical Activity The short form of the questionnaire (IPAQ), health-related quality of life (HRQOL). The Tampa Scale for Kinesiophobia Heart (TSK-SV Heart) was used to measure kinesiophobia. The short form of the International Physical Activity Questionnaire (IPAQ) was applied to measure physical activity level. The Short Form 36 (SF-36) was used to measure health-related quality

of life (HRQOL). The result of all the three variables i.e Tampa scale, IPAQ and HRQOL was statistically significant whereas current study concluded that correlation between Tampa scale and IPAQ was statistically non-significant. Relation between Tampa scale and HRQOL was non-significant. Correlation between Tampa scale and compute pain mean was statistically significant.

Kocjan, Janusz, and Andrzej Knapik Conducted a study in 2014 in POLAND, Medical University of Silesia, Department of Health Science, Katowice, the study showed Disabilities to Physical Activity (Kinesiophobia) in Patients Undergoing Cardiac Rehabilitation. This study was statistically significant with respect to HRQOL(SF-36) whereas current study concluded that correlation between Tampa scale and HRQOL(SF-36) was non-significant. Correlation between Tampa scale and compute pain mean was statistically significant.

A previous study done by Francis T, Kabboul N, Rac V, Mitsakakis N, Pechlivanoglou P, Bielecki J, Alter D, Krahn M. in 2019 the topic was the effect of cardiac rehabilitation on health-related quality of life in patients with coronary artery disease: a meta-analysis. This study showed that HRQOL was statistically significant whereas current study concluded that Relation between Tampa scale and HRQOL was non-significant. Correlation between Tampa scale and compute pain mean was statistically significant.

A previous study in literature conducted by Sudevan R, Raj M, Damodaran V, Thachathodiyl R, Maniyal V, Abdullakutty J, Thomas P, George V, Kabali C. in the heart surgery forum 2021 Feb 15 it showed Health-Related Quality of Life of Coronary Artery Disease Patients under Secondary Prevention: A Cross-Sectional Survey from South India. This study showed statistically non-significant result of all 8 domains of HRQOL whereas current study concluded that Relation between Tampa scale and HRQOL was non-significant. Correlation between Tampa scale and compute pain mean was statistically significant.

Nair SP, SSG FI conducted a study in 2017 it showed Impact of kinesiophobia on physical activity in patients with arterial hypertension. This study showed that the correlation between kinesiophobia and PA was statistically significant whereas current study concluded that correlation between Tampa scale and IPAQ was statistically non-significant.

CONCLUSION:

The study concluded very weak correlation with statistically non-significant association between kinesiophobia and physical activity whereas health related quality of life includes further 8 domains and relation of kinesiophobia was concluded with all 8 domains which includes; relation between kinesiophobia and PF showed very weak correlation with statistically non-significant association, relation between kinesiophobia and role PH showed very weak correlation with statistically non-significant association, relation between kinesiophobia and role EP showed very weak correlation with statistically non-significant association, relation between kinesiophobia and

energy-fatigue showed very weak correlation with statistically non-significant association, relation between kinesiophobia and emotional-wb showed very weak correlation with statistically non-significant association, relation between kinesiophobia and SF showed very weak correlation with statistically non-significant association, relation between kinesiophobia and pain showed weak correlation with statistically significant association, relation between kinesiophobia and GHealth showed very weak correlation with statistically non-significant association.

ETHICAL APPROVAL: The study was approved by institutional review board of Shifa International hospital.

CONFLICT OF INTEREST: The author had declared that no conflict of interest exists.

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