Journal of Population Therapeutics & Clinical Pharmacology

RESEARCH ARTICLE
DOI: 10.53555/jptcp.v31i5.6291

IMPROVEMENT IN QOL FOR SURGICAL DECLINE PATIENTS POST PCI

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Abstract:
Objectives: To evaluate the improvement in quality of life (QOL) for surgical decline patients post PCI.
Materials and Methods: This cross-sectional study enrolled a total of 98 patients and was conducted in [insert location] from August 2023 to January 2024. The patients were divided into two groups: Group A consisted of patients who underwent PCI, while Group B comprised control patients. All patients were followed up after 6 months. Data collection was conducted using the MacNew Heart Disease Health-related Quality of Life Questionnaire. Statistical analysis was performed using SPSS Version 25.
Results: The mean age of patients in group A and group B was 56.9±10.8 years and 55.16±11.2 years, respectively. The MacNew scale scores for both groups showing a significant p-value of <0.05 between the two groups.
Conclusion: The study concluded that patients who declined surgery and instead underwent percutaneous coronary intervention (PCI) experienced an improvement in their quality of life.

Key words: MacNew scale, PCI, QOL.

INTRODUCTION:

Coronary artery disease (CAD) remains a significant global health concern, contributing to a substantial portion of mortality worldwide.(1) It's a condition where the arteries that supply blood to the heart muscle become hardened and narrowed due to the buildup of plaque, leading to reduced blood flow to the heart.(2) Percutaneous coronary intervention (PCI) has become a commonly used medical procedure in the context of acute and chronic coronary syndromes since it was first carried out in 1977(3). PCI has undergone remarkable advancements in recent years.(4) From improvements in stent technology to enhanced imaging techniques and procedural approaches, the field of interventional cardiology has made great strides. The introduction of drug-eluting stents (DES) has been a major breakthrough in the field. DES are stents coated with medications that help prevent the re-narrowing of the treated artery, known as restenosis, which was a common issue with bare-metal

stents. Each year, over 1 million individuals in the United States undergo PCI as a treatment option.(5, 6) In China, the number of procedures conducted in 2011 exceeded 300,000, marking an 18-fold rise.(7)

Angina relief and enhancement of quality of life are significant aspects of PCI, the broader goal is to optimize outcomes and reduce the burden of coronary artery disease, encompassing both symptomatic relief and risk reduction for adverse cardiovascular events.(8) QoL in clinical practice provides valuable information for patient-centered care, outcome assessment, safety monitoring, and cost-effectiveness analysis.(9) By incorporating QoL assessments into routine practice, healthcare professionals can enhance the quality of care, improve patient outcomes, and optimize resource utilization. The present study was focusing on a specific population patients who have declined surgical intervention for their coronary artery disease (cad) and instead undergo PCI. QoL is a multidimensional construct that encompasses various aspects of physical, emotional, and social well-being. Evaluating changes in QoL post-PCI provides insights into the impact of the intervention on patients' overall health and functioning.

Objective:

To evaluate the improvement in quality of life (QOL) for surgical decline patients post PCI.

MATERIALS AND METHODS:

Study Design: Cross sectional study.
Study setting: Department of …….... Pakistan.
Duration of the study: The study duration was 6 months from (Aug 2023 to Jan 2024).

Inclusion Criteria:

- Patients with diagnosed coronary artery disease.
- Patients who have undergone percutaneous coronary intervention (PCI) as a treatment for CAD.
- Patients who were declined for surgical interventions.
- Patients of 18-70 years of age.
- Both gender.
- Patients who have completed a specified follow-up period post-PCI

Exclusion Criteria:

- Patients with severe comorbidities or medical conditions (e.g., advanced cancer, end-stage renal disease
- Patients with cognitive impairment or psychiatric disorders.
- Pregnant women.
- Patients with restenosis within the timeframe being investigated.

Methods:

This cross sectional study has been conducted at ---------- from Aug 2023 to Jan 2024. An approval was obtained from the hospital's ethical committee. Total of 98 patients who fulfill the inclusion criteria were enrolled. All the patients were divided in to two groups. Group A and group B. group A include patients with PCI and group B include control patients. All the patients were followed after 6 month. A Mac New Heart Disease Health-related Quality of Life Questionnaire was used to collect data. The Mac New, which consists of 27 items with a global HRQoL score and subscales for physical limitation, emotional state, and social function, is intended to gauge how patients feel about how their heart patient impacts their ability to function on a daily basis. For statistical analysis we used SPSS Version 25.

RESULTS:

The mean age of patients in group A and group B was 56.9±10.8 years and 55.16±11.2 years, respectively (Table 1). In group A, 43 (87.8%) patients were married, 4 (8.2%) were single, and 2 (4.1%) were divorced. In group B, these numbers were 45 (91.8%) married, 3 (6.1%) single, and 1 (2.0%) divorced. Regarding education levels, in group A, 23 (46.9%) patients had primary education, 23 (46.9%) had secondary education, and 3 (6.1%) had university-level education. In contrast, in group B, 7 (14.3%) had primary education, 32 (65.3%) had secondary education, and 10 (20.4%) had university-level education. Regarding dietary habits, 12 (24.5%) patients in group A and 11 (22.4%) patients in group B received a diet rich in fat. 15 (30.6%) patients in group A and 13 (26.5%) patients in group B received a diet rich in sodium. Most patients in both groups were employed, with 33 (67.3%) in group A and 22 (44.9%) in group B. Smoking prevalence was observed in 17 (34.7%) patients in group A and 19 (38.8%) in group B.

In Table 2, the MacNew scale scores for both groups were provided, showing a significant p-value of <0.05 between the two groups.

Table 1:

Base line characteristics of patients *(n=98)*

	GROUP	
	Group A	Group B
Age (Years)	56.9±10.8	55.16±11.2
Family status		
Married	43(87.8%)	45(91.8%)
Single	4(8.2%)	3(6.1%)
Divorced	2(4.1%)	1(2.0)
Education level		
Primary	23(46.9%)	7(14.3%)
Secondary	23(46.9%)	32(65.3%)
University	3(6.1%)	10(20.4%)
Diet rich in fat	12(24.5%)	11(22.4%)
Diet rich in sodium	15(30.6%)	13(26.5%)
Occupation		
Employed	33(67.3%)	22(44.9%)
Unemployed	12(24.5$)	53(53.1%)
Pensioner	4(8.2%)	1(2.0)
Smoking	17(34.7%)	19(38.8)
Exercise	7(14.3%)	11(22.4%)

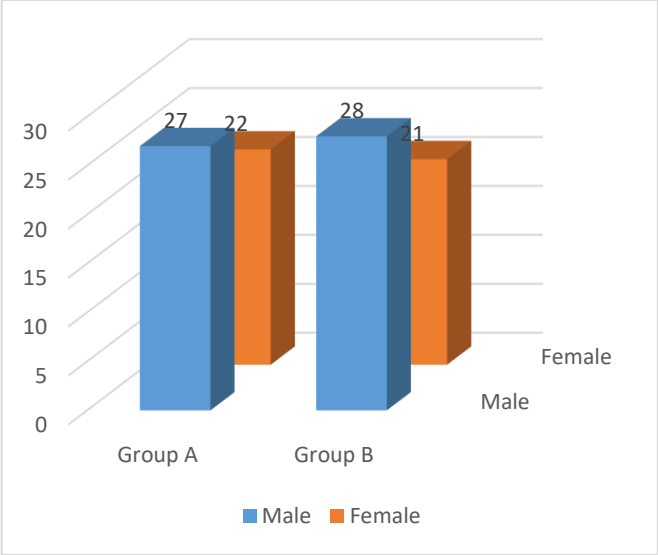

Fig 1: Frequency of gender.

Table 2: MacNew scale score for both groups.

MacNew	**GROUP**		
	Group A	Group B	P-value
Global	4.97±0.90	5.38±0.97	0.03
Physical	4.61±0.67	5.34±0.77	0.00
Emotional	5.55±0.81	5.85±0.91	0.05
Social	5.83±0.85	6.06±0.89	0.05

Discussion: PCI is a common procedure used to improve blood flow to the heart in patients with coronary artery disease. When it comes to surgical decline patients, those who are not candidates for traditional open-heart surgery due to various reasons such as advanced age, multiple comorbidities, or patient preference, PCI can offer a lifeline. PCI can significantly improve QOL for surgical decline patients by relieving symptoms, enhancing physical functioning, promoting psychological well-being, optimizing medication management, and providing favorable long-term outcomes. The main objective and aim of the present study was to evaluate the improvement in quality of life (QOL) for surgical decline patients post PCI. For this purpose we used a MacNew Heart Disease Health-Related Quality of Life Questionnaire. Finding a significant p-value when comparing the global, physical, emotional, and social subscales of the MacNew questionnaire indicates that there are statistically significant differences between these subscales among the groups being compared. By examining these different facets of quality of life through the various subscales of the MacNew questionnaire, we have gained a comprehensive understanding of the multidimensional impact of cardiovascular disease on patients' lives. The global subscale of the MacNew questionnaire serves as an indicator of the comprehensive quality of life or health-related quality of life.(10) A significant p-value associated with the global subscale indicates discernible disparities in overall well-being among the compared groups. Conversely, the physical subscale targets physical dimensions of health and well-being, encompassing cardiovascular symptoms, physical performance, and constraints in daily activities.(11) The presence of a significant p-value within the physical subscale implies variations in physical health status or functional capacity across the groups. In the evaluation of emotional well-being, encompassing feelings of anxiety, depression, and overall emotional adjustment,(12) the emotional subscale discerns differences in emotional well-being or psychological health between the groups if its associated p-value is significant. Similarly, the social subscale scrutinizes social support, functioning, and the ramifications of cardiovascular disease on social relationships.(13) A significant p-value linked with the social subscale indicates distinctions in social functioning or levels of social support among the groups under comparison. In a study conducted by Razieh Yazdani-Bakhsh et

al.(14), it was found that patients who underwent percutaneous coronary intervention (PCI) exhibited notably high Health-Related Quality of Life (HRQOL) six months post-revascularization. However, no discernible disparity was observed between the two groups over a 24-month follow-up period. In our study most of the patients were having degree of primary level and secondary level education. University level and high level education were not very common in our enrolled patients. A number of previous studies have indicated a strong correlation between educational level and socioeconomic status with Health-Related Quality of Life (HRQOL).(15, 16) It's noteworthy that age and sex, are recognized predictors of HRQOL perception, play significant roles in shaping individuals' subjective assessments of their well-being.(17, 18) In the present study patients of both group have mean age of above 50 years. Durmaz et al.(19) stated that neither sex nor age significantly influenced HRQOL. This implies that, according to their study findings, factors such as gender and age did not have a substantial impact on the perceived quality of life related to health among the individuals they investigated. Smoking is a significant risk factor for coronary artery disease (CAD) and can exacerbate its effects.(20) Patients with CAD who undergo percutaneous coronary intervention (PCI) often have compromised cardiovascular health, and smoking can further decrease their health-related quality of life (HRQOL) by worsening their condition and increasing the risk of complications such as restenosis or additional cardiovascular events.(21) Therefore, smoking cessation is strongly recommended for patients with CAD to improve their overall health outcomes and quality of life. In our study a small number of patients were smoker. A number of studies stated that smoking affect QOL post PCI.(22, 23)

Conclusion: It was concluded that that the quality of life among patients who declined surgery and underwent PCI showed improvement. Understanding the quality of life associated with PCI and the factors influencing it is crucial for developing a thorough and effective care plan.

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