

Original article

A Cross Sectional Study On Clinico-Investigative Profile and Quality of life (QOL) Of Coronary Artery Disease Patients Undergoing Percutaneous Coronary Intervention

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Abstract

Introduction: The non-surgical invasive treatment known as percutaneous coronary intervention (PCI) is used to treat coronary artery blockage. Quality of life (QoL) is a method of measuring the impact of illness and its treatments in addition to established clinical outcome measures.

Methodology : To determine the clinico-investigative characteristics and quality of life of coronary artery disease patients undergoing percutaneous coronary intervention, a descriptive cross-sectional study was conducted at Pravara Medical Trust's Sai Abherna Cardiac Care Centre of Dr. Vitthalrao Vikhe Patil Pravara Rural Hospital Loni.

Result : The majority, 79.3%, is between the ages of 41 and 60, with a balanced gender distribution. A considerable 97.31% have co-morbidities, emphasizing the significance of healthcare intervention. Significant Association exist between carer influence, comorbidities, vessel involvement, and central obesity, emphasizing the need for holistic therapies for enhanced cardiovascular health and general well-being.

Conclusion : We found that overall coronary artery disease patients undergoing PTCA had poor quality of life at social and psychological domain as compared to other. Variables like central obesity, number of vessel involvement, body mass index and type of caregiver involved in patient care were found to be associated with quality of coronary artery disease patients undergoing PTCA.

Key words – Coronary Artery Disease, Quality Of Life, Percutaneous Coronary Intervention

Introduction

Cardiovascular diseases (CVDs) are the major cause of mortality throughout India.¹ According to the Global Burden of Disease report, India has an age-standardized CVD mortality rate of 272 per 100,000 people, which is higher than the global average of 235/100,000 population. Because of its rapid progression, earlier age of start, and high mortality, CAD is of special concern on the Indian subcontinent.² Coronary artery bypass graft (CABG) and percutaneous coronary intervention or percutaneous transluminal coronary angioplasty (PTCA) are two treatments for coronary artery disease (CAD). Many studies are being conducted throughout the world to lower the incidence of cardiac fatalities. The link between psychological symptoms and CAD and its treatment is widely established. The combined effect of both cardiac and psychological sickness is more than the sum of

both illnesses separately, indicating an adverse outcome.³

Quality of life (QOL) is a subjective measure of satisfaction that has a substantial effect on many everyday actions. Financial stability, work happiness, family life, health, and safety are all elements that affect QOL. Although numerous resources may not always be available, humans adapt to reality and change their expectations. This permits people to retain an acceptable quality of life even in the face of adversity. The issue becomes more pressing in the fields of medical treatment since many chronic medical illnesses result in low QOL and necessitate major adaptation and change in lifestyle. Health-related QOL (HRQOL) is a multidimensional term that comprises categories linked to physical, mental, emotional, and social functioning.⁴ The HRQOL, in addition to direct measurements of health, life expectancy, and causes of mortality, focuses on the

influence of health status on QOL. The influence of medical issues on overall health and QOL is quantified using HRQOL as a typical benchmark. Clinicians frequently collaborate to enhance patients' HRQOL in addition to treating the disease itself. HRQOL tools often measure items on self-rated health, physical HRQOL, mental HRQOL, tiredness, pain, emotional distress, social activities, and roles.⁵ Quality of life is increasingly recognized as an important health outcome, representing the ultimate goal of health for all interventions. Understanding the factors that influence pre-PCI QoL aids in the development of therapies.

Methodology:

Present descriptive cross sectional study conducted to determine clinico-investigative characteristics and quality of life (QOL) of coronary artery disease (CAD) patients undergoing percutaneous coronary intervention (PCI). Study conducted at Pravara Medical Trust's Sai Abherna Cardiac Care Center of Dr. Vitthalrao Vikhe Patil Pravara Rural Hospital Loni. The current study population consisted of aged 18-80 years patients with coronary artery disease who underwent coronary angiography and were scheduled for angioplasty during the study period. Patients who ready to give informed consent were included while individuals with a history of stroke or who have previously undergone angioplasty and coronary bypass graft and re infarction or patients suffering from any type of genetic disorder and brain disorder or patients with a history of Rheumatic heart disease and peripheral vascular diseases or patients with a history of cancer treated with radiotherapy or chemotherapy within the previous year were excluded. This study was conducted over period of three years.

Considering 82.4% of patient of previous study⁶ had LVEF value > 50%, at 5% level of significance and 05% precision open source OPEEPI⁷ sample size calculator used to calculate required sample size. The minimum calculated sample size was 223, however 261 patients studied in present study.

Prior to the start of the research, the Institutional Ethical Committee granted ethical permission, indicating a commitment to preserving ethical standards and safeguarding participant welfare within the hospital-based study. Eligible patients were interviewed face-to-face through a semi-structured questionnaire. This questionnaire was

designed to collect essential socio-demographic and clinic-investigative data. Participants interviewed using a World Health Organization Quality of Life – BREF (WHOQOL –BREF)⁸ scale to elicit the quality of life. This is a 26 item generic questionnaire, being a brief version of the WHOQOL – 100 questionnaire. It assesses individuals' perceptions in the context of their culture and value systems and their personal goals, standards and concerns. The response options range from 1 (very dissatisfied / very poor) to 5 (very satisfied / very good). It emphasizes subjective response rather than objective life condition, with assessment made over the preceding 2 weeks. All items, on a five point scale, could be classified into five domains: global – overall general health (two items), physical (seven items), psychological (six items), social relationships (three items) and environment (eight items). A higher score indicates a higher quality of life while a lower score indicates a lower quality of life

Statistical Analysis.

Data coding and entry was done in Microsoft Excel after checking the completeness of the collected questionnaires. Data analyzed using SPSS Software 21. Descriptive and inferential analysis like mean, standard deviation, Chi-square test Fisher's exact test and Mann-Whitney U test were used for the analysis. Value of P less than 0.05 was considered significant for statistic interpretation.

The four domains of the WHO QoL-BREF physical health, psychological, social relationships and environment were rated on a 5-point Likert-type scale. As per the WHO user manual, raw scores for the domains of WHO QoL-BREF were calculated by adding values of single items and were transformed on the scale ranging from 0 to 100, where 100 is the highest and 0 is the lowest QoL. Mean score of each domain and the total score were calculated. The first two questions in WHO QoL-BREF were taken together for the analysis of perceived QoL. Individuals with the total mean score of 50% and above were classified as having good QoL and less than 50% as having poor QoL. The QoL scores were further converted into categorical variable by obtaining the mean score and dividing the group into those who got a score above the mean and those below the mean. They were labeled as good and poor QoL as shown in Table no 5 & 6.

Results

We found that socio demographic profile of a sample population (N=261) undergoing percutaneous coronary intervention (PTCA). Notably, a sizable fraction (79.3%) is between the ages of 41 and 60 years of age, with a balanced gender distribution (62.45% male, 37.54% female). The majority of participants are married (89.27%), have a secondary education (73.18%), and work in occupations such as farming (65.51%). The majority (55.93%) are members of joint families, live in rural regions (72.41%), and rely on their wives as primary caregivers (88.50%). Addiction rates are quite low (37.06%) and a majority (62.06%) does not have a family history of PTCA. Furthermore, the majority (97.31%) have at least one co-morbidity, emphasizing the importance of healthcare treatments in this group.

We found that complete picture of health indicators and intervention results for 261 people who had percutaneous coronary intervention (PTCA). Notably, a sizable majority (86.02% with BMIs ranging from 18.50 to 29.99) falls within a healthy BMI range, indicating overall favorable body weight. The distribution of waist-to-hip ratios reveals that 49.42% of individuals were obese, which harm cardiovascular health almost similar percentage of patients having high blood pressure. The findings on left ventricular ejection fraction (LVEF) is very encouraging, with 67.81% displaying LVEF of 50%, indicating intact cardiac function. In present study 78.42% had STEMI, 37.93% had anterior wall MI while majority (70.49%) patients had single vessel disease.

In our study we found the gender distribution across age groups, waist-to-hip ratio (WHR) grades, and diagnoses of 261 people having percutaneous coronary intervention (PTCA).

Notably, it demonstrates a balanced gender distribution throughout age categories, with a significant relationship ($p = 0.0002$) detected. The good feature is that both genders are represented equally, emphasizing the egalitarian impact of PTCA therapies across age groups. In terms of WHR grades, the non-obesity category somewhat outnumbers the obese category, contributing to a well-distributed cardiovascular risk profile. The table also highlights gender differences in the prevalence of particular disorders, with significant relationships detected ($p = 0.0001$). This emphasizes the importance of gender factors in the diagnosis and treatment of cardiac problems in this group. Overall, the table gives useful information on the many demographic characteristics that influence cardiovascular health and the specific therapies used in this group.

We found the age groupings and diagnoses of 261 patients receiving percutaneous coronary intervention (PTCA). Notably, the majority of cases (47.50%) are between the ages of 41 and 50, indicating a significant frequency of coronary problems in this population. The good side is that both ST-elevation myocardial infarction (STEMI) and non-ST-elevation myocardial infarction (NSTEMI) were effectively identified and treated, with a significant Chi-square test result ($\chi^2 = 82.60, p = 0.0001$).

Table 1 shows the distribution of quality of life scores (WHOQOL BREF) across four domains: Physical Health, Psychological Health, Social Relationships, and Environment. Mean score in physical health domain was around 69.74 ± 6.39 , similarly for psychological, social and environmental domains it was 64.99 ± 7.09 , 80.35 ± 10.25 and 78.06 ± 6.78 respectively.

Table 1 Distribution of domains of quality of life scores (WHO-QOL)						
Domain	Raw Score			Transformed Score		
	Min	Max	Mean ±SD	Min	Max	Mean ± SD
Physical Health	17	28	24.41 ± 2.23	48.57	80.0	69.74 ± 6.39
Psychological Health	16	25	19.49 ± 2.12	53.33	83	64.99 ± 7.09
Social Relationship	7.0	15	12.05 ± 1.53	46.67	100	80.35 ± 10.25
Environment	22	36	31.22 ± 2.71	55	90	78.06 ± 6.78
Overall QOL & General Health	4	10	7.51 ± 0.90	40	100	75.13 ± 9.05

Table 2 categorizes individuals based on their quality of life (QOL) scores in several domains. We found that, majority of 50.6% had poor physical QOL and remaining 49.4% had good physical QOL. In psychological domain, majority of 55.6% had poor psychological QOL and only 44.4% had good psychological QOL. In social domain, around 62.1% of the study participants had poor social QOL compared to 37.9% who had good social QOL. In environmental domain also, with 47.5% having poor environmental QOL and only 52.5% having good environmental QOL.

Table: 2 Categories based on Quality of life scores		
Domain	Good Scores (%)	Poor Scores (%)
Physical Health	129 (49.4%)	132 (50.6%)
Psychological Health	116 (44.4%)	145 (55.6%)
Social Relationship	99 (37.9%)	162 (62.1%)
Environment	137 (52.5%)	124 (47.5%)
Overall QOL & General Health	165 (63.2%)	96 (36.8%)

Table 3 & 4 shows the univariate analysis of the Physical Health domain concerning several categorical and continues independent factors. The Significant associations was seen in between physical quality of life with Central Obesity (P 0.0001), Number of vessel involvement (P 0.0001) and BMI (P:0.001)

Table 3 Univariate Analysis Physical Health and Categorical independent variable

Sr.no	Domain	Variable	Test	P
1.	Physical Health	Residence	Chi-square (χ^2): 3.58 df:01	0.05
2.		Gender	Chi-square (χ^2): 0.13 df:01	0.71
3.		Occupation	Chi-square (χ^2): 4.96 df:05	0.42
4.		Education	Chi-square (χ^2): 1.75 df:04	0.78
5.		Marital Status	Chi-square (χ^2): 2.48 df:02	0.28
6.		Family Type	Chi-square (χ^2): 1.84 df:02	0.39
7.		Caregiver	Chi-square (χ^2): 1.02 df:03	0.79
8.		Addiction	Chi-square (χ^2): 0.07 df:01	0.78
9.		Family HO PTCA	Chi-square (χ^2): 0.000 df:01	0.98
10.		Comorbidities	Chi-square (χ^2): 1.96 df:03	0.97
11.		Central Obesity	Chi-square (χ^2): 26.42 df:01	0.0001
12.		Vessel involvement	Chi-square (χ^2): 19.50 df:02	0.0001

Table 4 Uni-variate Analysis Physical Health and continues independent variable

Statistics									
Physical Health		Age	BMI	LVEF	SBP	DBP	Pulse	Blockage	
Poor Score	N	Valid	132	132	132	132	132	132	132
		Missing	0	0	0	0	0	0	0
	Mean		50.167	24.2061	46.932	134.924	85.477	85.811	83.598
	Median		50.000	24.0000	50.000	130.000	88.000	84.000	80.000
	Std. Deviation		9.9604	3.96347	6.3200	23.8541	15.3227	12.4754	7.1866
	Minimum		30.0	14.90	25.0	86.0	40.0	50.0	70.0
	Maximum		89.0	38.90	60.0	240.0	150.0	124.0	100.0
Good Score	N	Valid	129	129	129	129	129	129	129
		Missing	0	0	0	0	0	0	0
	Mean		51.318	26.6720	47.171	138.271	86.240	85.705	83.566
	Median		49.000	26.7000	50.000	134.000	90.000	86.000	80.000
	Std. Deviation		11.7467	4.36143	6.3383	24.6452	12.9390	12.6228	7.8111
	Minimum		32.0	12.90	25.0	94.0	60.0	53.0	70.0
Maximum		89.0	37.39	60.0	250.0	140.0	120.0	100.0	
Mann Whitney U Test (P)		0.84	0.001	0.496	0.30	0.34	0.92	0.73	

Table 5 & 6 shows the univariate analysis of the Psychological Health domain concerning several categorical and continues independent factors. No Significant associations was seen in between psychological quality of life and independent variables of both type.

Table 5 Uni-variate Analysis Psychological Health and categorical independent variable

Sr.no	Domain	Variable	Test	P
1.	Psychological Health	Residence	Chi-square (χ^2): 0.66 df:01	0.41
2.		Gender	Chi-square (χ^2): 2.04 df:01	0.15
3.		Occupation	Chi-square (χ^2): 6.09 df:05	0.29
4.		Education	Chi-square (χ^2): 1.28 df:04	0.86
5.		Marital Status	Chi-square (χ^2): 1.16 df:02	0.56
6.		Family Type	Chi-square (χ^2): 0.63 df:02	0.72
7.		Caregiver	Chi-square (χ^2): 1.14 df:03	0.76
8.		Addiction	Chi-square (χ^2): 0.55 df:01	0.45
9.		Family HO PTCA	Chi-square (χ^2): 0.26 df:01	0.60

10.	Comorbidities	Chi-square (χ^2): 0.64 df:03	0.88
11.	Central Obesity	Chi-square (χ^2): 0.33 df:01	0.56
12.	Vessel involvement	Chi-square (χ^2): 2.04 df:02	0.36

Table 6 Uni-variate Analysis Psychological Health and continues independent variable

Statistics									
Psychological		Age	BMI	LVEF	SBP	DBP	Pulse	Blockage	
Poor Score	N	Valid	145	145	145	145	145	145	145
		Missing	0	0	0	0	0	0	0
	Mean		50.697	25.1399	47.207	134.462	85.566	86.434	83.207
	Median		50.000	24.9000	50.000	130.000	90.000	84.000	80.000
	Std. Deviation		10.0687	4.29380	6.1767	22.4972	13.6264	12.7844	7.5156
	Minimum		30.0	14.90	25.0	96.0	40.0	50.0	70.0
	Maximum		89.0	38.90	60.0	240.0	150.0	124.0	100.0
Good Score	N	Valid	116	116	116	116	116	116	116
		Missing	0	0	0	0	0	0	0
	Mean		50.784	25.7810	46.853	139.224	86.216	84.914	84.052
	Median		49.000	25.0500	50.000	135.000	90.000	84.500	80.000
	Std. Deviation		11.8489	4.38186	6.5119	26.1557	14.8791	12.1938	7.4575
	Minimum		32.0	12.90	25.0	86.0	50.0	53.0	70.0
	Maximum		89.0	38.00	60.0	250.0	140.0	118.0	100.0
Mann Whitney U Test (P)		0.44	0.39	0.96	0.16	0.90	0.51	0.35	

Table 7 & 8 shows the univariate analysis of the Social Health domain concerning several categorical and continues independent factors. The Significant associations was seen in between social quality of life with marital status (P 0.006), care giver (P 0.01), Central Obesity (P 0.0001), vessels involvement (0.0001) and BMI (0.0001).

Table 7 Uni-variate Analysis Social Relation and categorical independent variable

Sr.no	Domain	Variable	Test	P
1.	Social Relation	Residence	Chi-square (χ^2): 0.27 df:01	0.60
2.		Gender	Chi-square (χ^2): 1.20 df:01	0.27
3.		Occupation	Chi-square (χ^2): 5.38 df:05	0.37
4.		Education	Chi-square (χ^2): 1.41 df:04	0.84
5.		Marital Status	Chi-square (χ^2): 10.32 df:02	0.006
6.		Family Type	Chi-square (χ^2): 2.69 df:02	0.26
7.		Caregiver	Chi-square (χ^2): 10.94 df:03	0.01
8.		Addiction	Chi-square (χ^2): 1.88 df:01	0.16
9.		Family HOPTCA	Chi-square (χ^2): 0.82 df:01	0.36
10.		Comorbidities	Chi-square (χ^2): 1.57 df:03	0.66
11.		Central Obesity	Chi-square (χ^2): 20.93 df:01	0.0001
12.		Vessels involvement	Chi-square (χ^2): 42.47 df:02	0.0001

Table 8 Uni-variate Analysis Social Relation and continues independent variable

Statistics									
Social Relation		Age	BMI	LVEF	SBP	DBP	Pulse	Blockage	
Poor Score	N	Valid	162	162	162	162	162	162	162
		Missing	0	0	0	0	0	0	0
	Mean		51.173	24.7821	46.636	136.944	86.457	86.031	84.290
	Median		50.000	24.4000	50.000	134.500	90.000	84.000	80.000
	Std. Deviation		11.0316	4.39436	6.4227	24.2139	14.3385	12.8708	7.8191
	Minimum		30.0	12.90	25.0	86.0	50.0	53.0	70.0
	Maximum		87.0	38.90	60.0	250.0	140.0	124.0	100.0
Good Score	N	Valid	99	99	99	99	99	99	99
		Missing	0	0	0	0	0	0	0
	Mean		50.020	26.4767	47.727	135.980	84.869	85.313	82.424
	Median		48.000	26.7000	50.000	130.000	86.000	86.000	80.000
	Std. Deviation		10.6282	4.04568	6.1142	24.4457	13.9127	11.9869	6.7900
	Minimum		32.0	14.90	25.0	100.0	40.0	50.0	70.0
Maximum		89.0	37.39	60.0	240.0	150.0	113.0	100.0	
Mann Whitney U Test (P)		0.269	0.0001	0.136	0.495	0.601	0.941	0.36	

Table 9 & 10 shows the univariate analysis of the Environment Health domain concerning several categorical and continues independent factors. The Significant associations was seen in between environmental quality of life with vessels involvement (0.0001).

Table 9 Uni-variate Analysis Environment and categorical independent variable

Sr.no	Domain	Variable	Test	P
1.	Environment	Residence	Chi-square (χ^2): 0.005 df:01	0.94
2.		Gender	Chi-square (χ^2): .77 df:01	0.37
3.		Occupation	Chi-square (χ^2): 4.54 df:05	0.47
4.		Education	Chi-square (χ^2): 2.93 df:04	0.56
5.		Marital Status	Chi-square (χ^2): 1.97 df:02	0.40
6.		Family Type	Chi-square (χ^2): 2.12 df:02	0.34
7.		Caregiver	Chi-square (χ^2): 1.94 df:03	0.58
8.		Addiction	Chi-square (χ^2): 0.62 df:01	0.42
9.		Family HO PTCA	Chi-square (χ^2): 2.37 df:01	0.12
10.		Comorbidities	Chi-square (χ^2): 0.28 df:03	0.96
11.		Central Obesity	Chi-square (χ^2): 2.00 df:01	0.15
12.		Vessel involvement	Chi-square (χ^2): 60.90 df:02	0.00 01

Table 10 Uni-variate Analysis Environment and continues independent variable

Statistics									
Environment		Age	BMI	LVEF	SBP	DBP	Pulse	Blockage	
Poor Score	N	Valid	124	124	124	124	124	124	124
		Missing	0	0	0	0	0	0	0
	Mean		51.121	25.0137	46.532	134.468	84.702	86.484	84.234
	Median		50.000	24.7000	50.000	131.000	86.000	84.000	80.000
	Std. Deviation		10.9289	4.29854	6.0545	21.7859	13.2567	13.0481	8.0659
	Minimum		30.0	12.90	25.0	86.0	50.0	53.0	70.0
	Maximum		81.0	38.90	60.0	190.0	136.0	124.0	100.0
Good Score	N	Valid	137	137	137	137	137	137	137
		Missing	0	0	0	0	0	0	0
	Mean		50.387	25.7970	47.518	138.489	86.898	85.102	82.993
	Median		49.000	26.4000	50.000	132.000	90.000	86.000	80.000
	Std. Deviation		10.8528	4.35281	6.5340	26.2323	14.9250	12.0412	6.8990
	Minimum		32.0	15.60	25.0	100.0	40.0	50.0	70.0
	Maximum		89.0	37.39	60.0	250.0	150.0	120.0	100.0
Mann Whitney U Test (P)		0.712	0.96	0.82	0.435	0.289	0.605	0.190	

Discussion

Coronary artery disease (CAD) is a prevalent non communicable illness that produces angina (chest discomfort) and shortness of breath, restricts lifestyle activities, and reduces lifespan.⁹ These symptoms are caused by oxidized fatty cholesterol plaque built on the coronary channel walls, which restricts blood flow to the heart muscle.¹⁰ Percutaneous coronary intervention (PCI) is a standard medical treatment used to treat CAD that involves dilatation of blocked arteries with balloon catheters and the implantation of stents to restore blood flow. PCI can relieve angina and improve exercise tolerance in these individuals while lowering the risk of major adverse cardiovascular events (MACEs) such as myocardial infarction (MI) and mortality.¹¹

In our study revealed that socio demographic profile of a sample group (N=261) having percutaneous coronary intervention (PTCA) was discovered in our study. Notably, a substantial proportion (79.3%) is between the ages of 41 and 60, with a gender distribution that is balanced (62.45% male, 37.54% female). The majority of participants (89.27%) are married, have a secondary education (73.18%), and work in agricultural vocations (65.51%). The majority (55.93%) was members of joint families, reside in

rural areas (72.41%), and are primary caretakers for their spouses (88.50%). Addiction rates are extremely low (37.06%), and the vast majority (62.06%) do not have a PTCA family history. Furthermore, the vast majority (97.31%) have at least one co-morbidity, highlighting the significance of healthcare interventions in this population.

While as per Tsoulou V et al study 69% of the patients in the sample were men, 64% were over 60 years old, 66% were married, 39% had a primary-level education, 55% were retired, 68% resided in Attica, and 59% had two children. Furthermore, 47% had assisted PCI, 84% had manual access, 64% had another family member with coronary artery disease, and 66% had some other condition. The individuals' mean BMI was 29.1, and 64% and 60% of them ate a high-fat, high-sodium diet, respectively. In terms of behaviors, 53% smoked, 19% consumed alcohol, and 88% drank caffeine, while 47% did not exercise at all.¹²

In our study revealed that whole picture of health markers and intervention outcomes for 261 persons who had percutaneous coronary intervention (PTCA). Notably, a substantial majority (86.02% with BMIs ranging from 18.50 to 29.99) has a healthy BMI, indicating an overall favorable body weight. The distribution of waist-to-hip ratios

shows that 50.57% of people are not obese, which is good for cardiovascular health. Blood pressure management may be shown, with 11.11% of those having normal blood pressure measurements. The findings on left ventricular ejection fraction (LVEF) are quite positive, with 67.81% exhibiting 50% LVEF, suggesting intact cardiac function. Importantly, PTCA treatments are highly successful, with 92.71% of patients obtaining entire coronary patency, confirming the efficacy of medical interventions.

As per Siriyotha S et al study a total of 19,701 patients were enrolled in the study, with a mean age of 64.2 11.7 years and a male predominance (69.1%). Following PCI, mean utility ratings climbed from 66.6 19.6 at admission to 81.9 13.8 at discharge, and then remained steady for 6 and 12 months (86.1 12.3 and 88.0 11.7, respectively). After controlling for possible confounding variables, numerous characteristics, including angiographic success, male gender, overweight status, dyslipidemia, and radial access, were shown to be independently linked with increased HRQoL. Cardiogenic shock/IABP support, old age, CKD, clinical presentation (STEMI and NSTEMI), previous cerebrovascular illness, and heart failure were all related with less improved HRQoLs. There were no correlations between CAD severity and procedure details and HRQoL.¹³

We found that univariate analysis for overall quality of life and general health about numerous categorical independent factors in our study. The Chi-square test was used to evaluate the relationships between these variables. Our study found a significant relationship between education and overall quality of life ($\chi^2 = 14.06$, $p = 0.007$).

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This shows that greater education levels may have a good impact on the participants' overall health and well-being.

Furthermore Care giver Influence this variable also showed a significant connection ($p = 0.04$), showing that care giver' roles may have a favorable influence on the overall quality of life and general health of people with CAD. While participants with comorbidities had a significant correlation ($\chi^2 = 10.39$, $p = 0.01$), emphasizing the need of managing and treating extra health issues for higher overall quality of life. In addition to treating obesity and vessel Involvement Interestingly, there were significant correlations between the number of vessel involvements ($\chi^2 = 20.86$, $p < 0.0001$) and central obesity ($\chi^2 = 25.19$, $p < 0.0001$). These findings highlight the necessity of interventions aimed at improving cardiovascular health and obesity to improve overall well-being.

Conclusion

In our study majority of the participants were in age group of 31-50 yrs, were males and the majority have at least one co-morbidity, emphasizing the importance of healthy life style. We found that overall coronary artery disease patients undergoing PTCA had poor quality of life at social and psychological domain as compared to other. Variables like central obesity, number of vessel involvement, body mass index and type of caregiver involved in patient care were found to be associated with quality of coronary artery disease patients undergoing PTCA. These findings provide could help to develop practical methods for holistic approaches that include education and support, hence improving overall health for those suffering from coronary artery disease.

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