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## RESEARCH ARTICLE

### HEALTH RELATED QUALITY OF LIFE OF PATIENTS UNDERWENT OPEN HEART SURGERY.

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#### Abstract

**Introduction:** Factors influencing the post-operative health related quality of life (HRQoL) after cardiac surgery have not been well described yet, mainly in the older people. The study aim was to explore the differences in clinical conditions in health related quality of life of patients after cardiac surgery are taking into account the influence of socio demographic variable and to describe factors influencing changes of health related quality of life in post-operative period.

The purpose of the study was to assess the health related quality of life of patients who underwent open heart surgery attending CTVS OPD, JIPMER.

**Methodology:** This study was conducted using cross sectional descriptive survey design. 180 patients who underwent open heart surgery at JIPMER were selected using non probability convenience sampling technique from patients attending CTVS OPD at JIPMER to assess the health related quality of life using Modified RAND SF-36 questionnaire.

**Results:** Descriptive and inferential statistics were used to analyze the findings which show that the overall quality of life is 62.78%.

With regard to demographic variable majority 86(47.8%) were in the age group of 41-60 years, 93(51.7%) were female, 140(77.8) were married, 42(23.3%) had middle level and primary level education, 91(50.6%) were unemployed, 139(77.2%) had income <2500, 114(63.3%) were moderate type of work, 134(74.4%) had undergone valvular surgeries, 85(47.2%) had single valve replacement, 45(25%) were 1-5 years after open heart surgery, 161(89.4%) had no history of recurrent open heart surgery, 138(76.7%) had no history of associated co-morbidities, 176(97.8%) were non- smoker, 177(98.3%) were non-alcoholic, 174(96.7%) were regular to treatment follow up.

Overall, 78(45%) had fair health related quality of life, 52(28.9%) had poor health related quality of life, 50(27.8%) had good health related quality of life.

**Conclusion:** The study concluded that most of the patients who underwent open heart surgery have fair quality of life so that there is a

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need for enhancement in rehabilitation services in order to improve their quality of life further.

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## **Introduction:-**

Cardio vascular diseases remain as the leading cause of mortality worldwide in both men and women<sup>1</sup>. But the advancing medical technologies in cardiac surgery have resulted in increasingly longer life spans, and of these CABG, valvular surgery and intra cardiac repair is the widely used and well accepted therapy for patients with significant cardio vascular problems. Health related quality of life (HRQOL) is an increasingly important aspect in assessing the outcome of any medical intervention<sup>2</sup> as well in the management and care of patients after cardiac surgery, while the main treatment aim is not to reduce mortality rates, but also to improve the quality of life. Health related quality of life in nature is multifaceted, based on the subjective perception of patient's health, and includes not only physical but also psychological and social functioning. Several authors have referred to the WHO's definition of health as a basis for HRQoL namely as a "state of complete physical, mental or social wellbeing" and merely the absence of disease or infirmity. HRQOL then results the impact of disease and medical / surgical interventions on patient function, as reported by the patient. HRQOL is a perceived physical and mental health in domains related to physical functioning, role functioning, social functioning, general health and fatigue and emotional wellbeing, focuses on the impact of health status on quality of life. The past two decades have seen the development of multiple health status measurement tools to assess the health related quality of life. While, these tools vary in the constructs they measure, all have the common goal of capturing "health status as perceived by the patients in areas of health identified to be of value to the patient", most common being physical functioning, psychological functioning, role functioning and general health perception. Quality of life (QOL) outcomes have become a major focus among open heart surgeries such as coronary artery bypass grafting (CABG), valvular replacement and cardiac defects repair, a common and effective treatment for cardiac diseases:

1. Typically conceptualized in terms of the patient's subjective experience,
2. QOL is multifaceted,
3. Comprising self-assessments in several areas of functioning
4. Patients underwent cardiac surgeries report problems in a number of domains, including physical activity, social interaction and emotion,
5. Although most experience improved QOL following CABG (6 – 8).

With an increasing number of elderly patients being referred for cardiac surgery, it is important to assess outcome in terms of quality of life alongside the more traditional measures of survival and morbidity.

Generic HRQOL instruments like SF-36 are those without disease specific questions and can therefore be applied and compared across population of patients. These instruments therefore measure overall health status, including any impact from cardiac or non-cardiac variables. Open heart surgery mainly focuses on the biologic and physiologic outcome and do not capture the impact of intervention on patients health related quality of life. Thus there is limited literature evaluating health related quality of life before and after open heart surgery. According to WHO 2010 it is estimated that more than 800,000 open heart surgeries are performed worldwide every year. Open heart surgery is the most common type of open heart surgeries in the United States, with more than 500,000 surgeries performed each year. In India, approximately 50,000 open heart surgeries are performed annually. Recently, however, the emphasis has been more toward assessing outcome in terms of patients' perceptions of changes in their state of health over time and how this affects their lives; in other words, assessing the health-related quality of life<sup>3</sup>. HRQOL encompasses a holistic approach to medicine by including not only the patient's physical status, but mental, emotional, and social status, there is a need to evaluate the patient's perception of the stressfulness surrounding the surgical procedure and to understand the possible effects of this perception on recovery and in different aspects of quality of life after open heart surgery. In the light of the above the researcher found it is desirable to assess quality of life and lifestyle before and after the open heart surgery<sup>4</sup>.

## **Materials and Methods:-**

The study was a descriptive study with cross-sectional survey design conducted in Cardio Thoracic and Vascular Surgery OPD, Jawaharlal Institute of Post Graduate Medical Education and Research JIPMER (An Institution of

National Importance under Ministry of Health and Family Welfare, Government of India) Puducherry, a tertiary care hospital from which people come from Puducherry, Tamil Nadu and other nearby states seek medical care, where nearly 200 patients are attending the CTVS OPD/day.

#### **Sample:-**

The study conducted among 180 patients who underwent open heart surgery. Both adult male and female over 18 years who underwent open heart surgery at JIPMER, on regular follow up and who can understand and converse in Tamil/English and willing to take part in the study were included. The data was collected by interview of the patients using the RAND SF-36 questionnaire. The data collection required 20-30 minutes per patient.

#### **Description of the tool:-**

Demographic data included Age, Gender, Marital status, Education, Occupation, Type of Work, Income, type of open heart surgery, if valvular replacement, specify how many valves, duration after open heart surgery, history of open heart surgery, associated co-morbidity, smoking status after open heart surgery, alcoholic status after open heart surgery and adherence to treatment and follow up. Modified RAND SF-36 contains 5 dimensions. It includes physical functioning, role functioning, social functioning, general health and energy /fatigue, emotional wellbeing was used to find the Health related quality of life (HRQol).

#### **Data Collection Procedure:-**

The institutional ethical clearance was taken before the data collection. Informed consent was taken from the participants after explaining the study. By non-probability convenience sampling technique 180 Participants who fulfilled inclusion criteria were explained the purpose of study to the participants and written informed consent was obtained from the participants. Data was gathered using the standardized structured questionnaire on health related quality of life (Modified RAND SF-36) along with socio demographic profile with duration of 20 to 30 minutes for each participant by interview method.

#### **Statistical analysis:-**

Both descriptive and inferential statistics were used for analyzing the data. The baseline characteristics were presented as frequencies and percentages. To describe the association of level of Health related Quality of life (HRQol) with demographic and clinical parameters chi-square test was performed.

#### **Results:-**

The distribution of demographic variables of the study participants showed that majority 86(47.8%) were in the age group of 41-60 years, 93(51.7%) were female, 140(77.8) were married, 42(23.3%) had middle level and primary level education, 91(50.6%) were unemployed, 139(77.2%) had income <2500, 114(63.3%) were moderate type of work, 134(74.4%) had undergone valvular surgeries, 85(47.2%) had single valve replacement, 45(25%) were 1-5 years after open heart surgery, 161(89.4%) had no history of recurrent open heart surgery, 138(76.7%) had no history of associated co-morbidities, 176(97.8%) were non- smoker, 177(98.3%) were non-alcoholic, 174(96.7%) were regular to treatment follow up.

**Table 1:-** Distribution of patients underwent open heart surgery with respect to level of health related quality of life  
N=180.

Level of health related quality of life	Poor (<50%)		Fair (50-75%)		Good (>75%)	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Physical functioning	67	37.3%	51	28.3%	62	34.4%
Role functioning	87	48.3%	27	15.1%	66	36.6%
Social functioning	35	19.5%	29	16.1%	116	64.4%
General health and fatigue	35	19.44%	82	45.5%	63	35%
Emotional well being	32	17.8%	81	45%	67	37.2%
Overall	52	28.9%	78	43.3%	50	27.8%

Table 1 reveals with respect to different dimensions, majority 67(37.3%) had poor physical functioning, 87(48.3%) had poor role functioning, 116(64.4%) had good social functioning, 82(45.5%) had fair general health and fatigue, 81(45%) had fair emotional well-being.

Overall, 78(45%) had fair health related quality of life, 52(28.9%) had poor health related quality of life, 50(27.8%) had good health related quality of life.

**Table 2:-** Association of level of health related quality of life with selected demographic variables.

N=180

S. NO	DEMOGRAPHIC VARIABLE	Poor quality of life (<75%)	Fair quality of life (50-75%)	Good quality of life (>75%)	Chi square value	P-value
1.	Gender a) Male b) Female	21 32	29 46	37 15	X <sup>2</sup> =15.26 df=2	<0.001***
2.	Occupation a) self employed b) private sector c) public sector d) unemployed e) retired	19 2 2 30 0	24 6 1 43 1	22 12 0 18 0	X <sup>2</sup> =18.234 df=8	0.025*
3.	Income per month a) <2500 b) 2500-5000 c) 5000-10000 d) >10000	43 4 4 2	63 9 2 1	33 14 5 0	X <sup>2</sup> =14.175 df=6	0.025*
4.	Type of work a) Sedentary work b) Moderate work c) Heavy work	15 29 9	12 52 11	3 33 16	X <sup>2</sup> =13.401 df=4	0.010**
5.	Valvular replacement specify a) No b) Single c) Double	17 24 12	12 44 19	17 17 18	X <sup>2</sup> =10.596 df=4	0.05*
6.	Duration after open heart surgery a) <6 month b) 6month-1year c) 1-3 years d) 3-5 years e) More than 5 years	18 5 11 7 12	15 16 17 9 18	3 14 17 4 14	X <sup>2</sup> =17.590 df=8	0.025*

(\* p value <0.05, \*\* p value <0.01, \*\*\*p value <0.001)

Table 4 shows that the findings revealed there is a significant association of health related quality of life with gender at p<0.001 level, type of work at p<0.01 and with occupation, income, type of surgery, no. of valve replaced & duration after surgery at p<0.05 level.

### Discussion:-

The prime objective is to assess the health related quality of life of patients who underwent open heart surgery. The analysis revealed that the majority of had 78(45%) had fair health related quality of life, 52(28.9%) had poor health related quality of life, 50(27.8%) had good health related quality of life with the mean health related quality of life 62.87%. The results were consistent with the study conducted by Sedighe Fayyazi et al<sup>5</sup> to compare the health

related quality of life before and after open heart surgery with 49 patients in Golestan hospital at Ahwaz, Iran revealed that the quality of life after 3 months after the surgery is improved and fair at  $f < 0.0001$ . The second objective was to associate health related quality of life with demographic variable. The findings revealed there was a significant association of health related quality of life with gender at  $p < 0.001$  level, type of work at  $p < 0.01$  and with occupation, income, type of surgery, no. of valve replaced & duration after surgery at  $p < 0.05$  level. The above findings were consistent with the study conducted by Maria Landaniti et al<sup>6</sup> to assess the health status using SF-36 after CABG among patients underwent CABG in a hospital at northern Greece revealed that the quality of life was correlated with sex, nationality, occupational status, smoking, family status, educational status and comorbidities

### Conclusion:-

This study has showed that 45% of patients had fair level of health related quality of life after open heart surgery and also associated with demographic variables such as gender, type of work and duration after surgery. The findings of this study show the importance of need for early rehabilitation programs to be initiated with patients after open heart surgery.

### Conflict of Interest:-Nil

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