



ASSESSMENT OF QUALITY OF LIFE (QOL) AMONG PATIENTS AFTER VALVE REPLACEMENT: A DESCRIPTIVE CROSS SECTIONAL STUDY

Surgery

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ABSTRACT

Quality of Life (QOL) improves after valve replacement surgery but in spite of sophisticated techniques, there are problems do occur after a valve replacement. A descriptive study was conducted using a non experimental design to assess their Quality of Life after valve replacement. Two hundred patients after valve replacement, on the follow up period from two months were recruited using non probability sampling. The data collection period was six months. The investigator obtained clearance was obtained from Research Committee and human ethical committee, Medical College, Thiruvananthapuram. The purpose of the study was explained and a written informed consent was taken. The data was collected with the help of a structured interview schedule, on a one to one basis. The structured interview schedule used for this study consisted of four sections to cover all domains of QOL. Majority 52.5% of the subjects had average Quality Of Life, 43.5% subjects had good Quality Of Life and only 4% subjects had poor Quality Of Life.

KEYWORDS

Quality of life, Valve replacement, Cardiac Surgery.

INTRODUCTION

According to the American Heart Association, (2006) people with valvular heart disease are living longer, with less morbidity than before. Advances in surgical techniques and a better timing for surgical intervention account for increased rates of survival. Replacement surgeries are used to treat patients with torn, obstructed or leaking valves that cannot be patched or repaired. Quality of Life (QOL) improves after valve replacement surgery but in spite of sophisticated techniques, there are problems do occur after a valve replacement.

Each year over 700,000 heart surgeries take place across the world. Of those surgeries, more than 250,000 are valve repairs and valve replacements. The mortality rate for heart valve surgery is about 1.7% (The Society of Thoracic Surgeons -The Patient's Guide to Heart Valve Surgery).

Health-related Quality Of Life (HRQOL) has come to be recognized as having major importance after cardiac surgery. Improved physical, psychological, and social functioning as well as an overall sense of well-being are related to relief of the main cardiac symptoms and better physical functioning, which typically follow cardiac surgery. But still the need for lifelong anticoagulation and life style modifications may affect the Quality Of Life of patients after valve replacement. Advances in procedures and prostheses have improved QOL after cardiac valve replacement, but still the valve replacement may significantly alter the Quality Of Life of those clients as compared to the normal population.

Valve replacement is done either with a completely mechanical valve or a bio-prosthetic valve. Valve replacement makes it possible to improve life expectancy and Quality Of Life of patients with valvular heart diseases. Prevalence statistics about rheumatic heart disease showed that 12 million patients worldwide require further treatment to prevent disability and death (Cardiovascular diseases – prevention and control, WHO, CVD strategy, 2003).

Immer et al. (2003) conducted a study on Quality Of Life after mitral valve surgery: differences between reconstruction and replacement. 62 patients with mitral valve replacement (MVR) and 53 patients with mitral valve repair (MVP) were studied using SF-36 Questionnaire and New York Functional Class (NYHA). QOL was significantly impaired in patients with mitral valve replacement compared with patients undergoing mitral valve repair and midterm survival was similar in both groups.

This study attempts to assess the Quality Of Life and to identify the

problems of patients after valve replacement. Lifelong anticoagulation and regular monitoring of INR values are very essential following valve replacement in order to avoid the occurrence of problems. The study also aims to prepare a self instructional CD assisted module for patients who have undergone valve replacement regarding the care and prevention of problems after valve replacement and to improve their Quality of Life.

MATERIALS AND METHODS

This study adopted a non experimental design and the approach was quantitative approach. Two hundred patients after valve replacement, on the follow up period from two months were interviewed to assess their Quality of Life and to identify their problems after valve replacement. The data collection period was six months. The investigator obtained prior permission for conduct of the study from the Superintendent and Head of the Department of Cardiothoracic Surgery, Medical College Hospital, Thiruvananthapuram. Clearance was obtained from Research Committee and human ethical committee, Medical College, Thiruvananthapuram. The purpose of the study was explained and a written informed consent was taken. It was assured to them that all data would be kept strictly confidential and used only for the study purpose. The data was collected with the help of a structured interview schedule, on a one to one basis. The structured interview schedule used for this study consisted of four sections; Socio-demographic Data, clinical data, modified version of SF-36 questionnaire to assess the quality of life of patients after Valve Replacement. The data obtained served as a basis for preparing a CD assisted self instructional module for the patients and the family members.

RESULTS

Socio-demographic Data

- Age wise distribution of subjects showed that among 200 patients, 27% of the subjects were in the age group of 41-50 years and 23% of subjects were both in the age group of 31-40 years and 51-60 years.
- Among the 200 subjects studied 54% were males and 46% were females. Distribution of the subjects based on educational status showed that majority (43%) had High school education, 8.5% were illiterate and only 1.5% were Professionals.
- Regarding occupation majority (53.5%) was unemployed, among 200 subjects 49% of subjects had monthly income between Rs.1000-3000, 37.5% had monthly income below Rs.1000 and 13.5% had monthly income above Rs. 3000.
- Majority (60%) of subjects was moderate workers, 29.5% were sedentary workers and 10.5% were heavy workers. Out of the 200

subjects 67.5% did not have any habits like smoking, alcoholism and chewing.

Clinical Data

- Out of 200 subjects, 48% of subjects had normal Body Mass Index (BMI), 15% were overweight, 28% were obese and 9% were underweight. Regarding valve replacement, 71.5% of subjects had mitral valve replacement, 18% had aortic Valve replacement and 10.5% had both aortic and mitral Valve replacement surgeries. Among the 200 subjects, 43% of subjects had undergone surgery within last 5-10 years, 30% of subjects within 1-5 years and only 5% of subjects were more than 15 years after surgery.
- Majority (82%) of the subjects were taking both Tab. Acitrom, and Tab. Ecospirin as anticoagulants following valve replacement. Out of 200 subjects, 66% of subjects were monitoring INR values regularly where as 34% were not monitoring INR values regularly.
- Distribution of International Normalized Ratio (INR) values showed that 40% of subjects had INR values below normal level, 38.5% had INR values within the normal range and 21.5% had INR levels above the normal range.

Quality of life assessment using modified version of SF-36

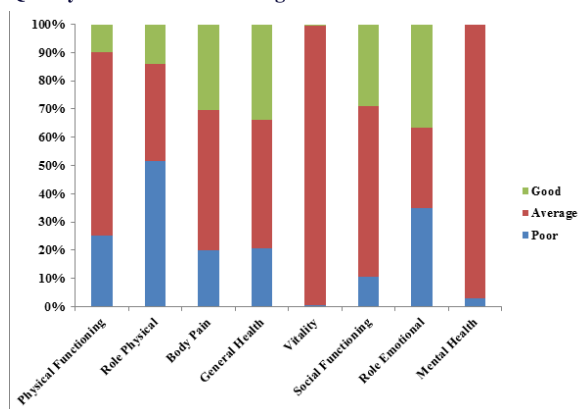


Figure 1: Distribution of subjects according to eight domains of Health in SF-36 Health Survey

Figure 1 represents eight domains of health in SF-36 Health Survey. It is evident that 65% of subjects had average Physical Functioning, 51.5% had poor Role-Physical score, 49.5% had moderate pain, 45.5% had average General Health, 99% had average Vitality, 60.5% had average Social functioning, 36.5% had good Role-Emotional score and 97% had average Mental Health.

Distribution of subjects according to Quality Of Life

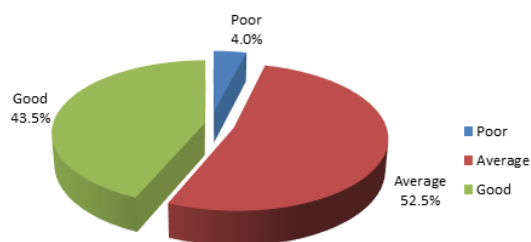


Figure 2: Pie diagram showing quality of life of subjects

Figure 2 that out of 200 subjects, 52.5% of the subjects had average Quality Of Life, 43.5% subjects had good Quality Of Life and 4% subjects had poor Quality Of Life.

DISCUSSION

The present study showed that majority of the subjects aged above 70 years had good Quality Of Life. This was supported by the study that subjects aged 80 years or more benefit from heart Valve replacement in terms of both Quality Of Life (QOL) and functional status. (Spaziano M et al., 2010).

The present study found out that out of the 200 subjects studied 59.5% of subjects had thromboembolism, 25.5% bad bleeding, 6% had valve

failure and 8% had valve infections as major physical problems after Valve Replacement. It was found that thromboembolic and hemorrhagic complications were the most significant problems in subjects treated with oral anticoagulants after implantation of artificial valvular prosthesis of the heart (Wolkann – Bartnik J, 2001). This was also supported by the finding that among the 507 subjects studied for 10 years, 64 events occurred during follow up, of which 23 events were due to thromboembolism and 41 due to bleeding. Atrial fibrillation occurred in 12 subjects having thromboembolic events and in 24 suffering from bleeding complications. Among thromboembolic events, valve thrombosis occurred in 9 subjects and 14 subjects had cerebrovascular accidents (Akhtar R Pet al., 2009).

The study revealed that 52.5% had average Quality Of Life, 43.5% had good Quality Of Life and 4% had poor Quality Of Life and males had better Quality Of Life than females. It was also identified that there is no significant relationship between Quality Of Life and duration after surgery. A study conducted by Chitra Rani P S (2008) showed that males enjoyed better Quality Of Life than females. It was also found that there was no significant association between Quality Of Life and duration after surgery as well as type of surgery.

The present study showed that there was an improvement in all domains of SF-36 and majority of patients enjoyed average Quality Of Life. There is no significant association between Quality Of Life and age. The study was supported by the finding of Sedrakyan et al. (2005) that there was an overall improvement in most domains of SF 36 including the physical component summary and mental component summary and it did not vary by age in aortic subjects and only slightly varied by age in mitral subjects.

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