

**A study to Assess the Effectiveness of  
Existing Health Education after Prosthetic  
Valvular heart Surgeries**

Project Report

**Rani. K.S**

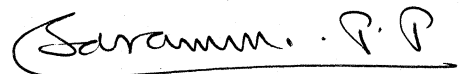


**Sree Chitra Thirunal Institute for  
Medical Science and Technology**

**2005**

*Certified that this study to assess the effectiveness of existing health education after prosthetic valvular heart surgeries: is a bonified work of Rani K.S at the Sree Chitra Thirunal Institute for Medical Science and Technology.*

*Submitted in the partial fulfillment of the requirement for the Diploma in cardiovascular and Thoracic Nursing from the Sree Chitra Thirunal Institute for Medical Science and Technology.*

  
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***Rani. K.S***

## **DECLARATION**

*I, Rani. K.S., do here by declare that this project Report has not been submitted by me for the award of a degree/diploma/ title/ Recognition before.*

Thiruvananthapuram

31-10-2005

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A tool for obtaining information on patients knowledge and practice about life style modification after prosthetic valve surgeries

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**CHAPTER – I**

**INTRODUCTION**

The potential for morbidity or mortality from a valvular prostheses remains as long as valve is in place. The major types of morbidity associated with the presence of a prosthetic cardiac valve are valve failure, Thromboembolism, anti coagulant – related haemorrhage and endocarditis. Cardio vascular nurses should be familiar with the comparison of valvular prostheses to provide appropriate patient education and to facilitate the prompt detection and treatment of valve related complications.

Invasive medial procedures in patients with prosthetic heart valves may lead to endocarditis. The presence of artificial valve substitute a new disease state for the preexisting valvular disease. New York Heart association functional class was improved in 84%, the major types of morbidity were documented are thromboembolism, endocarditis, valve failure. Thromboembolic and anticoagulant bleeding events are major cause of mortality and morbidity in patients with mechanical heart valves. Management of oral anticoagulant therapy is therefore a key determinant for these clinical complications. The value of prosthetic valve replacement is determined not only by the improvement in the life expectancy but also by the quality of life. Thromboembolic complication 7-8% per year and bleeding 2-4% pre year have been reported. (Indian Heart Journal 2004). The incidence of thromboembolism, the re-operation and valve failure were

significantly higher in aortic valve repair patients than mitral valve or double valve repair patients. With the exception of significantly increased incidence of prosthetic valve endocarditis, the results after AVR equal those after MVR (Eur J Cardio thoracic surgery 1988.) So that Health education is very essential to the patient and relatives about the prevention of prosthetic valve related complications after surgery.

### **Back ground of the study**

Sree Chitra Thirunal Institute for Medical Science and Technology is a referral hospital of cardiology, neurology, neurosurgery and cardiothoracic surgery. Follow up surgery clinics function every week from Monday– Thursday.

Delay in responding to prosthetic valve related complications as an emergency from patient side because they have lack of information about valve associated endocarditis, bleeding, signs & symptoms of thromboembolism. There has been a gradual decline in the incidence of valvular complications and related mortalities in many industrialized countries in recent years. This is due to education of public by early recognition and treatment of prosthetic valvular of complication client education should be emphasised on prompt intake of drugs at due time (eg: anticoagulants, antibiotics), maintaining body weight, smoking cessation, reducing stress etc. Adequate blood control and regular blood investigation

should be strictly followed during post operative period. Otherwise it may leads to increased risk of stroke in future. Anticoagulation therapy can greatly reduce the risk of stroke in individuals after valvular heart surgery due to atrial fibrillation. Smoking cessation is also way important to reduce the complications. The peoples are also aware about the weakness of prosthetic valve by major warning signs like

- Decreased valvular sounds
- Excessive bleeding from gums, nose
- Palpitation, syncope, dizziness.
- Weakness, numbness, paralysis of one side of the body.
- Blindness, pain on extremities, loss of consciousness.

### **Need and significance of the study**

Careful attention to the valve related complications and prompt knowledge leads to an appreciable reduction in long term morbidity and mortality rate. During this study researcher assessed the knowledge and practice of postop valvular patients. The major types of morbidity associated with the presence of a prosthetic vascular complications are valve failure, thromboembolism, anticoagulant related hemorrhage and endocarditis. Patient with a mechanical valve prosthesis require education to prevent bacterial endocarditis, antibiotic prophylaxis before and after all

dental and surgical interventions. Especially after valvular surgeries, patients must have a thorough information about necessity for long term antibiotic and anticoagulant therapy. The presence of artificial valve substitute a new disease state for the pre-existing valvular disease. Thromboembolism remains a major complication of prosthetic cardiac valves. Embolisation most often occur to the cerebral circulation, resulting in a cerebral vascular accident or transient ischemic attack, but also can occur to the peripheral circulation resulting in ischemic or infarction of tissue distal to the embolus. Prosthetic endocarditis is a potentially life threatening complication, particularly if it occur during the early postoperative months. So life long prophylaxes against prosthetic valve endocarditic is extremely important. Septic embolisation and intra myocardial abscess are common sequelae of prosthetic endocarditis that is not corrected by antibiotic therapy or by removal of the infected prostheses. Patients with mechanical heart valve must require education to prevent bacterial endocarditis with antibiotic prophylaxes and thromboembolic complications with anticoagulant regimn for their better quality future life. Fluctuating levels of anticoagulation below and above the therapeutic range are associated with an increased risk of thromboembolic and bleeding complication respectively. Therefore, regular monitoring of anticoagulant response is critical to enhance the efficiency and safety of oral anticoagulant therapy. Stroke is a devastating complication in patient

prosthetic valves, but characterization of its late occurrence from a large cohort is lacking.

Considering the above factors the investigator felt that there is a need to assess the knowledge and practice of people after prosthetic valvular heart surgeries attending in follow up clinic SCTIMST, Thiruvananthapuram.

## **STATEMENT OF THE PROBLEM**

A study to assess the effectiveness of existing health education after prosthetic valvular heart surgeries attending follow up clinic at Sree Chitra Thirunal Institute for Medical Science and Technology, Thiruvananthapuram.

## **DEFINITION OF TERMS**

**Prosthetic valve surgery:-** It is the surgery to replace innate diseased heart valve using a mechanical or artificial valve.

**Health Education:-** The written printed instructions given at the time of discharge from the hospital.

**Effectiveness:-** How much each persons scores to the questionnaire that the investigation give them.

## **Objectives of the study:-**

1. To assess the knowledge of samples after prosthetic surgery.
2. To evaluate the practice of samples after valvular heart surgeries.

## **METHODOLOGY**

The survey approach was used in this study. The data collected from twenty (20) samples who are attending the follow up surgery clinic of SCTIMST. After obtaining informed consent from the samples or relatives multiple choice questionnaire were given. The questions were related to their knowledge and daily living practice. The validity of the tools were checked by the expert of SCTIMST. The duration of study was August to October 2005.

## **Limitations**

Since the availability of sample is limited, randomization is not possible. Sample size was limited to 20 only. Time for data collection limited to one month. The assessment of knowledge was limited to responses to the objective type test items. The assessment of practice was also limited to responses to the objective type test. The study was limited only to persons who undergone open heart prosthetic valvular surgeries at SCTIMST.

## **Summary**

This chapter deals with the introduction, background of the study, need and significance of the study, statement of the problem, definition and terms, objectives of the study, methodology and limitations.

## **Organisation of the Report**

In Chapter II summary or related studies, reviewed. Chapter III deals with methodology of this study, chapter IV analysis & interprets the findings Chapter V represents a summary of the study, conclusion, implication limitations and recommendation. The report also includes a selected bibliography & appendices.

**CHAPTER II**

**REVIEW OF RELATED**

**LITERATURE**

Literature review helps the investigator to get acquainted with the current state of knowledge. This chapter deals with 'studies conducted by different investigators which were found to be relevant to the present study. With the advancement in science and technology the mortality and morbidity associated valvular surgeries has been on decline. Besides numerous complications probable often avoidable such as side effects of incorrect anticoagulation therapy, prosthetic valve endocarditis contributed to the high rate of events during follow up. Review of literature insight into the problem and helps in setting methodology, tools and analysing data. Related literature was reviewed in depth, So as to broaden the understanding of selected problem.

The review of literature relevant to the study was presented in the following sections.

- (a) Studies related to complications after prosthetic valvular surgeries.
- (b) Studies related to rehabilitative measures after prosthetic valvular surgeries.

**A. Studies related to complications after prosthetic valvular open heart surgeries**

Edmunds LH Jr (1982) had done a study on "thromboembolic complications of current cardiac valvular prostheses."

Thromboembolic complications associated twelve different models of currently available aortic and mitral valve prostheses are reviewed in this study. There is a need to standardise definition of thrombotic phenomena and to report these events for valve modes and anatomic location in terms of incidence per 100 patient – years of follow up. The incidence of thromboemboli is less than 2 per 100 patient per year for aortic biological valves without coumarin anticoagulation and for the best mechanical valves with coumarin. For material biological prostheses with and without coumarin and for the best mechanical mitral valves with coumarin, the incidences approximates 4 per 100 patient per years. The incidence of mortality and morbidity due to coumarin anticoagulation in patients with prosthetic valves is 0.17 and 2.2 per 100 patient – year respectively. Omission, poor control or withdrawn of coumarin anticoagulation substantially increases the incidence of thromboemboli in patients with mechanical valves. Some reports suggest that the combination of dipyridemole and coumarin may further reduce thromboembolic complications without increasing bleeding problems. Atrial fibrillation clearly increases thromboembolic complications but the importance of other factors such as atrial clot, large left atrial size, history of emboli and first postoperative year is less definite. (Pubmed. com).

Durrkman N conducted a study on prosthetic valve Thrombosis, twenty year experience at the Monobeat Heart Institute on 1980. Prosthetic valve thrombosis is a life threatening complications. The objective of study is to find out the therapeutic range of INR is important to prevent prosthetic valve thrombosis. Form February 1981 through January 2001, 5430 valve operation were performed in 4924 patients at the Monobeat Heart Institute. Of this 39 patients presented prosthetic valve thrombosis. Most thrombosis occurred with mechanical prosthesis (95%). On prosthetic valve thrombosis INR was less than 2.5 in 54% and inadequate anti coagulation management in 2.6% and poor compliance 26%. 82% patients underwent surgical procedure. The 30 day operative mortality and total in hospital mortality after prosthetic valve thrombosis were 25% and 41% respectively. They concluded that inadequate level of anticoagulation is the most important factor involved in the pathogenesis of prosthetic valve thrombosis. The overall mortality role despite surgical treatment remains high. This study underscores the importance of meticulous surveillance of anti coagulation thereby in patients with prosthetic valve.

“Anticoagulation protocol and early prosthetic valve thrombosis” based study done by Talcore. S on 1999. Prosthetic valve thromboses is a major cause of morbidity and mortality following heart valve replacement with a mechanical valve. 538 patients who underwent mechanical heart valve replacement between 1999 & 2003. It divided into group. Group A

anticoagulations started on the first postoperative period only with oral anti coagulants. In group B Enoxeparin started followed by 6 hours of surgery in addition to oral anticoagulant. Early prosthetic valve thrombosis occurred at the time interval 3-6 months in group A, patients among 15 patients. In group B, six patients developed early prosthetic valve thrombosis at a median interval of 5-6 months. The result is that addition of enoxeparin to the anticoagulation regimn in the immediate post operative period reduces early prosthetic valve thrombosis.

A study on "International normalised ratio self management after mechanical heart valve replacement" is an early state advantageous" by Kortke H Korfer on 1998. Severe thromboemblic and haemorrhagic complications after mechanical heart valve replacement eventually depends on the intensity of oral anti coagulation and the fluctuation of individual international normalized ratio (INR) so the objective is that early self management of effective Random Sampling was taken divided into two groups – one controlling INR valves at home and the other being monitored by family practitioners. The result was that INR 80% of valves recorded by patients at home were with in 2.5-4.5. Compared just 62% of INR values recorded by family practioners. The over all complication rate (hemorrhages and thromboembolic events) of the self management group was significantly decreased compared with conventional group starting this

form of therapeutic control early after mechanical heart valve replacement appears to effect a further reduction in anticoagulant induced complications.

A case report on “severe prosthetic valve – related endocarditis following dental scaling” by Quintissence Int on 1997. There is a well known correlation between surgical dental procedure and the risk of bacterial endocarditis in patients with prosthetic cardiac valves. A 43 year old patients with prosthetic aortic and mitral valves, which already have been removed twice because of endocarditis suffered from a prosthetic valve – related endocarditis following dental scaling which was performed without any antibiotic prophylaxis. Invasive medical procedures in patients with prosthetic heart valves may lead to endocarditis. Antibiotic prophylaxis is recommended even for dental procedure considered to be ‘harmless’ such as dental scaling. (Pubmed. com)

#### **B. Studies related to rehabilitative measures after prosthetic valvular surgeries**

Lemay S. Grenier D and Mercier LA conducted a study on “patient with heart valve prosthesis, dental care, dental procedure and prevention” [From Thoracic cardio vascular nursing 1995 August 14]. The aim of the study to find out whether developing bacterial endocarditis following dental procedures are at higher risk in patients with rhematic heart defects or patients wearing prosthetic cardiac valves. 200 patients with cardiac valves

are surveyed with respect to both their oral hygiene habits and their last visit to dentist. More than half of the respondents (112) were fully edentulous and most of them had not seen a dentist for many years. Of the 88 respondents who had natural teeth, 23 had not seen a dentist for many year. Of the 88 respondents who had natural teeth, 23 had not seen a dentist since surgery. For the purpose of this study focus was placed primarily on the answers given by the 65 patients placed primarily on the answers given by the 65 patients who reported having been to a dentist after surgery. Only 41 of them (63.1) reported having received a prophylactic antibiotic therapy while being treated with risk of bacteremia of the 24 others who did not receive prophylactic anti biotic therapy, 20 were given dental treatments with a risk of bacteremia. In light of this study these should be recommendations to improve the health care given to patients predisposed to bacterial endocarditis.

A study on “The significance of oral health and dental treatment for the postoperative outcome of heart valve surgery” by Hakeberg M and Dernevik L on 1999. The objective of this study was to evaluate the significance preoperative dental treatment for the development of complication in the form of infections during the first post operative weeks after heart valve surgery. In one group of patients (n=149), oral heart was examined and dental treatment performed 3-6 months prior to heart valve surgery. In the second group (n=104), oral Health was examined post-

operatively and these patients did not receive any dental treatment before surgery. Infections were recorded for all patients during the first 3 weeks after surgery and correlated to the dental status at the time of surgery. Sepsis or endocarditis occurred in 5.4% of the first group and in 1.9% of the second group. Freedom from all infections for the two groups was 55% & 56% respectively. The results did not reveal any significant differences between the groups regarding patient's oral health at the primary oral examination. The frequencies of postoperative complications such as focal infection, fever and increased CRP were also found to be similar for both groups. The combined scores of complications were 2.1% and 1.8% respectively. Data from the present study did not support the suggestion that dental intervention will decrease the rate of early complications following heart valve surgery. (Pubmed com.)

Thorman I and Glazer G published an article in German on long term results after cardiac valve replacement" in 1980. They find out that the value of prosthetic valve replacement is determined not only by the improvement in life expectancy but also by the quality of life. This statement resulted from an analysis of 168 patients undergoing isolated aortic – or mitral valve replacement between 1970 and 1976. Besides numerous complications probably often avoidable such as side effects of incorrect anti coagulation – long term results of 125 surviving patients were satisfactory over a period of 3-9 years after surgery. Though complete

restitution was rare, subjective and objective improvement- different and dependant on type and degree of valve disease was persisting and the effect as social and professional incorporation surprisingly positive.

A study on 'Benefits of endocarditis prevention in patients with prosthetic heart valves" by Horskotte D 1986. The beneficial effective of prophylaxis for infective endocarditis was studied in 229 patients with prosthetic heart valves in whom 287 diagnostic and the therapeutic interventions were performed. The prevention used was similar to that recommended by the American Heart Association. Prosthetic valve endocarditis was not observed in any of these patients. This result was compared with that of 304 patients with prosthetic heart valves, in whom without any prevention 390 similar interventions were performed during the same observation period. The incidence of prosthetic valve endocarditis occurring within 14 days after the intervention was 1.5/100 interventions (n = 16) all patients had to be reported. One patient died pre operatively. Two more patients developed prosthetic valve endocarditis 8 and 13 weeks respectively after the initial intervention. This retrospective study documents the benefit of the prophylaxis for infective endocarditis used.

A study on Anticoagulation self – testing after heart valve replacement by Roseggart J.K. 2000. The objective was that home testing of coagulation status offers a new opportunity for improved follow up of patients undergoing chronic anticoagulant therapy secondary to valve

replacement or other condition. A growing body of data suggests that the ability to monitor INR at home results in a greater maintenance of in range values compared to a laboratory based testing regimes. Additional evidence suggest that this greater prevalence of in range values will translate to a lower frequency of bleeding and thrombotic complications. Thus home INR testing appears to be developing as an important diagnostic adjunct for improving the postoperative care of patients with prosthetic heart valves or who are receiving chronic anticoagulation thereby for other reasons. Home monitoring of patients after prosthetic valve replacement - a new method of early progress concerning material and design patients with artificial heart valves still face a considerable risk of serious complication (eg: haemorrhage, thromboemboli) which sum up to 5-20% within the first postoperative year depending on the type and position of implanted prosthetic valve. To avoid these complication a strict control of both anticoagulation. Therapy and functional integrity of the prosthetic valve is mandatory. They presented a reliable method for early detection of prosthetic valve dysfunction which can be applied daily with minimal effort by the patient himself. (Pubmed.com)

**CHAPTER III**

**METHODOLOGY**

## **Introduction**

According to Sharma (1990) research methodology involves the systematic procedure by which researcher starts from the initial identification of the problem to its final conclusion. The role of methodology is to carry on the research work in a scientific and valid manner. The method of research provides tools & techniques by which the research problem is approached. It is a way of systematically solve the problem. This chapter provides a brief description of different steps taken to conduct the study. It include research approach, research design, setting, the sample and sampling technique, development of tool, description of tool, , pilot study, data collection procedure and plan of analysis.

## **Research Approach**

According to Treece & Treece (1986) the approach to research is the umbrella that covers the basic procedure for conducting research. The survey approach was selected, as the objectives of the study were (1) to assess the knowledge of samples after prosthetic valvular heart surgeries and (2) to evaluate the practice of samples after open heart surgeries.

## **Setting**

The study was conducted in “Sree Chitra Thirunal Institute for Medical Science & Technology”, Trivandrum.

The rationale for selecting this institute (SCTIMST) for study was the investigator most familiar with the institution. In addition to that, SCTIMST is one of the famous open heart surgery Hospital all over India. Follow up clinics were functioning smoothly every week – From Monday – Thursday at 9 – 1 p.m. Appointment given by medical social worker in following orders after 1 month, 3<sup>rd</sup>, 6<sup>th</sup> month, finally every year.

### **Population**

The population for the study was patients those who attended the follow up surgery OPD especially after prosthetic valvular surgeries. There are approximately 150 patients per month attending the follow up clinic.

### **Sample and Sampling Technique**

Convenient sampling technique was used to select the samples for the study. Two stage sampling were used. In the first stage 5 samples were selected for the pilot study and in the second stage twenty patients were selected.

In this study approximately 150 population is included, out of this, researcher took 20 (twenty sample) for study from weeks duration. The duration of study period includes from August – September.

## **CRITERIA FOR SAMPLE SELECTION**

### **Inclusion Criteria**

- Patients who were willing to participate in this study.
- Patients who can understand and speak malayalam.
- All prosthetic valve cases are included in this study. (AVR, MVR, DVR)
- Demographic variables were used for the study purpose.

### **Exclusion Criteria**

- Only prosthetic valve cases were included in this study, not the tissue valves.
- Immediate postoperative patients were excluded from this study.
- Patients after both bypass surgery (CABG) and valvular correction cases are not included.

### **Development of Tool**

According to Treece & Treece (1986) the instrument used in a research investigation should as far as possible, be the vehicle that will best elicit data for drawing conclusion, pertinent to the study. The investigator

should be careful about the validity and reliability of the tool he/she adopts for collecting the data. A search of literature was made for the purpose of locating an appropriate tool for assessing the patients. Since such a tool could not be found, the investigator prepared an assessment form for the particular study. The tool examined and content validity is tested by the experts of SCTIMST. A multiple choice questionnaire of 20 questions were prepared based on the literature. After getting permission from the authorities, it was interviewed with the patients and relatives

The steps taken for development of tools are presented below.

**Step I** → A structural questionnaire of 20 questions for assessing the knowledge and practice was made based on the literature reviewed and on experts opinion.

**Step II** → The tool was pilot tested as a sample of 5 patients – The time taken for completion of the test varied from 10-30 mins.

**Step III** → The pilot study gave information regarding the feasibility and effectiveness of the study. For each respondent scoring also done. Then study was continued with the tool.

## **Description of Tool**

The tool used in the present study consist of following section.

Section I → It comprised of demographic characteristics of postoperative valvular patients such as age, sex, educational status, review dates, type of valve surgery.

Section II → It consist of 20 questions for assessing the knowledge & practice of people after vascular heart surgeries. In this 10 questions for assessing the knowledge (regarding proper functioning of prosthetics heart valves, necessity for proper drugs intake, action of drugs side effects of anticoagulant therapy) and 10 questions for assessing the activities practiced towards the prevention of complications.

For each item, three alternative answers were given, out of which only one answer was the best. Test scoring was done by giving a credit or one for the best response and a weight of zero for other responses or omissions. The possible range of knowledge score was 0-10. And the possible range of practices was 0-10.

## **Pilot Study**

After obtaining permission from the authorities study started on 30-08-2005. The purpose of this pilot study was to assess he effectiveness of existing health education. Interviewed the patients (postop valvular

cases) with a structured questionnaire, after getting signed consent. With necessary modification of tool was pilot tested on a convenient sample of 5 patients initially. The time taken for completion of the interview varied from 10-30 minutes. The pilot study gave information regarding the feasibility and effectiveness of the study. The pilot study participants were excluded from the main study. For each responds scoring also done, then study was continued with this tool.

### **Data Collection**

The data were collected from follow up clinic of SCTIST. Formal permission was obtained from the authorities of SCTIMST period of data collection was from 15<sup>th</sup> September to 10<sup>th</sup> October 2005.

The investigator was introduced to the patients about the purpose of the study and the confidentiality of their responses were assessed. The time taken for completion of the interview was 10-30 mts.

### **Plan of analysis**

A plan for data analysis was developed by the investigator after the pilot study. The data obtained from knowledge & practice test would be analysed by descriptive statistics. Percentages would be used for describing

the sample. Both pie & bar diagram should be utilized to represent the distribution of total score and sub-scores in the different content areas.

### **Summary**

This chapter presented the research approach used for the study, research design of the study, setting of the study, sample & sampling techniques, development of description of tool, pilot study, data collection procedure & plan of analysis.

**CHAPTER IV**

**ANALYSIS AND**

**INTERPRETATION**

This Chapter analysis and interprets the data obtained from knowledge and practice test administered to 20 patients (postop valvular cases) in SCTIMST at follow up clinic.

The purpose of the present study was to assess the knowledge and practice of patients (change in life style) especially after prosthetic valvular heart surgeries attending the followup clinic.

The analysis of data are presented in two section.

Section I Sample characteristics

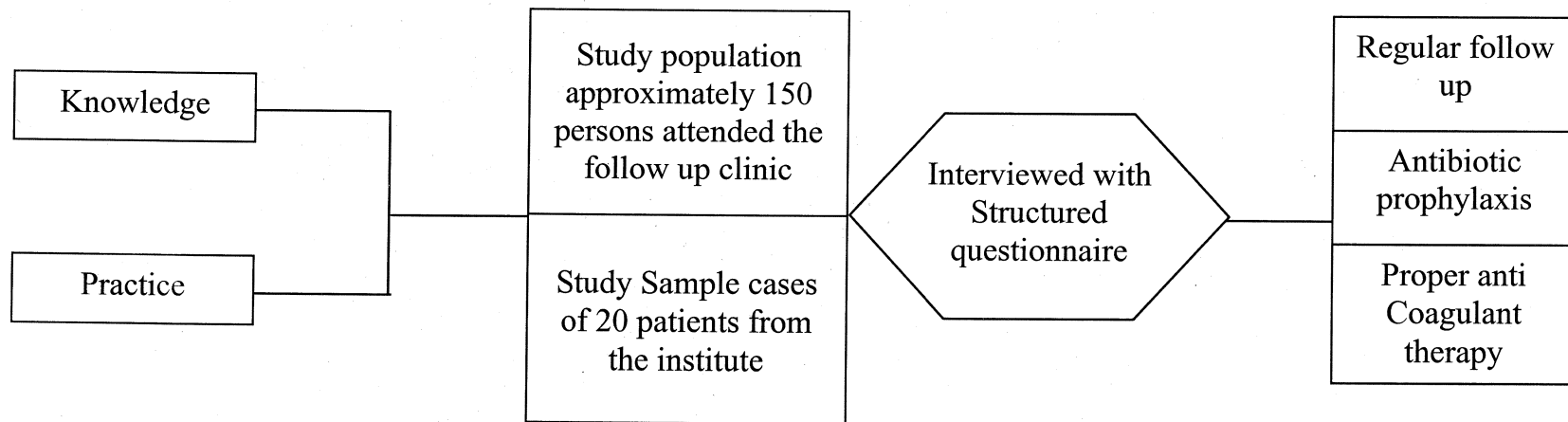
Section II Data on patients knowledge and practice in all content areas.

### **Description of sample characteristics**

**Section I** Sample of 20 patients Selected for the study. The demographic data included were age, sex, education and occupation of the patients.

Table I

**Schematic design of the study**



## Distribution of Samples among their demographic variables

Table II

### Distribution of Samples according to their age

Demographic data	Total numbers	Percentage
(A) Age		
30-35	4	20%
36-40	3	15%
41-45	5	25%
46-50	4	20%
51-55	2	10%
56-60	2	10%

Distribution of Samples among the age group are shown in Figure I

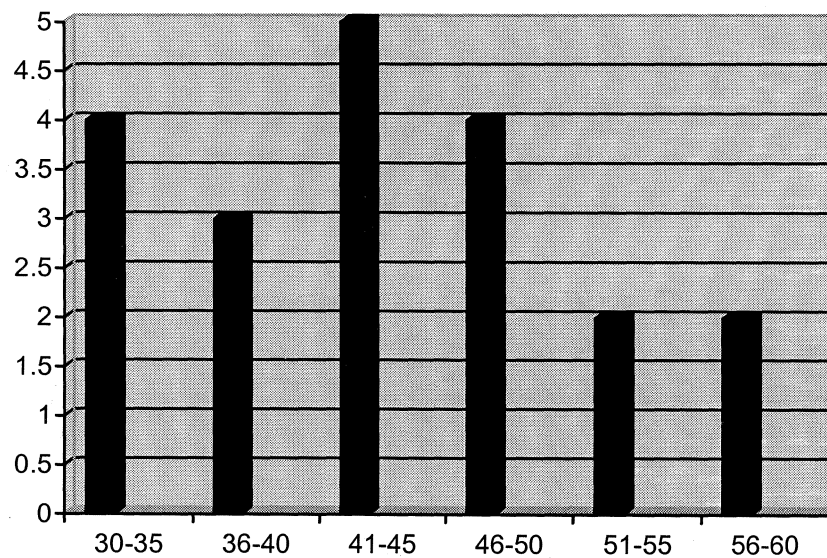


Figure I, represents the age wise percentage of samples taken by the investigator conducting for this study. Age represents in the 'X' axis and percentage denotes the 'Y' axis. Higher percentage of age group in this study are in between 41-45 yrs.

### Distribution of Samples according to their sex

Demographic data	Total numbers	Percentage
(B) Sex		
Male	15	75%
Female	5	25%

Distribution of samples among sex are shown in Figure II

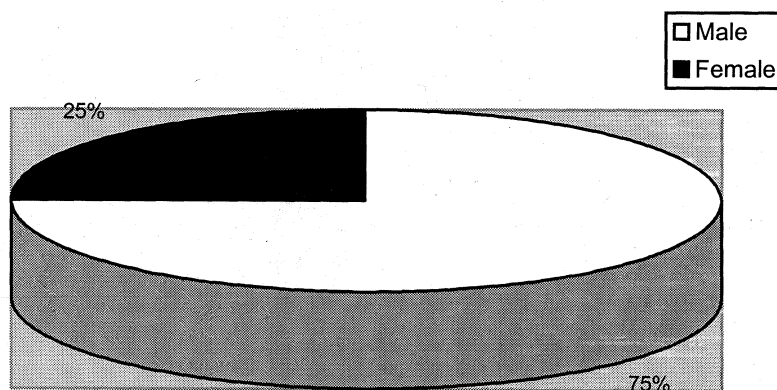


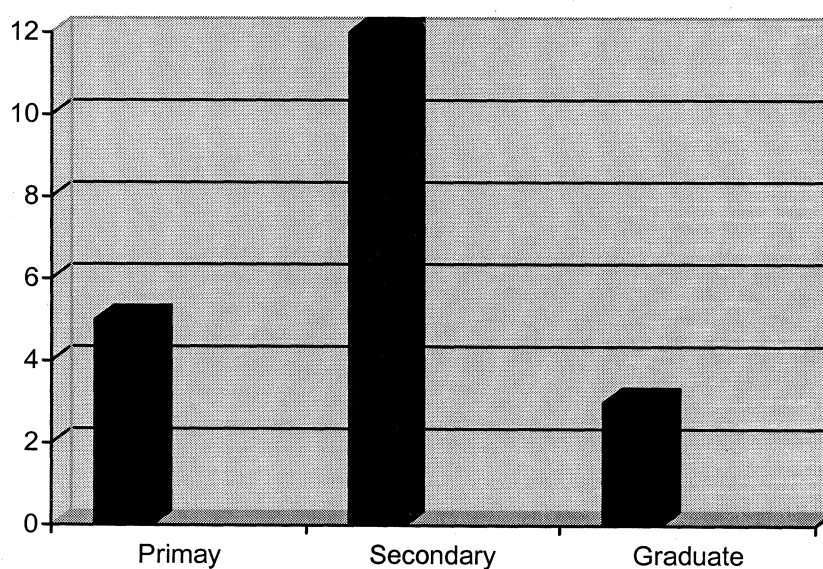
Figure represents the sex distribution of samples in this study. Higher percentage in males than females.

### Distribution of Samples according to their Educational Status

Demographic data	Total numbers	Percentage
(C) Educational Status		
Primary	5	25%
Secondary	12	60%
Graduate	3	15%

Distribution of sample according to their Educational status shown in

figure III



In figure III, investigator explore the educational status of the sample. Majority of samples were well educated than from primary level.

**Distribution of Samples according to their Occupational status**

Demographic data	Total numbers	Percentage
(D) Occupation		
Working	3	15%
Not working	10	50%
Retired	7	35%

**Distribution of sample according to their level of knowledge shown in figure IV**

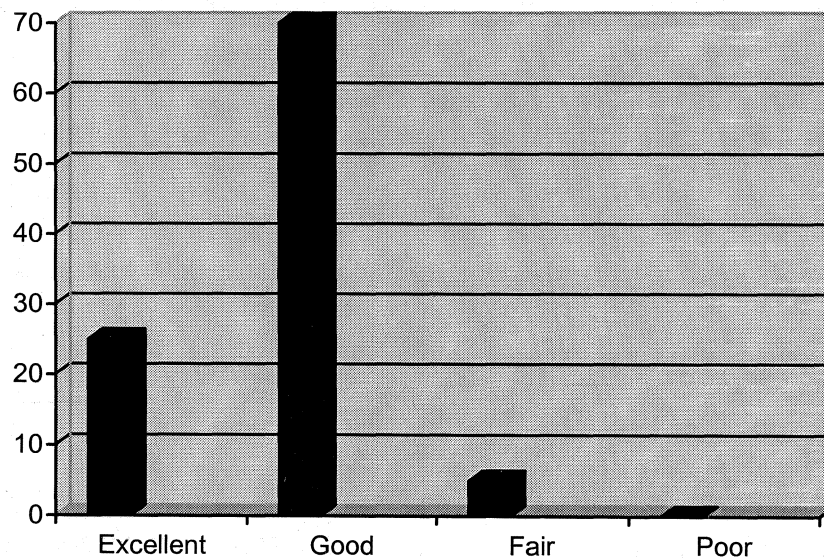
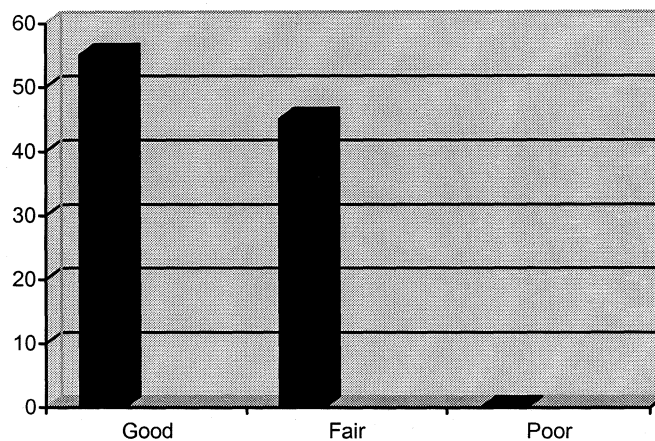


Figure IV denotes the level of knowledge of samples. Knowledge graded as Excellent, Good & Fair. Most of them had a good knowledge about complications and need for quality life after prosthetic valvular heart surgeries. Total knowledge score was 66.5%. The highest percentage in knowledge contribute to 70%.

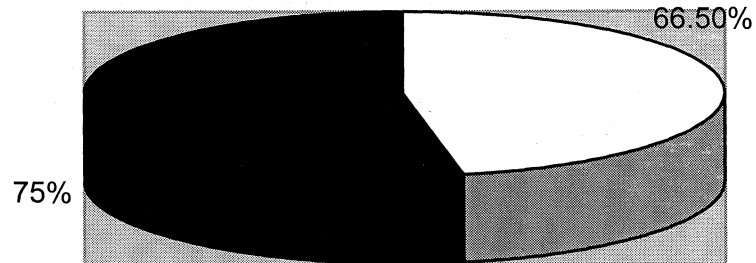
**Distribution of sample according to their attitude towards their practices to prevent complications**



In figure V, researcher find out the good practice in samples after surgery at home. The total percentage score in practice was 75%. Higher percentage is Good contribute to 55%. Most of the samples comes under good and fair groups.

**Data on patients knowledge & Practices is all postoperative vascular patients.**

This part of analysis show the distribution of total sample of 20 patients and their knowledge about the risk factors & activities practiced for better quality life. Total knowledge score in all area was 66.5% and total practice was 75 % data shown figure 5 as pie diagram.



## Summary

The chapter dealt with analysis and interpretation of data collected from 20 patients descriptive statistics was used the analyses Bardigram & Pai diagram were used to describe the knowledge & practice scores of the sample.

**CHAPTER V**

**SUMMARY**

**CONCLUSION &**

**RECOMMENDATIONS**

This chapter gives a brief account of the present study including conclusion drawn from the findings and possible application of the results. Recommendation for future research and suggestions for improving the present study are also presented.

## **Summary**

This study was under taken to assess the existing health education of patients after prosthetic vascular surgeries

The specific objectives of the study are :-

1. The assess the knowledge of patients after prosthetic vascular heart surgeries in follow up clinic.
2. To evaluate the practice of patients in follow up clinic
3. To identify the area which needs improvement.

Need of the study was the careful attention to the known complication leads to an appreciate reduction as long term morbidity and mortality rate.

Education is one method of improving knowledge about the life style modification after valvular surgeries and activities practiced on modification of life style pattern. Assessment of base line knowledge being the first step in any successful education programme.

The review of related literature helped the investigators in understanding the risk factors, determining methodology and developing the tool for life style modification.

A structured questionnaire of 20 questions was developed content validity was determined and pilot testing was done.

The study was conducted in Sree Chitra Thirunal Institute medical Science & Technology at follow up clinic, Trivandrum in September 2005. The sample comprised of 20 patients attending the follow up surgery clinic.

The data obtained were analysed by using descriptive statistics. Both Bar & pie diagram were utilized to represent the distribution of knowledge and practice on the basis of scores obtained in all content areas.

#### **The major finding of this study were**

The knowledge scores of patients in this study in 66.5 %

The practice scores of patients in this study 75%

#### **Implications**

Several implication can be drawn from the findings of the study. This information can be used by staff nurses, student nurses & other health professionals. Instructional programmes on health education helps in the promotion of educational aspects of the patients . In future for the promotion of knowledge in younger generation, related topics can be conducted in other super specialty institutions.

## **Limitation**

The limitation in this study are

1. The tool has been developed by the investigator as no standardised tool was available
2. Study was limited to the followup clinic at Sree Chitra Thirunal Institute for Medical Science & Technology, Trivandrum
3. Only those who are willing to participate are included in the study.
4. Sample size was limited to 20.

## **Conclusion**

Based on the findings of the study the following conclusion were drawn.

The researcher states that the existing health education is very effective among population.

1. The total score of knowledge of patients 66.5% based on this study.
2. The total score of practice is 75%

## **Recommendation**

The following recommendation are made on the basis of the present study.

1. A similar study can be conducted in other health care institution.
2. A study can be done on large number of samples. In this study only 20 samples are taken by the researcher.
3. A similar study can be conducted by creating a control group for a comparison without giving health education material.

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# **APPENDICES**

പേര് :

വയസ്സ്/ലിംഗം :

തൊഴിൽ :

വിദ്യാഭ്യാസം :

ശസ്ത്രക്രിയ കഴിഞ്ഞ വർഷം :

ഏത് ഹൃദയ വാൽവ് ആണ് മാറ്റിവെച്ചത് :

ഇപ്പോൾ കഴിക്കുന്ന മരുന്നുകൾ ഏവ :

സമ്മതപത്രം

രോഗിയുടെ അനുബന്ധമായി ബന്ധപ്പെടുത്തിയും അറിവ് പരിശോധിക്കുന്നതിനായും എന്നോടു കുറച്ച് വിവരങ്ങൾ ചോദിക്കുന്നതിനും അതിലെ പോരായ്മകൾ എന്നെ പറഞ്ഞ് മനസ്സിലാക്കി തരുന്നതിനും ഞാൻ പൂർണ്ണമായി സമ്മതിക്കുന്നു. ഇത് ഒരു പഠനത്തിന്റെ ഭാഗമായാണ്, അതായത് 'ഹൃദയശസ്ത്രക്രിയ കഴിഞ്ഞ് രോഗികൾ ശ്രദ്ധിക്കേണ്ട കാര്യങ്ങൾ' എന്ന വിഷയത്തെക്കുറിച്ച് നിലവിലുള്ള ലിഖിത നിർദ്ദേശങ്ങൾ വിലയിരുത്താനുള്ള ഒരു പഠനം ഇതിനുവേണ്ടി ഞാൻ സഹകരിച്ച് കൊള്ളാമെന്ന് സമ്മതിക്കുന്നു.

എന്ന്,

ഒപ്പ്

## ചോദ്യാവലി

**ഹൃദയവാൽവ് ശസ്ത്രക്രിയകഴിഞ്ഞ് ശ്രദ്ധിക്കേണ്ട കാര്യങ്ങൾ എന്ന വിഷയത്തെക്കുറിച്ച് നിങ്ങളുടെ അറിവ് പരിശോധിക്കാനുള്ള ചോദ്യാവലി**

1. വാൽവ് ശസ്ത്രക്രിയ കഴിഞ്ഞ് വീട്ടിൽ പോകുമ്പോൾ ശ്രദ്ധിക്കേണ്ട കാര്യങ്ങളെക്കുറിച്ചുള്ള നിർദ്ദേശങ്ങൾ നിങ്ങൾക്ക് കിട്ടിയിട്ടുണ്ടോ?  
(ഉണ്ട്, ഇല്ല)
2. നിങ്ങൾ അത് വായിച്ചു നോക്കിയിട്ടുണ്ടോ? അതൽ അച്ചടിച്ചിരിക്കുന്ന നിർദ്ദേശങ്ങൾ നിങ്ങൾക്ക് ഉപയോഗപ്രദമായിരുന്നോ?  
(ഉണ്ട്, ഇല്ല)
3. ദന്ത പരിചരണവും ദന്തപരിശോധനയും ഹൃദയവാൽവ് ശസ്ത്രക്രിയകഴിഞ്ഞ രോഗികൾ ശ്രദ്ധിക്കേണ്ടതാണ്.  
(ഉണ്ട്, ഇല്ല)
4. നാഡിമിടിപ്പ് എത്രയിൽ നിന്നും താഴുമ്പോഴാണ് T. Digoxiz ഒഴിവാക്കേണ്ടത്? (60 ൽ താഴെ, 30 - ൽ താഴെ, 80 - ൽ താഴെ )
5. രക്തം കട്ടപിടിക്കാതിരിക്കുന്നതിനുള്ള ഗുളികയുടെ അളവ് കുടിയതിന്റെ ലക്ഷണമെന്താണ്?  
(മോണയിൽ അധിക സ്രാവം, തലവേദന, ചർദ്ദി)
6. ടാബ് ഡിജോക്സിൻ കഴിക്കുമ്പോൾ നിങ്ങൾ ശ്രദ്ധിക്കേണ്ടവ ഏതാണ്?  
(നാഡിമിടിപ്പ്, മുത്രത്തിന്റെ അളവ്, ക്ഷീണ കൂടുതൽ)
7. ഹൃദയവാൽവ് ശസ്ത്രക്രിയ കഴിഞ്ഞ് ഏത് തരത്തിലുള്ള ഭക്ഷണമാണ്കഴിക്കേണ്ടത്.?  
(കൊഴുപ്പും ഉപ്പും ഒഴിവാക്കിയത്, സാധാരണഭക്ഷണം, ദ്രാവക ഭക്ഷണം)
8. താഴെ പറയുന്നതിൽ ഏതാണ് കൊഴുപ്പു കുറഞ്ഞ ഭക്ഷണപദാർത്ഥം?  
( മുട്ടയുടെ മഞ്ഞ, മത്സ്യം, ഇറച്ചി)
9. ശസ്ത്രക്രിയകഴിഞ്ഞ് പുകവലി, മദ്യപാനം പൂർണ്ണമായും ഒഴിവാക്കേണ്ടതുണ്ടോ?  
(ഉണ്ട്, ഇല്ല, അറിയില്ല)
9. ഏതെങ്കിലും തരത്തിലുള്ള ഭക്ഷണനിയന്ത്രണം പാലിക്കാറുണ്ടോ?  
(ഉണ്ട്, ഇല്ല, ഇടയ്ക്കിടയ്ക്ക്)
10. ശസ്ത്രക്രിയകഴിഞ്ഞ് ലഘുവായ വ്യായാമമുറകൾ ചെയ്യേണ്ടതുണ്ടോ/നിങ്ങളുടെ അഭിപ്രായമെന്താണ്?  
(ചെയ്യണം, ചെയ്തുകൂടാ, അറിയില്ല)

**ഹൃദയവാൽവ് ശസ്ത്രക്രിയ കഴിഞ്ഞ് നിർബന്ധമായും പാലിക്കേണ്ട കാര്യങ്ങളെക്കുറിച്ച് നിങ്ങളുടെ അഭിപ്രായങ്ങളെപ്പറ്റിയുള്ള ചോദ്യവലി**

1. രക്തം കട്ടപിടിക്കാതിരുന്നതുള്ള മരുന്ന നിങ്ങൾ കൃത്യമായി കഴിക്കാറുണ്ടോ?  
(ഉണ്ട്, ഇല്ല)
2. മുത്രത്തിന്റെ അളവ് കുട്ടാനുള്ള ഗുളിക എപ്പോഴാണ് കഴിക്കുന്നത്?  
(രാവിലെയും വൈകിട്ടും, രാവിലെയും രാത്രിയും)
3. ഡിജോക്സിൻ ഗുളിക ആഴ്ചയിൽ എത്രദിവസമാണ് കഴിക്കുന്നത്?  
നാഡിമിടിപ്പ് നിങ്ങൾ ദിവസവും കുറിച്ചു വയ്ക്കാറുണ്ടോ?  
(ആഴ്ചയിൽ അഞ്ചു ദിവസം, മൂന്നു ദിവസം, രണ്ട് ദിവസം)
4. ശസ്ത്രക്രിയ കഴിഞ്ഞുള്ള ആശുപത്രി സന്ദർശനം നിങ്ങൾ കൃത്യമായി പാലിക്കാറുണ്ടോ?  
(ഉണ്ട്, ഇല്ല, വല്ലപ്പോഴും, മുടങ്ങാറുണ്ട്.)
5. മാസംതോറും തൂക്കവും രക്തപരിശോധനയും നടത്താറുണ്ടോ?  
(ഉണ്ട്, ഇല്ല, ഇടയ്ക്കിടയ്ക്ക്)
6. നിങ്ങളുടെ രക്തപരിശോധന നടത്തുന്നത് എപ്പോഴാണ്?  
(എല്ലാ ആഴ്ചയിലും, എല്ലാ മാസവും, ഓരോ ആറുമാസത്തിലും)
7. വീട്ടിൽ പോയതിനു ശേഷം നിങ്ങൾക്ക്  
(പൂർണ്ണമായും വിശ്രമം ആവശ്യമാണ്, ക്രമേണ വ്യായാമമുറകൾ ചെയ്യാം, അറിയില്ല)
8. ഹൃദയവാൽവ് ശസ്ത്രക്രിയകഴിഞ്ഞ് നിങ്ങൾ തിരിച്ചറിയാൻ ബാൻഡ് ധരിക്കാറുണ്ടോ?  
(ഉണ്ട്, ഇല്ല, വല്ലപ്പോഴും)
9. ഏതെങ്കിലും തരത്തിലുള്ള ഭക്ഷണനിയന്ത്രണം പാലിക്കാറുണ്ടോ?  
(ഉണ്ട്, ഇല്ല, ഇടയ്ക്കിടയ്ക്ക്)
10. ശസ്ത്രക്രിയകഴിഞ്ഞ് നിങ്ങൾക്ക് ഏതെങ്കിലും തരത്തിലുള്ള ബുദ്ധിമുട്ട് തോന്നിയിട്ടുണ്ടോ?  
(ഉണ്ട്, ഇല്ല)  
ഉണ്ടെങ്കിൽ നിങ്ങൾ ഉടനെ ഡോക്ടറെ സമീപിക്കാറുണ്ടോ?  
(ഉണ്ട്, ഇല്ല)