

Effect of Educational Intervention on the Specific Post-operative Complications in Patients of Heart Valve Replacement

Dr Sreekumary D

Heart valve replacement surgery, has increased in our country. It produces complications and increased cost to the patients. This work is to study the effect of educational intervention on the specific post-operative complications in patients who undergo heart valve replacement.

Objectives

The objectives of this study were, (i) to administer an educational intervention before the surgical intervention with a pre-test and post-test to improve the knowledge, practice and attitude of the patient about the surgical process and complications with a view to reduce / prevent post-operative complications; and (ii) to compare the effect of educational intervention in the test and control group.

Hypothesis

Educational intervention pre-operatively will prevent/reduce specific post-operative complications in patients who undergo heart valve replacement.

Research design

This was a prospective study with experimental group and control group. It can be called a quasi experimental design as there is no randomisation.

The study population consisted of patients who underwent heart valve replacement in Medical College Hospital

Thiruvananthapuram between 2001 and 2002, and who satisfied inclusion and exclusion criteria. The setting was the Cardiothoracic Surgery Department of Medical College, Thiruvananthapuram.

The sample consisted of 20 control and 20 test subjects who underwent heart valve replacement surgery.

Sampling strategy: Patients who were admitted for heart valve replacement, single valve or double valve were recruited according to their order of admission for surgery and based on inclusion/exclusion criteria.

Intervention / Maneuver

On the 2nd day after admission the pre-test of knowledge, practice and attitude were carried out using a validated instrument. Educational intervention was administered to the experimental group. During the post-operative period till discharge, an observation check list was utilised to identify the specific post operative complications. Before discharge, a post-test was carried out by using a validated instrument. Data obtained were entered in statistical software for analysis.

Results and Data Analysis

The pre-test data analysis showed that the groups were similar in their status pre-operatively for the various variables.

Post-operatively, 50 percent of cases had lower respiratory tract infection in the control

group whereas only 5 percent had this complication in the experimental group; 20 percent in the control group had pleural cavity infection but no cases in the experimental had these problems post-operatively.

Ten percent of the control group had psychological maladjustment post-operatively whereas none in the experimental group.

Five percent of the patients in the control group had wound infection. But it was absent in the experimental group.

Fifteen percent in the control group had sub-acute bacterial endocarditis post-operatively whereas none in the experimental group had this problem.

Both groups were free of deep vein thrombosis.

Analysis of data showed that 60 percent of the patients in the experimental group had a post-test score of 15-19 and a majority i.e. 40 percent of the control group had a post-test score of 10-14. This showed KAP was improved by educational intervention.

The difference between pre-test and post-test score, when analysed, showed that the mean of experimental group was 5.15 and that of control group was 1.95. 't' value was equal to 2.49. F statistic 't' value was 2.494. p value was 0.017 which was statistically significant.

The experimental group had gained significantly higher knowledge, practice and attitude regarding prevention of specific post-operative complications as a result of the educa-

The author is Principal, Government College of Nursing, Alappuzha (Kerala).

tional intervention.

Eighty percent of the patients in the experimental group had stayed in the hospital after surgery for 9-18 days. Whereas 90 percent of the patients in the control group had stayed in the hospital after surgery for 9-18 days, at the end of 18 days 90 percent of both groups were discharged. By 28 days 100 percent of experimental group were discharged. However in the control groups, 100 percent were discharged only by 48 days.

Community implications : Prevention of post-operative complications by routine educational intervention reduces the use of resources - viz manpower, money, material, time, technology and space in the cardiothoracic department.

Recommendations

In the light of the findings and from the personal experience of the investigator, the following recommendations are put forward:

- Routine health education or bedside teaching of patients about prevention of specific post-operative complications should be mandatory in the pre-operative wards. Follow-up of the patients who have undergone valve replacement surgery in the post-operative period helps identify the risky patients who develop specific post-operative complications early and can prevent those complications.
- Methods and means to prevent specific post-operative complications should be made mandatory.
- Community health centres

may be made responsible to follow up these patients postoperatively at home. So that late complications also can be prevented.

- Domiciliary setting as provided in many countries may be made available so that the after effects of surgery can be reduced by continuity of care.
- An effective system of prevention of specific post-operative complications can minimise the factors, which leads to extended stay of patients. If such stay is reduced the beds can be spared for other admissions.
- It should be mandatory to have sufficient backup staff, educational programmes for staff, follow-up programmes and extended clinical research capabilities in Medical College Hospital setting.
- Same sort of study can be conducted in other major hospital settings.
- A study can be done to identify the nursing and rehabilitative needs of patients with valve replacement surgery after each follow-up.
- Routine standard assessment of valve replacement patients in the pre-operative period is essential as they are powerful and useful tool for the analysis and evaluation of such patients post-operatively.
- To reduce the morbidity and mortality in valve disorders, the number of beds, as well as staff should be increased and the ICU should be well equipped.
- Patients who have undergone valve replacement

surgery require long duration of stay in order to stabilise the whole system. Moreover, their immunity is comparatively low, so these patients should be separated from general surgery patients who require short duration of stay.

- Nurses working in cardiovascular thoracic wards and ICU should be equipped with knowledge, practice and attitude in the management and rehabilitation of patients with valve replacement surgery.
- This study will enable the medical world to recognise the need of educational intervention to improve health care standard.
- A comparative study can be done to find out the effectiveness of pre-operative teaching on the prevention of postoperative complications in all varieties of patients who require this.

Conclusion

This study proves that pre-operative educational intervention is a very useful tool in the total management of heart valve replacement surgery. Hence this should be practiced in every centre where this surgery is performed.

References

1. Arthur Selzer. Principles and practice of clinical cardiology. 2nd edn, USA, WB Saunders Company 1983, pp: 30-36
2. David C. Sabiston. Text book of surgery, WB Saunders Company, India, 15th edn, volume 2 pp:1952-55, 2070-80, 2143-48, 2155, 2135-40
3. Denise F Polit, Bernadette P Hungler. Nsg Research Principles and Methods 6th edn, Lippincott, Philadelphia, pp: 239-55, 175-215, 573-90, 239-55.

