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An experimental study to assess the effectiveness of information booklet on the knowledge regarding post-operative care of children undergone cardiac surgery in selected hospitals of Pune city

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Abstract

Introduction: Cardiac thoracic surgery is a treatment that affects even the patient's relative whether it's a child or adult, where the family members need to learn about managing the postoperative cardiac care which include therapeutic care, wound care, diet, infection prevention. Having stated thus, a detailed information about the management after discharge is required to help families take proper care of the child after discharge. Purpose of the study was to assess the effect of information booklet on knowledge regarding the postoperative care at home among caregivers of children who had undergone cardiac surgery.

Materials and method: The study is based on pre-experimental method, the tool consisted of 2 sections, i.e. demographic data and 25 structured questionnaire. Non-probability purposive sampling technique was adopted to collect 50 samples. Knowledge level were assessed before the intervention followed by administration of information booklet regarding postoperative cardiac care at home for children. Posttest carried out on 7th day after the administration of information booklet.

Result: Findings showed that in the study, majority (30 %) of the caregivers falls in the age group of 25-29 years. The greater part (68%) of caregivers has an educational status upto primary level. It also revealed that 48% caregivers were employed. Most of them (34%) stays for 1-4 hours each day with patient in the postoperative period. It also shows that majority (86%) of caregivers in pretest had an average knowledge score (8-15) where as in posttest majority (78%) of caregivers have a good knowledge score (16 above). The computed 't' equals to 11.88. since the p-value from the test is less than the tabulated value of degree of significance at 0.05, indicating that there is an association between the demographic profiles of amount of time spent by the caregivers with the child and pretest knowledge score, however there was no association with other variables.

Conclusion: It can be concluded that after administration of the information booklet, knowledge of majority of caregivers considerably increased to a good score in posttest. Since it has been confirmed that there is close link between the demographic profile of staying hours with the pretest knowledge score and hence it is suggested that the parents or primary caregivers can be allowed to stay with the child during the postoperative period which can help increase in knowledge regarding the postoperative management and care.

Keywords: Information booklet, knowledge, caregivers, children, effectiveness

Introduction

Congenital heart disease is a condition in which structural/functional defects of heart are present at birth. The incidence of congenital heart disease in children is 6-8 per 1000 of newborn babies. Given the fact that maximum attrition from most forms of cardiac heart disease happens in the 1st year of life, a meaningful reduction in cardiac heart disease related deaths could only be accomplished through correction in 1st year of life. Study reveals that children who undergoes cardio thoracic surgery and stays longer after operative procedures are at a higher risk of surgery site and other preventable complications.

A study was conducted in the children's hospital Boston for 3 years (2004 -2006), surgical site infection were identified among the patients who underwent cardiac surgery within 2 weeks. This study concluded that younger patients undergoing longer surgical procedures are at a greater risk for surgery site infections [1].

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After heart surgery, children need time to recover. Sometime parents /caregivers of postoperative children have the difficult task of understanding the medical condition of the children and the manner in which they should be care for.

Richards (2007) studied about knowledge and practice of student nurse regarding postoperative management. According to the study, 86% of the nurses expressed that their basic nursing education did not prepare them well to take care of patients with pain and 88% expressed that there is need to increase their knowledge and attitude, practice and skills in the areas of pain management [2].

Caregivers errors also forms a significant part of complications that are potentially preventable, on the other hand complications do not imply substandard care but it is vital to identify them early and focus on improvement. This can be achieved through highly developed caregivers assessment and reasoning skills. Here comes the role of nursing education. Education will help recognize and implement the changes necessary to prepare caregivers to take advantages of trends and opportunities.

Ranjana Verma (2016) conducted a study on effect of information booklet about the home care management of postoperative cardiac patient in selected hospital, new Delhi. Quasi experimental approach and pretest posttest experimental design was used and conducted on 60 samples (30 in experiment and 30 in control group). There was significant association found between the posttest knowledge and pretest knowledge in experiment group. This study shows that information booklet was effective in increasing the knowledge [3].

Vijayarani M, *et al.*, conducted a study on the effectiveness of information booklet on knowledge of the caregivers regarding the care of child with autism. Study was carried out on 30 caregivers who were in child psychiatric centre, NIMHANS. After the test, the caregivers were given the information booklet. All the caregivers (100%) participated in the study were primary caregivers. There was a marked increase in the knowledge among the caregivers [4].

Detailed information about post discharge home care management is required to help caregivers manage care for the child. Providing information gives the basic ideas and equips them with knowledge of scientific cause of disease, proper health behavior and preventive and curative measures. Written reference material tools such as information booklet can provide tangible resource for the family to care at home.

Researcher had observed children readmitted at hospital with surgical site infection and other complication after cardiac thoracic surgery post discharge, during her clinical posting, because of improper management at home after discharge by caregivers. So, researcher felt the need to provide awareness among the caregivers through a proper channel.

Materials and methods

The study is based on quantitative pre experimental research approach and one group pretest posttest research design. Non purposive sampling technique was used to select 50 caregivers of children who had undergone cardiac surgery from selected hospitals of Pune City. The study was conducted in Sassoon Hospital, Pune. The tool used were consist of two sections: Demographic data and structured questionnaires. The demographic variables include age of caregivers, educational status, occupational status and staying hours of caregivers with postoperative children within a day in hospital. 25 structured knowledge questionnaire were used to assess the knowledge of the caregivers regarding postoperative cardiac care at home. Level of knowledge was graded into poor, average and good. Knowledge level were assessed before the intervention followed by administration of information booklet regarding postoperative cardiac care at home for children. Posttest was carried out on 7th day after the administration of information booklet.

Research objectives

1. To assess the knowledge regarding postoperative care among caregivers of children undergone cardiac surgery before the administration of information booklet.
2. To assess the knowledge regarding postoperative care among caregivers of children undergone cardiac surgery after the administration of information booklet.
3. To compare the pretest and posttest knowledge scores.
4. To associate the knowledge scores with selected demographic variables.

Result

The data were analyzed using statistical technique to find out:

- A. Frequency and percentage of distribution of selected demographic characteristic of caregivers.
- B. Knowledge of caregivers regarding the postoperative cardiac care before and after administration of information booklet.
- C. Determining the effectiveness of information booklet using paired 't' test value
- D. Association between pretest knowledge score and various demographic variables of caregivers.

Section A

Frequency and percentage of distribution of selected demographic characteristic of caregivers.

Majorities of the caregivers 30% fall in the age groups of 25-29 years, 68% of them have completed their education till primary education, 48% of them are employed and majority 54% of them have stayed with the postoperative children between 1-4 hours in hospital within a day.

Section B

Knowledge of caregivers regarding the postoperative cardiac care before and after administration of information booklet.

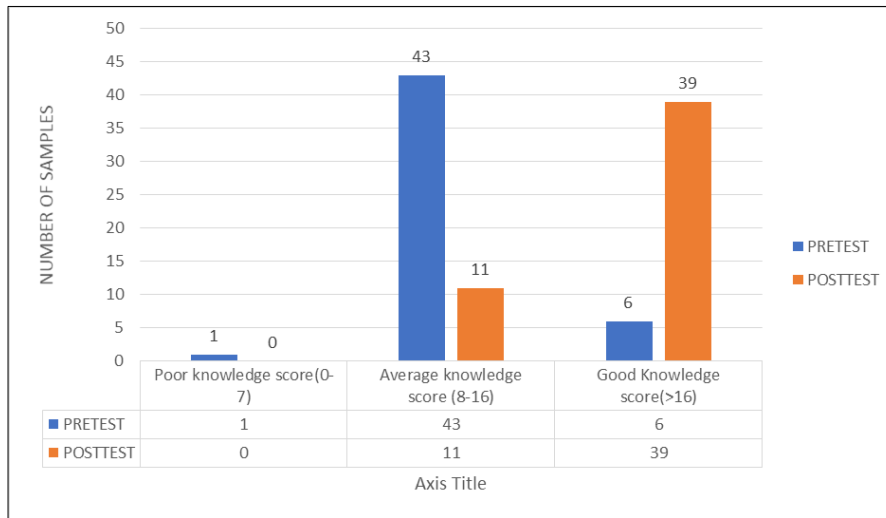


Fig 1: Bar diagram showing the comparison between pretest score and posttest score.

The above bar diagram depicted in fig.1, shows, in posttest the majority scored in good knowledge score category as compared during the pretest. It indicated there was an improvement in the level of knowledge with majority of caregivers scoring above 16 in the post test.

Section C

Determining the effectiveness of information booklet using paired ‘t’ test value.

Table 2: n=50

	Mean	Standard Deviation	Mean Difference	Standard Mean deviation	Standard Error mean	Calculated ‘t’ value	Df	Level of significance
Pretest	12.16	2.5343	5.18	3.085	0.436	11.88	49	0.05
Post test	17.34	1.9547						

The data in table 2 shows that there is a significant marked increased in the mean score of posttest. The computed ‘t’ statistics equal 11.88, since the calculated ‘t’ value is higher than the tabulated value of ‘t’, thus null hypothesis is rejected, means that the information booklet is effective for

improving the knowledge related to postoperative cardiac care children among caregivers.

Section D

Association between pretest knowledge score and various demographic variables of caregivers.

Table 3: Association between pretest knowledge score and various age groups of caregivers, n = 50

Age group	0-7 (Poor knowledge score)	8-16 (Average knowledge score)	>16 (Good knowledge score)	total	P value
18-24 years	0	10	0	10	0.796 (fischer exact test) Ns
25-29 years	1	11	1	13	
30-35 years	0	6	0	6	
36-40 years	0	6	1	7	
>40 years	0	14	0	14	
	1	47	2	50	

Data presented in the table 3 shows that the calculated value of P, smaller than the table value of P at 0.05 level of significance indicating that there is no significant

relationship between the age group of caregivers and pretest knowledge score.

Table 4: Association between pretest knowledge score and educational qualification of caregivers, n =50

Education	1-7 (Poor knowledge score)	8-16 (Average knowledge score)	>16 (Good Knowledge score)	Total	P value
Primary	0	32	1	33	0.593
Higher secondary	1	11	1	13	
Graduation	0	4	0	4	
Postgraduation	0	0	0	0	
Total	1	47	2	50	

Data presented in table 4 shows that the calculated value of P is smaller than the table value at 0.05 % level of significance which indicate that there is no significant

relationship between educational status and pretest knowledge score.

Table 5: Association between pretest knowledge score and occupational status of caregivers, n =50

	0-7 (Poor Knowledge Score)	8- 16 (Average Knowledge Score)	>16 (Good Knowledge Score)	Total	P Value
Employed	0	24	0	24	0.735 (Fisher exact test) NS
Unemployed	0	6	1	7	
Homemaker	1	17	1	19	
	01	47	02	50	

Data presented in the table 5 shows that the calculated value of P is smaller than the table value at 0.05 % level of significance which indicates that there is no significant

relationship between the occupational status and pretest knowledge score.

Table 6: Association between pretest knowledge score and staying hours, n =50

Staying Hours	1- 7 (Poor Knowledge Score)	8- 16 (Average Knowledge Score)	>16 (Good Knowledge Score)	Total	P value
1-4 Hours	0	30	0	30	0.031* (fisher exact test)
4-8 Hours	0	7	2	9	
>8 Hours	1	10	0	11	
	1	47	2	50	

Data presented in the table 6 shows that the calculated value of P is greater than the table value at 0.05% level of significance that means there is significant relationship between the staying hours of caregivers with the postoperative patients within a day.

Discussion

The present study investigated that the knowledge score of samples is increased in the posttest score which indicates that information booklet was effective in increasing the knowledge of the samples regarding postoperative care of pediatric cardiac surgery.

Using the paired ‘t’ test value, computed ‘t’ equals to 11.88, which is higher than the tabulated ‘t’ value at 0.05 level of significance, indicates that there is a significant impact of information booklet on increasing the level of knowledge among caregivers.

Out of all the selected demographic variables, only one variable i.e. staying hour of caregivers with postoperative patients in a day, was found be associated with pretest knowledge, using fischer’s exact test. This indicates that there is a relative relationship between the staying hours and the pretest knowledge of caregivers.

It shows that staying with patient have somehow contributed in upgrading the knowledge regarding cardiac care among participants. To support the present study, researcher intends to cite a previous carried out study on “the experience of family caregivers caring for a terminal patient at home” conducted by J. Martin and M. Olano between March and September 2015. The finding shows that caring for a family member with advanced illness in home has great impact on personal realm of caregivers. The more time they spend and gives attention on the care of patients, the more they develop the knowledge necessary to meet the current demand of end of life health care at home.

Implications and Recommendations

If the susceptible population is nourished well with awareness and knowledge on the subjects, the complications

can be minimized. Nurses can use their knowledge to teach the family members for better understanding.

Nursing teachers can implement the knowledge on the basis of the results of study as informative illustration for the students.

Nursing administrator can depute nurses for various workshop for the awareness of patients and their relatives as well.

On the basis of findings of study, the following recommendations have been made:

1. A similar study can be done on a larger scales
2. A similar study can be done to evaluate the effectiveness of other teaching methods.
3. A similar study can be done on association between other demographic variables with pretest knowledge
4. A similar study can be done on knowledge of other aspects like preoperative care, wounds care, special diets after the cardiac surgery for children.

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