



A STUDY TO ASSESS THE EFFECTIVENESS OF PEDIATRIC CARDIAC REHABILITATION PROGRAM AMONG MOTHERS OF CHILDREN UNDERGOING CARDIAC SURGERY IN SELECTED HOSPITAL AT BENGALURU

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ABSTRACT

Back ground of the study: With increasing incidence of child heart diseases globally, there is a steady rise in the mortality caused due valvular diseases and others. Majority of these children therefore require cardiac surgery like valve replacement and correction. Children undergoing cardiac surgery and their significant others have shown that the major areas they were concern about were the result or the success of the surgery, early postoperative recovery, any complications following valvular closure, and their ability to return to normal. These children and their parents have stress which they counteract by using negative coping styles. They also lack knowledge regarding self- care activities, and this in turn causes a drastic decrease in their overall quality of life. Therefore, this study was undertaken to assess the effectiveness of a pediatric cardiac rehabilitation programme for mothers of children undergoing cardiac surgery in selected hospital, Bangalore

Problem statement: “A Study to Assess the Effectiveness of Pediatric Cardiac Rehabilitation Program Among Mothers of Children Undergoing Cardiac Surgery in Selected Hospital at Bangalore”

Objectives of the study

1. To assess the pre-test level of knowledge of the mothers regarding pediatric cardiac rehabilitation
2. To assess the effectiveness of pediatric cardiac rehabilitation program among the mothers of children undergoing cardiac surgery.
3. To compare the pre-test and post-test knowledge of the mothers regarding pediatric cardiac rehabilitation.
4. To associate the post-test level of knowledge of mothers regarding pediatric cardiac rehabilitation with their selected demographic variables.

Method: An evaluative method with pre-experimental one group pre and posttest design was used for the study to evaluate the Effectiveness of Pediatric Cardiac Rehabilitation Program Among Mothers of Children Undergoing Cardiac Surgery at Selected Hospital at Bangalore. The conceptual framework of the present study was adopted from “Imogene King’s goal attainment theory”. Content validity of the tool was evaluated by nine experts. Seven were from the field of Pediatric Nursing specialty, one was cardiologist and one was nutritionist. Non-probability purposive sampling was used for the selection of samples for the study. The sample size was 60. A pretest was conducted by interview schedule using demographic Performa and knowledge and practice was measured by using structured questionnaire among mothers of Children Undergoing Cardiac Surgery. Pediatric Cardiac Rehabilitation has been given immediately to the mother immediately after pretest. A posttest was done on day 07 by using the same questionnaire. The collected data were analyzed by using descriptive and inferential statistics.

Significance findings of the study

- On an average, mothers are improved their knowledge score from 7.84 to 15.38 after the administration of pediatric cardiac rehabilitation program. Before intervention, 80.0% of the mother had inadequate level of knowledge score, 20.0% of them had moderate level of knowledge score.

- After intervention, and 73.33% of them had adequate level of knowledge score and 26.67% of them had moderate level of knowledge score. On an average, in posttest after Pediatric Cardiac Rehabilitation Program, mothers gained 37.00% more knowledge score than pretest score.
- On an average, mothers are improved their practice score from 4.57 to 8.03 after the administration of Pediatric Cardiac Rehabilitation Program post score is 80.00%
- Pediatric Cardiac Rehabilitation Program Before intervention, 80% of the mothers had poor level of practice score, 20% of them had moderate level of practice score and none of them had good level of practice score.
- On an average, in posttest after Pediatric Cardiac Rehabilitation Program mothers are gained 34.4% more practice score than pretest score.
- More income mothers, Sub urban mothers, joint family mothers, Nonconsanguineous Marriage mothers and rural area mothers are gained more knowledge than others.
- Posttest level of knowledge score and child demographic variables.no child demographic variables of mothers are having impact in knowledge score.
- More income mothers, Sub urban mothers, joint family mothers are gained more practice score than others.

Conclusion: The study showed that there was a significant increase in level of knowledge and practice. Hence it can be concluded that the Pediatric Cardiac Rehabilitation is effective on knowledge and practice among mothers of Children Undergoing Cardiac Surgery.

KEYWORDS: Mothers of children Under going Surgery, Pediatric Cardiac Rehabilitation, PCR.Pediatric nursing.

INTRODUCTION

Children are vital to the nation's present and its future. Parents, grandparents, aunts, and uncles are usually committed to providing every advantage possible to the children in their families, and to ensuring that they are healthy and have the opportunities that they need to fulfill their potential. Yet communities vary considerably in their commitment to the collective health of children and in the resources that they make available to meet children's needs. This is reflected in the ways in which communities address their collective commitment to children, specifically to their health.^[1]

In recent years, there has been an increased focus on issues that affect children and on improving their health. Children have begun to be recognized not only for who they are today but for their future roles in creating families, powering the workforce, and making American democracy work. Mounting evidence that health during childhood sets the stage for adult health not only reinforces this perspective, but also creates an important ethical, social, and economic imperative to ensure that all children are as healthy as they can be. Healthy children are more likely to become healthy adults.^[2]

The physical, social, and emotional development of young children has a direct effect on their overall development and the adult they will become. So, the children need accessible, continuous, comprehensive, coordinated, family centered and compassionate care that focuses on their changing physical and emotional needs.^[3]

Unfortunately, majority of children born in developing countries with congenital heart disease do not receive care which led to high mortality and morbidity among them.

Leading to high mortality and morbidity, at least 15 types of cardiovascular defects are recognized, with many anatomical variations.

In India, Considering a birth prevalence of congenital heart disease as 9/1000, the estimated number of children born with congenital heart disease in India is more than 200,000 per year. of these, about one-fifth are likely to have serious defect, requiring an intervention in the first year of life. Currently advanced cardiac care is available to only a minority of such children. A number of cardiac centers have been developed over the last 10 years. However, most are in the private sector, and are not geographically well-distributed. Challenges to pediatric cardiac care include financial constraints, health-seeking behavior of community, and lack of awareness. Government of India is taking a number of steps for improving health of children through its various program and schemes that are likely to benefit children with congenital heart disease, especially those who are vulnerable and marginalized.^[4]

In India over 2,40,000 children are estimated to be born with congenital heart disease every year. Among 2,40,000 children born with CHD each year in India, About one-fifth of the children suffer from critical heart disease requiring early intervention. The care available for these children is grossly inadequate. A large pool of older infants and children who may have survived despite no intervention add to the burden of CHD. (AIIMS).^[5]

Challenging factors in pediatric cardiac care include financial constraints, health-seeking behavior of community, and lack of awareness. Government of India is taking numerous actions for improving health of children through its various programs and schemes that are likely to benefit children with congenital heart

disease, especially those who are vulnerable and marginalize.^[6]

Need for the study

According to American Heart Association, Congenital heart disease occurs in approximately 1% of live birth per year and many of them need corrective surgery.^[9] Children are major consumers of health care in India, About 35% of total population is children below 15 years of age in India. They are not only large in number, but vulnerable to various problems and considered as a special risk group.^[7]

Caring a critically ill child is always stressful and difficult. But by acquiring a basic understanding of the people and equipment in the PICU, the stress of the family can be minimized.

Congenital heart disease (CHD) is the most common abnormality of the heart structure, blood vessel, and heart function. Currently, CHD incidence worldwide is estimated at 0.8% (8 babies per 1000 live births) or about 40,000 babies per year. In 2017, the global CHD incidence was 17.9 per 1000 children, with 19.1 per 1000 for male and 16.6 per 1000 for female.^{1,2,3} However, the types and severity of this disorder vary widely. Some conditions only require routine monitoring; however, one-third of children require surgical intervention or heart transplants to reduce mortality.^{2,4,5,6} Cardiac surgery is an intervention to overcome heart disorders when pharmacological and supportive therapies fail. In 2002 alone, 27,772 CHD surgeries were performed in Europe. In 2003, the highest number of surgeries, i.e., 5,868 surgeries, was conducted in Germany, in which 4,415 of those used cardiopulmonary bypass (CPB) machines.^[8]

A qualitative study conducted on experience of mothers of children with CHD in Iran. The purposive sampling technique was used to select the participants. Participants were 14 mothers of children with CHD and one father and one nurse of open heart surgery unit, from two hospitals affiliated with Kerman University of Medical Sciences. Eighteen semi-structured interviews were constructed. Data were analyzed using conventional content analysis. MAXQDA software (VERBI GmbH, Berlin, Germany) was used to classify and manage the coding. Constant comparative method was done for data analysis. The reliability and validity of the findings, including the credibility, confirm ability, dependability, and transferability, were assessed.^[9]

According to the content analysis, the main theme was the catastrophic burden of child care on mothers that included three categories:

- The tension resulting from the disease,
- Involvement with internal thoughts, and
- Difficulties of care process.

The results of this study may help health care professionals to provide supportive and educational

packages to the patients, mothers and family members until improving the management of patient's care.^[10]

More than 90% of caregivers believe that more support for heart patients is necessary and more than 86% of caregivers believe that the intervention should be completed by cardiac healthcare professional.

All of these circumstances cause significant distress and burden for the parents and caregivers of the pediatric patients. For better care for CHD children undergoing cardiac surgery, parents need certain level of knowledge regarding the rehabilitative measures for the child.^[11]

Various statistics and the study findings revealed that, the mothers are less aware of the importance of child care and thereby increases the need to teach the rehabilitative services among them to care their children.^[12]

Pediatric Cardiac rehabilitation (rehab) is a medically supervised programme that helps improve the health and well-being of children who have heart problems. Rehab programmes include exercise training, education on the heart and healthy living, and counselling to reduce stress and help the child return to an active life.

The goal of this programme is to prevent and limit the physiological and psychological effects of cardiac illness and to improve the overall cardiovascular fitness and health of the child. This is accomplished by developing individualised programmes which cover exercise, education and assisted lifestyle modification, tailored to the individual needs and abilities of the children.

In the above mothers play a key role in caring for their sick children. Their experiences of care were influenced by culture, rules, and the system of health and care services. There are few studies on maternal care of children with congenital heart disease. Also, each of them has studied a particular aspect of care. In the present study, the researcher aimed to improve the knowledge and practice of mothers of children undergoing cardiac surgery through Pediatric Cardiac Rehabilitation Program.^[13]

Pediatric Residency Core Competency Model suggested that the pediatric nurse should emphasize on the patient and family centered care. The evidence based practice prioritize that the Knowledge, Skill and Attitude is needed to render care by the professional nurse in a pediatric care setting. Nurses play a supreme role in educating the parents regarding preventive and health promotive aspects of children. For empowering the mothers regarding child care after cardiac surgery, the researcher interested in improving knowledge and practice among the mothers of children undergoing cardiac surgery by nurse driven Pediatric Cardiac Rehabilitation Program.^[14]

Cardiac rehabilitation (CR) is not just for adults. For decades, the CR platform has focused on building coverage and access for adult cardiac patients, overshadowing the parallel need to address complex pediatric heart patients. Exercise interventions that focus on improving clinical outcomes and quality of life in children are growing, with data supporting the value and long-term benefits of providing structured programming to this unique patient population.

Nurse researcher has selected this study because even today the mothers are less aware of the importance of rehabilitation of children with cardiac surgery and prevention of the complications. Hence, the researcher felt to identify and improve the recovery and quality of life of children with heart diseases and their loved one, by providing knowledge regarding unique cardiac rehabilitation needs of each child and their family, make awareness about the possible complications early, make long term recommendations and to provide knowledge to the mother by means of Pediatric Cardiac Rehabilitation Program to help the child for successful adaptation to a new way of life while. In addition, the nurses should improve the skills of caregivers and promote the rehabilitation of children.

Objectives of the study

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2. To assess the effectiveness of pediatric cardiac rehabilitation program among the mothers of children undergoing cardiac surgery.
3. To compare the pre-test and post-test knowledge of the mothers regarding pediatric cardiac rehabilitation.
4. To associate the post-test level of knowledge of mothers regarding pediatric cardiac rehabilitation with their selected demographic variables.

HYPOTHESIS

H₁ - There will be significant difference between pre-test and post-test score of mothers regarding knowledge of cardiac rehabilitation of children undergoing cardiac surgery.

H₂ - There will be significant association between the post-test score of mothers regarding knowledge for cardiac rehabilitation of children undergoing cardiac surgery with their selected socio demographic variables.

OPERATIONAL DEFINITIONS

Assess

It refers to the activity that estimate the outcome of the pediatric cardiac rehabilitation program among mother's children undergoing cardiac surgery.

Effectiveness

It refers to the strong effectiveness of Pediatric Cardiac Rehabilitation Program on the knowledge and practice of mothers regarding pediatric cardiac rehabilitation.

Pediatric Cardiac Rehabilitation Program

It refers to the rehabilitation services, aims to improve recovery and quality of life for children with heart problems and their loved ones, focus on the unique cardiac needs of each child and their family. It includes the physical activities, early ambulation of the child, wound care, drug compliance, emotional behavior nutrition of the child, immunization and follow up care of the child.

Mothers

It refers to the individual mothers whose children are undergoing cardiac surgery.

Cardiac Surgery

It refers to the surgical operation performed on the heart to correct the life-threatening conditions. The surgery can be either open-heart surgery or minimal invasive surgery, depending on the conditions to be corrected.

Children

It refers to individuals, aged from birth to 12 years, who are undergoing cardiac surgery

ASSUMPTIONS

1. Mothers may gain knowledge regarding rehabilitation of the child undergoing cardiac surgery after pediatric cardiac rehabilitation program.
2. Cardiac rehabilitation program will be helpful for mothers to practice at home Selected demographic variables may influence the knowledge.

DELIMITATIONS

1. The study is limited Mothers whose child is undergoing cardiac surgery under the selected hospital.
2. This study is limited to selected mothers who are willing to participate in the study.
3. Data collection period is limited to 6 weeks.

METHODOLOGY

Research Approach

A research approach tells the researcher what data to collect, how to collect and how to analyze it. It also suggests possible conclusions to be drawn from the data.

An evaluative approach was adopted for this study since the investigation was aimed to evaluate the effectiveness of Pediatric Cardiac Rehabilitation Program Among Mothers of Children Undergoing Cardiac Surgery at Selected Hospital at Bangalore.

Research Design

One group Pre test and Post test Research study

Sampling technique

Non-Probability Purposive sampling technique.

Data collection instrument

Semi structured interview questionnaire.

Blue print of Knowledge Questionnaire

Sl.no	Knowledge domain	Items	Total items	%
1.	General aspect	1-2	2	10
2.	Personal hygiene	3-4	2	10
3.	Physical activities	5-8	4	20
4.	Position and sleep	9-11	3	15
5.	Emotional behaviour	12	1	5
6.	Diet	13	1	5
7.	Healing process	14	1	5
8.	Medication	15-16	2	10
9.	Complication	17-19	3	15
10.	Immunization	20	1	5
Total			20	100

Blue print of Practice Questionnaire

Sl.no	Practice domain	Items	Total items	%
1.	Bath	1	1	3.3
2.	Handwashing	2	1	3.3
3.	Activities	3	1	3.3
4.	Protection	4-5	2	6.6
5.	Medication	6-8	3	10
6.	Follow Up	9-10	2	6.6
Total			10	100

RESULTS**Mothers Demographic data**

Demographic Variables	No	%	
Age	20-22 years	0	0.0
	23-25 years	18	30
	26-29 years	32	53.33
	30 years and above	10	16.67
Education status of mother	No formal education	3	5.0
	Primary education	27	45
	Secondary education	21	35
	Graduate and above	9	15
Occupation status of mother	Employed	40	66.6
	Unemployed	20	34.4
Education status of father	No formal education	2	3.33
	Primary education	17	28.34
	Secondary education	24	40
	Graduate and above	17	28.33
Occupation status of father	Employed	60	100
	Unemployed	0	0
Religion	Hindu	40	66.7
	Christian	6	10.0
	Muslim	14	23.3
Family Monthly Income	5-10,000	0	0
	10-20,000	3	5
	20-30,000	21	35
	Above 30,000	36	60
Type of family	Nuclear family	40	66.7
	Joint family	20	33.3
	Extended family	0	0.0
Area of Residence	Rural	18	30.0
	Urban	24	40.0

	Suburban	18	30.0
Type of marriage	Consanguineous	23	38.33
	Non-Consanguineous	37	61.67
Exposure to infection during pregnancy	Yes	10	16.67
	No	50	83.33

Each Domain Wise Mothers Pretest Percentage of Knowledge On paediatric cardiac rehabilitation

n=60

Knowledge regarding	No. of questions	Min - Max score	Knowledge score		
			Mean	SD	% of mean score
General aspect	2	0-2	0.74	0.74	36.50%
Personal hygiene	2	0 – 2	1.04	0.64	51.50%
Physical activities	4	0 – 4	1.15	1.16	28.75%
Position and sleep	3	0 – 3	1.28	0.78	42.33%
Emotional behaviour	1	0 – 1	0.50	0.68	50.00%
Diet	1	0 – 1	0.60	0.53	60.0%
Healing process	1	0 – 1	0.55	0.67	55.00%
Medication	2	0 – 2	0.85	0.66	42.50%
Complication	3	0 – 3	0.75	0.67	38.00%
Immunization	1	0 – 1	0.38	0.67	38.00%
Total	20	0 - 20	7.84	2.36	44.58%

Pretest Level of Knowledge

Level of knowledge	No. of mothers	%
Inadequate knowledge	49	81.60%
Moderate knowledge	11	19.40%
Adequate knowledge	0	0.0%
Total	60	100%

Pretest Level of Practice

Level of practice	No. of mothers	%
Poor Practice	48	80 %
Moderate Practice	12	20 %
Adequate Practice	0	0 %
Total	60	100%

Each Domain Wise Mothers Post-test Percentage of Knowledge On paediatric cardiac rehabilitation

n=60

Knowledge regarding	No. of questions	Min - Max score	Knowledge score		
			Mean	SD	% of mean score
General aspect	2	0-2	1.62	0.79	81.50 %
Personal hygiene	2	0 – 2	1.57	0.77	79.00%
Physical activities	4	0 – 4	2.93	1.54	74.00%
Position and sleep	3	0 – 3	1.95	1.10	65.00%
Emotional behaviour	1	0 – 1	0.77	0.43	77.00%
Diet	1	0 – 1	0.83	0.50	84.0%
Healing process	1	0 – 1	0.79	0.39	79.00%
Medication	2	0 – 2	1.72	0.72	86.00%
Complication	3	0 – 3	2.43	1.08	81.00%
Immunization	1	0 – 1	0.75	0.54	75.00%
Total	20	0 - 20	15.38	2.96	77.00%

Post-test Level of Knowledge

Level of knowledge	No. of mothers	%
Inadequate knowledge	0	0 %
Moderate knowledge	16	26.67 %
Adequate knowledge	44	73.33 %
Total	60	100%

Post-test Level of Practice

Level of practice	No. of mothers	%
Poor Practice	0	0 %
Moderate Practice	13	21.69 %
Adequate Practice	47	78.31 %
Total	60	100%

To evaluate the effectiveness of paediatric cardiac rehabilitation Table: Comparison of pretest and post-test knowledge score

n=60

Sl. No	Knowledge on	Pretest		Post-test		m.d	Paired 't' test
		Mean	SD	Mean	SD		
1	General aspect	0.74	0.74	1.62	0.79	0.98	t=5.72 S*
2	Personal hygiene	1.04	0.64	1.57	0.77	0.54	t=4.06 S*
3	Physical activities	1.15	1.16	2.93	1.54	1.75	t=6.80 S*
4	Position and sleep	1.28	0.78	1.95	1.10	0.67	t=3.75 S*
5	Emotional behaviour	0.50	0.68	0.77	0.43	0.27	t=2.34 S*
6	Diet	0.60	0.53	0.83	0.50	0.23	t=2.79 S*
7	Healing process	0.55	0.67	0.79	0.39	0.24	t=2.43 S*
8	Medication	0.85	0.66	1.72	0.72	1.13	t=6.60 S*
9	Complication	0.75	0.67	2.43	1.08	1.67	t=7.12 S*
10	Immunization	0.38	0.67	0.75	0.54	0.38	t=3.089 S*
	Total	7.84	2.36	15.38	2.96	7.54	t=16.25 S*

Each Domain wise Pretest and Post-test Percentage of Practice

Sl. No	Domains	Post-test Practice	Pretest practice	% of practice gain
1	Do you wash your hands before and after touching the baby?	83.00%	56.00%	27.00%
2	Do you practice kangaroo mother care at home?	84.00%	47.00%	37.00%
3	Do you cover the child with proper clothing?	80.00%	36.00%	44.00%
4	Your family members involve in KMC?	76.50%	41.50%	35.00%
5	Do you clean up and freshen baby daily?	81.67%	46.00%	35.67%
6	Do you hold the baby properly?	78.50%	48.50%	30.00%
	Overall	80.00%	45.60%	34.40%

DISCUSSION

SECTION-A: Demographic data mothers of preterm babies

- Majority 30% of mother of pre terms are age between 21-25 years, 53.33% of mother age between 26-29 years, and 16.67% are 30 years and above.
- Majority 35% of the mothers were completed secondary education, 45% of mothers completed primary education, 15% of mothers graduate and 5.0% of mothers had no formal education.
- Majority mothers 34.4% unemployed and 66.6% of mothers employed.
- Majority 40% of the father of the child were completed secondary education, 28.34% of father completed primary education, 28.33% of father graduate and 3.33% of father had no formal education.
- Majority of father 100% are employed.
- Majority 66.7% of mothers belongs to Hindu religion, 10.0% of mothers belong to Christian and 23.3% of mothers belong to Muslim.

- Majority of mothers family 5% are taking 10,000-20,000, 35% of mothers belong to 20,000 to 30,000, 0% are taking 5000-10,000 and 60% of mothers are above 30,000.
- Majority of mothers from nuclear family 66.7%, joint family mothers 33.33% and 0 % of mothers belong to extended family.
- Majority of mothers living in urban 40%, 30% mothers living in rural places and 30% of mothers living suburban places.
- Regarding type of marriage of mothers 61.67% are non-consanguineous and 66.6% of mothers employed.
- Out of 60 Majority of mothers 83.33% are not having exposure to infection during pregnancy, 16.67% are having exposure to infection during pregnancy.

SECTION-B: Demographic data preterm babies

- Majority of 45% of children age between 4-6 years, 28.33% of children age between the age of group of 7-12 years and 26.7% of children age less than 1-3 years.
- Majority 61.67% girl children and 38.33% boy children.
- Majority 55 % of the family is having one child and 36.67 % are having two children. 8.33% are having three or more.
- Majority 68.33 % of the children born between 38-42 weeks 28.33% are born <38 weeks and 3.33 % of children delivered after 42 weeks.
- Majority 56.67 % of the children first child and 33.3 % of children are second child.

SECTION C: Pre-Test Knowledge and Practice Among the mothers of Preterm Baby

- Maximum mothers of child undergoing surgery on knowledge in diet (60.00%) and minimum knowledge score in Physical activities (28.75%). Overall pretest percentage of knowledge score is 44.58%.
- Majority 81.60% of mothers were had inadequate knowledge and 19.40% of them had moderate knowledge score and none of them had adequate knowledge score.
- Maximum practice score for bath (56.00%) and minimum practice score in activities (36.00%). Overall pretest percentage of practice score is 45.60%.
- Majority 80.00% of mothers were had poor practice and 20.00% of them had moderate practice score and none of them had good practice score.

SECTION D: Post-test Knowledge and Practice Among the mothers of Preterm Baby

- Maximum knowledge on medication (86%) and minimum knowledge score in position and sleep (65.00%). Overall pretest percentage of knowledge score is 77.00%.

- Overall post-test percentage of knowledge score is 77.00% among mothers.
- Maximum practice score on hand washing (84.00%) and minimum practice score on protection, (76.50%). Overall post-test percentage of practice score is 80.00%.
- Overall post-test percentage of practice score is 80.00% among mothers.

SECTION E: Comparison Of Pretest and Posttest Knowledge Score.

- Considering Knowledge and practice regarding preterm care, in pretest, mothers are had 2.36 score whereas in posttest they are had 2.96 score. This difference is statistically significant difference.
- Regard General aspect, in pretest, mothers had 0.74 score whereas in posttest they had 1.62 score. Difference is 0.98. This difference is large and it is statistically significant difference.
- In view of Personal hygiene, in pretest, mothers had 1.04 score whereas in posttest they had 1.57 score. Difference is 0.54. This difference is large and it is statistically significant difference.
- Considering Physical activities, in pretest, mothers had 1.15 score whereas in posttest they had 2.93 score. Difference is 1.75. This difference is large and it is statistically significant difference.
- Regard Position and sleep, in pretest, mothers had 1.28 score whereas in posttest they had 1.95 score. Difference is 0.67. This difference is large and it is statistically significant difference.
- Considering Emotional behavior, in pretest, mothers had 0.50 score whereas in posttest they had 0.77 score. Difference is 0.27. This difference is large and it is statistically significant difference.
- Considering Diet, in pretest, mothers had 0.60 score whereas in posttest they had 0.83 score. Difference is 0.23. This difference is large and it is statistically significant difference.
- To observe Healing process, in pretest, mothers had 0.55 score whereas in posttest they had 0.79 score. Difference is 0.24. This difference is large and it is statistically significant difference.
- To observe Medication, in pretest, mothers had 0.85 score whereas in posttest they had 1.72 score. Difference is 1.13. This difference is large and it is statistically significant difference.
- To observe Complication, in pretest, mothers had 0.75 score whereas in posttest they had 2.43 score. Difference is 1.08. This difference is large and it is statistically significant difference.
- Considering Immunization, in pretest, mothers had 0.38 score whereas in posttest they had 0.75 score. Difference is 0.38. This difference is large and it is statistically significant difference.
- On an average, mothers are improved their knowledge score from 7.84 to 15.38 after the administration of pediatric cardiac rehabilitation program. Or we can say, in pretest they are able to

answer only 7 questions before administration of pediatric cardiac rehabilitation program, they are able to answer up to 13 questions. Due to pediatric cardiac rehabilitation program, they can answer 13 more questions correctly. This difference is statistically significant.

SECTION F: Comparison of pretest and posttest practice score

- Before intervention, 80.0% of the mother had inadequate level of knowledge score, 20.0% of them had moderate level of knowledge score and none of them are had adequate level of knowledge score. After intervention, 26.67% of them had moderate level of knowledge score and 73.33% of them had adequate level of knowledge score, none of the mothers had inadequate level of knowledge.
- On an average, in posttest after Pediatric Cardiac Rehabilitation Program, mothers gained 37.00% more knowledge score than pretest score. On an average, mothers are improved their practice score from 4.57 to 8.03 after the administration of multimodal intervention. Or we can say, in pretest they are able to practice correctly only 3 questions before administration of Pediatric Cardiac Rehabilitation Program, they are able to practice correctly up to 4 questions.
- Pediatric Cardiac Rehabilitation Program over all pretest practice score 45.60% and post score is 80.00%. Pediatric Cardiac Rehabilitation Program Before intervention, 80% of the mothers had poor level of practice score, 20% of them had moderate level of practice score and none of them had good level of practice score. After intervention, 21.69% of them had moderate level of practice score and 78.31% of them had good level of practice score.
- On an average, in posttest after Pediatric Cardiac Rehabilitation Program, mothers are gained 34.4% more practice score than pretest score.

SECTION G: Association between the posttest knowledge and practice scores of with demographic variables of mothers of preterm baby

- Association between mothers' posttest level of knowledge score and their demographic variables. More income mothers, Sub urban mothers, joint family mothers, Non-Consanguineous Marriage mothers and rural area mothers are gained more knowledge than others. Posttest level of knowledge score and child demographic variables.no child demographic variables of mothers are having impact in knowledge score.
- More income mothers, Sub urban mothers, joint family mothers are gained more practice score than others. More birth order children's mothers and age of the child are gained more practice score than others.
- Statistical significance was calculated using Pearson chi square test.

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