

A Quasi-Experimental Study To Evaluate The Impact Of A Preoperative Orientation Program On Knowledge Levels Of Parents Of Children Undergoing Surgery At Selected Hospitals Of Jammu

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ABSTRACT

Background: Pediatric surgery is a stressful experience not only for children but also for their parents, who play an essential role in decision-making, emotional support, and perioperative care. Parents frequently experience inadequate knowledge regarding surgical procedures, general anesthesia, preoperative preparation, postoperative care, and possible complications. Limited parental knowledge may interfere with comprehension of medical instructions, decision-making, and the ability to support the child effectively. Structured preoperative education combined with counselling and relaxation strategies can improve parental preparedness and understanding. Hence, this study aimed to evaluate the impact of a preoperative orientation program on knowledge level of parents of children undergoing surgery at selected hospitals of Jammu.

Method: A quantitative research approach with a quasi-experimental two-group pre-test post-test control group design was adopted. A total of 240 parents of children undergoing surgery were selected using a non-probability consecutive sampling technique and subsequently allocated equally into experimental and control groups through simple randomization, with 120 participants in each group. Knowledge was assessed using a Structured Knowledge Questionnaire (SKQ). The experimental group received a structured Preoperative Orientation Program comprising educational sessions, counselling, and relaxation techniques delivered through two sessions of approximately 50–60 minutes each, conducted 24–48 hours before the child's scheduled surgery, whereas the control group received standard hospital care. Data were analyzed using descriptive and inferential statistics, including paired t-test, independent t-test, Chi-square test, and Spearman's rank correlation at $p < 0.05$ level of significance.

Results: The findings revealed a substantial improvement in knowledge among parents in the experimental group following the Preoperative Orientation Program. The mean knowledge score of the experimental group increased significantly from 8.592 ± 2.414 during the pre-test to 29.194 ± 1.009 during the post-test ($t = 23.495$, $p < 0.001$), whereas only a marginal change was observed in the control group from 9.157 ± 2.087 to 10.463 ± 1.945 ($p = 0.653$). The mean knowledge gain score was considerably higher in the experimental group (20.602 ± 1.405) compared with the control group (1.306 ± 0.142), with a statistically significant difference between the groups ($t = 16.842$, $p < 0.001$).

Conclusion: The study concluded that the structured Preoperative Orientation Program was an effective nursing intervention for significantly improving knowledge among parents of children undergoing surgery.

Key words: preoperative orientation program; parents; children undergoing surgery; knowledge; perioperative care.

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INTRODUCTION

Surgery is a significant and often stressful event in a child's life. Although advances in pediatric surgery, anesthesia, monitoring, and perioperative care have substantially improved the safety of surgical procedures, hospitalization and surgery continue to create considerable psychological stress for both children and their parents.^(1,2) Parents are particularly affected because they are responsible for decision-making, providing emotional support, understanding medical instructions, and participating in the child's perioperative and postoperative care.^(3,4)

General anesthesia is frequently required for pediatric surgical procedures because children, particularly younger children, may be unable to remain still, tolerate painful procedures, or fully understand the need for surgery.^(5–7) It facilitates safe surgical procedures by producing unconsciousness, analgesia, muscle relaxation, and controlled physiological conditions.^(8,9) Nevertheless, the requirement for general anesthesia is one of the major concerns expressed by parents before their child's surgery. Parents may fear anesthetic complications, delayed recovery, postoperative pain, surgical complications, or unfavorable outcomes.^(5,9,10)

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Parental knowledge is therefore an important component of safe and family-centered pediatric surgical care.(11,12) Parents need appropriate information regarding the child's surgical procedure, preoperative preparation, fasting requirements, anesthesia, postoperative pain management, possible complications, recovery, discharge instructions, and follow-up care.(13,14) Adequately informed parents are more capable of complying with perioperative instructions, participating in decision-making, supporting their child emotionally, and continuing appropriate care following discharge.(15,16)

Despite receiving routine information from healthcare professionals, parents may have inadequate knowledge regarding surgery and anesthesia.(17,18) Limited consultation time, unfamiliar medical terminology, differences in educational and health-literacy levels, and the stressful hospital environment may interfere with their understanding of instructions.(19,20) Inadequate information may consequently contribute to misconceptions, poor adherence to fasting or medication instructions, inappropriate postoperative care, and delayed identification of complications.(21)

Preoperative educational interventions have increasingly been recognized as important components of family-centered perioperative nursing. Structured teaching, counselling, audiovisual information, relaxation techniques, and opportunities for parents to clarify their concerns can improve understanding and psychological preparedness.(22–24) Nurses are particularly well positioned to provide these interventions because of their continuous interaction with children and families throughout the perioperative period.(25,26)

However, structured and standardized preoperative orientation programs addressing knowledge is not routinely implemented in many healthcare settings. The available evidence also indicates a need for intervention-based research within the Indian healthcare context. Therefore, the researcher developed a structured Preoperative Orientation Program comprising educational sessions, counselling, and relaxation techniques and evaluated its impact on knowledge among parents of children undergoing surgery, therefore, the researcher planned to undertake this study.

Table-1 Frequency and Percentage Distribution of Socio-Demographic Variables:

Socio-demographic Profile		Experimental group (N=120)		Control group (N=120)		Chi-square	p-value
		F	%	F	%		
Age in years	20-25 years	2	1.66	3	2.5	4.671	0.942
	26-30 years	86	71.66	92	76.66		

Objectives: To evaluate the impact of a preoperative orientation program on knowledge level of parents of children undergoing surgery at selected hospitals of Jammu.

MATERIALS AND METHODS: The present study adopted a quantitative research approach with a quasi-experimental two-group pre-test–post-test control group design. The study was conducted among parents of children undergoing elective surgical procedures at selected hospitals of Jammu. A total of 240 parents of children undergoing surgery who fulfilled the predetermined eligibility criteria were recruited using a non-probability consecutive sampling technique. Following recruitment, participants were allocated equally into experimental and control groups through simple randomization, resulting in 120 participants in the experimental group and 120 participants in the control group.

The research instruments consisted of a socio-demographic questionnaire, and a Structured Knowledge Questionnaire (SKQ) for assessing parental knowledge regarding the care and management of children undergoing surgery. The reliability coefficient was reported as 0.87 for the SKQ demonstrating acceptable reliability.

The experimental group received the structured Preoperative Orientation Program (POP) consisting of educational sessions, counselling, and relaxation training. The program was organized into two structured sessions of approximately 60 minutes each and was administered before the child's scheduled surgery. The control group received routine hospital care without the structured intervention.

Pre-test knowledge was assessed among participants in both groups using the SKQ. Following implementation of the Preoperative Orientation Program in the experimental group, post-test assessment was conducted using the same instruments.

RESULTS AND DISCUSSION: Obtained information were analyzed and grouped as per objectives of the study. The result reflected in tabular and graphics form. Table-1 communicated the frequency of socio-demographic variables of study participants.

	31-35 years	28	23.33	20	16.66		
	36-40 years	4	3.33	5	4.16		
Gender of parents	Male	27	22.5	19	15.83	2.193	0.746
	Female	93	77.5	101	84.16		

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Relationship with the child	Mother	27	22.5	19	15.83	2.193	0.746
	Father	93	77.5	101	84.16		
Religion	Hindu	67	55.83	59	49.16	4.921	0.537
	Sikh	32	26.66	27	22.5		
	Muslim	9	7.5	12	10.0		
	Christian	12	10.0	22	18.33		
Type of family	Joint family	42	35.0	51	42.5	1.609	0.137
	Nuclear family	78	65.0	69	57.5		
Residential area	Urban	76	63.33	71	59.16	1.082	0.571
	Rural	44	36.66	49	40.83		
Educational status	No formal education	19	15.83	18	15.0	4.901	0.399
	Primary education	14	11.66	16	13.33		
	Secondary education	64	53.33	66	55.0		
	Graduation or above	23	19.16	20	16.66		
	Housewife	59	49.16	48	40.0	4.269	0.587

Occupational status	Own business	12	10	7	5.83		
	Government	16	13.33	21	17.5		
	Private job	33	27.5	44	36.66		
Family's monthly income	< 20,000	4	3.33	9	7.5	5.918	0.473
	20,001 to 30,000	28	23.33	24	20.0		
	30,001 to 40,000	33	27.5	40	33.33		
	> 40,001	55	45.83	47	39.16		
Number of children in the family	One	21	17.5	19	15.83	6.421	0.794
	Two	68	56.66	76	63.33		
	Three	29	24.16	21	17.5		
	>Three	2	1.66	4	3.33		
Birth order of surgical child	1 st	68	56.66	79	65.83	5.617	0.659
	2 nd	37	30.83	28	23.33		
	3 rd	15	12.5	13	10.83		
Previous experience with child surgery	Yes	3	2.5	6	5.0	3.418	0.447
	No	117	97.5	114	95.0		
	Yes	12	10.0	8	6.67	2.938	0.286

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Do you have health insurance of child surgery ?	No	108	90.0	112	93.33		
Child age	1-3 years	9	7.5	8	6.66	7.827	0.629
	4-7 years	37	30.83	42	35.00		

Table-1 mirrored that, in both groups, the majority of participants belonged to the 26–30 years age group (71.66% and 76.66%, respectively), were female (77.5% and 84.16%), were Hindu (55.83% and 49.16%), belonged to nuclear families (65% and 57.5%), and resided in urban areas (63.33% and 59.16%). Most participants had secondary education (53.33% and 55%), while the highest proportion were housewives (49.16% and 40%). Regarding family monthly income, the highest proportion reported an income of more than ₹40,001 (45.83% and 39.16%). More than half of the participants had two children in the family (56.66% and Table:2 Comparison of distribution of Knowledge level among participants before and after Preoperative Orientation Program among both groups:

N=240

Knowledge Level	Experimental group (N=120)				Control group (N=120)			
	Pre-test		Post-test		Pre-test		Post-test	
	F	%	F	%	F	%	F	%
Inadequate	112	93.33	6	5.0	116	96.66	13	94.16

Projected table-2 presented that at pre-test, the majority of participants in both the experimental and control groups had inadequate knowledge (93.33% and 96.66%, respectively). Following the intervention, 86.66% of participants in the experimental group achieved adequate

Groups	Experimental group	Control group
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	8-10 years	72	60.0	64	53.33		
	> 10 years	2	1.66	6	5.0		
Gender of child whose surgery planned	Male	68	56.66	63	52.5		
	Female	52	43.33	57	47.5	1.927	0.364

63.33%), and the surgical child was predominantly first in birth order (56.66% and 65.83%). The majority had no previous experience with child surgery (97.5% and 95%) and did not have health insurance for the child's surgery (90% and 93.33%). Regarding the child's characteristics, most surgical children were aged 8–10 years (60% and 53.33%) and were male (56.66% and 52.5%). The obtained p-values for all socio-demographic variables were greater than 0.05, indicating that the experimental and control groups were homogeneous and comparable at baseline.

Knowledge							
Average Knowledge	7	5.83	10	8.33	3	2.5	4.16
Adequate Knowledge	1	0.83	104	86.66	1	0.83	1.66

knowledge, compared with only 1.66% in the control group, where 94.16% continued to have inadequate knowledge. These findings indicate a marked improvement in knowledge among the experimental group following the intervention.

	Pre-test	Post-test	Pre-test	Post-test
Mean	8.592	29.194	9.157	10.463

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Standard Deviation	2.414	1.009	2.087	1.945
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Table-3 presented that the mean knowledge score in the experimental group increased substantially from 8.592 ± 2.414 in the pre-test to 29.194 ± 1.009 in the post-test, with a statistically significant difference ($t = 23.495$, $p < 0.001$). In contrast, the control group showed only a slight increase from 9.157 ± 2.087 to 10.463 ± 1.945 , Table:4 Effectiveness of Preoperative Orientation Program on Knowledge among parents of children undergoing surgery by comparing among both groups:

Groups	Mean Gain	SD	Mean difference	t-value	p-value
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The table 4 stated that the experimental group demonstrated a substantially higher mean gain in knowledge score (20.602 ± 1.405) compared with the control group (1.306 ± 0.142), with a mean difference of 19.296. The difference between the groups was statistically significant ($t = 16.842$, $p < 0.001$), confirming the effectiveness of the Preoperative Orientation Program in improving knowledge among parents of children undergoing surgery.

Discussion:

The study findings clearly stated that at post-intervention level the knowledge of parents of children undergoing surgery was increased at experimental group while control group with no intervention remain unchanged. A similar finding was presented by a study which has found their findings as similar to present study and stated that Disseminating knowledge on the surgical procedure, via narratives or visual media, might alleviate parental anxiety.(27) another investigation has stated that the parents understanding their knowledge enhanced after oral health education regarding their child's dental examination.(28) one study also favored the present study findings that the nurse-driven intervention has increased knowledge of parents regarding home care management after their child's surgery from inadequate to adequate level of knowledge.(29) An investigation has reported similar findings and they divulged that maximum of mothers were having poor knowledge and high anxiety regarding their child Cardiac Catheterization and after implementation of educational guideline their knowledge level enhanced and anxiety also reduced.(30)

Limitations of the study

- The quasi-experimental design limited the ability to establish a definitive causal relationship

t-test	23.495	9.184
P value	<0.001	0.653

which was statistically non-significant ($t = 9.184$, $p = 0.653$). These findings indicate that the Preoperative Orientation Program was effective in improving knowledge among parents of children undergoing surgery.

	score				
Experimental group	20.602	± 1.405	19.296	16.842	<0.001
Control group	1.306	± 0.142			

between the Preoperative Orientation Program and changes in parental knowledge.

- The study was limited to 240 parents from selected hospitals in Jammu, which may restrict the generalizability of the findings to other settings and populations.
- The short intervention and immediate post-test did not allow assessment of the long-term retention of knowledge.
- The use of self-administered questionnaires may have introduced recall, comprehension, social desirability, or response bias.
- The inclusion of only parents of children undergoing elective surgery limits the applicability of the findings to parents of children undergoing emergency surgery.

CONCLUSION:

The findings of the present study revealed that the majority of parents had inadequate knowledge regarding their child's surgical care before the intervention. Following the Preoperative Orientation Program, a marked improvement in knowledge was observed among parents in the experimental group, whereas the control group showed minimal change. The significantly higher post-test knowledge and mean gain scores in the experimental group demonstrated the effectiveness of the program in enhancing parental knowledge. Overall, the study concludes that a structured Preoperative Orientation Program is an effective educational strategy for improving the knowledge of parents of children undergoing surgery, thereby promoting better understanding and preparedness for their child's surgical care.

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