

Effectiveness of A Planned Teaching Programme on Mothers' Knowledge Regarding Home Care Management of Children Undergoing Genitourinary Surgery in Selected Hospitals

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Abstract

Introduction: Genitourinary (GU) disorders are among the most common congenital and acquired conditions requiring surgical intervention in children. Successful postoperative recovery largely depends on appropriate home care provided by mothers, who are the primary caregivers after discharge. Inadequate knowledge regarding wound care, medication administration, hygiene, nutrition, catheter care, activity restrictions, follow-up, and recognition of complications may adversely affect recovery. A planned teaching programme can enhance mothers' knowledge and improve postoperative home care practices.

Methods: A quantitative evaluative research approach with a quasi-experimental pre-test–post-test control group design was adopted. The study was conducted among 70 mothers of children undergoing genitourinary surgery in selected hospitals of the Sangli, Miraj, and Kupwad Corporation area. Participants were selected using non-probability purposive sampling and assigned to an experimental group (n=35) and a control group (n=35). Baseline knowledge was assessed using a structured knowledge questionnaire. The experimental group received a planned teaching programme, whereas the control group received routine hospital care. Post-test assessment was conducted using the same questionnaire. Data were analysed using descriptive and inferential statistics, including paired t-test, unpaired t-test, and Chi-square test.

Results: The experimental group showed a statistically significant improvement in knowledge following the intervention, with the mean score increasing from 10.26 ± 3.39 in the pre-test to 18.09 ± 2.68 in the post-test (paired $t=22.126$, $p<0.001$). The control group showed no significant improvement (paired $t=0.572$, $p=0.571$). Post-test knowledge scores were significantly higher in the experimental group than in the control group (unpaired $t=13.134$, $p<0.001$). Mothers' educational status was significantly associated with pre-test knowledge ($\chi^2=28.285$, $p<0.001$).

Discussion and Conclusion: The findings demonstrate that the planned teaching programme effectively improved mothers' knowledge regarding home care management of children undergoing genitourinary surgery. Integrating structured discharge education into routine paediatric surgical nursing practice can enhance caregiver preparedness, promote safe home care, reduce postoperative complications, and improve recovery outcomes.

Keywords: Planned teaching programme, Genitourinary surgery, Mothers, Home care management, Knowledge, Paediatric nursing.

Introduction

Genitourinary (GU) disorders in children include a wide spectrum of congenital and acquired conditions affecting the kidneys, ureters, urinary bladder, urethra, penis, and testes. Common paediatric genitourinary disorders requiring surgical correction include hypospadias, cryptorchidism, hydrocele, inguinal hernia, vesicoureteral reflux, posterior urethral valves, and ureteropelvic junction obstruction. Advances in paediatric surgical techniques have significantly improved survival and long-term functional outcomes. Nevertheless, successful recovery depends not only on the surgical procedure but also on appropriate postoperative care provided after hospital discharge.

The immediate postoperative period is critical because children remain vulnerable to wound infection, urinary tract infection, bleeding, catheter-related complications, pain, oedema, and delayed wound healing. Most postoperative care occurs at home, making parents—particularly mothers—the primary caregivers responsible for monitoring the child's recovery. They are expected to administer medications correctly, maintain wound hygiene, ensure adequate nutrition and hydration, identify warning signs, provide psychological reassurance, and attend scheduled follow-up visits. Insufficient knowledge of these aspects may lead to preventable complications, increased healthcare costs, delayed recovery, and unnecessary hospital readmissions.

Family-centred care is a fundamental principle of paediatric nursing practice. Empowering caregivers through structured health education enables them to actively participate in the child's recovery process and improves confidence in managing postoperative care at home. Planned teaching programmes are systematic educational interventions designed to provide accurate, evidence-based information in a simple and understandable manner. Such programmes facilitate better understanding of postoperative instructions, improve treatment adherence, reduce anxiety, and promote positive health outcomes.

Several studies have demonstrated that caregiver education significantly improves postoperative knowledge, caregiving practices, treatment compliance, and overall satisfaction with healthcare services. However, limited research has evaluated the effectiveness of structured teaching programmes specifically for mothers of children undergoing genitourinary surgery in the Indian context. Considering the important role of mothers in postoperative home care, there is a need to assess whether planned educational interventions can improve their knowledge and preparedness.

The present study was therefore undertaken to evaluate the effectiveness of a planned teaching programme on mothers' knowledge regarding home care management of children undergoing genitourinary surgery in selected hospitals of Sangli, Miraj, and Kupwad Corporation area.

Objectives

The study was conducted to:

1. Assess the pre-test knowledge of mothers regarding home care management of children undergoing genitourinary surgery in the experimental and control groups.
2. Evaluate the effectiveness of a planned teaching programme by comparing pre-test and post-test knowledge scores among mothers in the experimental group.
3. Compare the post-test knowledge scores between the experimental and control groups.
4. Determine the association between pre-test knowledge scores and selected demographic variables among mothers.

Materials and Methods

A quantitative evaluative research approach with a quasi-experimental pre-test–post-test control group design was adopted to assess the effectiveness of a planned teaching programme on mothers' knowledge regarding home care management of children undergoing genitourinary surgery. The study was conducted in selected hospitals in the Sangli, Miraj, and Kupwad Corporation area, Maharashtra.

The study population comprised mothers of children aged 6 months to 6 years undergoing common genitourinary surgeries. A total of 70 mothers were selected using a non-probability purposive sampling technique, with 35 mothers assigned to the experimental group and 35 to the control group. Mothers of children aged 6 months to 6 years undergoing genitourinary surgery who were willing to participate and could understand Marathi or English were included, while mothers of critically ill children, healthcare professionals, and those unavailable during the post-test period were excluded.

The intervention consisted of a planned teaching programme developed by the investigator based on current evidence and expert recommendations, covering common genitourinary surgeries, wound care, personal hygiene, medication administration, nutrition and fluid intake, catheter care, activity restrictions, warning signs requiring immediate medical attention, and follow-up care. The programme was delivered through lectures, discussions, visual aids, and an information booklet.

Data were collected using a structured, expert-validated, and reliable questionnaire comprising demographic and clinical information and a knowledge questionnaire on postoperative home care management. Following ethical approval, administrative permission, and informed consent, baseline knowledge was assessed, after which the experimental group received the planned teaching programme while the control group received routine hospital instructions. A post-test was conducted using the same questionnaire after the specified interval.

Data were analysed using SPSS with descriptive statistics (frequency, percentage, mean, and standard deviation) and inferential statistics (paired t-test, unpaired t-test, and Chi-square test), with statistical significance set at $p < 0.05$. Ethical approval was obtained from the Institutional Ethics Committee, written informed consent was secured from all participants, and confidentiality and anonymity were maintained throughout the study.

Results

A total of 70 mothers participated in the study, 35 mothers in the experimental group & 35 mothers in the control group. The findings are presented according to the study objectives. Descriptive statistics were used to summarize demographic characteristics and knowledge scores, while inferential statistics were applied to evaluate the effectiveness of the planned teaching programme.

Table No: 1 Frequency and percentage distribution of selected demographic variables
n= (35 + 35=70)

Sr No	Demographic characteristics	Experimental group		Control group	
		Frequency	Percentage	Frequency	Percentage
1.	AGE GROUP IN YEARS				
	19-25	5	14.30%	6	17.10%
	26-30	15	42.90%	14	40%
	31-35	9	25.70%	12	34.30%
	36-40	6	17.10%	3	8.60%
2.	EDUCATION STATUS OF MOTHER				
	Graduates or postgraduate	8	22.90%	15	42.90%
	Higher school Certificate	11	31.40%	15	43%
	Middle School Certificate	11	31.40%	4	11.40%
	Primary school Certificate	5	14.30%	1	2.90%
3.	OCCUPATION OF MOTHER				
	Clerks	1	2.90%	2	5.70%
	Elementary occupation	1	2.90%	2	6%
	Legislators, Seniors Officials, Managers	3	8.60%	3	8.60%
	Plant and Machine Operators and Assemblers	1	2.90%	1	2.90%
	Skilled Agricultural and fishery Workers	7	20.00%	5	14.30%
	Skilled Workers and Shop/Market sales workers	2	5.70%	8	23%
	Unemployed	20	57.10%	14	40.00%
4.	MONTHLY FAMILY INCOME				
	0- 7,988	19	54.30%	4	11.40%
	7,989- 23,869	10	28.60%	20	57.10%
	23,870- 39,829	6	17.10%	2	5.70%
	39,830- 59,794	0	0%	8	22.90%
	59,795- 79,755	0	0%	1	2.90%
5.	TYPE OF SURGERY				
	Hypospadias	22	62.90%	23	65.70%
	Orchidopexy	13	37.10%	12	34.30%
6.	AGE AT SURGERY				
	6- 11 months	4	11.40%	5	14.30%
	1-3 years	14	40.00%	21	60.00%
	4-6 years	17	48.60%	9	26%

Table No 1: shows that the experimental and control groups were generally comparable in terms of mothers' age, education, occupation, and family income. Hypospadias was the most common diagnosis in both groups, and most children underwent hypospadias repair. Children in the experimental group were operated on at a relatively younger age, with the majority undergoing surgery at 1–3 years, compared with 4–6 years in the control group.

Table 2. Comparison of Pre-test and Post-test Knowledge Scores in the Control Group (n = 35)

Knowledge Test	Mean	SD	Paired t	p value
Pre-test	8.66	3.23	0.572	0.571 (NS)
Post-test	8.71	3.26	—	—

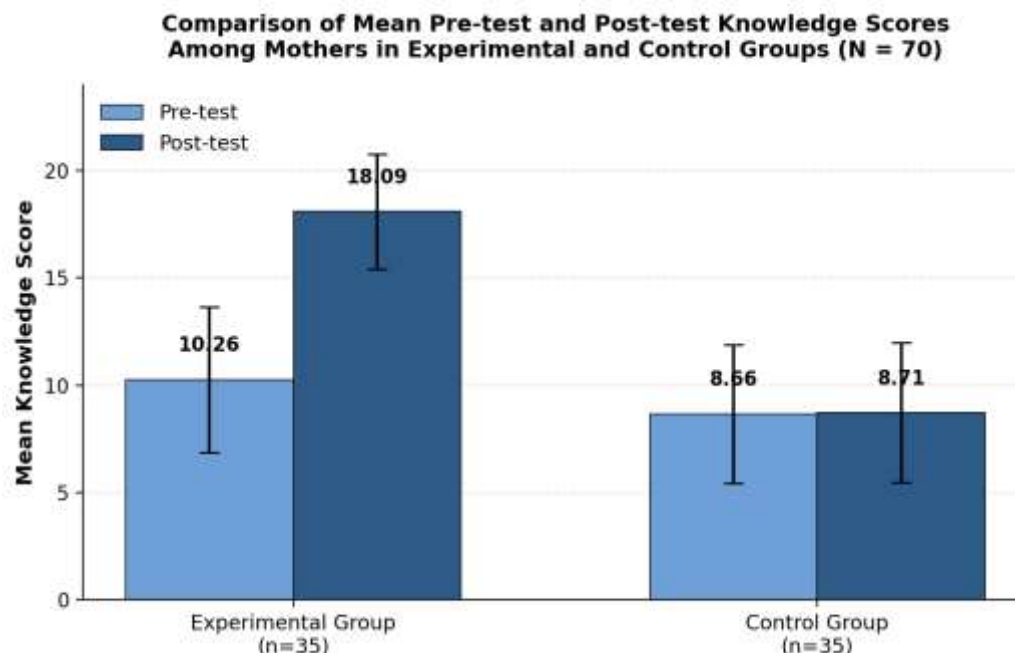
Interpretation: The control group demonstrated only a marginal increase in knowledge after routine care. The paired t-test revealed that the difference between pre-test and post-test scores was not statistically significant ($t=0.572$, $p=0.571$), indicating that routine hospital instructions alone did not produce a meaningful improvement in mothers' knowledge.

Table 3. Comparison of Pre-test and Post-test Knowledge Scores in the Experimental Group (n = 35)

Knowledge Test	Mean	SD	Paired t	p value
Pre-test	10.26	3.39	22.126	<0.001*
Post-test	18.09	2.68	—	—

*Highly significant

Interpretation: The experimental group exhibited a substantial increase in post-test knowledge scores following the planned teaching programme. The paired t-test demonstrated a highly statistically significant improvement ($t=22.126$, $p<0.001$), confirming the effectiveness of the intervention.

Figure 1. Comparison of Mean Pre-test and Post-test Knowledge Scores Among Mothers in the Experimental and Control Groups (N = 70)

Interpretation: The bar chart illustrates that both groups had comparable pre-test knowledge scores. Following the intervention, the experimental group showed a marked rise in post-test knowledge, while the control group's scores remained essentially unchanged, visually reinforcing the effectiveness of the planned teaching programme.

Table 4. Comparison of Post-test Knowledge Scores Between the Experimental and Control Groups (n = 70)

Group	Mean	SD	Unpaired t	p value
Experimental	18.09	2.68	13.134	<0.001*
Control	8.71	3.26	—	—

*Highly significant

Interpretation: Comparison of post-test knowledge scores between the two groups revealed a statistically significant difference. Mothers in the experimental group achieved significantly higher knowledge scores than those in the control group ($t=13.134$, $p<0.001$), demonstrating the effectiveness of the planned teaching programme.

Table 5. Association Between Pre-test Knowledge Scores and Selected Demographic Variables

Demographic Variable	χ^2 value	p value	Significance
Educational status	28.285	<0.001	Significant
Age	NS	>0.05	Not Significant
Occupation	NS	>0.05	Not Significant
Monthly family income	NS	>0.05	Not Significant

Interpretation: Among the selected demographic variables, only educational status showed a statistically significant association with mothers' pre-test knowledge scores ($\chi^2=28.285$, $p<0.001$). Mothers with higher educational qualifications demonstrated better baseline knowledge regarding home care management of children undergoing genitourinary surgery. No significant association was observed between knowledge scores and age, occupation, or monthly family income.

Summary of Findings

The baseline assessment indicated that mothers in both the experimental and control groups had inadequate to moderate knowledge regarding home care management of children undergoing genitourinary surgery. Following implementation of the planned teaching programme, the experimental group demonstrated a marked improvement in knowledge, whereas the control group showed no significant change. The between-group comparison further confirmed that the intervention was highly effective in improving mothers' knowledge. Educational status emerged as the only demographic variable significantly associated with baseline knowledge, suggesting that educational attainment may influence caregivers' understanding of postoperative home care.

Discussion

The present study evaluated the effectiveness of a planned teaching programme on mothers' knowledge regarding home care management of children undergoing genitourinary surgery. The findings demonstrated that the educational intervention significantly improved mothers' knowledge, supporting the importance of structured discharge education in paediatric surgical nursing.

The baseline assessment revealed that mothers in both the experimental and control groups had inadequate to moderate knowledge regarding postoperative home care. This finding may be attributed to limited prior exposure to structured health education, insufficient counselling before discharge, and lack of access to reliable educational resources. Similar findings have been reported in recent studies, which observed that caregivers often possess inadequate knowledge regarding wound care, medication administration, hygiene, nutrition, and recognition of postoperative complications before receiving structured educational interventions.

Following implementation of the planned teaching programme, mothers in the experimental group demonstrated a remarkable improvement in knowledge scores. The mean knowledge score increased from 10.26 ± 3.39 during the pre-test to 18.09 ± 2.68 in the post-test, with a highly significant paired t-value of 22.126 ($p < 0.001$). In contrast, the control group showed no statistically significant improvement (paired $t=0.572$, $p=0.571$). These findings clearly

indicate that the observed improvement resulted from the educational intervention rather than routine hospital care.

The comparison of post-test knowledge scores between the experimental and control groups further confirmed the effectiveness of the planned teaching programme. The experimental group achieved significantly higher knowledge scores than the control group (unpaired $t=13.134$, $p<0.001$), demonstrating that structured teaching is considerably more effective than routine discharge instructions in preparing mothers to provide postoperative home care.

Educational status was the only demographic variable significantly associated with pre-test knowledge ($\chi^2=28.285$, $p<0.001$). Mothers with higher educational qualifications demonstrated better baseline understanding of home care management. No significant association was observed with age, occupation, or monthly family income. This suggests that educational attainment influences caregivers' ability to understand health-related information, emphasizing the need for individualized education tailored to varying literacy levels.

The findings of the present study are consistent with recent nursing research demonstrating that structured educational programmes improve caregivers' knowledge, confidence, treatment adherence, and home-care practices following paediatric surgery. Recent studies have also reported that caregiver education reduces postoperative complications, decreases unplanned hospital visits, and enhances parental satisfaction with healthcare services. These similarities strengthen the evidence supporting structured discharge education as an integral component of paediatric surgical nursing practice.

Overall, the study demonstrates that a planned teaching programme is an effective, feasible, and economical nursing intervention that can be integrated into routine discharge planning to improve mothers' preparedness for postoperative home care and ultimately contribute to better recovery outcomes for children undergoing genitourinary surgery.

Recommendations

Future studies should be conducted with larger sample sizes and in different healthcare settings to improve the generalizability of the findings. Comparative research using various educational strategies, such as video-assisted teaching, simulation, and demonstration, is recommended. Follow-up studies should assess knowledge retention and home care practices after discharge. Standardized discharge teaching guidelines should be implemented across hospitals, and educational interventions should be tailored to the literacy level and learning needs of mothers using simple, culturally appropriate materials. Family involvement, periodic reinforcement of education, and technology-based interventions, such as mobile health education and reminder systems, should be encouraged to enhance caregiver knowledge and postoperative outcomes.

Conclusion

The findings of the study demonstrated that the planned teaching programme was effective in significantly improving mothers' knowledge regarding home care management of children undergoing genitourinary surgery. The study supports the integration of structured discharge education into routine paediatric nursing practice to enhance caregiver preparedness, promote safe postoperative home care, and improve recovery outcomes. The intervention is simple, cost-effective, evidence-based, and can be easily implemented in clinical settings. However, the study was limited by its small sample size, purposive sampling technique, and assessment of knowledge alone without evaluating long-term practices. Further multicentre studies with larger samples are recommended to assess long-term knowledge retention, caregiver practices, and the effectiveness of various educational strategies, including digital teaching methods.

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