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Original Research Article

Professional development in pediatric nursing: A study on the impact of educational module in legal and ethical care

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ABSTRACT

Background: The increasing complexity of legal and ethical issues in pediatric healthcare necessitates enhanced competencies among nurses. This study investigates the impact of a teaching module on the legal and ethical knowledge and practices of nurses in a pediatric tertiary care centre in South India.

Materials and Methods: A quasi-experimental, one-group pre-test and post-test design were employed over a four-week period. The participants included 60 registered nurses who were not involved in operation theaters, outpatient departments, or night shifts. A validated semi-structured questionnaire assessed the nurses' knowledge and practices before and after the intervention. The teaching module consisted of a 45-minute session that combined lecture discussions, PowerPoint presentations, and handouts.

Results: Results showed significant improvements in knowledge and practice post-intervention, with average knowledge scores increasing by 32.88% and practice scores by 41.00%. Additionally, demographic factors such as age and working experience positively correlated with knowledge and practice gains.

Conclusion: This study underlines the effectiveness of teaching modules in closing the gap in legal and ethical training among pediatric nurses, suggesting that such educational initiatives could substantially enhance patient care and reduce legal risks.

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1. Introduction

Legal and ethical understanding among nurses is of utmost importance in the ever-changing field of paediatric healthcare.¹ Nurses working in paediatric wards face everyday problems that go beyond medical treatment and involve important legal and ethical decisions. Considering the susceptibility of their patients, who happen to be children, these judgements have significant consequences.² Recent statistics from the World Health Organisation (WHO) indicate that around 10% of hospital admissions for children involve legal or ethical problems, including issues related to consent and violations of confidentiality.³

Although it is evident that nurses require strong legal and ethical skills, there still needs to be a significant improvement in their ability to handle such intricate situations. Based on a survey conducted in 2023 by the Paediatric Nursing Certification Board, it was found that only 65% of paediatric nurses had received official training on the legal elements of care. Furthermore, a mere 55% of them felt sufficiently prepared to handle ethical difficulties.⁴ The disparity between the requirement for skills and the abilities currently possessed highlights the crucial importance of focused educational programmes. Structured Teaching Programmes (STPs) provide a promising method for addressing this gap.⁵ These programmes are carefully crafted to boost knowledge and improve practical application using a blend of instructional and interactive techniques. The necessity for such initiatives

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is additionally bolstered by litigation data that indicates that paediatric departments are especially vulnerable to legal disputes. According to a research released in 2022 by the National Institute of Health Policy, paediatric wards in the United States have seen a 20% rise in legal action linked to ethical violations over the last five years.⁶ This highlights the pressing need for enhanced training.

In addition, the efficacy of teaching programmes in several nursing specialisations indicates significant advantages for paediatric nursing.⁷ A study conducted in 2022 in the field of oncology nursing, which showed a significant 40% improvement in compliance with legal regulations after implementing similar educational initiatives.⁸ Applying this achievement to the field of paediatric nursing has the potential to greatly improve patient outcomes and adherence to legal requirements, hence decreasing the occurrence of disputes and ethical grievances.⁹ It is especially important because a recent audit by the National Paediatric Hospital Alliance (2023) revealed that only 50% of incidents related to ethical concerns were addressed per the recommended criteria for best practices. This indicates a deficiency in the successful implementation of knowledge into practice.¹⁰ In addition, the audit revealed that paediatric wards that had adopted organised teaching programmes shown an initial 30% enhancement in effectively addressing ethical dilemmas.¹¹ This finding offers a hopeful basis for further in-depth research.

Investigating the efficacy of teaching programmes not only corresponds to the present difficulties in healthcare delivery but also fills a void in the current scholarly literature. Moreover, augmenting the legal and ethical expertise of nurses has a direct impact on enhancing institutional procedures, increasing patient contentment, and mitigating legal liabilities.¹² This is supported by data from the American Association of Paediatrics, which, in 2022, documented a clear connection between the extent of legal and ethical education and a reduction in the occurrence of lawsuits and ethical breaches in hospitals.^{13,14}

Based on the information provided, it is clear that further examination is needed to determine the impact of the teaching module on enhancing legal and ethical procedures in paediatric nursing.¹⁵ This research has the potential to greatly impact current education changes, potentially resulting in the broad implementation of similar programmes in healthcare systems both nationally and internationally. The results of this study could also provide guidance for policy-making in healthcare education, ensuring that training curricula adequately equip nurses to address the demands of their positions.

2. Materials and Methods

This study employed a quantitative, pre-experimental design known as a one-group pre-test post-test design. The study

followed ethical guidelines by obtaining permission from the Institutional Ethics Committee and obtaining informed consent from all participants. Participants were told about the objective of the study and their rights regarding confidentiality and withdrawal. The study was conducted for three months at a paediatric tertiary care hospital in South India. The study sample comprised registered nurses employed in paediatric wards who satisfied certain inclusion criteria, including availability during data collection and willingness to participate. The researcher excluded nurses employed in operating theatres, outpatient departments, or those working night hours.

Sixty nurses were selected for the study using a non-probability convenience sampling approach. A semi-structured knowledge and practice questionnaire, created following an extensive literature study and validated by specialists in the medical, nursing, and statistics domains, served as the tool for data collection. The survey consisted of parts that evaluated the demographic information of nurses and their knowledge and practice of legal and ethical matters in paediatric healthcare. The responses were assessed using a scoring system where correct answers were awarded one point and erroneous answers received zero points. The data was then analysed to determine the level of knowledge and practice. The group was provided with a teaching programme as an intervention. This programme was delivered through a 45-minute session using a lecture-discussion format, along with PowerPoint presentations and handouts. The effectiveness of the instruction session was evaluated by administering pre-tests and post-tests using the same questionnaire. The data analysis involved the utilisation of descriptive and inferential statistics to assess changes in knowledge and practice.

3. Results

3.1. Demographic characteristics of the study participants

Table 1 shows the demographic characteristics of the study participants, all of whom are female nurses, showing that a majority are aged 31-35 years (33.3%). Regarding education, 86.7% hold a General Nursing and Midwifery (GNM) degree. A significant portion, 35%, have 1-3 years of working experience in a pediatric unit; similarly, 35% have a total working experience of 5-10 years. Most nurses work in either the Neonatal Intensive Care Unit or the Pediatric Intensive Care Unit, each accounting for approximately 25% of the workforce. Notably, 90% have not participated in an educational training program on legal and ethical issues.

3.2. Pretest level of knowledge

Table 2 presents the pretest knowledge levels of 60 nurses. It shows that 46.7% (28 nurses) had inadequate knowledge,

Table 1: Demographic characteristics of the study participants

Demographic variables	No. of nurses	%	
Age	< 30 years	19	31.7%
	31 -35 years	20	33.3%
	36 -40 years	12	20.0%
	> 40 years	9	15.0%
Gender	Female	60	100.0%
	Male	0	0.0%
	GNM	52	86.7%
Education	BSC(N)	3	5.0%
	Post basic B.Sc (N)	4	6.6%
	M.Sc(N)	1	1.7%
Area of work	Pediatric Intensive care unit	15	25.0%
	Neonatal Intensive care unit	16	26.7%
	Pediatric medical ward	14	23.3%
	Pediatric surgical ward	15	25.0%
Working experience in pediatric unit	Less than 6 months	9	15.0%
	6 months 1 year	10	16.7%
	1-3 years	21	35.0%
	More than 3 years	20	33.3%
Total working experience	Less than 2 years	9	15.0%
	2-5 years	19	31.7%
	5-10 years	21	35.0%
	> 10 years	11	18.3%
Educational training programme on legal and ethical issues	No	54	90.0%
	Yes	6	10.0%

Table 2: Pretest level of knowledge score

Level of knowledge	No. of nurses	%
Inadequate knowledge	28	46.7%
Moderate knowledge	32	53.3%
Adequate knowledge	0	0.0%
Total	60	100%

53.3% (32 nurses) had moderate knowledge, and none of the nurses had adequate knowledge

3.3. Pretest level of practice score

Table 3 outlines the pretest practice scores of 60 nurses. It indicates that 65% (39 nurses) exhibited poor practice levels, 35% (21 nurses) demonstrated moderate practice levels, and none of the nurses achieved a good practice level.

3.4. Effectiveness of structured teaching programme

Table 4 provides an assessment of the effectiveness of a Structured Teaching Programme on nurses, showing significant improvements in both knowledge and practice. For knowledge, the maximum achievable score was 25. The mean score increased from 12.92 in the pretest to 21.13 in the post-test, with a mean gain of 8.22 (95% confidence interval of 7.40 to 9.03), translating to a percentage gain of 32.88% (95% confidence interval of 29.60% to 36.12%). In practice, with a maximum score of 15, the mean score improved from 6.60 on the pretest to 12.75 on the post-

test, reflecting a mean gain of 6.15 (95% confidence interval of 5.77 to 6.53) and a percentage gain of 41.00% (95% confidence interval of 38.46% to 43.53%). These results highlight the positive impact of the teaching program on enhancing the nurses' knowledge and practical skills.

3.5. Association between knowledge gain score and their demographic variables

Table 5 presents the effects of age and working experience on knowledge gain, measured by pretest and post test scores among individuals in a pediatric unit. Specifically, individuals under 30 saw an average knowledge gain of 6.59; those 31-35 years gained 7.30, 36-40 years gained 8.68, and over 40 years gained 8.90. Different working experience durations also impacted gains, with those having less than two years gaining 6.30, 2-5 years gaining 7.08, 5-10 years gaining 8.87, and over ten years gaining 8.99. All groups showed statistically significant improvements, with ANOVA/T-tests yielding p-values of 0.05.

Table 3: Pretest level of practice score

Level of practice	No. of nurses	%
Poor level of practice	39	65.0%
Moderate level of practice	21	35.0%
Good level of practice	0	0.0%
Total	60	100%

Table 4: Effectiveness of structured teaching programme

		Max score	Mean score	Mean difference of gain score with 95% confidence interval	Percentage difference of gain score with 95% confidence interval
Knowledge	Pretest	25	12.92	8.22(7.40 -9.03)	32.88% (29.60% - 36.12%)
	Posttest	25	21.13		
Practice	Pretest	15	6.60	6.15(5.77-6.53)	41.00% (38.46%- 43.53%)
	Posttest	15	12.75		

Table 5: Association between knowledge gain score and their demographic variables

Demographic variables	N	Knowledge gain score				Gain score= post-pre		One- way anova f-test/ t-test	
		Pretest		Posttest		Mean	Sd		
		Mean	Sd	Mean	Sd	Mean	Sd		
Age	< 30 years	19	13.11	3.70	19.7	1.83	6.59	2.28	F=2.78 P=0.05 (S)
	31 -35 years	20	11.45	3.87	18.75	3.19	7.30	2.56	
	36 -40 years	12	14.08	2.54	22.76	2.33	8.68	2.64	
	> 40 years	9	15.33	1.22	24.23	1.32	8.90	2.80	
Working experience in pediatric unit	Less than 6 months	9	12.33	4.30	18.70	2.69	6.37	2.04	F=2.76 P=0.05 (S)
	6 months 1 year	10	11.90	2.69	19.00	1.57	7.10	2.49	
	1-3 years	21	13.05	3.99	21.80	2.93	8.75	2.56	
	More than 3 years	20	13.50	2.76	22.45	2.26	8.95	3.25	
Total working experience	Less than 2 years	9	10.78	3.31	20.67	2.18	6.30	1.80	F=2.79 P=0.05(S)
	2-5 years	19	11.79	3.66	20.47	2.34	7.08	2.20	
	5-10 years	21	14.14	3.88	21.71	2.97	8.87	3.20	
	> 10 years	11	14.27	2.10	21.55	2.34	8.99	3.80	

Table 6: Association between practice gain score and demographic variables

Demographic variables	N	Practice gain score				Gain score=post- pre		One- way anova f-test/ t-test	
		Pretest		Posttest		Mean	Sd		
		Mean	Sd	Mean	Sd	Mean	Sd		
Age	< 30 years	19	6.97	1.07	12.39	1.32	5.42	1.07	F=3.18 P=0.03 (S)
	31 -35 years	20	6.30	1.92	12.45	1.43	6.15	1.45	
	36 -40 years	12	6.67	1.23	13.49	1.56	6.82	1.87	
	> 40 years	9	7.37	1.12	14.33	.53	6.96	1.96	
Working experience in pediatric unit	Less than 6 months	9	6.56	1.51	11.56	.73	5.00	1.41	F=2.87 P=0.04 (S)
	6 months 1 year	10	6.10	.97	11.60	1.60	5.50	1.27	
	1-3 years	21	6.48	1.60	12.77	1.45	6.29	1.85	
	More than 3 years	20	7.00	1.33	13.79	1.27	6.79	1.78	
Total working experience	Less than 2 years	9	5.89	1.45	11.33	1.22	5.44	1.59	F=2.82 P=0.05(S)
	2-5 years	19	6.00	1.37	11.68	1.49	5.68	1.63	
	5-10 years	21	7.03	1.35	13.55	1.20	6.52	1.33	
	> 10 years	11	7.32	1.40	14.00	1.55	6.68	1.08	

3.6. Association between practice gain score and demographic variables

Table 6 shows the practice gain scores about age and working experience in a pediatric unit. Age groups under 30 to over 40 showed gains ranging from 5.42 to 6.96. Working experience varied similarly, with those having less than 6 months to more than 3 years of experience recording gains from 5.00 to 6.79. Both age and experience were significant predictors of practice gains, demonstrating effective learning across demographics with statistical significance noted (p-values < 0.05).

4. Discussion

This study investigated the demographic characteristics of 60 nurses and assessed the impact of a teaching module on their knowledge and practice of legal and ethical practices in paediatric care. The majority of the study participants were between the ages of 31 and 35 and possessed a General Nursing and Midwifery (GNM) degree. There was significant participation from the Neonatal Intensive Care Unit and the Paediatric Intensive Care Unit. Significantly, 90% of the individuals had not had any previous instruction on legal and ethical matters, highlighting a significant deficiency in continuous professional development.

Based on the assessment of pretest knowledge and practice levels, it was found that a significant number of nurses (46.7%) had insufficient knowledge, and a majority (65%) had low levels of practice. The results align with the findings of TA Phukubye et al. (2021), who observed that informal continuous training frequently leads to substantial disparities in both theoretical understanding and practical abilities among nursing practitioners.

The adoption of the teaching module significantly enhanced the knowledge and practice scores of the nurses. The average knowledge score increased by 32.88%, while the practice score increased by 41.00%. The observed enhancements are statistically significant and align with the findings of S Chen et al. (2022), who showed that implementing organised, competency-based training can greatly increase both theoretical comprehension and practical skills in clinical environments.

Furthermore, the correlation between demographic characteristics and improvements in knowledge and practice sheds light on the intricate ways in which age and experience impact learning results. Nurses who were over 40 years old and had more than 10 years of experience demonstrated the greatest increase in knowledge, likely because of their lengthy exposure to clinical settings, which may strengthen their capacity to efficiently integrate new information. Comparable patterns were noted in the improvement of skills, where expertise also had a crucial impact. These results align with the findings of TH Tulchinsky et al. (2021), which demonstrated that a person's

prior experience has a major impact on their ability to learn and apply new abilities in healthcare settings. The favourable results of this instructional module indicate that ongoing professional development should be customised not only to the educational material but also to the demographic and experience profiles of the nurses. JL Flaubert et al. (2023) support the use of adaptive learning frameworks in nursing education to cater to different levels of prior knowledge and clinical experience.

5. Recommendations

Future studies should aim to include a randomized controlled design and a more diverse sample to enhance validity and generalizability. It is recommended to extend the duration of the intervention to assess long-term impacts on nurses' knowledge and practices. Additionally, integrating these educational programs into ongoing professional development could sustain and improve pediatric nursing competencies effectively.

6. Limitations

The study's limitations include the lack of a control group and randomization, which may affect the generalizability of the results. The use of a non-probability convenient sampling method and the restriction to female nurses from a single geographic area further limit the applicability of the findings to broader populations. The short duration of the intervention may not reflect long-term knowledge retention and practice changes.

7. Conclusion

The study demonstrates the positive impact of structured educational interventions on enhancing the knowledge and practices of pediatric nurses regarding legal and ethical issues in care, emphasizing the crucial role pediatric nurses play in implementing competent and ethically sound care. Pediatric nurses are at the frontline of healthcare for children, making their understanding and application of legal and ethical standards fundamentally important for delivering safe and effective care. The results advocate for the necessity of continuous professional development programs in pediatric nursing to reinforce their skills and knowledge regularly. Future initiatives should focus on longitudinal studies with diverse and randomized samples to substantiate these findings further and support the development of standardized training that can be integrated across various pediatric care settings, ultimately enhancing overall healthcare outcomes for children.

8. Conflict of Interest

None.

9. Source of Funding

None.

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