



Designing an Infusion Therapy Teaching Program to Enhance the Teaching-Learning Process of Nursing Student

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Introduction

Complications related to infusion therapy can lead to adverse consequences, such as pain, delays in treatment and recovery, impaired quality of life, increased hospital costs, and longer hospital stays. Recents studies reveals that nursing students possess moderate to low knowledge regarding infusion therapy and the management of vascular access. Therefore, innovative teaching strategies, such as clinical simulation-based education, can foster an effective learning environment, ensuring quality and safety in clinical practice. Consequently, it is necessary to develop educational and training programs aimed at enhancing skills, knowledge, and attitudes related to infusion therapy.

Aim

To evaluate the acquisition of knowledge, the development of technical skills, and the enhancement of clinical reasoning among nursing students participating in an infusion therapy teaching program.

Methods

- Quasi-experimental, non-randomized, before-and-after study
- Participants were 20 nursing students enrolled in the elective course “Best Practices in Infusion Therapy”, which was structured around interactive lectures, technical skills stations, and clinical simulation scenarios
- Students were assessed on theoretical knowledge, technical skills, and clinical reasoning before and after the teaching strategies using validated instruments and scenarios
- Approved by the Research Ethics Committee

Results

The overall average score increased from 64.00 points on the pretest (SD = 3.88) to 66.55 points on the posttest (SD = 2.22), a difference that is considered statistically significant ($p = 0.0031$). This demonstrates the program's effectiveness in the acquisition of theoretical knowledge.

Performance Analysis at the Clinical Reasoning Station						
Variable	Mean	Standard Deviation	Minimum	Median	Maximum	p-value*
Clinical Reasoning Score	Pre	4,70	1,59	2,00	5,00	0,0003
	Post	7,35	1,04	5,00	7,50	
Identification of Risk Factors and Device Choice	Pre	2,95	1,19	1,00	3,00	0,0002
	Post	4,90	0,79	4,00	5,00	

Performance analysis at the technical skills station						
Variable	Mean	Standard Deviation	Minimum	Median	Maximum	p-value*
Performance Practical Station	Pre	9,65	2,80	3,00	9,50	0,0001
	Post	14,80	1,24	12,00	15,00	
Flushing Preparation	Pre	3,55	1,36	1,00	3,50	0,0004
	Post	5,40	0,60	4,00	5,00	
Flushing Administration	Pre	4,40	1,50	1,00	4,00	0,0002
	Post	6,65	0,75	5,00	7,00	

Conclusion

The findings demonstrate that the teaching program was effective in promoting knowledge acquisition, technical skill development, and clinical reasoning. These results underscore the importance of structured, evidence-based educational strategies in nursing education, particularly in the area of infusion therapy.