

## ORIGINAL ARTICLE

# Impact of Reflective Thinking Intervention on Improving Pediatric Nursing Care

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## ABSTRACT

**Background:** Reflection is a recent trend in medical and nursing education whether in teaching or treating.

**Aim:** This study was aimed to evaluate the impact of reflective thinking intervention on improving nursing care given by nurses in pediatric critical care units.

**Materials and Method;** The study was conducted at pediatric critical care units (SICU, NICU and ED) in pediatric hospital affiliated to Ain shams university hospitals. The subjects of the study contained 55 nurses and all available children used at the previously mentioned setting regardless their age, sex, level of education and qualification. Three types of tools were used to collect data, an interviewing questionnaire sheet, nursing core competencies clinical evaluation tool & educational supportive material. **Results:** About (23.6%) had competent level of nursing core competencies through nurses' reflection at preprogram implementation compared to more than three quarters (78.2%) at post program implementation while elevated to 94.5% at follow up implementation of the program.

**Conclusion:** There was highly statistically significant difference between pre, post and follow up for implementation of the program regarding nursing core competencies through nurses' reflection and Nursing core competencies through instructor comments respectively. Encouraging linkage of nurses' performance appraisal to the extent of their use of reflective thinking.

**Keywords:** Reflective, Thinking, Pediatric, Nursing, Care

## INTRODUCTION

Reflective thinking is a type of mental processing that is used to get a better grasp of concepts that are relatively complex or unstructured. Reflective thinking also provides nurses with a useful way to analyze and evaluate their learning processes and helps learners to monitor their development from beginner to experienced.<sup>1,2,3</sup> When nurses are encouraged to reflect on the learning event and exercise their judgement regarding the content and processes of learning, learning by reflection can be augmented and made more meaningful. Nurses learn to monitor their own progress, identify barriers, trends, and methods, challenge their own beliefs, and avoid making the same mistakes as a result of this "awareness raising." In paediatric nursing practise, reflection can lead to increased confidence and assertiveness, as well as a shift in attitude, viewpoint, or priorities.<sup>4,5,6</sup>

Significance of study: Reflection in nursing education is considered an effective approach to learning, the current study provides a closer look at a group of nurses' having experiences in caring for pediatric critical patient and then inquired about possible changes in written text once guidance was provided.<sup>7,8,9</sup> Furthermore, reflections with guidance are very important.<sup>4,5</sup> Because the conditions in which nurses work are typically chaotic and stressful, it can be difficult for managers to find time for nursing staff to reflect. However, we will place a high value on the notion of reflection in this study, and given the abundance of evidence demonstrating its benefits, nurses should engage in more reflection-based activities and sessions to enhance and improve practice.<sup>10,11,12,13</sup>

## MATERIAL AND METHODS

**Objective:** This study aims to evaluate the impact of reflective thinking intervention on improving nursing care

given by nurses in pediatric critical care units

**Research Hypothesis:** The following research hypothesis was developed to conduct this study. Reflective thinking intervention will improve nursing care given by nurses in pediatric critical care units.

**Research design:** A quasi – experimental design (pre and post-test) used to achieve the aim of the study.

**Study Setting:** The study was conducted at Pediatric Critical Care Units namely (Surgical Intensive Care Unit, Neonatal Intensive Care Units and Pediatric Emergency Department) in pediatric hospital affiliated to Ain shams University Hospitals. Pediatric Critical Care Units of the three departments as follows: Surgical intensive care unit (SICU): its bed capacity are six beds including one bed for isolation and one bed for code blue. Neonatal Intensive Care Units (NICU): its incubators capacity are fifteen beds including one for resuscitation and one for isolation and Pediatric Emergency Department (ER): its bed capacity are twenty beds including one for resuscitation and one for isolation. Each unit has its clean, dirty and storerooms for equipment's, instruments, and waste disposal.

**Study subject:** A Convenient sample composed of 55 nurses, and all available children used at the previously mentioned setting regardless their age, sex, level of education and qualification.

**Tools of data collection:** Data was collected by using the following tools: First tool: An interviewing questionnaire (Pre, Post and Follow up): (Appendix II): This tool was developed by the researcher and written in simple Arabic language based on a scientific literature review.<sup>14,15,16</sup> It divided into two parts:

Part I:

**A.** Demographic data for nurses age, gender, place of work / department, marital Status, occupation, level of

education, years of experience & attending training courses).

**B.** Demographic data for children such as (age, gender, diagnosis, health status, length of hospital stay & Cause of hospital admission).

**C.** Nursing Skills for their settings: including the most skills and competencies using in each department. Nurses' knowledge regarding their role in pediatric critical care units: this part developed by the researcher to assess nurses' knowledge regarding their role in pediatric critical care units included 9 closed ended questions regarding the most important related to critical care nursing skills in surgical pediatric intensive care unit, competencies required in surgical pediatric intensive care unit, most important cases admitted to neonatal intensive care unit and the most important critical care nursing skills in neonatal intensive care unit.

➤ **Part II:**

**A.** Nurses' knowledge regarding the concept of pediatric critical care nursing (Pre, Post and Follow up): (Appendix II): this part developed by researcher to assess nurses' knowledge regarding the concept of pediatric critical care nursing included 6 closed ended questions: definition of Pediatric critical care nursing, hospitals' department which provide pediatric critical care nursing, the job description of the pediatric critical care nurse, pediatric critical care must aware of the policies and procedures, competencies needed for pediatric critical nurse, required soft skills for nurses working with pediatric intensive care units.<sup>17,18</sup>

**B.** Nurses' knowledge regarding the concept of reflective thinking (Pre, Post and Follow up): (Appendix II): this part developed by researcher to assess nurses' knowledge regarding the concept of reflective thinking and included 8 closed ended questions:

**Scoring system:** The scoring system for the nurses' knowledge about both concept of pediatric critical care nursing and reflective thinking concept and consisted of giving a score of (Zero) for incorrect answer and (one) for correct answer for each closed end question, the scores of questions were summed-up and the total divided by the number of questions giving a mean score, there scores were converted into percent score. The knowledge score was considered good if the score was (equal and more than 75%), average if it was (from 50 % to 75 %) and poor if it was (equal and less than 50%). **Part III: Core Competencies Clinical Evaluation:** nursing core competencies as a clinical evaluation tool (Pre, Post and Follow up): (Appendix III): This tool was adopted from (Chisholm et al.2016). It was translated into simple Arabic language to assess nurses' performance regarding reflective thinking through nursing core competencies. It consisted of 10 objectives including 24 core competencies (Table 1).

**Scoring system:** This tool was assessed on a "met," "requires improvement," and "unmet" system. By the end of the intervention, the nurse must demonstrate that all competencies and, as a result, intervention objectives have been met. The nurse used the clinical journal and evaluation tool to perform a self-evaluation at the end of each week. The following grading key used to document nurse performance for each clinical competency (met= 3, needs improvement= 2, unmet = 1). The score of the items

were summed-up and the total divided by the number of the items, giving a mean score for part, these scores were converted into percent score. The practice was considered incompetent if the score was less than and equal 60 % (14.4 grades) and competent if the score more than 60 %.

Table 1: Description of nursing core competencies clinical evaluation tool

Objectives	No of core competencies	Examples
1. Patient-Centered Care	2	☑ Conduct unit-based Nursing Rounds that offer nurses the opportunity to critically reflect and collaborate with colleagues in relation to the holistic care they are offering.
2. Professionalism	1	☑ Compare professional Code of Ethics documents.
3. Leadership	3	☑ Conduct a leadership self-assessment with associated learning units on leadership basics, emotional intelligence and leadership approaches.
4. Systems-Based Practice	1	☑ Identify system inefficiencies and operational failures that can lead to medication errors. Describe micro/macro level strategies that address.
5. Informatics and Technology	3	☑ Searching the internet for information to be used in patient education.
6. Communication	2	☑ Utilize unit-based opportunities to reflect, collaborate, and identify areas of communication breakdown and the development of improved strategies to enhance the patient care delivery system with colleagues.
7. Teamwork and Collaboration	3	☑ Conduct unit based team building activities that include team assessments and team exercises to address the results of the assessment.
8. Safety	4	☑ Review specific safety policies/best practices/safety enhancing technologies (i.e.: use of side rails, alarms, client identification, and fall risk data, bar coding, standards of
9. Quality Improvement	3	☑ Seek information about quality initiatives in own care settings and organization.
10. Evidence-Based Practice	2	☑ Conduct a progressive three day modular activity forum on evidence-based practice for nurse leaders on a bi-monthly basis to increase expertise and ability to mentor staff within evidence-based process using the articles from the American Journal of Nursing (2010). Evidence Based Practice: Step by Step: 12 Article Series. Lippincott Williams & Wilkins.

**Part IV: Nurses' Achievements tests:** (Pre, Post and Follow up): (Appendix IV): This part developed by researcher to assess nurses' knowledge regarding the critical thinking and reflective thinking and to linking between theory and practice as used before, after and follow up of using an educational supportive material. These mentioned critical thinking questions developed as a 3 exams for each department (10) questions with a score of 10 as following: for Neonatal intensive care unit (NICU): Most Common Diseases which was (RDS), for Surgical Intensive Care Unit (SICU): Most Common Diseases which was (Congenital anomalies) Cleft lip & cleft palate, Spina bifida, Hirschsprung's Disease, Intussusceptions, Pyloric stenosis

and for Pediatric Emergency Department (PED): Most Common Diseases which was pediatric emergencies.

**Operational Design:** The planning phase, pilot research, and fieldwork were all part of the operational design for this project. Preparatory phase: Using books, papers, the internet, and periodicals, review current and previous local and international related literature and theoretical understanding of many aspects of the subject. This review aided the researcher in understanding the scope of the problem and aided in the preparation and design of data gathering techniques.

**Content Validity:** Validity was determined for tools utilising two forms of validity: face and content validity. A jury of five experts (two professors and one assistant professor) from the Faculty of Nursing, Ain Shams University's Pediatrics Nursing Department, Faculty of Nursing, Ain Shams

University's Nursing Administration Department, Faculty of Nursing, Ain Shams University's Psychiatric Mental Health Nursing Department, Faculty of Nursing, Ain Shams university's Nursing Administration Department, Faculty of Nursing, Ain Shams university's Nursing Administration Department, Faculty of Nursing, Ain Shams university's Nursing Administration Department (one assistant professor). Clarity, relevance, comprehensiveness, simplicity, understanding, and applicability were all evaluated. The instrument has been approved by over 95% of the experts. Designing and external shape were used to make the necessary changes and modifications. The internal consistency of tools was measured using Cronbach's alpha coefficient to ensure their reliability.. Table (2)

Tool	Items	Reliability		Face validity	Internal consistency
		Reliability Coefficient	Cronbach's Alpha		
1. Nurses' knowledge regarding the concept of pediatric critical care nursing.	6	0.69	0.72	94	Good
2. Nurses' knowledge regarding the concept of Reflective Thinking.	8	0.78	0.84	90	Good
3. Nurses' knowledge regarding NICU.	10	0.70	0.79	89	Good
4. Nurses' knowledge regarding SICU.	10	0.69	0.74	89	Good
5. Nurses' knowledge regarding ED.	10	0.77	0.76	92	Good
6. Reflective Thinking by nurses.	24	0.73	0.74	93	Good

**Pilot study:** In order to examine the sequence of items, feasibility, simplicity, comprehensiveness of the tools, clarity of the language, and estimate the time needed to fill it out, a pilot study was conducted on 10% of the total number of the sample. Six staff nurses were randomly selected and participated in the pilot study. The three tools took the nurse interns 20 to 30 minutes to complete. The individuals in the pilot study were drawn from the main study population, and no changes to the three instruments were made.

## RESULTS

The results of the present study were presented as following:

First tool: An interviewing questionnaire (Pre, Post and Follow up): (Appendix II):

Part I:

- Demographic data for nurses age, gender, place of work / department, marital Status, occupation, level of education, years of experience & attending training courses).
- Demographic data for children such as (age, gender, diagnosis, health status, length of hospital stay & Cause of hospital admission).
- Nursing Skills for their settings: including the most skills and competencies using in each department.

Part II:

- Nurses' knowledge regarding the concept of pediatric critical care nursing (Pre, Post and Follow up): (Appendix II):

- Nurses' knowledge regarding the concept of reflective thinking (Pre, Post and Follow up): (Appendix II):

Second tool: Core Competencies Clinical Evaluation

Part III:

- Core Competencies as a clinical evaluation tool (Pre, Post and Follow up): (Appendix III):

Part IV:

- Nurses' Achievements tests: (Pre, Post and Follow up): (Appendix IV):

## CONCLUSION

In the light of the study findings, it was conclude that, few number of the studied nurses had good total knowledge regarding the concept of pediatric critical care nursing and reflective thinking at preprogram implementation compared to most of them at post program implementation and but, minimized to majority of them at follow up implementation of the program. Also, few number of the studied nurses had good total knowledge and performance related to NICU, SICU, ED at preprogram implementation compared to most of them at post program implementation but, minimized to majority of them at follow up implementation of the program. Less than one quarter had competent level of nursing core competencies through nurses' reflection at preprogram implementation compared to more than three quarters of them at post program implementation while elevated to most of them at follow up implementation of the program. There was highly statistically significant difference between pre, post and follow up for program implementation concerning nurses' knowledge of the concept of pediatric critical Care Nursing, nurses' knowledge of reflective thinking, nurses' knowledge and performance related to NICU, SICU and ED respectively. Also, there was highly statistically significant difference between pre & post and pre & follow up regarding nurses' knowledge regarding reflective thinking

**Recommendation:**

**Based upon the results of the current study, the following recommendations are suggested:**

- Encouraging linkage of nurses' performance appraisal to the extent of their use of reflective thinking.
- It is necessary to train reflective thinking in schools and nurseries in order to be educated from an early age because it is an important issue to enhance self awareness and emotional intelligence.
- Extensive, well-designed empirical research on the impact of reflective thinking on organisational change are needed.
- Well-designed empirical research on the impact of reflective thinking on patient outcomes are needed.

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