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Systematic Review Of Sedation Management In The Pediatric Critical Care Unit

Myrlene Madelon, DNP

Problem

Sedation plays a significant role in ensuring comfort in the care of critically ill children. It helps to reduce patient pain and anxiety, decrease agitation and facilitate mechanical ventilation.

Sedation management practices, in general, vary widely among institutions.

The absence of evidence-based nursing guidelines for assessing patients can lead to ineffective management of mechanically ventilated patients in the pediatric critical care unit (Vet et al., 2013).

Purpose

The purpose of this systematic literature review was to evaluate and synthesize evidence-based research that can be used to improve the existing nursing practice of sedation management in the pediatric intensive care unit (PICU).

Significance

This project holds significance to the discipline of nursing as it may contribute to the enhancement of improving nursing practices and patients outcomes.

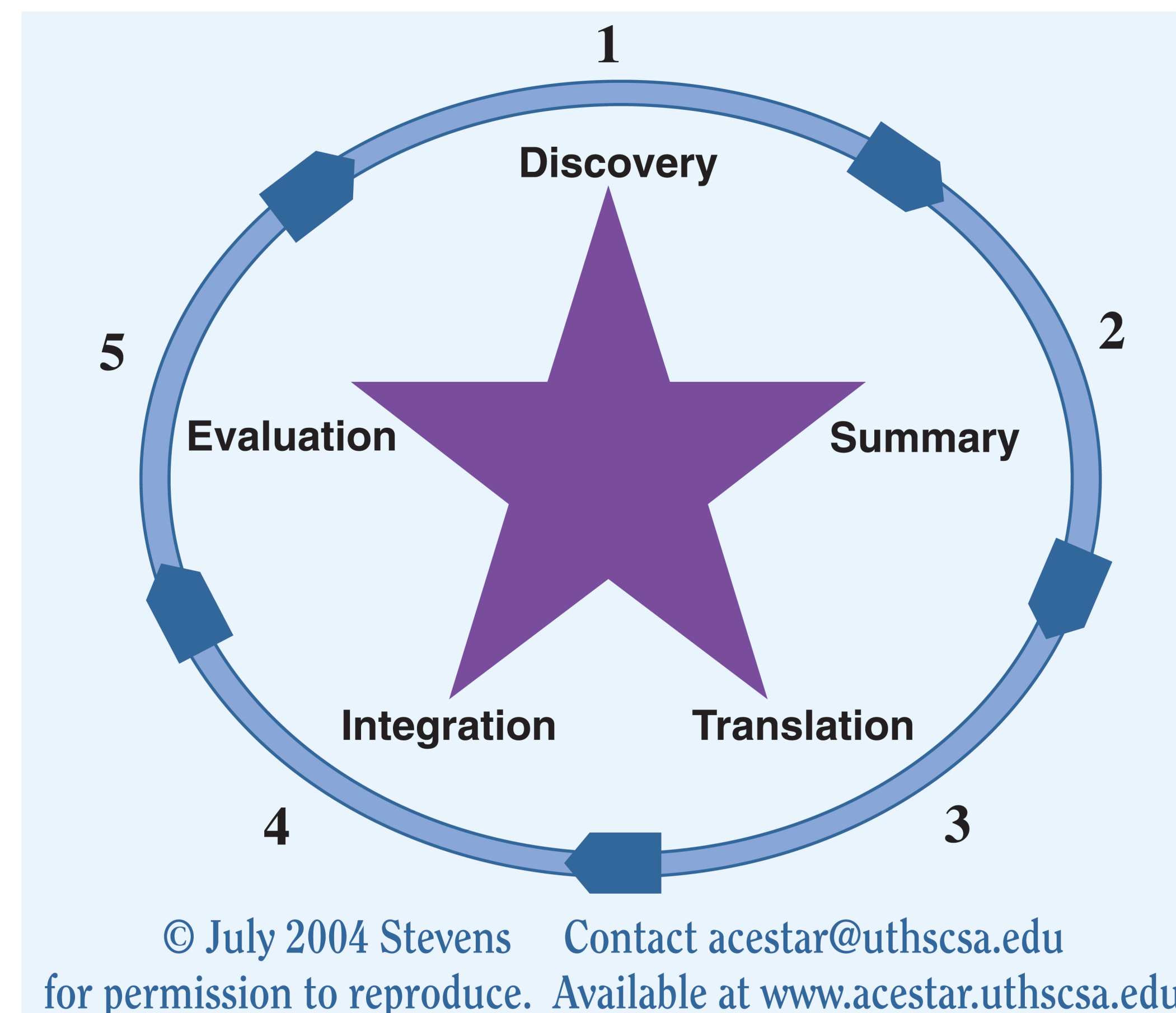
This project holds relevance to hospitals as it may motivate them to establish an evidence-based nursing standard to guide pediatric sedation management.

Social Change Implications

This systematic literature review supports the need for available evidence-based nurse-driven guidelines for nurses to collaborate with the medical team in the management of pediatric sedation. The creation of these guidelines can lead to markedly improve patient outcomes such as decreased patients' length of stay, improved patient comfort and decreased patient side effects associated with sedation.

Theory or Framework

The **ACE star model** (Steven's 2004) and the evidence-based practice model were used as frameworks to guide this systematic review.



Relevant Scholarship

Sedation management is challenging in the pediatric population, yet it is essential in the care of the patient. The challenges PICU faces with sedation management are high dosages escalation, physiologic tolerance and the development of withdrawal when sedation is discontinued. Over sedation and under sedation are major challenges seen in the pediatric critical care population due to lack of available guidelines available. A safety concerns arise when adult guidelines modified to manage pediatric patients. Those factors make this problem more challenging in the pediatric population.

Practice Question

What are the best practices available that can be used to support the nursing management practice of sedated patients in the pediatric intensive care unit?

Procedures

A **systematic review** of both primary and secondary peer-reviewed journals articles and published guidelines were retrieved from database sites such as Cochrane Library, Joanna Briggs Institute and Medicine, Walden Library, American Academy of Pediatrics, American Critical Care Nurses, American Critical Care Medicine and CINHAL.

The data were selected based on the relevance to the practice-focused question.

The instruments used for the data collection and analysis were a Microsoft word matrix table, PRISMA flowchart and a pyramid hierarchy level of evidence table.

Analysis

The analysis used the level of evidence Melnyk hierarchy pyramid. The data were rated based on the strength of the evidence.

Findings

A review of the literature showed that there is a lot of research on sedation management in the adult population. However, there is a little research on sedation management in the pediatric population. The research also suggests that developing evidence-based nurse-driven guidelines will be beneficial in the management of sedation in the pediatric critical care.

Acknowledgements

The success of the project would not have been possible without the support of the following: Dr. Joanne Minnick, Dr. Corrine Wheeler and Dr. Lilo Fink.

Interpretation

The variation in practice is noted to be a problem affecting PICUs nationally when addressing sedations management in the pediatric population.

The data currently available in the literature suggested improvement in patients safety and outcomes when evidence-based guidelines are used in the management of sedated patient in the adult populations.

The review attempted to address this gap by providing a comprehensive analysis of what has been done to address this practice issue.

Limitations

The lack of actual research studies from the pediatric population was a strong limitation to this project.

The lack of research in this population led the inability to validate the benefit of this project in the PICU.

Recommendations

For Practice

The benefits of using evidence-based guidelines offer a variety of structures that support the safety and effectiveness of care delivery. It improves patient care outcomes as well as it provides a tool for collaboration among the nursing staff and medical providers.

Future Research

- More studies are needed involving sedation management in the pediatric population. It will help validate the implication of a nurse-driven guidelines in the management of pediatric sedation.
- Further research is needed for this population since this review produced very little research on sedation management in the pediatric population.