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Review

Clinical decision making on the use of physical restraint in intensive care units

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ABSTRACT

Physical restraint is a common nursing intervention in intensive care units and nurses often use it to ensure patients' safety and to prevent unexpected accidents. However, existing literature indicated that the use of physical restraint is a complex one because of inadequate rationales, the negative physical and emotional effects on patients, but the lack of perceived alternatives. This paper is aimed to interpret the clinical decision-making theories related to the use of physical restraint in intensive care units in order to facilitate our understanding on the use of physical restraint and to evaluate the quality of decisions made by nurses. By reviewing the literature, intuition and heuristics are the main decision-making strategies related to the use of physical restraint in intensive care units because the rapid and reflexive nature of intuition and heuristics allow nurses to have a rapid response to urgent and emergent cases. However, it is problematic if nurses simply count their decision-making on experience rather than incorporate research evidence into clinical practice because of inadequate evidence to support the use of physical restraint. Besides that, such a rapid response may lead nurses to make decisions without adequate assessment and thinking and therefore biases and errors may be generated. Therefore, despite the importance of intuition and heuristics in decision-making in acute settings on the use of physical restraint, it is recommended that nurses should incorporate research evidence with their experience to make decisions and adequate assessment before implementing physical restraint is also necessary.

1. Introduction

Physical restraint is defined as "any manual method or physical or mechanical device, material or equipment attached or adjacent to the residents body that the individual cannot remove easily which restricts freedom of movement or normal access to one's body" [1]. The use of physical restraint is prevalent in many countries, especially in residential health

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settings, acute units and psychiatric units [2,3]. In intensive care units (ICUs), the main reasons of using physical restraint mainly include prevention of falls and patient-initiated disturbance of respiratory support [2]. Currently nurses are the main decision makers on the use of physical restraint in ICUs. According to the research findings, nurses in ICUs usually use physical restraint because they cannot predict the patient's condition or they think there is a potential risk for the patient removing the endotracheal tube. Of greater note is that physical restraint is sometimes applied as an alternative when the manpower is inadequate [4,5]. However, insufficient evidence to support the use of physical restraint [2], the negative influence on patients but the lack of alternatives [6] make the process of decision-making, in this respect, complex.

Existing literature places considerable emphasis on the evaluation of the use of physical restraint from the outcome of this decision. However, the decision-making process, specifically the cognitive strategies that nurses use to make clinical decisions, should be highlighted as well because understanding the process of decision-making from a theoretical prospective has a number of advantages, including optimizing nursing care [7], enhancing nurses' clinical effectiveness, and improving their self-reflection [8,9]. In the meantime, getting a clear insight into the decision-making process is beneficial to working within a multidisciplinary team in that nurses are able to interpret other colleagues' concerns and enhance their professional position [9]. Therefore, it is necessary to examine theories of clinical decision making related to the use of physical restraint in ICUs.

2. Aims

This paper aims to illustrate clinical decision-making theories related to the use of physical restraint in ICUs and to evaluate the quality of decisions made by nurses. By this means the decision-making process of the use of physical restraint in acute settings can be clarified and the potential decision errors and biases can be realised by clinical nurses.

3. Methods

Electronic databases MEDLINE and CINAHL were searched for published literature. The following key words were used: "decision making", "restraint*", "nurs*", "acute" or "intensive" or "emergen*". The period of the literature review was from 1990 to the present. From the search 1208 articles were found. Those aimed to identify decision-making strategies related to the use of physical restraint in ICUs were included. After screening the title and abstract, 39 articles were thought as relevant with decision-making strategies in terms of the use of restraint. Through a process of reading the full text, 15 articles were eventually included in the literature review. The reference lists of the included paper were also searched for additional articles of relevance and three seminal books and articles were found. Thematic synthesis was used to analyse the results to identify and present similar patterns.

4. Results

4.1. *Descriptions of reviewed studies*

After reviewing included literature, decision-making models in clinical practice particularly in ICUs were identified. In most cases, clinical decisions are made by both doctors and nurses. Nurses in clinical settings make specific types of decisions, which can be classified into six types, including intervention/effectiveness, targeting, timing, communication, service organisation and management, and experimental and hermeneutic [10]. The largest proportion is decisions related to interventions and effectiveness. Even so, nurses are always faced with a huge number of decisions in clinical settings [11], which means that nurses, especially in units with high workload, may have little time to deliberate on each decision.

4.2. *Theories of decision-making related to the use of physical restraint in ICUs*

Bucknall [11] conducted a study to observe nurses' decision-making process in critical care units and found that nurses in ICUs made a decision approximately every thirty seconds. The high frequency of decisions requires nurses to have a rapid response to any changes. Patients in ICUs are always seriously ill, unstable and unpredicted and thereby nurses have to make decisions based on sudden and ill structured tasks, unexpected outcomes and complicated goals [12]. Consequently, nurses in ICUs would not have adequate time to choose analytical reasoning to make decisions step by step but to choose a faster means of making decisions.

4.2.1. *Intuition*

Intuition is defined as "understanding without a rationale" [13]. Dreyfus & Dreyfus [14] identified six key elements of intuitive judgement: pattern cognition, similarity recognition, common-sense understanding, skilled know-how, sense of salience, and deliberative rationality. In practice, nurses are always faced with sudden cases that need to be dealt with rapidly. In such situations, the expert nurse uses an intuitive approach to both their judgements and decisions [15] and without an *overt* reasoning process [16]. Rew [17] pointed out that intuitive awareness is generated suddenly and associated with previous knowledge and experience in order to react to complex and uncertain situations. Intuition, according to the literature review of Rew & Barrow [18], is widely believed to have two types: cognitive inference and gestalt intuition. The former type refers to the decision that initiates with very rapid collection of cues and the contribution of such a short process to the final outcome is seemingly subconsciously achieved. Riley [7] argued that the decision is not made by pure intuition. Instead, the final step may be intuitive, but preceded by a series of selected cues and generation of hypothesis. The latter type describes the intuitive judgement that takes a holistic and perceptual awareness on the situation. In this case, the situation is considered as a whole and to be more than the sum of each part. No matter which type of intuition, the knowledge is formed through the combination of deeply established systematic study and clinical practice [16].