Contribution of a reflective debriefing to nursing students' clinical judgment in patient deterioration simulations: A mixed-methods study☆

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A B S T R A C T

Background: While reflection is a hallmark of debriefing, there is little understanding of how it contributes to nursing students' clinical judgment.
Objectives: The aim of this study was to describe how nursing students perceived that the Reflective dEbriefing after a PatieNt Deterioration simulation (REsPoND) fostered learning and how it contributed to their clinical judgment in patient deterioration simulations.
Design: A sequential explanatory mixed-methods study.
Participants: Nineteen students who showed the greatest clinical judgment score variation in a randomized controlled trial of the effectiveness of REsPoND.
Methods: Students participated in interviews on their learning experience in REsPoND. Data were subjected to thematic analysis and themes were contrasted according to students' score variations.
Results: Through guided exchanges with their peers, students configured a causes–observations–interventions framework that embodied their understanding of the patient's situation. They evaluated their own simulation performance based on that framework. The contribution of REsPoND to students' clinical judgment differed depending on (1) the value placed on the review of the simulation through a systematic assessment approach; (2) their focus on anticipating the situation or on performing in the simulation; and (3) their preference for who participated more in debriefing.
Conclusion: Clinical judgment might be improved when a systematic assessment approach is used to structure debriefing. The relationship between reflection and self-assessment during debriefing remains to be disentangled.

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1. Introduction

Simulation with debriefing is meant to improve nursing students' clinical judgment when a patient is deteriorating (Fisher and King, 2013; Liaw et al., 2011a). While debriefing may be the most important aspect of simulation-based teaching (Raemer et al., 2011), there is little knowledge of the mechanisms by which it contributes to students' learning and especially to their clinical judgment of patient

deterioration. Debriefing is a retrospective analysis of an event (Cant and Cooper, 2011) and a guided reflection for experiential learning (Fanning and Gaba, 2007). Recent literature reviews (Cheng et al., 2014; Raemer et al., 2011) have indicated that, overall, there are relatively poor descriptions of debriefing characteristics and a scarcity of research on approaches to debriefing. Reflection is framed as a hallmark of debriefing, which sets it apart from the more one-sided evaluative feedback on students' performance; despite this, the two processes are often confused (Cheng et al., 2014). The effectiveness of more reflective debriefings remains relatively unexplored, despite the fact that previous studies have reported the positive outcomes from reflective debriefings (Dreifuerst, 2012; Forneris et al., 2015).

2. Background

This paper reports on an evaluative study of a new debriefing approach, the "Reflective dEbriefing after a PatieNt Deterioration simulation" (REsPoND) (Lavoie et al., 2015). This debriefing approach is

based on the premise that reflection on a simulated patient deterioration experience can improve nursing students' clinical judgment.

2.1. Theories of Debriefing

Educational debriefing is grounded in experiential learning theories (Lederman, 1992). As such, it is intrinsically associated with the concept of reflection (Fanning and Gaba, 2007), and differs from feedback or assessment in that it requires a two-way communication process between educators and students to help students understand the situation and develop strategies to improve in the future (Cant and Cooper, 2011). Models of debriefing include attention to learners' emotional reactions, description and analysis of the experience to make sense of it, and generalization to apply learning to real-life situations (Fanning and Gaba, 2007).

2.2. Model of Clinical Judgment

In Tanner's (2006) research-based model, clinical judgment is an interpretation or a conclusion about a patient's situation. To make such judgments, nurses must notice when their observations do not fit their expectations of a patient's situation. Such expectations are drawn from their theoretical knowledge, practical knowledge of patients with similar conditions, and their knowledge of the particular patient. Noticing triggers reasoning patterns to interpret the meaning of the data and come to an understanding of the situation in order to decide on a response. Through reflection, nurses could develop their capabilities for clinical judgment in the future.

2.3. Theory of Reflection

According to Dewey (1910/2007), reflection is a fivefold process: (1) occurrence of a problematic situation, (2) deliberate observation to define the problem, (3) inference of an explicative hypothesis, (4) elaboration of its implications, and (5) experimentation and subsequent formation of knowledge. Reflection enables individuals to understand the *meaning* of a problematic situation, which is the relationship between causes, actions, and consequences. Two outcomes follow reflection: improvement of observation skills and the development of predispositions to act in a certain manner regarding similar situations.

2.4. REsPoND's Theory

REsPoND's theory (Lavoie et al., 2015) posits that reflection on a simulated patient deterioration experience can improve nursing students' clinical judgment. Hence, the outcomes of reflection as described by Dewey (1910/2007) are interwoven with the elements of clinical judgment: improvement of observation skills relates to better noticing, understanding the meaning of a situation refers to sound interpretation of a patient's situation, and developing predispositions to act is akin to learning how to respond to the situation.

As such, the questions in REsPoND enact the five steps of reflection. REsPoND begins by asking students how they felt during the simulation, a problematic situation (1) supposed to trigger reflection, before progressing on to more reflective questions. Deliberate observation (2) occurs through a recap of students' observations through the primary and secondary assessment survey[2] (ABCD-EFGHI; Emergency Nurses Association, 2007). Inference (3) and elaboration (4) occur when asking learners about what could have caused the deterioration and how their hypothesis explains their observations. Finally, experimentation (5) involves reviewing interventions in light of their expected effects on the

causes of the deterioration. In the end, learners describe what they learned and how they can reinvest this in their future performance. Throughout REsPoND's process and in accordance with Tanner's (2006) model, attention is given to learners' knowledge and expectations of the situation. Learners are prompted to recall and interpret the changes they noticed in the patient's situation and review their responses.

3. Methods

This mixed-methods study employed a sequential explanatory design (Creswell and Plano Clark, 2011), which aligns with the Medical Research Council's guidance (2008) that evaluating a complex intervention should focus on both its effectiveness and its active ingredients and how they exert their effect. After performing a trial to test the effectiveness of REsPoND on a clinical judgment score (Lavoie et al., 2016), we examined REsPoND's active ingredients. We adopted two research questions: (1) How do nursing students perceive that the reflection in REsPoND fostered learning and (2) How did REsPoND contribute to their clinical judgment in patient deterioration simulations? The institutional review board of our university approved this study.

3.1. Sample

The sampling strategy was based on the results of the trial, where nursing students from an undergraduate critical care course experienced three scenarios of patient deterioration with a high-fidelity manikin in a lab setting (see Fig. 1). The scenarios concerned hypovolemic shock (HEMO), sepsis (SEPSIS), and trauma (TRAUMA). The second scenario, sepsis, was repeated twice (SEPSIS-I and SEPSIS-II). Participants in the trial ($n = 119$) experienced either REsPoND ($n = 63$) or Plus-Delta ($n = 56$; Fanning and Gaba, 2007) after engaging in HEMO and SEPSIS-I. An individual score of clinical judgment was obtained in all simulations. Information about the trial was provided to all students in the critical care course at the first class session. Participants were enrolled upon providing informed consent. Participation in the trial was voluntary and was not rewarded with extra credits/marks in the course. Also student data were anonymized.

Only participants in the trial who had been assigned to REsPoND ($n = 63$) were eligible for the present phase of the study. We used a purposive sampling strategy based on the progression in their clinical judgment scores. The clinical judgment score comprised a measure of situation awareness (Lavoie et al., 2016) that operationalized two concepts of Tanner's (2006) model: noticing (situation awareness perception, 15 points maximum) and interpretation (situation awareness comprehension, 9 points maximum).
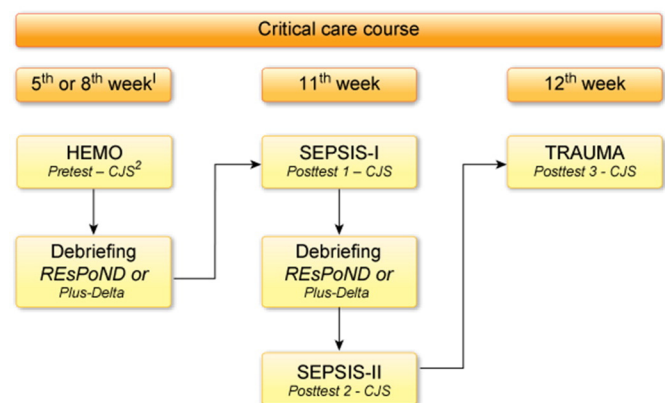
Fig. 1. Design of the trial. Note. [1]The trial was conducted on two campuses of the university offering the same critical care course with identical content. The timing of the first simulation was planned at different times in each location. [2]Clinical judgment score.

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[2] Assessment of Airway, Breathing, Circulation, and Disability (ABCD). Exposure and environmental control; Full vital signs, Five interventions (cardiac monitor, pulse oximeter, urinary catheter, gastric tube, laboratory studies), and Facilitate family presence; Give comfort measures; Head-to-toe assessment; and Inspect posterior surfaces (EFGHI).