Contribution of a debriefing after simulation to nursing students’ clinical judgment regarding patient deterioration: a protocol

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### Background

- Most in-hospital ICU admissions, cardiac arrests or deaths are preceded by signs and symptoms of deterioration.
- Nurses do not always monitor, document or act upon these signs and symptoms.
- Failure to recognize those cues, to initiate proper interventions or to ask for assistance is suboptimal care.
- Suboptimal care may lead to patients experiencing avoidable adverse events when hospitalised.
- A call to prepare or assign nurses to recognize and intervene in patient deterioration situations in order to prevent suboptimal care.
- Track and trigger systems,
- Outreach, rapid response or medical emergency teams,
- Educational interventions to contribute to the soundness of their clinical judgment.

Two challenges:
1. To develop such educational interventions
2. To evaluate their contributions to nurses’ clinical judgment regarding patient deterioration

Our previous work regarding these challenges:
- Development of an educational intervention: RESPoND
- Reflective debriefing after a Patient deterioration simulation
- Developed from a literature review and the theoretical integration of a clinical judgment model and an experiential learning theory.
- A preliminary version was successfully piloted for feasibility.
- Development of a clinical judgment instrument
- Operationalization of the clinical judgment model through a situation awareness theory.
- Noticing perception of the elements in the environment
- Clinical judgment comprehension of the elements’ meaning
- The new instrument is inspired by a situation awareness instrument.

### Purpose

To evaluate the contribution of RESPoND to nursing student’s clinical judgment regarding patient deterioration simulated experiences.

### Protocol: a sequential explanatory mixed methods design

#### 1. Clinical judgment instrument validation

- Literature review on possible items to retain from a 12-items situation awareness instrument used in similar studies.
- Measure for nursing students’ patient deterioration simulations.
- Selection and translation of 3/8 perception items, 1/2 comprehension item and 2/4 projection items (3 levels of situation awareness).
- Elaboration of new items:
  - Perception: based on a literature review of clinical signs and symptoms of patient deterioration.
  - Comprehension: selection of nursing diagnosis corresponding to elements of the primary survey (ABCDE).
  - Projection: addition of items pertaining to the simulation scenarios and formulation of items based on a literature review.
- Content validity index
  - 8-12 critical care experts (nurses, physicians, educators)
  - Rating of the items’ relevance, comprehensibility, exclusivity to measure clinical judgment.

#### 2. Experimentation

What is the debriefing’s effect on nursing students’ perception and comprehension of signs and symptoms of deterioration?
- Nursing students in an undergraduate critical care course (n=185)
- Randomization by simulation (SIM) groups
- Independent variable: debriefing interventions
  - Experimental group: RESPoND
  - Control group: debriefing with the plus-delta technique (+/Δ)
- Dependant variables (DV): clinical judgment assessed by situation awareness instrument.
  - Simulation is “frozen” during completion
  - Clinical data is unavailable during the freeze

#### 3. Qualitative follow-up

How do the elements of the reflective process in RESPoND foster (or not) those learning outcomes?

- Individual interviews
  - Interview guide developed from research questions and study’s framework
- Purposive sampling of individuals based on quantitative results
  - Based on profiles of efficiency of RESPoND
    - Constant improvement, constant decrease, stagnation of scores
  - Approximately 5 participants by profile
- Thematic analysis
  - Construction of a theme tree for each profile of efficiency

#### 4. Integration

How does RESPoND contribute to nursing students’ clinical judgment in patient deterioration simulation?

- Qualitative discussion of quantitative results for each profile
- Exploration of variations in the theme trees of each profile
  - To appraise similarities and differences between each profile’s participants perceptions of RESPoND’s contribution to their learning
- Towards a typology of RESPoND’s efficiency profiles
  - To be linked with the study’s framework
  - Critical judgment model
  - Experiential learning theory