

Developing a measure of facilitators and barriers to rapid response team activation



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Disclosures

- No conflict of interest exists for any of the authors (Schafer Astroth, Mann Woith, Henry Jenkins, Hesson-McInnis, all employed at Illinois State University)
- Travel for the first 3 authors is partially supported by Xi Pi chapter of STTI, and Mennonite College of Nursing at Illinois State University
- **Learner objectives**
 - Explain how the Lens Model of Cognition directs the development of an instrument to measure factors that influence nurse activation of rapid response teams.
 - Describe the process of testing an instrument to measure facilitators and barriers related to nurse activation of rapid response teams.



Background

- Rapid response team (RRT) comprised of critical care experts
- Respond to the bedside of deteriorating patients
- Prevent cardiac arrest (Brown et al., 2012)
- Underutilization associated with:
 - Poor patient outcomes (Beckett et al., 2013)
 - Increased healthcare costs (Beckett et al., 2013)
- Facilitators and barriers to nurse activation of RRT are under investigation (Braaten, 2015; Astroth et al., 2013)



Purpose

To develop and test an instrument that identifies specific facilitators and barriers to RRT activation



Theoretical Framework

Lens Model of Cognition (Hammond et al., 1964)

- People make decisions based on
 - Cues and the significance attached to those cues
 - Input from colleagues
 - Available resources
- For our research purposes
 - Cues and input from colleagues correspond to nursing unit culture and RRT member characteristics
 - Available resources correspond to member characteristics and RRT knowledge.



Previous Research

- Qualitative study (Astroth et al., 2013)
 - Facilitators and barriers related to
 - Nursing unit culture,
 - RRT member characteristics, and
 - Continuing RRT education
- Pilot study (Jenkins et al., in press)
 - Initial instrument based on
 - Review of the literature
 - Findings of our qualitative study (Astroth et al., 2013)



Method: Initial Instrument

- 32-item 5 point Likert Scale
 - Subscale facilitators: unit culture, team characteristics, RRT knowledge
 - Subscale barriers: unit culture, team characteristics, RRT knowledge
 - Face and content validity established
- Setting & Sample
 - Electronic survey of 50 RNs in non-ICU settings at a community hospital
- Findings
 - Over all Cronbach's alpha coefficient = 0.84
 - Subscales ranged from 0.67- 0.90
 - Except for barriers: education = 0.07
- Further revision based on scale reliability testing
 - One item deleted
 - Two items reworded
 - Five items added



Method: Revised Instrument

- 36-item 5 point Likert Scale
 - Subscale facilitators: unit culture, team characteristics, RRT knowledge
 - Subscale barriers: unit culture, team characteristics, RRT knowledge
- Setting & Sample
 - Electronic survey of 194 RNs from 4 hospitals
 - Female: 75%
 - Mean age: 39 (SD 12) years
 - Mean experience: 14 (SD 12) years
 - Education: 48% BSN
 - Most recent RRT education: 0-4 years



Method: Revised Instrument

Findings

- Overall Cronbach's alpha coefficient = 0.73
 - Facilitators
 - Subscale: unit culture = 0.83
 - Subscale: RRT team characteristics = 0.83
 - Subscale: RRT education = 0.81
 - Barriers
 - Subscale: unit culture = 0.81
 - Subscale: RRT team characteristics = 0.92
 - Subscale: RRT = 0.13
- Confirmatory Factor Analysis: LISREL 8.80
- Chi-square (579, N=194) = 812.80



Limitations

- Small convenience sample
- Recruitment by email did not capture those who don't read email
- No respondents from one hospital site



Conclusions

- Instrument shows promise for identifying facilitators and barriers to RRT
- Facilitators and barriers may vary across institutions
- Internal consistency of all subscales except education barriers reflects good reliability
- Future work
 - Identify micro-structures within each factor
 - Break factors apart using hierarchical cluster analysis and further item analysis techniques



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