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

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Disclosures

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• 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
References


• Braaten, S. (2015). Hospital system barriers to RRT activation: A cognitive work analysis. *AJN, 115*(2), 22-32


