Restraint Reduction Interventions: A Quality Improvement Initiative Considering Nurse Stress

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Objectives

• Discussion of Background and Purpose
• Review of Materials & Methods
• Review of Results
• Discussion & Conclusions
INTRODUCTION

Psych Nurse in the ICU

Image credit: Conn Health I-Team 5/31/14
Restraint Use is Problematic

American Nurses Association advocates for restraint free care with evidence-based guidelines to prevent multiple patient injuries from psychological trauma to death (ANA, 2011)

Restraining or secluding patients is viewed as contrary to the fundamental goals & ethical traditions in nursing

It was frequently thought that without effective restraints, patients were in danger of injuring themselves or others

Restraints have been used based on beliefs, not evidence, that patient safety is promoted
Rates of restraint
- nurse sensitive measurements
- amenable to performance improvement

(Clempell, 2013)

Cultures in critical care areas have been
- reluctant to embrace paradigm shift
- maintain restraint use as a safe practice

(Cosper et al., 2014; King & Elliot, 2012; Lach et al., 2016; Stintson, 2016)
Culture & Nurse Stress

- Violence, patient agitation & aggression
  - related to resisting care
  - trying to get OOB, leave hospital
  - precipitates “safe” restraint use
  (Gillies, 2015; McNett et al., 2012; Yont et al., 2014)

- Nurses obliged to
  - engage in self-care
  - manage stress
  - maintain therapeutic relationships
  (APNA, 2014)
Nurses apply restraints emergently after exhausting less restrictive measures.

Dynamics involved in the nurse/patient relationship are therefore crucial.

Providing RNs with stress management strategies—peer support and mindfulness—enhances communication skills for effective interventions in high emotive interactions (Clerico et al., 2015; Orly et al., 2012; Rose et al., 2013; Seys et al., 2013; Yang et al., 2014).
A review of evidence revealed a gap: Educational strategies related to restraint reduction did not include mitigation of nurse stress.
Can significant Restraint Reduction occur through educational interventions that include techniques for decreasing nurse stress?
Project Goals

1) Restraint volume reduction

2) Increased nurse knowledge:
   a) negative restraint sequelae
   b) restraint alternatives
   c) stress-effects & mitigation

3) Reduction of nurse stress
METHODS

- Collection of non-patient specific restraint volumes
  - Academic, urban 700 bed Medical Center
  - MICU setting
  - January to May 2016

- Email Survey Monkey requests
  - 120 RNs, anonymous identifier
  - Two weeks prior & following a series of three educational presentations
  - Completion implied voluntary participation & informed consent

- Survey
  - Perceived Stress Scale (PSS-10) (Lee, 2012)
  - Demographic information
  - Knowledge items
Perceived Stress Scale Items

<table>
<thead>
<tr>
<th>Item</th>
<th>Response Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In the last month, how often have you been upset because of something that happened unexpectedly?</td>
<td>___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often</td>
</tr>
<tr>
<td>2. How often have you felt that you were unable to control the important things in your life?</td>
<td></td>
</tr>
<tr>
<td>3. How often have you felt nervous and &quot;stressed&quot;?</td>
<td></td>
</tr>
<tr>
<td>4. How often have you felt confident about your ability to handle your personal problems?</td>
<td></td>
</tr>
<tr>
<td>5. How often have you felt that things were going your way?</td>
<td></td>
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<tr>
<td>6. How often have you found that you could not cope with all the things that you had to do?</td>
<td></td>
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<tr>
<td>7. How often have you been able to control irritations in your life?</td>
<td></td>
</tr>
<tr>
<td>8. How often have you felt that you were on top of things?</td>
<td></td>
</tr>
<tr>
<td>9. How often have you been angered because of things that were outside of your control?</td>
<td></td>
</tr>
<tr>
<td>10. How often have you felt difficulties were piling up so high that you could not overcome them?</td>
<td></td>
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Perceived Stress Scale

PSS-10

Scoring

- Item value ranges zero to 4
- Summed according to + or – wording
- Scores range zero to 40
- Scores of 13- average
- Scores of 20- high stress range
- High scores- advised to review stress management strategies
1) Negative Consequences of Restraint Use/Influences of Staff Stress

2) Restraint Alternatives/Mitigation of Staff Stress

3) De-escalation Communication/Plan for Personal Stress Management
Analysis

• **Convenience sample**
  - 14 RNs matched in pre & post PSS-10 enrolled

• **Small sample size**
  - non-normal distribution
  - required categorical data treatment

• **Descriptive statistics**
  - means, standard deviations, frequencies, percentages
RESULTS

Sample Characteristics

- Female nurses (92.9%)
- Baccalaureate preparation (78.6%)
- 50% were between 26 to 35 years of age
- 50% had two years or less of RN experience
- Baseline PSS-10 average score 15.71 ± 5.76
- Correct knowledge questions 2.23 ± 0.60
Pre and Post PSS-10 Results

Wilcoxon signed rank test
- no overall statistically significant finding

however:
Nurse stress and feelings of nervousness were significantly reduced
<table>
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<th>PSS-10 items</th>
<th>Median</th>
<th>Z</th>
<th>p</th>
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</thead>
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<td><strong>In the last month</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. How often have you been upset because of something that happened unexpectedly?</td>
<td>2.00</td>
<td>2.00</td>
<td>-1.25</td>
</tr>
<tr>
<td>2. How often have you felt that you were unable to control the important things in your life?</td>
<td>2.00</td>
<td>1.50</td>
<td>-0.28</td>
</tr>
<tr>
<td><strong>3. How often have you felt nervous and &quot;stressed&quot;?</strong></td>
<td>3.00</td>
<td>2.00</td>
<td>-2.11</td>
</tr>
<tr>
<td>4. How often have you felt confident about your ability to handle personal problems?</td>
<td>3.00</td>
<td>3.00</td>
<td>.00</td>
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<td>3.00</td>
<td>3.00</td>
<td>.00</td>
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<td>6. How often have you found that you could not cope with all the things that you had to do?</td>
<td>1.50</td>
<td>2.00</td>
<td>-0.33</td>
</tr>
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<td>7. How often have you been able to control irritations in your life?</td>
<td>3.00</td>
<td>3.00</td>
<td>-0.38</td>
</tr>
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<td>8. How often have you felt that you were on top of things?</td>
<td>3.00</td>
<td>3.00</td>
<td>.00</td>
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<td>9. How often have you been angered because of things that were outside of your control?</td>
<td>2.00</td>
<td>1.00</td>
<td>-1.51</td>
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<td>10. How often have you felt difficulties were piling up so high that you could not overcome them?</td>
<td>1.00</td>
<td>1.00</td>
<td>-0.51</td>
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Differences in individual item PSS-10 scores before and after the intervention (n=14)
• 83.7% decrease in restraint volumes occurred in 20 weeks

• Decreased nurse stress was favorably associated with decreased use of restraints
MICU restraint volumes: baseline, during, and post intervention with significant PSS-10 values
DISCUSSION

OVERALL FINDING

Decreased nurse stress *positively* associated with decreased restraint use
Suggestions Implied by Project

- **Replication**
  * Multiple units & hospital systems
  * Longer duration establish sustainability

- **Results support other findings:**
  * Nurse emotions have role in de-escalating, demanding situations

  * Increased ability for nurse empathy results in reduced restraints

  *(Farquharson et al., 2013; Stintson, 2016; Yang et al., 2014)*
Clinical Relevance

- Contributes to body of evidence regarding patient restraints as nurse driven effort

- Nurse stress has a role in clinical decision making patient restraint use

- Inclusion of mitigation of nurse stress in educational efforts for Restraint Reduction may enhance desired outcomes
Future Implications

- Research on *recognition of stress as an essential part of improving patient outcomes* is in its infancy.

- Future studies needed to explore evidence-based strategies for practice *(Pont & Koppel, 2015)*.

- Encouraging nurses to mitigate stress may enhance personal health & contribute to more positive patient outcomes.

- *Unwavering goal* - continued efforts to minimize and eliminate patient restraints.
Questions?

Thank you for your time and attention!
References


References


