

Creating Healthy Work Environments 2019

Relationship Between Nursing Leadership and Quality of Care in ICUs: Mediating Through Patient Safety Culture

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Introduction: Providing safe and high-quality patient care is a fundamental principle of health care. According to a national study (Liu, You, Zheng, Ross & Liu, 2016), 23% of nurses perceived poor patient care quality, and 16-24% reported frequent adverse events in intensive care units (ICUs) in China. The quality of patient care still needs to be improved in ICUs. Recent studies indicated that nurse managers' strong leadership was positively associated with quality of care (Wong & Giallonardo, 2013; Laschinger & Fider, 2015; Boamah et al., 2017). Patient safety culture is also associated with higher quality of care and better patient outcomes, and is regarded as a mediator in the relationship between leadership and patient outcomes (McFadden, Stock & Gowen, 2015; Dirik & Seren Intepeler, 2017). As those relationships have not been tested in ICUs, the generalizability of enhancing leadership to improve quality of care in ICUs might be limited.

Objectives: To investigate the relationship between nurse managers' supportive leadership and quality of care in ICUs, and to explore the mediating role of patient safety culture in these relationships.

Hypotheses: nurse managers' supportive leadership will be positively associated with patient safety culture and quality of care; and patient safety culture will be positively associated with quality of care; and patient safety culture will mediate the relationship between nurse managers' supportive leadership and quality of care.

Methods: This study was conducted in Dec 2013 to Aug 2014, adopting cross-sectional design. Twenty-two adult ICUs in 23 hospitals across Guangdong province in China were selected by quota sampling. All bedside nurses in the selected ICUs were invited to participate, except for nurse managers. A total of 527 nurse surveys were distributed, and 498 were returned, among which 459 were valid responses (valid response rate: 87.1%). The nurse manager's ability, leadership and support subscale of Practice Environment Scale of Nursing Work Index was used to assess nurse-perceived managers' leadership behaviors. Quality of care was measured with three items about nurse-rated overall quality of care on their units (i.e., the quality of care, patient safety and confidence on nurse manager solving patient care problems). Nurses-reported frequencies of hospital-associated infections (HAIs) were measured by asking nurses to recall the frequencies of four types of HAIs (i.e., surgical site infection, urine tract infection, central line-associated bloodstream infection, and ventilator-associated pneumonia) in the last 12 months. Patient safety culture was measured with seven items derived from the Hospital Survey on Patient Safety Culture, assessing whether work units regulations, managers and communications were beneficial to improve patient safety. Structural equation modeling with robust maximum likelihood estimator was used to estimate the direct and indirect relationship among nurse managers' supportive leadership, patient safety culture and quality of care. The Mplus version 7.2 was used for model testing.

Results: The hypothesized model fit data well (RMSEA = .037, CFI= .979, TLI= .972). Nurse managers' supportive leadership had direct positive effects on patient safety culture ($\beta = .472, p < 0.01$) and nurse-rated overall quality of care ($\beta = .330, p < 0.01$); however, the direct effects of leadership on HAIs was not significant ($\beta = .010, p = 0.87$). Patient safety culture had direct positive impacts on nurse-rated overall quality of care ($\beta = .326, p < 0.01$) and negative impacts on HAIs ($\beta = -.28, p < 0.01$). Through the mediation

of patient safety culture, supportive leadership was associated with higher quality of care ($\beta = .154, p < 0.01$) and less HAIs ($\beta = -.132, p < 0.01$) indirectly.

Conclusion: Supportive leadership plays an important role in creating patient safety culture that foster high-quality care in ICUs. ICU nurse managers are encouraged to develop supportive leadership skills and to dedicate to build work culture that initiate patient safety.

Title:

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References:

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Abstract Summary:

This was a cross-sectional study, collecting 459 nurse surveys from 22 ICUs in China. Results suggest that nurse managers supportive leadership is beneficial for building patient safety culture that foster high-quality care in intensive care settings.

Content Outline:

I. Introduction

A. Quality of care in intensive care units (ICUs) needs to be improved.

a) Providing high-quality care is crucial to save critically ill patients.

b) A national study in China showed that 23% of nurses perceived poor patient care quality, and 16-24% reported frequent adverse events in intensive care units (ICUs) in China.

B. Nursing leadership is associated with quality of care.

a) Authentic leadership is associated with better patient outcomes.

b) Transformational leadership is associated with patient safety, while laissez-faire style leadership has negative impacts on quality of care.

C. Patient safety culture is associated with high-quality care.

D. Patient safety culture may mediate the relationship between leadership and quality of care, which needs to be explored.

II. Methods

A. Design, settings and sample

a) Design: cross-sectional survey.

b) Settings: 22 ICUs in 12 level 3 hospitals (over 500 beds) and 10 level 2 hospitals (300-500 beds) across Guangdong Province in South China.

c) Sample: 459 bedside nurses in ICUs.

B. Measures for variables

a) Leadership: the leadership subscale from Practice Environment Scale- Nursing Work Index.

b) Patient safety culture: seven items from Hospital Survey on Patient Safety Culture.

c) Quality of care: nurse-reported overall quality of care and hospital-associated infections.

C. Data analysis

a) Descriptive statistics were used to depict nursing leadership, patient safety culture and quality of care in ICUs.

b) Correlation matrix was used to analyze the correlation between nursing leadership, patient safety culture and quality of care.

c) Structural equation modeling was used to analyze the direct effects of nursing leadership on patient safety culture and quality of care; direct effects of patient safety culture on quality of care; and the indirect effects of nursing leadership on quality of care through the mediating effects of patient safety culture.

III. Results

A. Descriptions of participants

B. Descriptions of nurse-perceived nurse managers' leadership, patient safety culture and quality of care

C. Relationship among nurse managers' leadership, patient safety culture and quality of care

IV. Conclusion

A. Supportive leadership plays an important role in creating patient safety culture that foster high-quality care in ICUs.

B. ICU nurse managers are encouraged to develop supportive leadership skills and to dedicate to build work culture that initiate patient safety.

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