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Brief Report

Relationship among safety culture, nursing care, and Standard Precautions adherence

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Standard Precautions (SP) are an essential, although unmet, component of nursing care. Understanding conditions fostering the integration of SP within nursing workflow is imperative. This research describes the relationships among patient safety culture, adherence to SP, and missed nursing care.
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Missed nursing care is a phenomenon that describes when nurses are unable to provide aspects of necessary patient care.[1] Missed care includes indirect activities, such as assessment and planning, as well as direct care activities, such as toileting, turning, and administering medications. Standard Precautions (SP) are an essential component of all direct care provided and include a fundamental set of practices, such as hand hygiene, appropriate use of personal protective equipment, and safe use of sharps equipment.[2] These practices are recommended to protect patients from health care–associated infections (HAIs), and nurses from exposures to bloodborne pathogens and other potentially infectious material when performing routine care. Therefore, understanding when and how these preventive SP practices are integrated within the highly dynamic workflow of nurses is imperative.

It is unknown how organizational patient safety culture (PSC) and nurse factors contribute to the prioritization of specific patient care aspects, including SP adherence. This study addresses this gap by identifying features of PSC and nurse characteristics (eg, age, tenure in role, education) that are associated with SP adherence and missed nursing care. The purpose of this study is to describe and test relationships among (1) missed nursing care and SP; (2) nurse characteristics and SP; and (3) PSC and SP.

METHODS

This is a secondary analysis of deidentified data collected and reported elsewhere.[3] In brief, a cross-sectional study was designed to examine the relationships among unit-level perceptions of PSC, frequency of nursing care missed, and reported adverse outcomes. Surveys were administered electronically to 574 eligible nurses from 5 hospitals in the Northeastern United States. The survey included items from the MISSCARE survey, to rate the frequency 24 essential care activities are missed, and the Hospital Survey on Patient Safety Culture, to rate safety perceptions of 12 dimensions of safety culture (both using a 5-point Likert scale from 1 = always to 5 = never or 1 = negative to 5 = positive, respectively).[4,5] In this study, analytic tests were conducted at the individual level and include bivariate correlation and multivariate regression models. The level of statistical significance set was $P < .05$, and all statistical tests were conducted using STATA/MP version 15.0 (StataCorp, College Station, TX).

RESULTS

Responses from 385 nurses (67% response rate) were included in analyses. The majority of respondents were 34 years of age or younger (42.9%), achieved national nursing specialty certification (59.5%), held a Baccalaureate or higher degree (64%), and were women (92.3%); 31.5% worked on the unit between 6 months and 2 years, and 35.1% worked as a nurse >10 years. The majority of nurses (77.9%) reported from occasionally to always missing care.

In ranking 24 types of nursing care activities, SP were the fifth most frequently completed, and missed an average of 3.95 on a 5-point Likert scale (Table 1). Regarding nurse characteristics associated with SP, fewer years worked on unit was associated with higher

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Table 1
Distribution of missed nursing care items (N = 385)

Missed nursing care item	n (%)	Mean (SD)
Patient assessments performed each shift	316 (82.1)	4.43 (0.69)
Bedside glucose monitoring as ordered	317 (82.3)	4.15 (0.71)
Intravenous/central line site care/assessments per policy	313 (81.3)	4.07 (0.75)
Focused reassessments based on patient condition	314 (81.5)	4.00 (0.84)
Using indicated Standard Precautions	321 (83.4)	3.95 (0.90)
Patient discharge planning and teaching	314 (81.5)	3.89 (0.88)
Vital signs assessed as ordered	323 (83.9)	3.66 (0.88)
Skin/wound care	313 (81.3)	3.65 (0.84)
Emotional support to patient and/or family	321 (83.4)	3.49 (0.89)
PRN medication requests acted on within 15 minutes	312 (81.0)	3.47 (0.89)
Assess effectiveness of medications	309 (80.2)	3.47 (0.85)
Setting up meals for patient who feeds themselves	317 (82.3)	3.46 (0.89)
Full documentation of all necessary data	317 (82.3)	3.45 (0.90)
Patient bathing/skin care	317 (82.3)	3.44 (0.87)
Patient teaching (illness, tests, diagnostic studies)	318 (82.6)	3.38 (0.85)
Monitoring intake/output	321 (83.4)	3.31 (0.95)
Assist with toileting needs within 5 minutes	315 (81.8)	3.31 (0.88)
Response to call light is initiated within 5 minutes	312 (81.0)	3.23 (0.94)
Attend interdisciplinary care conferences when held	312 (81.0)	3.18 (1.0)
Feeding patient when the food is still warm	321 (83.4)	3.09 (0.99)
Patient mouth care	320 (83.1)	3.06 (0.96)
Medications administered 30 minutes before/after schedule	321 (83.4)	2.90 (0.94)
Turning patient every 2 hours or as ordered	323 (83.9)	2.89 (0.97)
Ambulation 3 times per day or as ordered	323 (83.9)	2.74 (0.96)

In order of least to most frequently missed. Possible range 1-5 in which 1 = always, 2 = frequently, 3 = occasionally, 4 = rarely, and 5 = never missed.
PRN, as needed.

reported SP adherence ($r = -0.13$; $P < .5$); educational level, certification, sex, number of hours worked per week, and tenure in role were not associated with adherence. Regarding PSC dimensions correlated with SP, all PSC dimensions except management support for safety and nonpunitive response were correlated ($P < .05$) with greater adherence to SP; the 3 key associations were (1) overall perceptions of safety ($r = 0.26$); (2) handoffs/transitions ($r = 0.25$); and (3) teamwork within units ($r = 0.23$) (Table 2). Multivariate regression analysis indicates the model including all PSC dimensions was a significant predictor of SP adherence ($F(12,248) = 3.63$; $P = .00$; $R^2 = 0.15$), explaining 15% of the variance in SP adherence.

DISCUSSION

SP are the fundamental practice recommended prior to all other direct patient care activities to protect nurses and patients. In this study, direct-care nurses rated the frequency essential care activities, including SP, are missed; this allowed for the first time a means to describe the relational importance of SP to the many processes of care nurses perform. SP are prioritized in nursing workflow, but not first, potentially feeding a negative cycle of increased workload related to HAIs.[6]

We found key modifiable dimensions of PSC can positively impact adherence. All PSC dimensions, with exception of management support for safety and nonpunitive work environment, were positively and significantly associated with greater SP adherence. In particular, perceptions of better teamwork within units and handoffs and transitions were noted, suggesting that factors that support the work nurses do every day and how nurses and teams function together are important to consider.

Continued exposure to others, and subsequent development of shared perceptions, or unit climate, may influence individual safety behaviors. This may be particularly important for SP adherence as nurse characteristics typically suggestive of functioning at high levels of practice, such as advanced educational attainment and specialty certification, were not associated with adherence, suggesting factors beyond training and knowledge merit consideration. In fact, there was a significant association among those who reported fewer years worked on the unit and higher adherence to SP, or stated another way, the longer tenure on a unit the lower the adherence to SP.

This normalization of deviance is particularly concerning as nurses have frequent contact with patients and are often in the most proximate position to protect a patient from harm.[7] This negative cycle may be difficult to break. Nurses are particularly innovative and create effective "work-arounds" to assure key tasks are performed. Further, the consequences of performing, or not, basic infection prevention actions are not immediately apparent, and perhaps more easily omitted from the many processes of care the nurse is responsible for every minute of every shift. However, although PSC is important to SP adherence, other factors and mechanisms warrant exploration.

This study has several limitations, including the use of self-report data that may underestimate the amount of missed care and a sample that may not be generalizable to hospitals in other settings.

Table 2
Patient safety culture dimensions associated with Standard Precautions adherence

Patient safety culture dimension	*r (df)*	*P* value
Frequency of events reported	0.23 (294)	.000*
Overall perceptions of patient safety	0.26 (303)	.000*
Organizational learning/continuous improvement	0.20 (298)	.000*
Supervisor expectations and actions promoting patient safety	0.20 (300)	.000*
Teamwork within units	0.23 (300)	.000*
Communication openness	0.12 (296)	.036*
Feedback and communication about error	0.19 (295)	.001*
Nonpunitive response to errors	0.09 (305)	.137
Staffing	0.20 (298)	.000*
Management support for patient safety	0.11 (303)	.054
Teamwork across units	0.16 (289)	.006*
Handoffs and transitions	0.25 (293)	.000*

r, correlation coefficient; *df*, degrees freedom.
*Denotes significance at $P < .05$.

CONCLUSIONS

Integrating SP within the workflow of nursing care is challenging, and in turn presents a risk for HAIs and occupational exposures. A positive perception of PSC is important to SP adherence, although additional factors and mechanisms must be explored.

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