Building Expert Consensus on Including Indicators of Moisture-Associated Dermatitis Skin Damage in the NDNQI

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Introduction

There are three types of skin breakdown that can occur in the gluteal area: pressure ulcers (PU), incontinence-associated dermatitis (IAD) and intertriginous dermatitis (ITD). PU data is currently reported by many hospitals and collected as a nursing sensitive outcome (NSO) in the National Database of Nursing Quality Indicators (NDNQI). IAD and ITD data is not.

The assessment of skin breakdown in the gluteal area is difficult and prone to error (Burke, 2011); (Mahoney, 2011); (Vogeli, 2011). In the project leader's practice at Roper Hospital in Charleston, SC, many patients were referred for "Stage II pressure ulcers" in the gluteal area. When the project leader or her partners assessed the patients, the cause of the skin injury was actually moisture-associated skin damage (MASD) – either IAD or ITD.

Based on this finding, the author questioned the reliability of the assessments being performed for the NDNQI database. Literature supports wound care experts have the highest reliability in wound assessment (Burke, 2011) and even they have problems assessing gluteal skin injury (Mahoney, 2011).

Since neither IAD nor ITD data are currently collected/reported to NDNQI, would that improve the reliability of data collection and reporting related to PUs?

Significance

- Care for breaches in gluteal skin integrity annual US cost > $12 Billion (NPUAP, 2014; Wilson, 2001; Whitehead, 2009; Xu, 2012)
- PU care over $11 billion annually (NPUAP, 2014)
- Costs of *care* for institutionalized women with urinary incontinence in 1995 (Wilson, 2001) $3.8 billion
- Cost of *skin care* for institutionalized women with urinary incontinence in 1995 (Wagner ,1998) $136.3 million
- Costs for skin breakdown related to fecal incontinence are harder to ascertain
- Estimated prevalence of fecal incontinence in noninstitutionalized adults 8.3% (Whitehead, 2009)
- Many breaches in skin injury avoidable (Black, 2001; Doughty, 2012; Edsberg, 2014; Beeckman, 2015),
- Underlying cause (pressure, shear, moisture) must be assessed
- Underlying cause must be managed
- If underlying cause not properly assessed or managed, gluteal skin becomes further damaged & patient at risk for increased pain, infection, bacteremia & death (Black, 2011; Beeckman, 2015; Bissett, 2010; Redelings, 2005)

Problem Statement

Appropriate nursing care for gluteal moisture-associated skin damage and their impact on patient outcomes and health care delivery cannot be established because the national database of nursing quality indicators (NDNQI) does not specifically collect these data.

Purpose

The purpose of this clinical project was to build expert consensus on whether or not IAD and/or ITD should be reported as nursing sensitive outcomes via NDNQI.

Methods

This project used a Delphi survey in three rounds to build consensus between experts in IAD and/or ITD. In this project, the iterative process of questions and answers employed Qualtrics, LLC as a tool. This electronic database was distributed via email by the project leader.

A list of experts who had published on IAD and/or ITD in English language literature over the past ten years was obtained by the project leader. This list was reviewed with the clinical editor of the *Journal of Wound, Ostomy and Continence Nursing (JWOCN)* and the chair of the Wound, Ostomy and Continence Nurses (WOCN) Center for Clinical Investigation for nomination as experts. The final list yielded fifty experts. Email addresses for experts were obtained from WOCN, JWOCN and online searches.

Expedited IRB approval was obtained from Otterbein IRB as there was minimal risk to this project. Explanation in the email accompanying the survey link explained completion of the survey wound indicate consent to participate in the project. No formal consenting process occurred.

Subjects

Expert List Questionnaire One		
Name	Country	Affiliation
Dimitri Beeckman	Belgium	Ghent University
Laurie McNichol	USA	Cone Health
Mikel Gray	USA	University of Virginia Health System
Heidi Hevia	Chile	Universidad Andrés Bello
Jill Campbell	Australia	Queensland University of Technology
Joan Junkin	USA	Consultant
Karen Campbell	Canada	University of Western Ontario
Joy Pittman	USA	Indiana University Health
Linda Bohacek	USA	Triumph Hospital
Eileen McCann	USA	ConvaTec
Barbara Rozenboom	USA	UnityPoint at Home
Mary Mahoney	USA	UnityPoint at Home
Catherine Ratliff	USA	University of Virginia Health System
Denise Nix	USA	Consultant
Cherid Trevellini	USA	St. Francis Hospital Roslyn, NY
Chris Berke	USA	Nebraska Medicine
Janice Colwell	USA	University of Chicago Medical Center
Denise McDonagh	United Kingdom	Southern Health & Social Care Trust

Definitions

- MASD - "inflammation of the skin, occurring with or without erosion or secondary cutaneous infection" (Black, et al., 2011, p.359).
- IAD - "form of irritant dermatitis that develops from chronic exposure to urine or stool" (Gray, et al., 2007, p. 46).
- ITD - ITD is "an inflammatory dermatosis of opposing skin surfaces caused by moisture" (Black, et al., 2011, p. 365).

Participant Demographics

N=18											
	<10 years	10 - 19 years	20 - 29 years	30 - 39 years	40 - 49 years	50 or more years					
Years in Nursing	0% (0)	11% (2)	6% (1)	72% (13)	11% (2)	0% (0)					
	Contin Care Urinary	Contin Care Fecal	Contin Care Urinary & Fecal	Wound Care	Ostomy Care	Wound & Ostomy Care	Wound, Ostomy & Contin Care	Research	Education	Other	
Primary Specialty	6% (1)	0% (0)	0% (0)	17% (3)	6% (1)	11% (2)	50% (9)	6% (1)	0% (0)	0% (0)	
Secondary Specialty	0% (0)	0% (0)	0% (0)	6% (1)	0% (0)	13% (2)	0% (0)	31% (5)	44% (7)	6% (1)	
	United States	United Kingdom	Australia	Belgium	Chile	Canada					
Country of Practice	72% (13)	6% (1)	6% (1)	6% (1)	6% (1)	6% (1)					
	Hospital (Acute)	LTACH	Hospital Clinic	Home Care	Office	Research Lab	School of Nursing	University	Industry	Consultant	Other
Primary Practice Setting	22% (2)	0% (0)	22% (4)	11% (2)	6% (1)	0% (0)	11% (2)	11% (2)	6% (1)	6% (1)	6% (1)
Secondary Practice Setting	22% (4)	6% (1)	0% (0)	0% (0)	0% (0)	11% (2)	22% (4)	0% (0)	0% (0)	6% (1)	0% (0)
	Yes	No									
See Patients with PU	94% (17)	6% (1)									
See Patients with IAD	94% (17)	6% (1)									
See Patients with ITD	100% (18)	0% (0)									

Results

- 34% response rate to first questionnaire
- 35% attrition rate by third questionnaire
- 100% consensus IAD incidence/prevalence should be collected as quality data.
- No consensus IAD or ITD incidence/prevalence data should be reported to NDNQI.
- 91% consensus IAD incidence/prevalence data should be collected as quality data at individual facility level.
- 82% consensus ITD incidence/prevalence data should be collected as quality data at individual facility level.
- 100% consensus on several themes elicited as comments during second questionnaire:
  - The presence of IAD contributes to PU risk.
  - IAD can be misidentified as PU when assessed.
  - There would be benefits to knowing the prevalence of IAD within an institution & nationally.
  - Collecting data on IAD incidence/prevalence may provide the basis for future research.
  - There may be a knowledge deficit associated with how to collect IAD incidence/prevalence in some institutions.
  - If you collect IAD incidence/prevalence data, you should then do something with it.
  - Reporting IAD incidence/prevalence data may aid in developing standards of care for risk assessment, prevention & treatment.
  - For IAD incidence/prevalence data to be reported, a standardized tool needs to be adopted.
  - Collecting ITD incidence/prevalence data would help enhance awareness & knowledge of ITD.
- Consensus assessment of four photographs.

Expert Assessment Consensus

Discussion

This project supports collection of both IAD and ITD incidence and prevalence data at the facility level for measurement of nursing sensitive outcomes and use as quality data. As only 35% of survey participants currently collect IAD data and only one survey participant collects ITD data, this may be a new undertaking for the majority of facilities in the country.

Where ever and however data is reported and collected, it is vital the data be reliable and based on accurate assessment. Nurses must base their treatment of skin injury on accurate assessment. If nurses are intervening for pressure and the underlying cause of the injury is moisture, the skin injury will not be adequately addressed.

Strengths & Limitations

Strengths

- Project accomplished the objective within the established time frame.
- Project leader passion.
- Qualitative comments reveal how important IAD/ITD data collection is to validate accurate reporting of skin breakdown.

Limitations

- Time
- Project leader's limited knowledge of Qualtrics.
- Lack of questionnaire testing.

Conclusions & Recommendations

- IAD and ITD data should be collected at the individual acute care facility level to establish baseline data before determining if either should become NDNQI indicators.
- Assessment of skin breakdown in the gluteal region is challenging, even for expert clinicians.
- Outcome of this project should be shared with nursing leadership, quality leaders, and leaders in skin/wound care nationally.

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