Instrument-Testing Validation Study in the Clinical Setting: Incontinence-Associated Dermatitis Severity Instrument

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Introduction
Reducing use of indwelling urinary catheters (IUC), may have the untoward effect of increasing the incidence of incontinence associated dermatitis (IAD). In fact an aggressive campaign to reduce IUC utilization in acute care 300+ bed Magnet designated hospital was experiencing this clinical problem. Accurate identification and classification of IAD drives appropriate prevention and treatment interventions. When IAD lesions are appropriately classified as pressure ulcers, healthcare agencies risk regulatory fines, reduced reimbursement, and litigation. Borchert and colleagues developed/tested the incontinence associated dermatitis severity instrument (IADSI), published research results demonstrated good inter-rater reliability; however recommendation was made for further study in various clinical settings.

Research Question
“What is the intra rater reliability of the Incontinence-Associated Dermatitis and its Severity Instrument when rated by the Certified Wound Ostomy Continence Nurse (CWOCN) Specialist on patients in the critical care area?”

“What is the inter-rater reliability of the Incontinence-Associated Dermatitis and its Severity Instrument when rated by the CWOCN Specialist as compared with nursing group without certification in wounds (clinical nurse, CNS, NP)?”

Methods
Quantitative Design
Instrument development testing study of IAD-SI tool

Phase I and Phase II

Inclusion Criteria
• Critical Care Patients and/or IMCU Patients
• Able to give informed consent
• Or proxy was able to give informed consent

Exclusion Criteria
• Non-critical Care Patients
• Non- IMCU Patients
• Unable to obtain informed consent from patient or proxy

Phase I
• 80 patients recruited
• 77 patients included in study
• 1 patient discharged before assessment
• 2 patients withdrew
• CWOCN rater/tester completed IADSI for 77 patients
• Each patient was assessed 2x within 1 hr timeframe
• Data collected over 5 week time frame

Phase II
• 66 patients recruited
• 63 patients included in study
• 1 patient discharged
• 2 patients withdrawn

IADSI Raters/Testers
During phase II, there were clinical nurses, Clinical Nurse Specialist, and CWOCN specialist who tested the tool. Listed below are some of their demographics:

|                | F | BSN | MSN | IAD | Nurse | Rater/Tester | IADSC SI Tool
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<tbody>
<tr>
<td>CN</td>
<td>18</td>
<td>11</td>
<td>4</td>
<td>3</td>
<td>10</td>
<td>190.5</td>
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</tr>
<tr>
<td>CNS</td>
<td>5</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>5</td>
<td>25</td>
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<tr>
<td>CWOCN</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
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Results

Phase I

<table>
<thead>
<tr>
<th>IADSC WOC Nurse Total IADSC</th>
<th>Intra-class Correlation Coefficient</th>
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<tbody>
<tr>
<td>IADSC WOC Nurse - Total IADSC</td>
<td>0.90</td>
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<tr>
<td>IADSC WOC Nurse - Personal data</td>
<td>0.96</td>
</tr>
<tr>
<td>IADSC WOC Nurse - Change between buttocks</td>
<td>0.90</td>
</tr>
<tr>
<td>IADSC WOC Nurse - Left lower buttock</td>
<td>0.80</td>
</tr>
<tr>
<td>IADSC WOC Nurse - Right lower buttock</td>
<td>0.80</td>
</tr>
<tr>
<td>IADSC WOC Nurse - Left upper buttock</td>
<td>0.91</td>
</tr>
<tr>
<td>IADSC WOC Nurse - Right upper buttock</td>
<td>0.91</td>
</tr>
<tr>
<td>IADSC WOC Nurse - Upper abdomen</td>
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<tr>
<td>IADSC WOC Nurse - Lower abdomen</td>
<td>0.87</td>
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Phase II

There were 3 nursing research assistant raters who were removed from analysis due to the limitation of completing only 1 assessment. The remaining 20 nursing research assistant raters scored at least four assessments with the WOC Nurse expert. Overall agreement in the IADSI total score between each of the 20 nursing research assistants and the WOCN specialist was excellent (with 3 exceptions; ICC of 0.70, 0.70, and 0.67). The mean ICC across these pairs was 0.96 with a standard deviation of 0.06. The median was 0.99. Reliability Rating Excellent >0.9, Good, >0.8, Moderate >0.7

Implications for Practice
Reduce or avoid the use of indwelling urinary catheters, potentially causing IAD. Validate a tool for use in planning patient care for incontinent patients. Greater improvement with incidence of incontinence associated dermatitis (IAD) with the use of a reliable tool to measure severity. Reduce, objectively monitor and provide consistent treatment for IAD.

• EMR Daily assessment for incontinent patients
• Monthly point Prevalence & Incidence study to include IADSI score

References

