An Investigation of the accuracy of early pressure ulcer damage assessment using sub epidermal moisture measurement versus nurses’ visual skin assessment.

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Background

Pressure ulcers have a detrimental effect on the health and wellbeing of patients and have a significant impact on resource costs in healthcare. Despite investment in resources and education, the problem persists, with estimated rates of up to 25% of hospital acquired pressure ulcers (HAPU’s) occurring in the acute care setting. Currently risk assessment tools and nurses visual skin assessment guide pressure ulcer prevention strategies, however risk assessment tools vary in reliability, and nurses visual skin assessment and staging of pressure ulcers is often inaccurate. Elevated sub epidermal moisture (SEM) is associated with early pressure ulcer damage. Studies have demonstrated the feasibility of using sub epidermal moisture measurement which rises in the inflammatory process as a predictor of early pressure damage. SEM is a medical device that calculates this measure allowing for early intervention improving patient outcomes, Figure 1.1.

Research Approach

A quantitative prospective descriptive, correlation study is used to answer the research question.

Research Question

‘Is there a correlation of early pressure ulcer damage between SEM™ and visual skin assessment?’

Data collection:
- Cohort sampling of all at risk patients over a 4 week timeframe
- Baseline demographics which consist of:
  - Medical data for each patient
  - Norton pressure ulcer risk score
  - Previous pressure ulcer damage
  - Nurses visual skin inspection – skin normal/ skin not normal
  - SEM scanner readings

Data analysis:
- Statistical Package for Social Sciences (SPSS)
- Descriptive and inferential statistics
- Correlation between the two methods of assessment will be determined using the phi coefficient

Research Findings

Objective 1
Aim:
To determine the relationship between nurses’ visual assessment of early pressure damage of patients and SEM measures of ‘at risk’ patients

Objective 2
Record SEM values of the pressure areas of ‘at risk’ patients daily for 4 weeks

Objective 3
Record the concurrent nurses documented skin assessments for ‘at risk’ patients over the same 4 week period

Objective 4
Analyze the data to establish the correlation between visual assessment and SEM findings

Establish if SEM is more accurate in detecting skin changes when compared to visual assessment alone

Time Frame/Resources

- Time frame restricted due to academic assignment
- Research costs are researcher funded

Limitations of Study

- Time frame of study & bed closures limited number of potential participants
- Purposive sample of 47 patients in an acute general hospital in Ireland limits generalisability of findings

References


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