THE PREVALENT RATES OF PRESSURE ULCERS IN THE ACUTE HOSPITAL SETTING WHILE INVESTIGATING THREE METHODS OF MEASURING PREVALENCE

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1. INTRODUCTION

- Complications of pressure ulcers can include pain, depression, infection of bone, muscle and tendon and can lead to death.
- It is vital, that all healthcare professionals, understand the importance of determining all those who are at risk.
- The most common method of assessing those at risk of pressure ulcer development, is by utilising visual risk assessment scales such as the Waterlow score.

2. DEFINITION OF TERMS

Pressure Ulcers: defined as the area of the skin, which takes place over a bony prominence.

Prevalence: the number of people within a population with a pressure ulcer divided by the number of people in the population at a certain point in time.

Risk Assessment Tool: a guideline utilised by healthcare professionals to determine if a patient is at risk of pressure ulcers, malnutrition, etc.

3. RESEARCH QUESTION

What is the prevalence rate of pressure ulcers in the acute hospital setting while investigating three methods of measuring prevalence?

4. OBJECTIVES

1. To evaluate if the current methods of pressure ulcer risk assessment were indeed the most accurate to determine pressure ulcer prevalence.
2. To determine if incorporating the measurement of pain and S.E.M would lead to more successful rates of early pressure ulcer detection.
3. To examine which patients were largely at risk of pressure ulcer development.

5. METHOD

A prospective quantitative research method was used. Pressure ulcer prevalence and risk was measured using Waterlow scores with visual inspection (using EPUAP guidelines), sub epidural moisture measurement (using the S.E.M scanner) and pain associated with pressure ulcer development. A cohort of patients in acute hospital, who were mainly short stay surgical patients, were followed over a three day period with the measures of prevalence being taken daily.

6. INCLUSION/EXCLUSION CRITERIA

Inclusion Criteria: The participant’s need to have been admitted to hospital for twenty-four hours or more. Only those who were able to give informed consent were approached.

Exclusion Criteria: Those deemed cognitively impaired, Patients admitted for less than twenty-four hours (to the endoscopy suite or for day procedures) as they could not be followed up in the set time frame.

7. RESULTS

- Of the 31 participants who took part the mean (±SD) of the Waterlow score was 6.8 (±4.0) indicating that 93.5% of participants were deemed low risk of pressure ulcer development.
- The S.E.M. scanner revealed that 16 (51.4%) participants demonstrated signs of pressure injury. See Figure 1.
- 2 patients (6.4%) showed visible signs of pressure ulcer (grade 1) development as demonstrated in Figure 2.
- Pain was reported at all anatomical sites. All pain was reported as mild. On average 12.8% (n=4) of participants verbalised pain at one or more of the anatomical sites. This is illustrated in Figure 3.
- Corroborative statistics demonstrate statistically significant association between immobility and S.E.M scores (r=0.557, p=0.010) and between EPUAP score and S.E.M reading on the sacrum (r=0.762, p=0.000).
- No associations were found between pain and EPUAP scores or S.E.M scores.

8. PRESSURE ULCERS (Figure 2)

- Pain scores (Figure 3)
- Mobility scores (Figure 4)

9. DISCUSSION AND CONCLUSION

This relationship would indicate that immobility is the only risk factor which contributes to pressure ulcer development. On day 2 immobility was at its highest (Figure 4) and we can from those findings that it was on day 2 that the relationship between SEM readings and immobility were most significant.

REFERENCES


Correlation analysis was carried out between all measured risk factors and S.E.M. readings. The only significant relationships found were between S.E.M. and mobility scores.

Correlations

<table>
<thead>
<tr>
<th>Relationships</th>
<th>r</th>
<th>p</th>
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<tr>
<td>Mobility &amp; S.E.M. (Day 1)</td>
<td>0.54</td>
<td>0.01</td>
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<tr>
<td>Mobility &amp; S.E.M. (Day 2)</td>
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<td>0.00</td>
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<tr>
<td>Mobility &amp; S.E.M. (Day 3)</td>
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<td>0.01</td>
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This result of this study indicates that there is a possible underestimated of pressure ulcer prevalence rates when using Waterlow and visual inspection and that sub epidural moisture scanning is more sensitive in picking up early pressure damage.

Pain measurement as a method of detecting pressure ulcers is not well supported in this study. The results call into question current methodologies in pressure ulcer risk assessment and detection particularly in short stay surgical patients.