Introduction

- A tracheostomy tube is a significant cause of morbidity and mortality.
- Patients with tracheostomies need specialised care with the involvement of a variety of medical, nursing and allied health staff.
- Multidisciplinary team care is often considered the gold standard in delivering a holistic care model.
- Consisting of a diverse selection of staff they can provide specialised coordination, skills and education/training.
- This study aims to assess the outcomes associated with a multidisciplinary tracheostomy service.

Methods

- A prospective cohort study of 65 adult tracheostomy patients part of one of Australia’s largest multidisciplinary tracheostomy services.
- The service is comprised of otolaryngologists, speech pathologists, specialised nursing staff and physiotherapists with both inpatient, outpatient and community reach.
- Tracheostomy tube samples were sent for brush cytology and MCS after initial insertion, 6 weeks and 3 months.
- Data was collected over 18 months.
- Chi-square tests were performed to compare culture results and other endpoints.

Results

- Perioperatively, patients’ part of the MDT were seen on a regular basis and educated early on tracheostomy care.
- Chi squared analysis showed a significant difference in bacterial colonisation of tracheostomy tubes between inpatients vs outpatients (73%v33%, p=0.026)
- There was a significant rise in colonisation of tubes based on acuity of setting (P<0.05)
- There was a significant increase in nonsocomial multi-resistant infections in inpatients (P<0.05).

Outpatients vs Inpatients 2x2 table

<table>
<thead>
<tr>
<th>Location</th>
<th>Culture +</th>
<th>Culture -</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outpatient</td>
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<td>13</td>
<td>21</td>
</tr>
<tr>
<td>Inpatient</td>
<td>29</td>
<td>15</td>
<td>44</td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td>28</td>
<td>65</td>
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</tbody>
</table>

Conclusions

- Inpatients with tracheostomies are more prone to be colonised, in particular with nonsocomial multi-resistant infections.
- Patients in higher acuity settings are also more at risk of being colonised.
- A multidisciplinary tracheostomy service with outpatient services providing more holistic care and education is able to reduce the amount of time patients spend in hospital and thus their risk of developing hospital acquired diseases.