Introducing an Oral Care Assessment Tool With Advanced Cleaning Products into a High-Risk Clinical Setting

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BACKGROUND

Non-ventilated hospital associated pneumonia (NV-HAP) represents a significant burden for the NHS. Pneumonia is responsible for approximately 23% of all hospital-associated infections in the UK. Development of NV-HAP is associated with increased patient morbidity, mortality, and length of stay. In 2014, the National Institute for Health and Care Excellence (NICE) published a cost estimate that treatment of each NV-HAP equates to approximately £4500.

Evidence suggests poor oral hygiene may be a significant risk factor for the development of pneumonia, therefore it is important to reduce the number of pathogens in the patient’s mouth and ensure the oral cavity remains healthy as part of NV-HAP prevention. A study in the U.S. found the incidence of NV-HAP decreased with enhancement of an oral care compared with standard of care (p < .0001; odds ratio = 0.51; 95% confidence interval = 0.38, 0.70). Similarly, a Canadian study in neurologically impaired patients also reported enhanced oral care resulted in a statistically significant reduction in the NV-HAP rate (p < 0.05). To date, no standardized NHS oral assessment tool is available.

The aims of this study were to establish whether the introduction of an oral care assessment tool/protocol and a novel range of oral care hygiene products would meet the needs of patients and carers in our hospitals.

METHODS

Clinical Setting: This clinical impact study was conducted on the Stroke units, ITU and within a long-term care facility of the Northern Lincolnshire and Goole NHS Foundation Trust.

Objectives: The study objectives were as follows:

- Identify staffs existing knowledge on mouth care and the current practices undertaken for this within the Trust
- Explore the number of patients requiring different levels of mouth care intervention based on the risk scores assimilated from the developed oral assessment tool.
- Determine whether the oral assessment tool is fit for purpose
- Formulate an opinion whether the use of the oral care product* introduced is a suitable intervention to help prevent NV-HAP
- Establish staffs views of the evaluation product

Task and Finish Group Formation: A small task and finish group was established to evaluate an oral care product for inclusion in an oral care protocol. Membership included the Ward Manager, Quality Matron, Infection Preventionist, Speech and Language Therapist, Clinical Skills Tutor and a Specialist Dental Nurse.

Oral Care Assessment Tool: An oral care assessment tool was developed and ratified by the task and finish group. The assessment tool was completed daily by nursing staff.

*Q-Care® Oral Cleansing and Suctioning System with Sage Burst Packet (Sage Products, Cary, IL)
staff to establish the level of interventions (e.g., standard mouth care, standard mouth care plus or advanced care). The oral care risk assessment would determine the level of intervention required depending on the aggregated score from the risk calculator.

**Intervention:** Three levels of intervention were proposed, standard mouth care (Low risk: score of 4 or below), standard mouth care plus (medium risk: score of 5-9) and advanced care* (High risk: score 10 or above). The oral care hygiene products consisted of suction toothbrushes, suction swabs, oral rinse, 1.5% hydrogen peroxide and a water-soluble mouth moisturiser.

**Education:** Formal education and training were provided by the Infection Prevention and Control team and product representatives. The training covered appropriate use of the oral care assessment tool, aspects of mouth care and interventions depending on the risk score.

**Data Collection:** The data collection was commenced in August of 2016 and continued until the end of October 2016.

**Staff Satisfaction:** A staff survey was also conducted to assess user's views on products and training.

**METHODS continued**

**RESULTS continued**

A total of 147 patients were assessed using the oral care assessment tool and interventions are demonstrated in Figure 1. The age range of patients varied from 25 to 97 years of age with a mean age of 72 (mode 78 years). The mean age of patients receiving standard mouth care was 67 years, compared to 82 years for standard plus and 85 years for the advanced option. The data analysis revealed 80% of patients required the standard oral care intervention and 7.8% required the advanced intervention (Figure 1).

Results from the survey indicated 97% of staff thought it was prudent to undertake an oral care assessment on patients on admission. The survey also showed only 55% of staff had received any formal mouth care training/assessment since they commenced their post. The need for improved training and updates was further supported in that 89% of staff stated it would be beneficial to receive regular updates on mouth care and new developments/evidence.

The risk calculator tool revealed 31% of patients had some form of swallowing difficulty, which is a known contributory risk factor in the development of NV-HAP and poor mouth care. Additional factors identified on the oral care risk assessment are shown in Figure 2.

The results of the staff survey on satisfaction are shown below (n=30).

**RESULTS**

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<table>
<thead>
<tr>
<th>Condition of mouth at time of assessment</th>
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<tr>
<td>Normal</td>
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<td>69.5%</td>
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**Figure 3. Results of staff satisfaction survey (N=30)**

**Figure 2. Condition of mouth at time of assessment**

**Towards the end of the evaluation, nursing staff were asked to complete a qualitative survey on aspects associated with mouth care including their opinion of the SAGE product. In total 44 surveys were returned by staff from the areas participating in the study. One of the questions set out to establish members of staffs' role and level of experience as can be seen in figure 3.**

**Results**

**Results**

<table>
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<th>Perception of protocol**</th>
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<tr>
<td>Good</td>
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<td>0</td>
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**Figure 3. Results of staff satisfaction survey (N=30)**

**Figure 3.**

****Staff perception is based upon the new intervention in comparison to the previous standard of care.
CONCLUSIONS

Staff surveys showed the introduction of an oral care assessment tool and products provided an improved level of oral hygiene for patients. In the majority of cases, simply brushing the teeth twice a day with the addition of a water-based lip balm met the requirements of our patients. Poor oral hygiene is a well-established risk factor in the development of NV-HAP, and the use of evidence-based interventions is essential for improving patient outcomes. The mouth care policy within the trust is to be reviewed with the recommended interventions and levels of assessment to be included.

REFERENCES