Improving Oral Care in Hospitalized Non-Ventilated Patients: Standardizing Products and Protocol

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Medical-surgical nurses are in a position to influence outcomes related to oral care. In this study, educating nurses on the importance of routine oral care and moving tools to the bedside improved the frequency of oral care.

Patients who develop ventilator-acquired pneumonia have estimated attributable mortality rates of approximately 10% (Klompas et al., 2014). To reduce these rates, healthcare advocacy groups have endorsed a prevention bundle that includes routine oral care (Centers for Medicare & Medicaid Services, 2017). In a hallmark study, DeRiso, Ladowski, Dillon, Justice, and Peterson (1996) demonstrated use of the oral antiseptic chlorhexidine reduced rates of hospital-acquired pneumonia in ventilated patients undergoing coronary artery bypass surgery. Although routine oral care historically has been a part of daily patient care, its significance in preventing non-ventilator hospital-acquired pneumonia (NV-HAP) has emerged as an important preventive measure. Maeda and Akagi (2014) linked poor oral health with an increased risk for infection and thus NV-HAP.

Research also has demonstrated that without regular oral hygiene, bacteria remain in the oral cavity and become more pathogenic over time (Ikeda et al., 2014). Despite these risks, research suggests implementation of regular, high-quality oral care by nursing staff often is neglected due to barriers in practice (Letsos, Ryall-Henke, Beal, & Tomaszewski, 2013). These barriers include limited time, resource constraints, challenging patient behaviors, and staff knowledge gaps regarding appropriate frequency in oral care.

Although every patient benefits from routine oral care, some groups are at higher risk of developing NV-HAP. These include recently extubated persons, postoperative patients, and patients managed on progressive care units (Scheel, Pisegna, McNally, Noordzij, & Langmore, 2016); and patients strictly receiving nothing by mouth or with dysphagia (Maeda & Akagi, 2014). These patients, who are seen commonly in the medical-surgical setting, require heightened awareness and sensitivity to their oral care needs.

NV-HAP develops when patients micro-aspirate oropharyngeal pathogens into the lungs (Di Pasquale, Aliberti, Mantero, Bainchini, & Blasi, 2016). Organisms responsible for the development of NV-HAP include *Staphylococcus aureus* and gram-negative bacteria, which are increasingly antibiotic resistant (Weiner et al., 2016). This knowledge of escalating antibiotic resistance in conjunction with previously discussed studies demonstrating the relationship between oral care and reduction of NV-HAP highlights the urgency for nurses to take action (Kaneoka et al., 2015; Maeda & Akagi, 2014). Medical-surgical nurses are in a position to influence outcomes related to oral care. This fundamental nursing intervention warrants further investigation to ensure these actions become an essential part of daily patient care.

Purpose

The purpose of this study was to determine if staff education, implementation of an oral care protocol, and alterations to bedside oral care tools improved the frequency of oral care in patients who were non-ventilated and did not have a tracheostomy. A secondary purpose was to determine if a difference existed in the frequency of oral care provided to high-risk populations, defined as those who had orders to take nothing by mouth, were tube-

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Background

Daily oral care is known to reduce microorganisms in the oral cavity and may reduce the risk of infection caused by aspiration (Kaneoka et al., 2015). This practice may be overlooked among non-ventilated patients.

Purpose

To determine if staff education, a standardized protocol, and bedside tools improved frequency of oral care.

Method

A pre-post design was used in a study of patients who were non-ventilated and without tracheostomies. Chart reviews determined the frequency of oral care pre-intervention compared to weeks 5, 7, and 9 following intervention. Oral care knowledge and perceived barriers to oral care were assessed and analyzed.

Findings

Oral care documentation improved from pre-intervention rates compared to weeks 5 and 9 ($p<0.01$); from weeks 5 to 7 ($p=0.00$); and maintained through week 9 ($p=0.00$). Nurses demonstrated increased awareness after intervention for oral care need ($p=0.005$), high-risk populations ($p=0.001$), benefits to patient's self-esteem ($p=0.026$), and opportunity to assess oral health ($p=0.006$).

Limitations and Implications

An inability to generalize findings to other populations due to inaccessible demographics on patients was a limitation of the study. Results imply an existing knowledge gap among nurses regarding need for oral care in high-risk patients.

Conclusion

Educating nurses on the importance of routine oral care and moving tools to the bedside improved the frequency of oral care. Longitudinal studies are needed to determine if oral care prevents aspiration pneumonia.

fed or diagnosed with dysphagia, or had been extubated recently.

Review of the Literature

A review of the literature from 2013-2017 was conducted in MEDLINE using search terms *oral care in acute care* and *oral care in long-term care*.

To determine the effect of oral care on incidence of pneumonia or related mortality in adult patients in hospitals or long-term care facilities, Kaneoka and co-authors (2015) conducted a comprehensive literature review and meta-analysis of primary, randomized controlled trials. Five studies met defined inclusion criteria; one of them had no reported pneumonia during the data collection period and was not included in the meta-analysis. Authors concluded the pooled effect of oral care with topical chlorhexidine or mechanical oral care contributed to significantly reduced risk for developing pneumonia compared to control ($p=0.02$). Additionally, the effect of oral care on reducing fatal pneumonia was significant ($p=0.02$). This meta-analysis demonstrated routine oral care positively correlates to improved outcomes among non-ventilated patients.

To reduce complications secondary to pneumonia, Maeda and Akagi (2014) evaluated the effect of regular oral care among 63 immobile older adult patients (mean age=81.7, $\pm$ 2.5 years) who received nutrition solely via tube feedings and nothing by mouth. Authors noted lack of oral intake can alter the pathogenicity of the oral cavity and, combined with higher rates of aspiration in elders, lead to increased risk of NV-HAP. A year-long intervention study included control and oral care intervention groups; the intervention group received mechanical oral care using chlorhexidine, a mouth moisturizer with glyceryl gel, and salivary gland massage. The intervention group had significant reduction in the incidence of pneumonia, number of febrile days, number of days with antibiotics, and rate of blood and radiological tests ($p<0.05$). This study underscores the importance of regular oral care on health to improve outcomes in high-risk persons.

Despite evidence of a correlation between oral care and improved outcomes, Pettit, McCann, Schneiderman, Farren, and Campbell (2012) identified a knowledge gap when surveying a random sample of 98 registered nurses. The mailed 50-question survey assessed oral care knowledge, practices and perceptions of importance, and barriers to providing oral care. Results indicated 95% of respondents ($n=93$) believed oral care was important and 79% ($n=77$) felt responsible for providing oral care; however, 52% ($n=51$) indicated oral care was addressed minimally in their nursing education. Although the perceived lack of education, 67% ($n=66$) reported being *knowledgeable* or *very knowledgeable* about oral care. Participant scores on survey questions related to oral care knowledge did not correspond to the perceived knowledge reported (mean test score 50.5%, $SD=0.132$). Perceived barriers to performing oral care included low priority, lack of time, lack of resources, and no employer mandate for its provision. These responses reflected a knowledge gap regarding oral care and identified potential barriers to routine, nurse-driven oral care. Creating an intervention that educates to deficits in nursing knowledge and

reduces barriers in delivering oral care may result in more effective adoption of the practice.

Quinn and Baker (2015) also conducted a gap analysis on nursing oral care practice in the inpatient setting. While results of the gap analysis were not reported, authors created an evidence-based, multi-pronged intervention to determine the effect of quality, routine oral care on patient outcomes. The first aspect of the intervention addressed inadequate and inappropriate supplies within the system, including toothbrushes that did not comply with American Dental Association guidelines and lack of availability of suction toothbrushes. The second component of the intervention involved updating the system's oral care protocol to include patients of all acuities, from those independent in oral care to those with complete dependency. The third prong of the intervention incorporated modification of existing documentation to enable proper charting of oral care performance. Finally, nursing staff knowledge was surveyed before and after the intervention. Information from the baseline survey was used to develop an educational program for nursing staff. In the following year, hospitalized patients were less likely to acquire NV-HAP (49% decline, $p<0.001$). In addition, an estimated $2.4 million were saved secondary to reduced hospital stays; return on investment was an estimated $2.28 million. This study demonstrated education plus easy-to-use and ready-to-go equipment are effective in reducing healthcare costs, improving patient outcomes, and effecting change among clinical providers in an inpatient setting.

This review of the literature supports the need for providing oral care to non-ventilated, hospitalized patients. A need exists for a low-cost, highly effective means of enhancing medical-surgical nurses' delivery of regular oral care.

Ethics

This study received approval from the Institutional Review Board at Providence Health and Services (Portland, OR). A conflict of interest agreement was established with the manufacturer of the oral care kits prior to implementation of the study. The staff received an invitation to participate in completion of the survey, which indicated their willingness to participate in the study. Because patient data were extracted from existing medical records, consent was not required.

Sample Selection

Patient Sample

Through a retrospective chart review, baseline oral care data were gathered from a convenience sample of 50 patients admitted in June 2015. Patients were included if they did not have a ventilator or a tracheostomy. Post-intervention data were collected using the same exclusion criteria for patients admitted August-September 2015.

Staff Sample

All regularly scheduled staff on the medical-surgical progressive care unit (PCU) were invited via email to participate in the online pre-intervention survey during June 2015. A reminder email was sent 1 week after the initial invitation. Consent was implied through survey completion, and all responses were anonymous. After the intervention was implemented, regularly scheduled staff again were invited to participate in a post-intervention survey.

Design and Method

This pre- and post-interventional study was conducted at a metropolitan, not-for-profit, Magnet®-designated facility in the northwestern United States. Registered nurses (RNs) and certified nurse assistants (CNAs) from a medical-surgical PCU were invited to participate. The intervention included an educational in-service for nursing staff, implementation of an oral care protocol, and adoption of a daily oral hygiene kit located at the bedside. Data were collected via retrospective chart audit for patients who met inclusion criteria. Staff knowledge was assessed using an online questionnaire developed by the investigators.

The seven-item multiple-choice questionnaire was used to determine staff knowledge regarding the importance of oral care practices on the unit and barriers encountered in providing regular oral care. The questionnaire was developed after team members conducted an extensive literature review. A master's-prepared nurse manager with expertise in the care of high-acuity patients with respiratory disorders determined face validity of the staff survey. In addition, the survey was evaluated for readability and clarity by content experts from among clinical staff not participating in the study as well as staff from the Speech Pathology Department. It was determined to be appropriate for administration to nursing staff.

An external clinical nurse specialist (CNS) with national recognition in acute and critical care was invited to provide the intervention education. After the literature review, the research team suggested content and collaborated with the CNS in development of the education intervention. This CNS conducted an original 1-hour presentation on the impact of oral hygiene practices in eliminating NV-HAP in the acute care setting. Included were methods to ease adoption of practice improvements. The session was recorded and a digital video disc copy made available to staff members who were unable to attend. The CNS also provided personalized education to staff members who were involved in direct patient care at the time of the presentation.

A convenience sample of patients was selected from the daily census before the intervention and at 5, 7, and 9 weeks after intervention. An electronic health record data collection tool was developed to assess the frequency of patient refusal and completion of oral care documentation by nursing staff. Inter-rater reliability for chart audits was established after researchers independently reviewed charts and

TABLE 1.
Oral Care Protocol

Dental Condition	Supplies	Procedure	Frequency
No dentures	Oral Care Kit • Use brush attachment before breakfast and dinner. • Use swab attachment before lunch and at bedtime.	Moisten suction toothbrush in antiseptic oral rinse. Connect suction toothbrush to continuous suction. Brush teeth for 1-2 minutes. Suction debris from mouth. Discard disposable equipment in appropriate receptacle.	Before each meal and at bedtime
Dentures	Labeled denture cup Soft toothbrush Denture cleaner for soaking only Two swabs Alcohol-free antiseptic rinse Denture adhesive (optional)	Remove dentures and place in labeled denture cup. Brush palate, buccal surfaces, gums, and tongue with swab. Have patient swish and spit antiseptic rinse or use swab to apply rinse. Carefully brush dentures with warm water. Do not use toothpaste, which may scratch dentures. Help patient insert dentures in mouth. After bedtime mouth care, soak dentures in commercial cleanser in denture cup. If patient needs adhesive to hold dentures firmly in place, follow manufacturer directions.	Before each meal and at bedtime

Source: Adapted from Quinn & Baker, 2015

achieved 100% agreement. Additionally, the data collection tool was used to identify the frequency of factors that place patients at higher risk for aspiration pneumonia: being unable to take anything by mouth, having a modified diet texture or liquid consistency, and/or using a tube feeding (Maeda & Akagi, 2014).

To enhance the ability of staff members to deliver oral hygiene, the study site trialed a pre-packed kit (Q•Care®; Sage Products LLC) consisting of four tear-off oral hygiene kits to be used throughout a 24-hour period. All four sections contained a combination antiseptic cleanser and mouth moisturizer. Two of the kits contained a suction toothbrush and the other two kits contained a suction swab. The product was placed at the head of the patient's bed each morning by night staff to provide a visual cue for oncoming staff to perform oral hygiene. A representative from the manufacturer was trained on the study protocol and provided just-in-time training over 1 week for day and night shift staff before implementation of the intervention.

An oral hygiene guideline (adapted with permission from Quinn & Baker, 2015) was implemented for patients without a tracheostomy or who were not ventilator-dependent. This protocol specified patients were to receive oral hygiene using the oral care kits four times a day. Patients who were capable of self-administering hygiene were encouraged to use the product with supervision. Staff were trained to document completion of oral hygiene or patient refusal. The protocol was posted strategically around the unit, emailed to staff, and kept at the charge nurse station for easy access and reference. See Table 1 for the protocol.

Findings

Data were entered into Statistical Package for Social Sciences (SPSS), version 22. Chi-square was used to compare perceived frequency, barriers and benefits of performing oral care, and populations at risk for developing NV-HAP. One-way ANOVA was performed to determine the differences in documentation of oral care between the baseline and 5, 7, and 9 weeks after education. *A priori* significance was determined to be $p<0.05$. A power analysis determined the appropriate sample size to detect significance to be at least 40 patients per collection period. Analysis on role differences was not conducted as no CNAs completed the post-intervention survey.

Survey results found no statistically significant difference after intervention in staff perception of the importance of ensuring regular oral care (chi-square $p=0.22$). Using Pearson's chi-square, researchers analyzed barriers to performing oral care, and staff understanding of benefits and patients at risk to determine differences in responses in before- ($n=23$) and after-education surveys ($n=16$) (see Table 2). Significant differences were found in the following areas: awareness of an oral care protocol for patients without a tracheostomy and not ventilated, and increased risk of

TABLE 2.
Chi-Square

Question	*df*	Pre-Intervention Replied "No"	Post-Intervention Replied "No"	Chi-Square Result	Exact Significance (two-sided)
On a typical day, which of the following are barriers to performing regular oral care with your patients (No/Yes):					
• Lack of time	1	*n* = 6	*n* = 6	0.58	*p* = 0.50
• Lack of supplies	1	*n* = 22	*n* = 15	0.07	*p* = 1.0
• Other tasks take priority	1	*n* = 5	*n* = 4	0.06	*p* = 1.0
• Lack of support staff	1	*n* = 11	*n* = 10	0.82	*p* = 0.52
• Patient refusal	1	*n* = 16	*n* = 8	1.53	*p* = 0.32
• Not something I give much thought to	1	*n* = 18	*n* = 15	1.74	*p* = 0.37
Are you aware of a protocol in place for oral care among non-trached, non-ventilated patients? (Not aware/Aware)	1	*n* = 8	*n* = 6	6.24	*p* = 0.018*
What benefits do you see to performing regular oral care with non-trached, non-ventilated patients (Yes/No)					
• Improved self-esteem	1	*n* = 8	*n* = 3	1.20	*p* = 0.47
• Increased oral intake	1	*n* = 10	*n* = 8	0.16	*p* = 0.75
• Reduced chance for infection	1	*n* = 2	*n* = 3	0.85	*p* = 0.63
• Opportunity to assess patient's oral health	1	*n* = 9	*n* = 3	1.84	*p* = 0.29
Which of the following patients are most at risk for developing non-ventilator hospital-acquired pneumonia? (Yes/No)					
• NPO patients	1	*n* = 8	*n* = 0	7.00	*p* = 0.01**
• Post-surgical patients	1	*n* = 3	*n* = 0	2.26	*p* = 0.26
• Dysphagia patients	1	*n* = 1	*n* = 0	0.71	*p* = 1.0
• Tube feeding patients	1	*n* = 3	*n* = 2	0.002	*p* = 1.0
• Critically ill patients	1	*n* = 0	*n* = 0	NA	NA

NPO = nothing by mouth
*$p \leq 0.05$, **=0.00

TABLE 3.
Differences in Means Among the Four Data Collection Periods, ANOVA

Variable	Sum Squares	*df*	Mean Square	F	Significance
Patient age	B = 1173.3 W = 27538.1	3 156	391.11 176.5	2.216	0.088
Documentation: Number of times oral care refused	B = 11.42 W = 108.8	3 156	3.8 0.70	5.459	**0.001***
Documentation: Number of times oral care charted	B = 69.2 W = 159.0	3 156	23.1 1.0	22.634	**0.000***
NPO	B = 0.17 W = 8.3	3 156	0.06 0.05	1.054	0.0370
Diet texture	B = 22.8 W = 713.4	3 156	7.6 4.6	1.663	0.177
Liquid consistency	B = 18.6 W = 693.1	3 156	6.2 4.4	1.393	0.247
Presence of tube feeding	B = 0.6 W = 7.0	3 156	0.2 0.05	4.457	**0.005***

B = between, NPO = nothing by mouth, W = within
*$p \leq 0.05$

TABLE 4.
Post Hoc Analysis: Difference in Means Among Four Data Collection Periods (Scheffe Test)

Dependent Variable	Data Collection Period	Data Collection Period	Mean Difference	Std Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Documentation: Number of times oral care refused	Pre-intervention	5 weeks	-0.3000	0.187	0.463	-0.83	0.228
		7 weeks	-0.6000	0.187	**0.018***	-1.13	-0.07
		9 weeks	-0.6750	0.187	**0.006***	-1.2	-0.15
	5 weeks post-intervention	0 weeks	0.3000	0.187	0.463	-0.23	0.83
		7 weeks	-0.3000	0.187	0.463	-0.83	0.23
		9 weeks	-0.3750	0.187	0.262	-0.90	0.15
	7 weeks post-intervention	0 weeks	0.6000	0.187	**0.018***	0.07	1.13
		5 weeks	0.3000	0.187	0.463	-0.23	0.83
		9 weeks	-0.075	0.187	0.984	-0.60	0.45
	9 weeks post-intervention	0 weeks	0.6750	0.187	**0.006***	0.15	1.20
		5 weeks	0.3750	0.187	0.262	-0.15	0.90
		7 weeks	0.0750	0.187	0.984	-0.45	0.60
Documentation: Number of times oral care charted	Pre-intervention	5 weeks	-1.8250	0.226	**0.000****	-2.47	-1.19
		7 weeks	-0.6000	0.226	0.074	-1.24	0.04
		9 weeks	-0.8000	0.226	**0.007***	-1.44	-0.16
	5 weeks post-intervention	0 weeks	1.825	0.226	**0.000****	1.19	2.46
		7 weeks	1.225	0.226	**0.000****	0.59	1.86
		9 weeks	1.025	0.226	**0.000****	0.39	1.66
	7 weeks post-intervention	0 weeks	0.6000	0.226	0.074	-0.04	1.24
		5 weeks	-1.225	0.226	**0.000****	-1.86	-0.59
		9 weeks	-0.2000	0.226	0.853	-0.84	0.44
	9 weeks post-intervention	0 weeks	0.8000	0.226	**0.007***	0.16	1.44
		5 weeks	-1.025	0.226	**0.000***	-1.66	-0.39
		7 weeks	0.2000	0.226	0.853	-0.44	0.84
Presence of tube feeding	Pre-intervention	5 weeks	-0.1500	0.047	**0.021***	-0.28	-0.02
		7 weeks	-0.0500	0.047	0.774	-0.18	0.08
		9 weeks	0.0000	0.047	1.000	-0.13	0.13
	5 weeks post-intervention	0 weeks	-0.1500	0.047	**0.021***	0.02	0.28
		7 weeks	0.1000	0.047	0.221	-0.03	0.23
		9 weeks	0.1500	0.047	**0.021***	0.02	0.28
	7 weeks post-intervention	0 weeks	0.0500	0.047	0.774	-0.08	0.18
		5 weeks	-0.1000	0.047	0.221	-0.23	0.03
		9 weeks	0.0500	0.047	0.774	-0.08	0.18
	9 weeks post-intervention	0 weeks	0.0000	0.047	1.000	-0.13	0.13
		5 weeks	-0.1500	0.047	**0.021***	-0.28	-0.2
		7 weeks	-0.0500	0.047	0.774	-0.18	0.08

*$p \leq 0.05$; **=0.00

patients allowed nothing by mouth (NPO) of developing NV-HAP.

Analysis of variance (ANOVA) was used to compare changes in patients' documented oral care over time. No significant differences were found in patient age, orders for nothing by mouth, diet texture, and liquid consistency (see Table 3). Statistically significant findings in number of times oral care was refused (p=0.001) or charted (p=0.000), and the presence of tube feedings (p=0.005) were analyzed further using the Scheffe test (see Table 4). This test identified a significant increase in number of times oral care was refused from baseline compared to weeks 7 (p=0.018) and 9 (p=0.006). Further analysis determined the number of charted oral care occurrences improved significantly from baseline to weeks 5 (p=0.000) and 9 (p=0.007). Significant improvement in documentation occurred between weeks 5 and 7 (p=0.000), and between weeks 5 (p=0.000) and 9 (p=0.000), but not between weeks 7 and 9. Six patients had tube feedings at week 5; this was a significant change from baseline (p=0.021) and from week 9 (p=0.021). At baseline and week 9, no patients had tube feedings.

Discussion

Tada and Miura (2012) noted regular oral care improves a patient's ability to eat, drink, and swallow. However, the current survey found staff understanding of this relationship did not increase after education. In retrospect, the educational sessions did not emphasize the relationship between oral care and the mechanics of swallowing. Prior to education, staff already demonstrated insight to the relationship between oral care and infection. This remained high after the educational intervention. Staff perception improved regarding the impact of oral care on self-esteem and the opportunity to assess a patient's oral health, but results were not significant. The lack of significance is likely due to a smaller sample on the follow-up survey. Education appeared effective in improving the ability of staff to identify patients who were NPO as at higher risk for developing NV-HAP. Staff demonstrated increased awareness between pre- and post-surveys of the risk of patients developing NV-HAP if they have dysphagia, or are tube-fed or critically ill.

The interventions used in this study did not reduce or remove known barriers to providing oral care identified by Letsos and colleagues (2013). In the current study, survey results did not identify access to supplies and patient cooperation as barriers. The greatest barriers to performing oral care for staff were time availability and task prioritization. The ability to manage time associated with oral care and prioritize it among other nursing demands remained problematic before and after the intervention. Interestingly, perception of adequate staffing as a barrier to oral care did not change; it also was not perceived to be a strong barrier.

After the intervention, a statistically significant finding was staff improvement of their documentation of oral care performance as well as patient refusal of oral care. Baseline data demonstrated limited documentation in these areas. Staff education included standardized documentation requirements for oral care. The improvement after intervention may be related to the increased value placed on oral care documentation during this study, or it may indicate practice changed because of this intervention.

Limitations

The lack of demographic data collected on the nursing staff and the patient sample hindered generalizability to other staff and patient groups. In addition, the lack of CNA participation in the post-study survey affected the interpretation of results. The staff survey was developed expressly for this study and therefore does not have demonstrated reliability or validity. Another limitation was the unknown rate of education completion by nursing staff. This study also did not determine which intervention was most effective in improving oral care practices. Finally, patient acuity may have increased in the post-intervention phase, as demonstrated by the increased number of patients with tube feedings. This may have influenced the ability of staff to perform oral care or their failure to document its occurrence over time.

Recommendations for Future Research

Additional longitudinal studies are needed to determine if regular oral care will prevent NV-HAP. Future research should focus on higher-risk patients with the presence of tube feedings, a diagnosis of dysphagia, and difficulty managing secretions after extubation, as well as those who are NPO, to determine frequency and efficacy of routine oral care. Future studies also could include assessment of the feasibility and effectiveness of different methods of targeted staff and patient education.

Nursing Implications

A knowledge gap was identified for RNs and CNAs concerning the importance of patient oral care. Providing comprehensive staff education, using a clearly defined protocol, and having easily accessible tools ensured standardization of practice and elevated the importance of oral care. On busy medical-surgical units, nurses may not be able to provide oral care for every patient. However, they are responsible for delegating oral care and they maintain accountability for its completion when they are unable to perform the task themselves. Understanding the importance of oral care is a first step toward changing practice.

Poor oral care is associated with higher rates of NV-HAP, extended hospital stays, and the development of multi-drug resistant organisms (Kaneoka et al., 2015). Nurses may be distracted by non-patient related tasks and lose focus on fundamental interventions such as oral care, which is known to minimize patient complications and hospital costs (Quinn & Baker, 2015). The value of providing oral care goes beyond preventing complications. Regular oral care offers another opportunity for the RN to assess the patient's self-care ability and provide health education. This additional time spent at the bedside may enhance the nurse-patient experience.

Nurses in this study voiced frustration over the large list of tasks to be completed each shift. Participants had difficulty prioritizing oral care among other nursing functions. Importantly, nurse leaders must remain aware of nursing interventions on their units that contribute to the best patient outcomes; oral care should be among those tasks. RNs need support and proficiency in prioritizing, delegating, and ensuring performance of tasks that enhance safety. The current study found patients may have a stronger influence on the frequency of oral care practices than previously understood. This finding suggests nursing staff and patients should be partners in ensuring completion of oral care. Nurses also must be competent in coaching patients regarding the importance of oral health habits.

Conclusion

Previous research recommended overcoming barriers to routine oral care hygiene as a strategy for reducing NV-HAP (Letsos et al., 2013). Barriers found in the literature include limited time, resource constraints, patient behaviors, and staff knowledge gaps. This study reduced the barrier of limited time and resources through CNA, RN, and patient use of a bedside oral hygiene kit, contributing to improved oral care documentation. Although the study did not determine the impact of patient behavior as a barrier to the frequency of oral care, it identified the existence of gaps in staff knowledge regarding oral care. Targeted education to overcome this barrier likely had clinical significance. MSN

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