Hospitalized Patient Perspectives on Oral Care

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Background / Significance

- **Hospital acquired pneumonia** ranks #1 and is responsible for 22% of all health care associated infections.
- **Toothbrushing** removes oral bacteria and is shown to be effective in preventing hospital acquired pneumonia (Baker et al., 2014; Warrens et al., 2019) even when done twice a day (Munro & Baker, 2018).
- Oral care is an often "missed" essential care for hospitalized patients (Kalish, Xie & Dabney 2014).
- Oral care research has focused on nurse perspective; Little is known about the patient perspective and ways to engage them in toothbrushing to stay healthy.
- The **Health Belief Model** (Champion & Skinner, 2008), a behavioral theory, suggests that beliefs influence engagement in health behaviors, making it a useful theory to guide research on patient perspective.

Purpose

- To describe hospitalized medical surgical patient perspectives on toothbrushing, risk of pneumonia, & nurse-based supportive practices (cues to action)
- Gather patient input on how to make twice per day toothbrushing a routine part of hospital care

Methods

- **Design**: Descriptive study using an investigator-designed survey to gather patient perspectives
- **Setting**: Study conducted on 4 inpatient med/surg units with varied specialty (oncology, cardiac, cardiac procedure, & surgical/ortho) at a 273-bed suburban community medical center in the Midwest.
- **Measure:** The Health Belief Model guided the development of a brief 13-item survey:
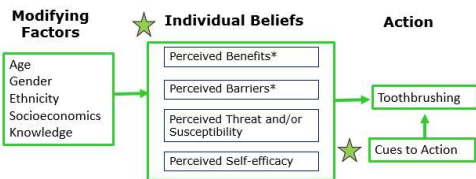
Source: Champion Victoria L, & Skinner, C. S. (2008).
*Concepts with the strongest impact

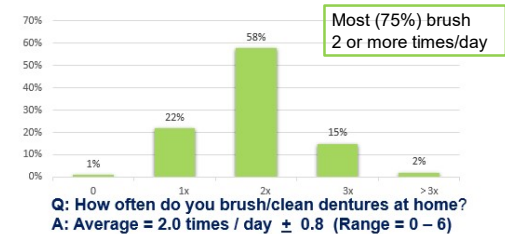**Figure 1**. Using Health Belief Model to Evaluate Patient Perspectives on Toothbrushing

Methods *(continued)*

- **Sample:** Adults (18+ years) hospitalized over 24 hours on study units. Exclusions: Non-English speaking, end of life, or acute/chronic confusion.
- **Procedure:** After IRB approval, the units were oriented to the study and the "opt out" process if not interested. The Research Team used the electronic patient lists to screen for eligible patients. The Patient Information Letter, paper survey, and envelope was distributed to all eligible patients on the study units with self-administration and confidential return. Data were collected for 8 weeks, ending February 26, 2021.
- **Data Analysis**: Survey results were uploaded into Excel format using SurveyMonkey for SAS analysis. Descriptive statistics were used to describe patient perspectives, differences by age, gender, or race/ethnicity, and to evaluate cues to action.

Results

- The survey was returned by **456 patients**, a 57% response rate for the facility. Participants were excluded for non-English speaking (53%), confusion (43%), and end of life (4%).
- **Participants:** Average age = 66.8+17 yrs (range 18-99), 53% female, primarily white (90%); Black African Americans (6%), Hispanic (8%). Many non-Caucasian patients did not speak English.

Oral Care is_____ (method)?	Count / %
Toothbrush/Paste	323 (74%)
Mouthwash/denture cleanser	54 (12%)
TB/Paste + Mouthwash/denture cleanser	47 (11%)
Not part of my usual care	7 (2%)

Most (75%) brush 2 or more times/day

Q: How often do you brush/clean dentures at home?
A: Average = 2.0 times / day ± 0.8 (Range = 0 – 6)

Figure 2. Description of Toothbrushing Frequency (N=456)

Majority said toothbrushing is very (76%) or somewhat (23%) important; Few (<2%) said it was not important.

Many (40%) are not concerned about pneumonia risk.

Some (44%) not confident in ability to brush during stay.

Benefits	%	Barriers	%
Freshens breath	85%	No Reason NOT to Brush	75%
Stay healthy	75%	Makes me tired or SOB	9%
Freshen/moisten mouth	73%	Needs assistance	6%
Removes food/debris	72%	Makes gums bleed	6%
Mouth feels better	71%	Hard to do	3%
Prevent decay/gum disease	67%	Painful/uncomfortable	2%
Dentist Recommendation	42%	Don't like to brush teeth	2%
Less pain / discomfort	26%		
Cultural religious reason	3%		
Strength of Benefits: Average: 5.1 ± 2.1 / subject		**Strength of Barriers** Average: 0.3 ± 0.7 / subject	

Table 1. Subjects report many benefits and few barriers

Cues	Count / %
Anyone talk with you about TB?	Yes = 35%
Nurse	39 (9%)
Nursing Assistant	61 (14%)
Nurse + Nursing Assistant	91 (20%)
Doctor + Nursing	8 (2%)
Nurse/Nursing Assistant/Doctor/Therapist (all)	6 (2%)
	No = 53%
How did you receive Info about TB?	
One or more strategies	63%
Did not receive any information	37%
Bathroom sign (alone/combination)	41%
Was Info easy to understand so you know what to do?	
Agree	261 (65%)
Not sure	117 (29%)
Disagree	23 (6%)

Table 2. Patient Reported Informational 'Cues to Action"

Cues to Action	Count / %
Does the Staff to things to help you to do toothbrushing twice a day?	
None – I don't need help	155 (34%)
Reminders	126 (27%)
Gave me toothbrush/paste	256 (56%)
Set things up for me	99 (22%)
Encouraged me when difficult	20 (4%)
Helped me to brush teeth/dentures	22 (4%)
Help Count	Avg: 1.1 ± 1
Able to tell staff when you brush=Yes (document) – 58% average all units	255 (59%)

Table 3. Patient Reported Action-oriented Cues

Conclusions

- Most subjects report brushing 2 or more times/day
- Most (98%) report toothbrushing is important
- Brushing has many benefits and few barriers
- Many are not concerned about risk for pneumonia
- Medical patients had barriers w/ assist needs
- Not confident toothbrushing will occur in hospital
- Simple "cues to action" like posting reminder signs and providing toothbrush and paste and set-ups can promote patient engagement in toothbrushing.

Implications

- Oral care is an essential nursing intervention used to reduce risk for pneumonia in hospitals.
- Patients asked for "cues"; Staff are encouraged to use verbal & action cues to do toothbrushing.
- Study provides evidence to support use of reminder signs and quality toothbrushing products.
- This is an initial investigation at a single site; Future research is needed including tool validation and replication with a survey in different languages.

References

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Acknowledgements

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