9-26-2023

The Impact of an Oral Hygiene Bundle on Hospital Acquired Pneumonias

Catherine A. Draus
Henry Ford Health, cdraus1@hfhs.org

Kristina Boudreau
Henry Ford Health, kboudre2@hfhs.org

Lisa Cohen
Henry Ford Health, lcohen1@hfhs.org

Jennifer Dejans
Henry Ford Health, jdejans1@hfhs.org

Rachel Eklund
Henry Ford Health, reklund9@hfhs.org

See next page for additional authors

Authors

Catherine A. Draus, Kristina Boudreau, Lisa Cohen, Jennifer Dejans, Rachel Eklund, Kelsey Hebel, Pam Johnson, Jennifer Michalski, Princetta Morales, Hannah M. Musgrove, and Anastasia Vasilevski

The Impact of on oral Hygiene Bundle on Hospital Acquired Pneumonias

Cathy Draus, DNP, APRN, ACNS-BC; Kristina Boudreau MSN, RN, AGCNS-BC, CCRN-K; Lisa Cohen MS, RN, ACNS-BC, CCRN-K, CNRN; Jennifer Dejans, BSN, RN, MSNBC; Rachel Eklund MSN, APRN, AGCNS-BC, CCRN; Kelsey Hebel MSN, RN, AGCNS-BC; Pam Johnson, BSN, RN-BC; Jennifer Michalski, MSN, RN, CNS-C,ONC; Princetta Morales, MSN, APRN, ACNS-BC; Hannah Musgrove,MSN, APRN, AGCNS-BC; Anastasia Vasilevski, BSN, RN, CCRN

Henry Ford Hospital, Detroit, MI

BACKGROUND

Hospital acquired infections (HAIs) have a significant impact on patient outcomes with hospital acquired pneumonias (HAPs) accounting for a large part of the cost and care burden. At Henry Ford Hospital, the HAP rate over the last 3 years has increased from 1181 (June 2020) to 1869 (June 2021) to 1078 (June 2022), in large part due to the COVID-19 pandemic. Review of the literature shows that implementation of a nursing protocol with clearly defined steps helped to increase the number of patients receiving oral care and reduced the incidence of hospital acquired pneumonias (Warren, 2019). In addition, oral care as part of the VAP bundle significantly reduced the incidence of pneumonia when compared to oral care alone.

STUDY PURPOSE

The primary purpose of this evidence-based practice project is to evaluate the effectiveness of a standardized oral care regimen on HAPs for all patients in the hospital over a 6-month period following focused education for the nursing staff.

METHODOLOGY

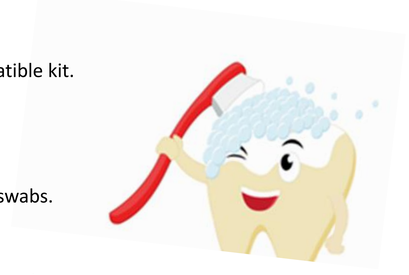
- a site-specific oral hygiene protocol was developed and replicated the protocol used by Warren (2019).
- Nursing staff were educated on the protocol via cornerstone module
- Units were encouraged to have unit champions identified to support the implementation of the bundle.
- HAP rates, LOS and mortality rates were compared 3 months prior to bundle implementation to 3 months post implementation.
- Data was abstracted from the EMR and included frequency and type of oral care performed

Oral Care Protocol

Ventilator-dependent patient:
- Oral care Q 4 hours with suction compatible kit.
- Use toothbrush Q12 hours

At risk or dependent patient:
- Oral care at least 4 times a day
- Kit will include toothbrush and suction swabs.

Independent patient:
- Encourage patient to brush teeth twice a day
- No specific kit
- Provide patient with toothbrush and paste.

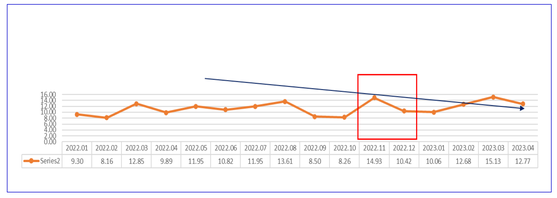


DATA ANALYSIS

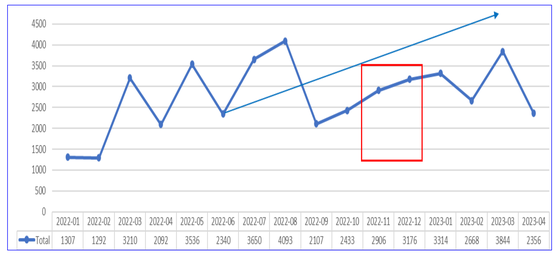
- Data was extracted from the EMR collected in a 3-month period prior to bundle implementation and in a 3-month period post implementation.
- In each period HAP rates, LOS and mortality rates were computed.
- The two rates, HAP and mortality were compared using a Chi-squared test. and LOS using a Student's t-test.

RESULTS

Ventilator Associated Pneumonia Rate
3 - Month Pre-Intervention through 3 - Month Post-Intervention



Oral Care Interventions Count
3 - Month Pre-Intervention through 3 - Month Post-Intervention



Patient Outcomes

	2022	2023	
Total # Admits	2138	1271	
LOS (average days)	20.45	18.9	
Discharge Outcome (%)			
Home	36.0	36.4	
Death	36.7	36.4	
SAR	27.3	26.9	

DISCUSSION

- At Henry Ford Hospital, the HAP rate over the last 3 years has increased significantly, in large part to the COVID-19 pandemic.
- Research shows that implementation of a nursing oral care protocol with clearly defined steps helps to increase the number of patients receiving oral care and reduces the incidence of hospital acquired pneumonias
- Data from this project shows that as the number of oral care interventions increased there was a concomitant decrease in VAP.
- The education intervention resulted in increased adherence to the protocol as well as increase in documentation of care provided.
- In addition, length of stay decreased while discharge to home remain unchanged.
- Mortality rate and discharge to SAR both decreased slightly.

CLINICAL IMPLICATIONS

- The project is low risk with high benefit., and is a standard of care that all patients receive.
- this may influence how patients manage their own oral care after discharge.

STUDY LIMITATIONS

- The impact from Covid -19 is still present in the hospital, and may impact outcomes as related to available resources and manpower
- Data retrieval was from the EMR and will only be as good as the data entered

CONCLUSION

- Providing oral care is a simple and minimal cost intervention that can have significant impact on patient outcomes related to HAP.
- Educating staff on the value of oral care can help improve adherence to oral care protocols.

REFERENCES

- available upon request