

# Effects of Oral Care Protocol & Practices of Nurses on Oral Assessment Scores in the Ventilated Patients

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## Abstract

**Purpose:** The project aimed to examine the effects of an existing oral care protocol & practices of nurses on oral assessment scores in ventilated patients.

**Materials and Methods:** Clinical data were collected during intensive care admission after 3 days of implementing an existing oral care protocol in Medical ICU. The Beck Oral Assessment Scale (BOAS) was used to assess the oral cavity and to check the effectiveness of oral care provided by the nurses. Developed the oral care education program consisted of instructions and a clear procedure outlining oral care. Data was input into and analyzed using Microsoft Excel.

**Results:** The existing oral care protocol was found to be effective through the scores on BOAS. The findings revealed areas needs improvement in practices of nurses. The oral care education programme was planned and presented to all nurses working in Medical ICU. Scores on the BOAS differed significantly before and after educational intervention. Resources needed to carry out the protocol were identified and those were provided.

**Conclusion:** Though the protocol of oral care is in place, there is always room for improvement. Oral assessment scores improved after reinforcement training as oral care practices were improved.

**Keywords:** Oral Care, Ventilated Patients, Medical ICU & BOAS.

## Introduction

Oral care or mouth care is one of the most basic nursing activities. Keeping the mouth and teeth clean will protect patient's oral health and allow quicker recovery by preventing infections. The nurse plays an important role in providing effective oral care and promoting oral hygiene of an unconscious patient / intensive care patient<sup>1</sup>.

Stratified epithelium cells beyond from lips to oropharynx of intensive care patients can be damaged easily because of inadequate perfusion, insufficient fluid / food intake, and toxicity of medicine. Therefore, providing and maintenance of oral care is vital for intensive care patients in order to avoid the emerging changes in the oral mucosa and oral problems which caused by insufficient oral care and ventilator-associated pneumonia (VAP)<sup>2,3</sup>.

The purpose of this project was to objectively investigate the adherence of staff to existing oral care protocol and to develop guidance and educate the nurses with the aims of improving oral care practices in the Medical ICU of QRG Health city.

## Methods and Materials

This study was conducted between November 2019 and January 2020. A convenience sample and a pre-post study design with an educational intervention were used. Data was collected from Medical ICU during intensive care admission after 3 days of implementing an existing oral care protocol of the hospital.

The oral care policy of the hospital recommends comprehensive oral care as a part of VAP prevention protocol. This oral care consists daily oral care with 0.12% chlorhexidine<sup>4</sup>. The protocol includes brushing teeth, gums, and tongue with a soft pediatric toothbrush and moistening oral mucosa and lips every 4 hours.

The Beck Oral Assessment Scale was used to assess the oral cavity and to check the effectiveness of oral care provided by the nurses. *Beck Oral Assessment Scale* was created by Becks in 1979, patients are evaluated in terms of lip, gingival, *oral* mucosa, tongue, teeth and

saliva. This *assessment* system grades from one to four points. *Beck's oral assessment tool* is given in Table 1 in details. It is suggested that nurses in intensive care units use this guide for complete assessment of oral mucosa as a diagnosis tool<sup>5,6</sup>.

**Table-1: Beck Oral Assessment Score (BOAS), Modified<sup>6</sup>**

Area	Score			
	1	2	3	4
<b>Lips</b>	<b>Smooth, pink, moist, and intact</b>	<b>Slightly dry, red</b>	<b>Dry, swollen isolated blisters</b>	<b>Oedematous, inflamed blisters</b>
Gingiva and oral mucosa	Smooth, pink, moist, and intact	Pale, dry, isolated lesions	Swollen red	Very dry and oedematous, inflamed
Tongue	Smooth, pink, moist, and intact	Dry, prominent papillae	Dry, swollen, tip and papillae are red with lesions	Very dry, oedematous, engorged coating
Teeth	Clean no debris	Minimal debris	Moderate debris	Covered with debris
Saliva	Thin, watery plentiful	Increase in amount	Scanty and somewhat thicker	Thick and ropy, viscid or mucid
Score Interpretation	5	6–10	11–15	16–20
	No dysfunction	Mild dysfunction	Moderate dysfunction	Severe dysfunction
Note: Provide moisture more often than oral care	Minimum care every 12 h	Minimum care every 8–12	Minimum care every 8 h	Minimum care every 4 h

In the month of December 2019, a 1-hour oral care education programme was created. The presentation included the importance of oral care, oral assessment, materials / solutions used in oral care, what should be the frequency of oral care practice and evidence based approach to oral care. Two weeks intensive classes were taken to nurses who are working in medical ICU followed by discussion about any concerns on the procedure. The level of knowledge was assessed by semi structured questionnaire and assessed their practical skill on oral care through procedure checklist.

## Results

A total of 25 ventilated patients were chosen who were admitted in the medical ICU. All patients were assessed by using BOAS tool. According to BOAS scores there were 15 (60%) patients had no dysfunction and 10 (40%) patients had mild dysfunction. It was revealed that, existing oral care protocol was effective and compliance of staff adherence to protocol was satisfactory. Also noted the need for reinforcement training to strengthen the practices of nurses to meet 100% compliance.

The oral care education programme was presented to all nurses of medical ICU. The findings revealed that training was effective in enhancing the knowledge of nurses as shown by the scores obtained in the post-test & improved practical skills. Resources needed to carry out the protocol were identified and those were provided.

After intervention, in the month of January 2020 again a total of 25 ventilated patients were chosen and assessed by using BOAS tool. As per BOAS scores there were 21 (84%) patients had no dysfunction and 4 (16%) patients had mild dysfunction which shows improvement in oral care practices of nurses.

### **Conclusion**

The modified BOAS provides a realistic and clinically useful assessment of oral integrity in critically ill patients. The overall results show that, patients who had routine oral care as per existing protocol had significantly lower overall scores on the Beck Oral Assessment Scale and it was revealed that existing oral care protocol of the hospital was effective and can be continued.

Continuing nursing education / reinforcement trainings are important in determining issues associated with unsafe oral care practices & unproductiveness. The findings demonstrated that, oral care education programme is the best initiative to keep nurses' knowledge and skills up to date in the bedside practice.

**Conflict of Interest:** Nil

**Source of Funding:** The project was supported by the Hospital.

**Ethical Consideration:** Formally obtained from

the Hospital.

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