EFFECTIVENESS OF MODIFIED ORAL CARE PROTOCOL ON MAINTENANCE OF ORAL HYGIENE AMONG CRITICALLY ILL PATIENTS, AT KMCH, COIMBATORE.

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Abstract

A study was conducted with quasi experimental time series design to evaluate the effectiveness of modified oral care protocol on maintenance of oral care among critically ill patients. The study was conducted at neurological units in Kovai Medical Center and Hospital. The non-probability convenient sample was used to assign the subjects. The Beck's Oral Assessment tool was used to measure the oral health status. The sample size was 30. The data collected were tabulated and analyzed by descriptive and inferential statistics. The mean values of difference between pretest and posttest Beck's oral hygiene scores of modified oral care protocol and traditional care were significant (P<.01 level).

Introduction

Oral hygiene is the practice of keeping the mouth clean in order to prevent cavities (dental caries), gingivitis, periodontitis, bad breath (halitosis) and other dental disorders. It consists of both personal and professional care.

Oral hygiene is defined as scientific care of teeth and mouth. Oral hygiene should be a part of an assessment of the mouth on admission and should be reviewed at regular intervals. Assessing a patient's mouth and delivering appropriate oral care can prevent potential infections, distress and discomfort to a patient, as well as reducing the risk of both dental and systemic disease.

Nurses have an important role in providing effective oral care and a health promotion role in teaching patients about the importance of oral assessment and oral care. Regular oral care includes such things as mouthwashes, which can help to maintain moisture, remove debris, prevent plaque and reduce the risk of infection. Oral care for patients who are unconscious and for those who require assistance with activities of daily living are provided by nurses.

It is estimated that 89% of terminally ill patients suffer from oral dysfunction, 75% of these suffer from xerostomia (dryness of mouth). Moreover, the oral cavity of severely ill patients is typically colonized with gram-negative rods which is usually not the case in healthy subjects. Consequently many VAP prevention measures aim at the reduction of aspiration of contaminated oral secretions. Deeply sedated patients may not be able to swallow their oral secretions. Oral hygiene

and suctioning are important parts of nursing care which also contribute to the reduction of aspiration.

Maintaining oral health of the critically ill patient is imperative in reducing the risk of nosocomial infections and improving patient comfort and discharge outcomes. Critically ill patients are at great risk for poor oral health as many are elderly, undernourished, dehydrated, immuno suppressed, have a smoking or alcohol history, intubated or on high-flow oxygen and are unable to mechanically remove dental plaque. Many modalities for delivering oral care have been reported in the literature. The use of the toothbrush in the mechanical removal of plaque even in the intubated patient, has been proven to be superior to the swab.

Hence the researcher was interested to test the effect of sodium bicarbonate in oral hygiene, which is less expensive, easy to prevent and can be used as an agent to prevent dental problems.

Materials and Methods

A quasi experimental study was conducted to find out the effectiveness of modified oral care protocol which had control and experimental group. In order to maintain the homogeneity among the groups, the investigator assessed the oral health status using Beck's Oral Assessment Guide before the procedure. The study was conducted in Neuro ICU of Kovai Medical Center and Hospital at Coimbatore. Kovai Medical Center and Hospital is a 500 bedded multi speciality hospital and it provides comprehensive care to all.

The tool contains patient demographic profile and modified Beck's Oral Assessment Guide which has negative Glasco Coma Scale. Good oral health has minimum (S=5) scores and poor oral health has maximum 20 scores (S=20). It was developed by Warren Grant Magnums clinical centre. Modified Beck's Oral Assessment Guide was standardized scale, reliability of scale was r=·78

Pilot Study

The pilot study was conducted among 10 subjects in NICU. Among 10 subjects five were assigned for experimental group and remaining five subjects for control group. Pilot study revealed the feasibility for the main study.

Data Collection Procedure

The data was collected over a period of one month. The investigator obtained prior permission from the respective authorities to conduct study. Informed consent was obtained from the first order relative. Subjects were selected based on the inclusion criteria. The groups were matched based on their GCS scores and Hb level. Subjects for the study were undergone the pre assessment of oral hygiene by using Beck's Oral Assessment Guide. The experimental group received oral care based on modified oral care protocol for four times per day for five

days consecutively. The control group received oral care based on traditional method. Approximately 2-3 patients received oral care in experimental group. Post assessment of oral hygiene was done for both experimental and control group every day morning from second to seventh day.

Major findings of the study:

The mean score of oral health was 13.8 and 13.78 in experimental and control group respectively. The obtained "t" value was 0.17 (df=28) which was not significant. Hence homogeneity was maintained among the groups.

The mean score of oral health on day one was 11.6 and 13.78 in experimental and control group respectively. The obtained "t" value was 3.30 (df=28) which was significant, shows effect of modified oral care protocol.

The mean score of oral health on day two was 10.33 and 13.77 in experimental and control group respectively. The obtained "t" value was 4.83 which was significant, shows effect of modified oral care protocol.

The mean score of oral health on day 3 was 8 and 11.87 in experimental and control group. The obtained "t" value was 7.09 (df=28) which was significant, shows effect of modified oral care protocol.

The mean score of oral health on day4 was 6 and 11.33 in experimental and control group respectively. The obtained "t" value was 11.93 (df=28) which was highly significant shows effect of modified oral care protocol.

The mean score of oral health on day5 was 5.33 and 11.22 in experimental and control group. The obtained "t" value was 17.42 which was highly significant shows effect of modified oral care protocol.

Figure-11 Comparison of pretest and posttest Beck's oral hygiene scores between experimental and control group.

Table 1
Comparison of posttest oral health scores of experimental and control group

S.No	Group	Test	N	Mean	S.D	Student "t"value
1.	Experimental group	Posttest – 1	15	11.6	1.82	3.30**
	Control group	Posttest – 1	15	13.78	1.48	
2.	Experimental group	Posttest – 2	15	10.33	1.96	4.83**
	Control group	Posttest – 2	15	13.64	1.19	
3.	Experimental group	Posttest – 3	15	8	1.71	7.09**
	Control group	Posttest – 3	15	13.35	1.09	
4.	Experimental group	Posttest – 4	15	6	1.15	11.93**
	Control group	Posttest – 4	15	13.14	1.15	
5.	Experimental group	Posttest – 5	15	5.33	0.60	17.42**
	Control group	Posttest – 5	15	12.92	1.12	
6.	Experimental group	Posttest – 6	15	5.07	0.38	22.93**
	Control group	Posttest – 6	15	12.64	0.99	

Note- ** Significant at .01 level

The obtained "t" value on pretest was 0.17 shows that homogeneity was maintained between the groups. The "t" values on posttest were 3.30, 4.83, 11.93, 17.42 and 22.93, significant at 0.01level. The findings imply that there is a significant difference in pretest and posttest – 1, 2, 3, 4, 5, 6 score of Beck's oral hygiene between the experimental and control group which shows that modified oral care protocol improves oral hygiene.

Conclusion

The study findings provide the statistical evidence which clearly indicates that modified oral care protocol is best to be used to improve the oral hygiene of the patient. The subjects who received modified oral care protocol had a significant improvement in oral hygiene

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