

The Effect Of Oral Swab Wipes To Prevent Thirst And Xerostomia Among Patients Admitted In Critical Care Wards

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ABSTRACT

Background of the study: Thirst and xerostomia are common symptoms, recognized among patients when hospitalized in critical care units, if ignored, can lead to serious oral consequences and other severe complications such as an increase in the intensity of pain and dyspnea in patients. Several factors are responsible for thirst and xerostomia in critical care ward patient which include, age, sex, whether, comorbidity, hospital anxiety, pre- and post-operative fasting before and after surgery of the patients, severe progressive disease condition and prolonged use of medication etc. **Aim:** This study aimed to effect of oral swab wipes to prevent thirst and xerostomia among patients admitted in critical care wards. **Material and method:** A quantitative quasi experimental research approach and two group pretest and posttest experimental design was used in this study. Data was collected by non-probability purposive sampling technique and two standardized scale is used for assessment of thirst and xerostomia that is thirst discomfort scale and Visual Analogue Scale in this study. **Results of the study:** This study result shows The assessment of Pre data in the Thirst Discomfort scale in the Control and the Experiment Groups: majority of the values in both groups fall under the “very uncomfortable” and Post data in the Thirst Discomfort scale in the Control and the Experiment Groups: there is no difference in the values of the Pre and Post data in the Control group but post data assessment, all the variables are statistically highly significant at 5% level of significance as the P-value < 0.0001., means there was a significant positive difference in the Post values of the Experiment group. The assessment of Pre data for Xerostomia in the Control and the Experiment Groups: There are 7 variables of the total 15 variables, which do not have a significant difference when tested at 5% level of significance and the assessment of Post data for Xerostomia in the Control and the Experiment Groups, the variables with P-value < 0.05 are significantly different in their Pre values when compared between Control and Experiment groups. only 4 variables are not significant at 5% level of significance. Therefore, the outcome of group wise distribution, there is a positive statistically significant difference in the Experiment Group compared to the Control Group in the Post data. **Discussion and conclusion:** In the research study, majority of group have oral swab wipes is effective in decrease thirst and xerostomia of the patients, admitted in the Critical Care wards. This result is based on statistical outcomes.

Key words: *Thirst, Xerostomia, Oral swab wipes, Prevent, and Critical Care.*

1. INTRODUCTION

Thirst and xerostomia is a common occurrence among patients, hospitalized in intensive care units.¹Thirst can be defined as a willing to drink water, which is not generated by only physiological need, but also came from habit and any other medical condition. Different factors are responsible for presence and intensity of the thirst, which include, age, sex, whether, comorbidity, food- habit, anxiety, nutrition, and salivary dysfunction.²

Thirst is the second most prevalent symptom in patients admitted in critical care ward. Moderate to severe thirst was similarly reported by 70% of intensive care unit patients and was encountered by more than 80% of 36 chronically ill patients who had tracheotomies. Severe thirst with thirst persisted in 18% of 88 terminally ill cancer patients, and thirst was reported intermittently in 36% of 36 patients until death occurred.³In a healthy individual, production of saliva is 0.5 to 1.5 litres/day and 0.3–0.4 ml/min. Saliva is secreting by salivary glands and it is controlled by the brain via the saliva reflex arch.⁴

Xerostomia is also called dryness of mouth and it is also a common symptom with critically ill patients, various causes that, Several and prolong use of drugs treatment is the common cause of xerostomia in patients with advanced diseases condition. if ignored then it can lead to serious oral condition.⁵ The estimated prevalence of xerostomia in the general population is between 21 and 27%. the research in dry mouth, those who had received radiotherapy to the head and neck. 10% -26% in men and between 10% -33% in women.⁶

Treatment of xerostomia is good hydration, prophylaxis of candidiasis, optimal oral hygiene and all unnecessary medications must be avoided by patients.^{7,8}Saliva plays a fundamental role in maintaining oral health. Saliva plays a number of key functions, the most important of which is to lubricate food prior to swallowing and saliva consists of more than 99% water, with secretions containing mucin glycoproteins, which helps to coat, lubricate and protect the hard and soft surfaces of the oral cavity. Saliva contains amylase which is helpful in digestion of starch. When decrease or absent salivation in any individuals, causing xerostomia and sore mucous membranes, feeling uncomfortable and pain. Dry mouth can also lead to swallowing difficulties, speech disturbances, loss of appetite, dehydration, and malnutrition, thus having a negative effect on diseases condition and also reduced the quality of life.⁹

2. MATERIAL AND METHODS

The study was conducted by using pre-test and post-test control group design. Population of this study was patients who are admitted to the critical care wards of Dhiraj General Hospital, Vadodara and 40 Patients were selected who were suffering from thirst and xerostomia as a sample by using non-probability purposive sampling technique. The inclusion criteria of this study were the patients/relatives who are willingly participating in this study, the patients who are admitted to the critical care wards and are have the problem of thirst and xerostomia and patients who can report verbally or non-verbally about thirst and xerostomia. The exclusion criteria of this study was Pediatric patients, Patients who are medically contraindicated, not able to follow the commands, having any oral surgery and patients who are unconscious or on ventilator support. The data was collected by two standardized tools. Which one was Thirst Discomfort Scale for assess the level of thirst and another one was Visual Analogue Scale for assess the level of xerostomia? Reliability of tool was assessed by

conducting pilot study among 4 patients of critical care wards of Dhiraj General Hospital. who were not participate in main study. Data were analysis based on research objectives by using descriptive and inferential statistics.

3. RESULTS

Table-1:Frequency and percentage distribution of demographic variables in control and experimental group:

		Control Group (n=20)		Experimental Group (n=20)	
Variable	Category	Frequency	Percentage	Frequency	Percentage
Age Group	21-30 years	1	5.0	4	20.0
	31-40 years	4	20.0	3	15.0
	41-50 years	2	10.0	5	25.0
	Above 51 years	13	65.0	8	40.0
Gender	Male	15	75.0	14	70.0
	Female	5	25.0	6	30.0
Education	Illiterate	6	30.0	7	35.0
	SSC	10	50.0	5	25.0
	HSC	4	20.0	8	40.0
Disorder diagnosed	Neurological	5	25.0	10	50.0
	Renal	3	15.0	4	20.0
	Endocrine	2	10.0	2	10.0
	Other	10	50.0	4	20.0
Duration of hospitalization	Less than 15 days	17	85.0	19	95.0
	Between 15 days to 1 month	3	15.0	1	5.0
Previous experience of treatment	Yes	2	10.0	0	0.0
	No	18	90.0	20	100.0

The maximum number of participants in both groups was in the “Above 51 years” age group with 65% in the Control group and 40% in the Experiment group. In both the 21-30 years” and the “41-50” years” age group, the Experiment group had a higher proportion of participants compared to the Control group. Both the groups had a higher proportion of male participants compared to females with 75% and 70% in the Control and the Experiment groups respectively. In the Control group, SSC was the maximum (50%) of participants’ level of education while in the Experiment group, HSC was the maximum (40%) level of education. In the Control and the Experiment group, the proportion of the illiterate were similar at 30% and 35% respectively. The diseases diagnosed in both groups. In the Experiment group, 50% of participants were diagnosed with a neurological disorder while 50% of participants in the Control group were diagnosed with some other disorders than the one listed in the graph. The proportion of Renal disorder and Endocrine disorder for both the groups was more or less similar to each other with Renal disorder being on the higher side compared to Endocrine disorder. It is very evident that in both groups of Control and Experiment, the majority of participants stayed for less than 15 days in the hospital with 85% in the Control group and 95% in the Experiment group. Only 5% of participants in the Experiment group stayed for more

than 15 days for up to 1 month in the hospital and None of the participants in the Experiment group had any previous experience of treatment for a similar disorder of interest in this study. Only 10% of the participants in the Control group had previous treatment experience.

Table-2 Score interpretation of pretest score of control and the Experimental Groups: (n=20) in each group in the Thirst Discomfort Scale:

Variable	Control Group % (n)	Experiment Group % (n)	P-value	Remarks
Dry mouth	- 35.0 (7) 65.0 (13)	- 15.0 (3) 85.0 (17)	0.289	NS
Dry lips	- 35.0 (7) 65.0 (13)	- 15.0 (3) 85.0 (17)	0.289	NS
Thick tongue	- 40.0 (8) 60.0 (12)	- 15.0 (3) 85.0 (17)	0.183	NS
Thick saliva	- 40.0 (8) 60.0 (12)	- 15.0 (3) 85.0 (17)	0.183	NS
Dry throat	- 35.0 (7) 65.0 (13)	- 15.0 (3) 85.0 (17)	0.289	NS
Bad taste in the mouth	5.0 (1) 45.0 (9) 50.0 (10)	- 5.0 (1) 95.0 (19)	0.013	S
Want water to drink	- 35.0 (7) 65.0 (13)	- 5.0 (1) 95.0 (19)	0.108	NS

The majority of the values in both groups fall under the “very uncomfortable” category for all the variables. only one variable “Bad taste in the mouth” is statistically significant at 5% level of significance as the P-value=0.013; the rest of the variables do not have a significant difference between the Pre values of control and Experiment groups.

Table-3 Score interpretation of post test score of control and the experiment groups: (n=20) in each group in the Thirst Discomfort Scale :

Variable	Control Group % (n)	Experiment Group % (n)	P-value	Remarks
Dry mouth	35.0 (7) 65.0 (13)	90.0 (18) 10.0 (2)	<0.0001	S
Dry lips	35.0 (7) 65.0 (13)	90.0 (18) 10.0 (2)	<0.0001	S
Thick tongue	40.0 (8) 60.0 (12)	85.0 (17) 15.0 (3)	<0.0001	S

Thick saliva	40.0 (8) 60.0 (12)	90.0 (18) 10.0 (2)	<0.0001	S
Dry throat	35.0 (7) 65.0 (13)	100.0 (20)	<0.0001	S
Bad taste in the mouth	45.0 (9) 50.0 (10) *5.0 (1)	40.0 (8) 60.0 (12)	<0.0001	S
Want water to drink	35.0 (7) 65.0 (13)	95.0 (19) 5.0 (1)	<0.0001	S

From the above table, we can say that, there is no difference in the values of the Pre and Post data in the Control group and experimental group. This means that the intervention did not work and gave the expected positive result.

Table-4 The assessment of Pre data for Xerostomia in the Control and the Experiment Groups: (n=20) in each group in Visual Analogue Scale

Variable	P-value	Remark
1	0.030	S
2	0.030	S
3	0.086	NS
4	0.043	S
5	0.013	S
6	0.001	S
7	<0.001	S
8	0.013	S
9	0.081	NS
10	0.341	NS
11	0.799	NS
12	<0.001	S
13	0.799	NS
14	1.000	NS
15	1.000	NS

From the above table, we can say that the variables with P-value < 0.05 are significantly different in their Pre values when compared between Control and Experiment groups. There are 7 variables of the total 15 variables, which do not have a significant difference when tested at 5% level of significance.

Table-5 The assessment of post data for Xerostomia in the Control and the Experiment Groups: (n=20) in each group in Visual Analogue Scale

Variable	P-value	Remark
1	<0.001	S
2	<0.001	S
3	<0.001	S

4	0.015	S
5	0.001	S
6	<0.001	S
7	<0.001	S
8	<0.001	S
9	<0.001	S
10	0.001	S
11	0.799	NS
12	0.002	S
13	1.000	NS
14	1.000	NS
15	1.000	NS

From the above table, we can say that the variables with p-value < 0.05 are significantly different in their Pre values when compared between Control and Experiment groups. Therefore, only 4 variables are not significant at 5% level of significance. From the test conducted, we can conclude there is a positive statistically significant difference in the Experiment Group compared to the Control Group in the Post data.

4. DISCUSSION

This study was plan to assess the effect of a Scheduled nurse intervention on thirst and dry mouth in intensive care unit patients. VonStein M, Buchko BL, et.al conducted this research study on “effectiveness of schedules use of ice water oral swabs and lip moisturizer with menthol compared with unscheduled use in relieving thirst and dry mouth in intensive care unit patients”. Results of this study shows after intervention scheduled-use group had a low level of thirst intensity and dry mouth in comparison to the unscheduled-use group.¹⁰

A study, conducted by Patricia Aroni PhD, RN, Ligia F. Fonseca PhD, RN, et al on “the use of mentholated popsicle to reduce thirst during preoperative fasting” and aim of the study was to compare mentholated popsicle with usual care group in the change of thirst intensity and discomfort in patients in the preoperative fasting. The finding of this study was the popsicle group had a decrease thirst intensity and discomfort when compared to the usual care group.¹¹

5. CONCLUSION

The closure of this study, there is a positive, statistically significant difference in the Experiment Group result compared to the Control Group result in the Post test. So this study result shows oral swab wipes intervention was more effective in patients who were suffering from thirst and xerostomia and also admitted in critical care wards. Pre- test and Post- test of the Control Group showed, that if there was not applying thirst and xerostomia intervention than it was increased level of the thirst as well as xerostomia or it was remained same level.

ETHICAL CONSIDERATION

A formal ethical approval received from institutional ethic committee. Informed consent was obtained from participants and assured for anonymity.

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CONFLICT OF INTEREST: Author declared that no conflict of interest disclosed.

6. REFERENCE

- [1] Seada AI, Younis GA, Eid S. The effect of a frozen saline swab on thirst intensity and dry mouth among critical ill postoperative patients at Tanta university. *International Academic Journal of Health, Medicine and Nursing*. 2020 Jan 27;1(2):189-201.
- [2] Garcia AK, Fonseca LF, Aroni P, Galyao CM. Strategies for thirst relief: intergrative literature review. *Rev bras Enfrem*, 2016 Nov 1;69(6):1215-22.
- [3] Arai S, Stotts N, Puntillo K. Thirst in critically ill patients: from physiology to sensation. *American Journal of Critical Care*. 2013 Jul;22(4):328-35.
- [4] Furness S, Bryan G, McMillan R, Worthington HV. Interventions for the management of dry mouth: non-pharmacological interventions. *Cochrane Database of Systematic Reviews*. 2013(8).
- [5] Daniels TE, Wu AJ. Xerostomia- clinical evaluation and treatment in general practice. *Journal of the California Dental Association*. 2000 Dec; 28(12):933-41.
- [6] Napenas JJ, Brennan MT, Fox PC. Diagnosis and treatment of xerostomia (dry mouth). *Odontology*. 2009 Jul 1;97(2):76-83.
- [7] Vidal E, Liozon E, Soria P. Dry mouth. *La Revue du praticien*. 2001 Jan; 51(2):148-54.
- [8] Brunner FP. Pathophysiology of dehydration. *Schweizerische Rundschau fur Medizin Praxis= Revue Suisse de medicine Praxis*. 1993 Jul; 82(29-30):784-7.
- [9] Fleming M, Craigs CL, Bennett MI. Palliative care assessment of dry mouth: what matters most to patients with advanced disease? *Supportive Care in Cancer*.2020 Mar;28(3):1121-9.
- [10] Contain M, Buchko BL, Millen C, Lampo D, Bell T, Woods AB. Effect of a scheduled nurse intervention on thirst and dry mouth in intensive care patients. *American Journal of Critical Care*. 2019 Jan;28(1):41-6.
- [11] Aroni P, Fonseca LF, Ciol MA, Margatho AS, Galvao CM. The use of mentholated popsicle to reduce thirst during preoperative fasting: A randomized controlled trial. *Journal of clinical nursing*.2020 Mar;29(5-6):840-51.