



## A study to assess the effectiveness of vitamin-C spray with lip emollient (vaseline) to relieve dry mouth and thirst among preoperative and postoperative patients admitted in GIMSR hospital, Visakhapatnam

Saroj Gopal<sup>1</sup>, C H Tulasi<sup>2</sup>

<sup>1</sup> Gitam Institute of Nursing, Gitam University, Visakhapatnam, Andhra Pradesh, India

<sup>2</sup> Assistant Professor, Department of Medical and Surgical Nursing, Gitam Institute of Nursing, Gitam University, Visakhapatnam, Andhra Pradesh, India

### Abstract

**Back ground of study:** The skin is the largest organ of the body, accounting for about 15% of the total adult body weight. It performs many vital functions, including protection against external physical, chemical, and biologic assailants, as well as prevention of excess water loss from the body and a role in thermoregulation. The skin is continuous, with the mucous membranes lining the body's surface

Bedsore can happen when a person is bedridden or otherwise immobile, unconscious, or unable to sense pain. Bedsore are ulcers that happen on areas of the skin that are under pressure from lying in bed, sitting in a wheelchair, or wearing a cast for a prolonged time. Bedsore are also called pressure injuries, pressure sores, pressure ulcers, or decubitus ulcers. Bedsore can be a serious problem among frail older adults. They can be related to the quality of care the person receives. If an immobile or bedridden person is not turned, positioned correctly, and given good nutrition and skin care, bedsore can develop. People with diabetes, circulation problems, and poor nutrition is at higher risk.

**Method:** After obtaining administrative permission and ethical clearance from IEC, GIMSR, Visakhapatnam, 30 Pressure ulcer patients subject was selected a sample using non probability purposive sampling technique on critically ill patients were taken for the study with an experimental pre-test and post-test group. Pilot study was conducted on 2 subjects to check the reliability of tool and feasibility of the study. The tool used in the study was standard Pressure ulcer scale for healing(PUSH tool).The collected data was analyzed by descriptive and inferential statistics.

**Results:** The study results shows that most of the Pressure Ulcer patients in the experimental group, 14(93.3%) were aged above 46 years, 8(53.3%) were female, 7(46.7%) had primary education, 8(53.3%) belonged to joint family, 7(46.7%) were residing in rural area, 5(33.3%) were government employee, 6(40%) had monthly income of Rs.5000 – 7000/month, 15(100%) had mixed type of diet, 14(93.3%) had no known allergy and 10(66.7%) had no habits. The study results also shows that most of the Pressure Ulcer patients in the control group, 14(93.3%) were aged above 46 years, 8(53.3%) were male, 8(53.3%) had primary education, 8(53.3%) belonged to joint family, 7(46.7%) were residing in urban area, 6(40%) were self-employed, 6(40%) had monthly income of Rs.10001 – 15000/month and Rs.5000 – 7000/month respectively, 15(100%) had mixed type of diet, 15(100%) had no known allergy and 5(33.3%) had no habits. The study results shows that most of the Pressure Ulcer patients in the experimental group, most of the Pressure Ulcer patients, 2(13.3%) were admitted in the hospital due to CVA and ischemic stroke, 6(40%) had no hereditary disease, 7(46.7%) had hypertension as comorbid condition, 6(40%) were comfortable in supine and lateral position,13(86.7%) had history of previous hospitalization, 4(26.7%) were hospitalized due to hypertension and diabetes mellitus and 8(53.3%) had moderate pain The study results also show that in the control group, most of the Pressure Ulcer patients, 2(13.3%) were admitted in the hospital due to OP poisoning, 14(93.3%) had no hereditary disease, 7(46.7%) had hypertension as comorbid condition, 7(46.7%) were comfortable in lateral and prone position, 12(80%) had history of previous hospitalization, 9(60%) were hospitalized due to hypertension and 8(53.3%) had severe pain. viii In the experimental group, the mean score of BMI was  $25.33 \pm 3.15$  with a median of 25.0. The minimum score was 20.0 and the maximum score was 30.0. In the control group, the mean score of BMI was  $24.90 \pm 3.65$  with a median of 25.0. The minimum score was 20.0 and the maximum score was 30.0.

**Conclusion:** The study conclusions were the research attempt to show that the knowledge has been gained by the researcher during the study and also an attempt to generalize the findings. The following conclusions were drawn on the basis of present study showed to promote the healing of pressure ulcers in ICU after acquiring the bedsore were reduced to prevent the complication and to have a healthy life there by to reduce the mortality and morbidity rates.

**Keywords:** pressure ulcer or bedsore, povidone iodine, silicon foam, dressing, healing

### Introduction

“Prevention is better than cure”

Desiderius Erasmus

The skin is the largest organ of the body, accounting for about 15% of the total adult body weight. It performs many

vital functions, including protection against external physical, chemical, and biologic assailants, as well as prevention of excess water loss from the body and a role in thermoregulation.

The skin is continuous, with the mucous membranes lining the body's surface.

The integumentary system is formed by the skin and its derivative structure. The skin is composed of three layers: the epidermis, the dermis, and subcutaneous tissue. The outer most level, the epidermis, consists of a specific constellation of cells known as keratinocytes, which function to synthesize keratin, a long, threadlike protein with a protective role. The middle layer, the dermis, is fundamentally made up of the fibrillar structural protein known as collagen. The dermis lies on the subcutaneous tissue, or panniculus, which contains small lobes of fat cells known as lipocytes. The thickness of these layers varies considerably, depending on the geographic location on the anatomy of the body.

Bedsore can happen when a person is bedridden or otherwise immobile, unconscious, or unable to sense pain. Bedsore are ulcers that happen on areas of the skin that are under pressure from lying in bed, sitting in a wheelchair, or wearing a cast for a prolonged time. Bedsore are also called pressure injuries, pressure sores, pressure ulcers, or decubitus ulcers. Bedsore can be a serious problem among frail older adults. They can be related to the quality of care the person receives. If an immobile or bedridden person is not turned, positioned correctly, and given good nutrition and skin care, bedsore can develop. People with diabetes, circulation problems, and poor nutrition are at higher risk

**Objectives**

1. To assess the level of thirst and dry mouth among preoperative and postoperative patients

2. To assess the post intervention level of thirst and dry mouth among preoperative and postoperative patients
3. To comprehensive pre intervention and post intervention level of thirst and dry mouth among preoperative and postoperative patients with selected demographic variables.

**Hypothesis**

**H0** There will be no significant decrease in dryness of mouth and level of thirst after implementation of thirst intervention bundle.

**H1** Dryness of the mouth and level of thirst will decrease significantly in pre and postoperative patients who receive a thirst Intervention bundle compared to those who receive Usual Care.

**Assumptions**

Investigator assumes that:

1. It can relieve dry mouth
2. It can decrease thirst

**Delimitations**

1. Patients who are on NIV
2. Patients who are strictly restricted for NBM for long period
3. Patients who don't want to participate

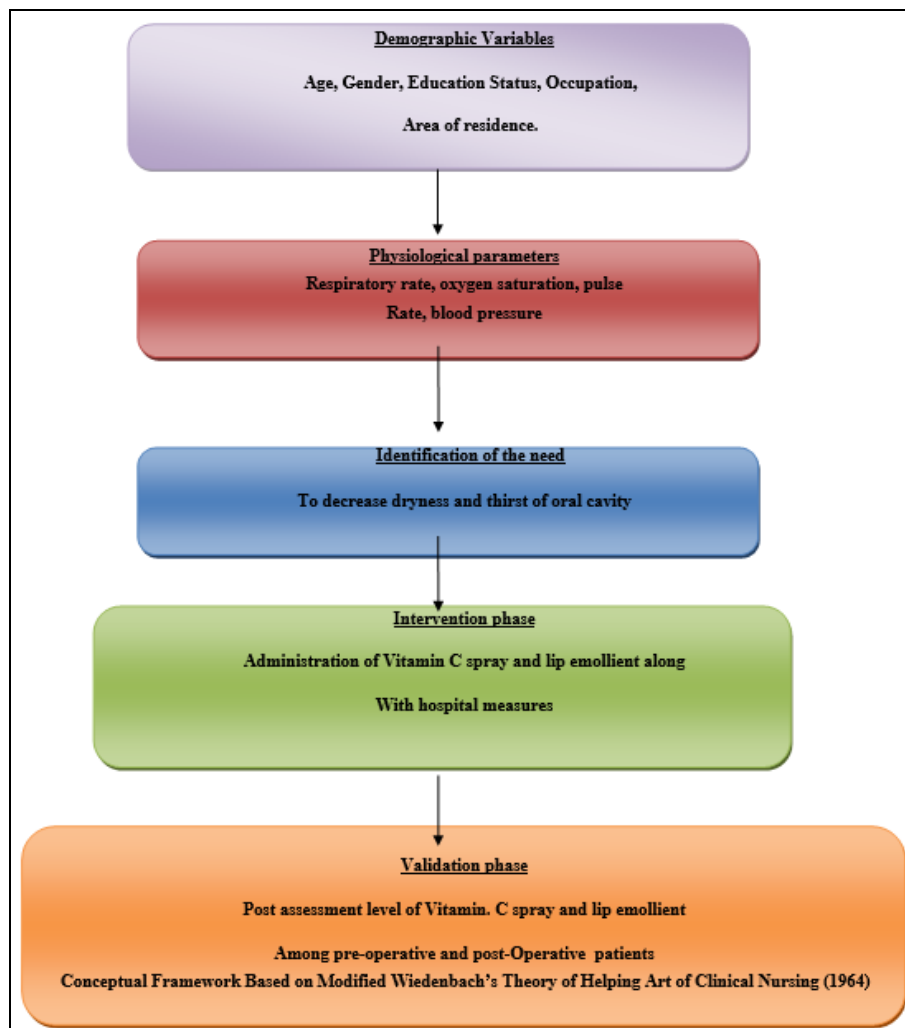


Fig 2

## Review of Literature

Weiqing Zhang Aust Crit Care. et al. 2021, conducted randomized controlled trial on Symptom management to alleviate thirst and dry mouth in critically ill patients. The aim of the study was to demonstrate the effectiveness of an intervention bundle to relieve thirst and dry mouth. The present study was a randomised controlled trial in which critically ill patients were allocated to an experimental or control group. The intervention bundles, including vitamin C SPRAY, and a lip moisturizer, were provided to the experimental group for 3 days, whereas patients in the control group were exposed to the placebo interventions, including saline SPRAY, 40 °C water mouthwash, and wetting the lips with water. A total of 61 patients were recruited to the study; 65.6% (n = 41) were men, and the average age was  $64.2 \pm 16.8$  years. The average decrease in thirst intensity and oral mucosa situation scores after the interventions was larger in the experimental group patients relative to controls (1.27 and 0.36 vs. 0.19 and 0.1 points, respectively;  $p < 0.05$ ). Being male, scoring highly on the Acute Physiology and Chronic Health Evaluation II scale, not receiving diuretics, and having higher serum sodium levels were potential predictors of thirst and oral dryness. The interventional bundle used in this study was shown to be a promising approach that can relieve thirst intensity and dry mouth, which are pervasively distressful to critically ill patients.

Kathleen Puntillo, et al, MD, JD conducted a Randomized Clinical Trial of an Intervention to Relieve Thirst and Dry Mouth in Intensive Care Unit Patient. Single-blinded, randomized clinical trial in three ICUs in a tertiary medical center in urban California. 252 cognitively intact patients reporting thirst intensity (TI) and/or thirst distress (TD) scores  $\geq 3$  on 0–10 numeric rating scales (NRS) were randomized to Intervention or Usual Care groups. A Research Team Nurse (RTN#1) obtained patients' pre-procedure TI and TD scores and reports of dry mouth. She then administered a thirst bundle to the Intervention group: oral swab wipes sterile ice-cold water SPRAY, and a lip moisturizer, or observed patients in the Usual Care group. RTN#2, blinded to group assignment, obtained post-procedure TI and TD scores. Up to 6 sessions per patient were conducted across two days. Multilevel linear regression determined that the average decreases in TI and TD scores from pre-procedure to post-procedure were significantly greater in the Intervention group (2.3 and 1.8 NRS points, respectively) versus the Usual Care group (0.6 and 0.4 points, respectively) The Usual Care group was 1.9 times more likely than the Intervention group to report dry mouth for each additional session on Day This simple, inexpensive thirst bundle significantly decreased ICU patients' thirst and dry mouth and can be considered a practice intervention for patients experiencing thirst.

## Research Methodology

### Research Approach

Research approach indicates procedure for conducting the study, in order to accomplish the objective of study an Experimental approach is adopted.

### Research Design

Quasi Experimental Research design

### Setting of the Study

GIMSR hospital in Visakhapatnam.

## Criteria for Sample Selection

A sample is set of elements that make up the population sampling is process of selecting representative units of a population for research study.

## Sample and Sample Technique

Section –A demographic data

Section –B data collection tool and questionnaire

In the present study, purposive sampling techniques are used for choosing the sample

## Sample Size

The sample size will be 30 (experimental and control group will have 30).

## Sampling Procedure

Sampling procedure used will be purposive sampling

## Sampling Characteristics

It includes the age, education

## Dependent Variable

Dry mouth and thirst

## Independent Variable

Vitamin c spray and lip emollient

## Methods Adopted for Data Collection

Data collection technique used for the present study was questionnaire as a tool for data collection.

According to John 1987, a questionnaire is used when factual information is desired and administration personally to groups of individuals. The persons administration must take and opportunity to establish report and explain the present study. A questionnaire found to be appropriate for the present study. The distribution of questionnaire to everyone present at the time of data collection.

## Techniques of Data Collection

In order to collect the data for study the investigator obtained written permission of GITAM Institution of nursing college of principal, Visakhapatnam.

## Data Collection Tool

Dry mouth scale, thirst scales

## Plan of Data Analysis

The statistical inferences are used to summarize the researcher observations.

## Inclusion Criteria for Sampling

1. Patients admitted in medical ICU, Surgical ICU and Wards.
2. Patients admitted in pre- and post-operative ward.
3. Patients speaking Telugu, Hindi and English

## Exclusion Criteria for Sampling

1. Patients who are admitted with
2. Patients who are in prolong NBM
3. Patients those are in invasive mechanical ventilation support
4. Patients who don't want to participate in the study
5. Patients who are in Strict NBM for any procedures

**Data Collection Tool**

The tool consists of two sections:  
 Section I: Pro-forma for collecting data such as age, gender, Occupation, Education status type of residence, date of Admission, date of discharge.

Section II: Clinical Characteristics  
 Section III: Challacombe Dry Mouth Scale  
 Section IV: Perioperative Thirst Discomfort Scale (PTDS)

**Research Tool**

**Table 1: Challacombe Dry Mouth Scale**

S. No	Parameters	Description	Interpretation Score
1	Mirror Sticks To Buccal Mucosa	An Additive Score Of 1-3 Indicates Mild Dryness. May Not Need Treatment or Management. Sugar Free Chewing Gum For 15 Min, Twice Daily and Attention to Hydration Is Needed.	1
2	Minor Sticks To Tongue	Many Drugs Will Cause Mild Dryness. Routine Check-up Monitoring Required.	2
3	Saliva Frothy	An Additive Score Of 4-6 Indicates Moderate Dryness. Sugar Free Chewing Gum or Simple Sialogogues May Be Required. Needs To Be Investigated Further If Reasons for Dryness Are Not Clear. Saliva Substitutes and Topical Floride May Be Helpful. Monitor At Regular Intervals Especially for Early Decay and Symptoms Change.	3
4	No Saliva Pooling on in Floor of Mouth	An Additive Of 7-10 indicates Severe Dryness. Saliva Substitutes and Topical Fluoride Usually Needed. Cause of Hypo salivation Needs to Be Ascertained and Jorgen’s Syndrome Excluded Refer for Investigation and Diagnosis. Patients Then Need to Be Monitored for Changing Symptoms and Signs, With Possible Further Specialist Input If Worsening.	1
5	Tongue Shows Generalised Shortened Papillae (Mild Deplillation)		2
6	Altered Gingival Architecture (I.E., Smooth)		3
7	Glassy Appearance Of Oral Mucosa, Especially Palate		1
8	Tongue Lobulated/Fissured		2
9	Cervical Caries More Than Two Teeth		3
10	Debris On Palate or Sticking to Teeth		4

Total Patient Score:

**Table 2: Interpretation**

Mild dryness	1-3
Moderate dryness	4-6
Severe dryness	7-10

**Table 3: Perioperative Thirst Discomfort Scale (PTDS)**

Parameters	Not Uncomfortable	A Little Uncomfortable	Very Uncomfortable
My Mouth Is Dry.	0	1	2
My Lips Are Dry.	0	1	2
My Tongue Is Thick.	0	1	2
My Saliva Is Thick.	0	1	2
My Throat Is Dry.	0	1	2
I Have A Bad Taste In My Mouth.	0	1	2
I Want To Drink Water.	0	1	2

Total patient score

**Table 4: Interpretation**

Mild thirst	1-4
Moderate thirst	5-9
Severe thirst	10-14
No thirst	0

**Plan for Data Analysis**

The collected data was arranged and tabulated to represent the findings of the study. Data were collected, arranged, tabulated and was analysed by using descriptive and inferential statistics.

**Descriptive Statistics**

- Frequency, percentage, mean, and standard deviation were used for categorical data.

- Frequency and percentage distribution were used to describe the demographic variables.

**Inferential Statistics**

- Student independent 'T' test was used to assess the effectiveness of Vitamin c oral Spray and lip emollient.
- Chi - square test was used to Correlation of data with the Demographical Variables

**Table 5:** Effectiveness of Vitamin – C Spray with Lip Emollient (Vaseline) on thirst discomfort among pre- and post-operative patients.

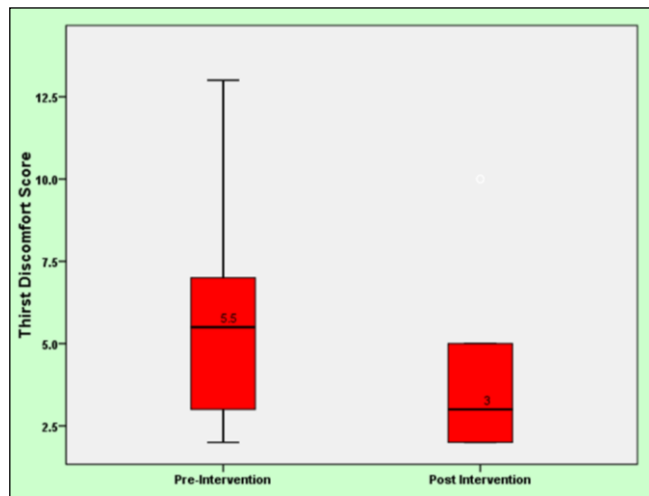
Thirst Discomfort	Mean	S.D	Mean Difference	Paired 't' test Value
Pre-Intervention	5.83	2.95	2.03	t = 3.671 p=0.001, S***
Post Intervention	3.80	2.07		

n = 30

\*\*\*p<0.001, S – Significant

The table 5 depicts that the pre-intervention mean thirst discomfort score was 5.83±2.95 and the post intervention mean thirst discomfort score was 3.80±2.07. The mean difference score was 2.03. The calculated paired 't' test value of t = 3.671 was found to be statistically significant at p<0.001 level which clearly infers that administration of Vitamin – C Spray with Lip Emollient (Vaseline) on thirst discomfort among post-operative patients was found to be effective in reducing the level of thirst discomfort among the post-operative patients in the post test.

7. F Clinical trial registration numbers: The study was registered on the www.Chictr.org.cn under. r the identification number ChiCTR1900022873.
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**Fig 7:** Boxplot showing the effectiveness of Vitamin – C Spray with Lip Emollient (Vaseline) on thirst discomfort among pre- and post-operative patients (Median: Pre-intervention – 5.5, Post Intervention – 3.0)

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