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A study to assess the effectiveness of oral crmyo intervention to prevent oral Mucositis among Patients on chemotherapy in Saveetha medical college and hospital

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Abstract
Oral mucositis is one of the most common side effects of cancer treatment (chemotherapy/radiotherapy). Oral mucositis is also called stomatitis. It results from the systemic effects of cytotoxic chemotherapy agent and from the local effects oral radiation to the oral mucosa. Symptoms of mucositis vary from pain and discomfort to an inability to tolerate food or fluids. The mucositis may affects patients gum and dental condition, speech and self-esteem are reduced, further compromising patients response to treatment or palliative care. Oral cooling or oral cryotherapy or oral crymo intervention, the therapeutic administration of cold is a prophylactic measure for reducing oral mucositis. It cause local vasoconstriction and would temporarily decrease the blood flow into the oral mucosa membrane. One of the debilitating side effects of chemotherapy is oral mucositis which differ in their severity and duration. The present study aims at the effectiveness of oral crymo intervention to prevent the level of oral mucositis among patients on chemotherapy. One of the debilitating side effects of chemotherapy is oral mucositis which differ in their severity and duration. The present study aims at the effectiveness of oral crymo intervention to prevent the level of oral mucositis among patients on chemotherapy. The research design selected to the study was prerest-post-test quasi experimental control group design. A purposive sampling techniques was followed to obtain a sample of 60 chemotherapy patients with oral mucositis. (30 for pretest and 30 for post-test). The conclusion of the study shows that crymo intervention was found to be an effective therapy to reduce the oral mucositis.

Keywords: common, experimental, crymo, mucositis, post-test

Introduction
Cancer is an universal disease that affects people without regard to race, gender, socioeconomic status or culture. Different forms of cancer strike specific age, ethnic and gender groups with varying frequency and severity. It is a large, heterogeneous class of diseases in which a group of cells display uncontrolled growth, invasion that intrudes upon and destroys adjacent tissues, and often metastasizes, wherein the tumor cells spread to other locations in the body via the lymphatic system or through the bloodstream.
Cancer treatment is usually a combination of a number of different modalities. If the tumor is ameneable to surgery, then surgery is the single most effective tool. Targeted radio therapy, and chemotherapy are the most widely used intervention for the treatment of cancer. Although, these treatments are employed to improve patient's quality of life, they are associated with several side effects. Annually, there are approximately 400,000 cases of treatment induced change to oral cavity.
Chemotherapy destroys cancer cells anywhere in the body. It even kills cells that have broken off from the main tumor and travelled through the blood or lymph systems to other parts of body. Chemotherapy causes many side effects such as alopecia, nausea, vomiting, diarrhea, oral mucositis, skin and nail changes, fatigue.
Incidence as well as severity may vary from patient to patient. The probability of developing mucositis is dependent upon the treatment. It is estimated that about 80% of patients treated with standard chemotherapy develops mucositis.
The risk of developing mucosal injury increases with the number of chemotherapy induced mucositis. Similarly, patients, who undergo bone marrow transplantation and who receive high doses of chemotherapy have a 76% chance of getting mucositis.
The treatment of mucositisis mainly based on supportive therapies, ie: oral hygiene, consumption of adequate liquids, and application of mouth washes. Patients are recommended to avoid alcohol, citrus fruits and hot foods. Related studies have introduced various substances and agents as effective medications for inhibiting or limiting signs and symptoms of mucositis. In this regard, cryotherapy has been introduced as an effective therapy.

Objectives
- Assess the level of oral mucositis among patients on chemotherapy in both groups after oral crymo intervention.
- Determine the effectiveness of oral crymo intervention among patients on chemotherapy in experimental group.
- Compare the level of oral mucositis among patients on chemotherapy in both groups.
- Associate the selected demographic variables with the level of oral mucositis in both groups.

Methodology
A quantitative research approach was adopted for this study. The research design was quasi experimental with post-test design. The study was conducted at Saveetha Medical College and Hospital in chemotherapy unit. The sample was selected by using purposive sampling technique. The sample

size consist of 60 chemotherapy patient with oral mucositis where 30 patients belongs to experimental and 30 patients belongs to control group. The demographic variable was assessed from both the groups by structured interview, then risk assessment criteria, demographic variables and WHO Oral Toxicity Scale.

Score interpretation

S.NO	Grades for oral mucositis	Scale	Symptoms
1	Grade 0	None	None
2	Grade 1	Mild	Soreness, +_erythema
3	Grade 2	Moderate	Erythema, ulcers
4	Grade 3	Severe	Ulcers, extensive erythema, patient cannot swallow diet
5	Grade 4	Life threatening	Alimentation not possible

Experimental group received oral crymo intervention along with instructions of regular care and control group receive Instructions of regular care and post-test was done on fifth day by using oral toxicity scale. The data was analyzed by using inferential and descriptive statistics.

Results

This section deals with the level of oral mucositis with WHO oral toxicity scale.

Regarding level of oral mucositis in experimental group, out of 30 chemotherapy patients, 26.6% had mild level of oral mucositis and 73.3% had moderate level of oral mucositis. Regarding level of oral mucositis in control group, out of 30 chemotherapy patients, 36.6% had mild level of oral mucositis and 63.3% had moderate level of oral mucositis. The oral crymo intervention was found to be effective. There was a significant prevention of oral mucositis at 'p' level of, 0.05.

Table 1: Effectiveness of oral cryotherapy and regular care among patients on chemotherapy in experimental and control group (n=60)

Level of oral mucositis	Experimental group (n=30)		Control group (n=30)	
	F	%	F	%
None (0)	0	0	0	0
Mild (1-3)	8	26.6	0	0
Moderate (4-6)	22	73.3	11	36.6
Severe (7-9)	0	0	19	63.3
Total	30	100.0	30	100.0
Chi-square value, p-value	x^2=30.667, D.F. =2, P=0.0000 (significant at p<0.05)			

Table 2: Comparison of the pre test scores and post test scores between experimental group and control group

S. NO	Groups	Pre-test Score		Post-Test Score	
		Mean	Sd	Mean	Sd
1	Experimental Group	7.36	1.15	4.16	1.02
2	Control Group	7.4	0.967	6.8	0.961

Table 3: Effect of oral crymo intervention among patient with oral mucositis

Group	Pre-test score		post test score		Mean difference	SD	T	Table value
	Mean	SD	Mean	SD				
Experimental group	7.36	1.15	4.16	1.02	96	0.510	24.61	2.05
control group	7.4	0.967	6.8	0.961	18	0.317	1.036	2.05

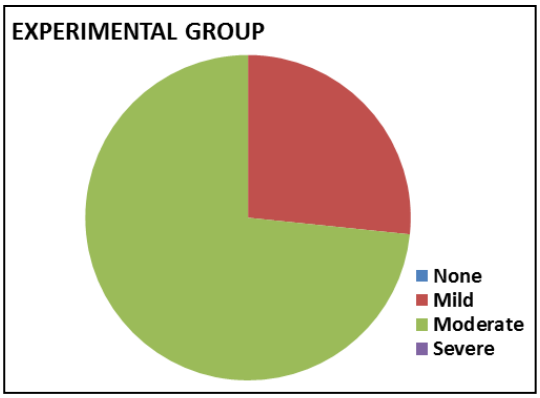

Fig 1: Post test scores of oral crymo intervention among chemotherapy patient with oral mucositis

Discussion

The major finding of the study shows that there was a significant decrease in the level of oral mucositis among chemotherapy patients who are receiving oral crymo intervention than those who do not. The practice of oral crymo intervention had better reduction in the occurrence of level of oral mucositis in experimental group. In experimental group there was 0% of patient with none level of oral mucositis, 26.6% of patient with mild level of oral mucositis, 73.3% of patient with moderate level of oral mucositis, 0% of patient with severe level of oral mucositis. In control group there was 0% of patient with none level of oral mucosits, 36.6% of patients with mild level of oral mucositis, 63.3% of patient with moderate level of oral mucositis, 0% of patients with severe level of oral musitis. In experimental the pre-test mean score is 7.37, the SD is 1.157 and the post-test mean score is 4.16, the SD is 1.020. In control group pre-test mean score is 7.4, the SD is 0.967 and the post-test mean score is 6.8, the SD is 0.961. In experimental group the mean difference is 96 and SD is 0.510 was significant (t=24.61, and p<0.05). The study also reveals that there is significant association found between educations among patient with oral mucositis.

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Conflict of Interest

The author declare no conflict of interest.

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