



A QUASI-EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF TOPICAL APPLICATION OF HONEY ON ORAL MUCOSITIS AMONG HEAD AND NECK CANCER PATIENTS UNDERGOING RADIATION THERAPY IN TERTIARY CARE HOSPITAL OF AMRITSAR, PUNJAB.

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ABSTRACT

Cancer is the leading cause of death around the world. Radiation therapy is made to kill growing cancer cells but certain normal cells get effected too, this damage to normal cell cause side effects of radiation therapy. The most debilitating side effect is radiation induced Oral Mucositis. This is major concern for attention, so there is need to provide conventional therapies to head and neck cancer patients to reduce the severity of oral mucositis. A Quasi-experimental study was conducted to assess the effectiveness of topical application of honey among 60 head and neck cancer patients undergoing radiation therapy at Sri Guru Ram Dass Institute of Medical Science and Research, Vallah, Amritsar, Punjab. Purposive sampling technique was used to collect data. The data was collected by standardised WHO Oral Toxicity Assessment Scale. Findings, of study revealed that the mean difference between pre interventional and post-interventional level of oral mucositis was statistically significant in experimental group at $p < 0.05$ with t (12.042) and non significant in control group at $p < 0.05$ with t (-7.883).

Key words: Effectiveness, Topical application of Honey, Oral Mucositis, head and neck cancer patient.

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INTRODUCTION

Non-communicable diseases are emerging as a major public health problem globally. Cancer is originating as a pandemic of this century. Cancer ranks as a leading cause of death and an important barrier in increasing life expectancy in every country of world.¹ Head and Neck cancer originates from the upper aero digestive tract, including nasal cavity and paranasal sinus, nasopharynx, oral cavity, oropharynx, hypopharynx, esophagus, larynx, salivary gland, thyroid gland orbit and ocular structure.²

Head and neck squamous cell carcinoma is the sixth leading cancer by incidence worldwide. The incidence of head and neck continues to rise and is anticipated to increase by 30% (that is, 1.08 million new cases annually) by 2030. The highest prevalence of head and neck cancer in regions such as Southeast Asia and Australia is associated with consumption of specific carcinogen-containing products.³ Radiotherapy plays an important role in the management of head and neck cancer. The most common acute complication of radiotherapy in the head and neck region is oral mucositis. Radiation induced oral mucositis is considered to be an inevitable but transient side effect of therapeutic head and neck irradiation. Oral mucositis is the most frequent distressing, painful, clinical side effect of radiation therapy.⁴

NEED OF THE STUDY

Cancer in all forms causes 12% of deaths throughout the world. In the developed countries cancer is the 2nd leading cause of death worldwide, next to only cardiovascular diseases accounting for 21% of deaths. By 2040, the number of new cancer cases per year is expected to rise to 29.5 million and the number of cancer related deaths to 16.4 million. In developing countries, cancer ranks third as the cause of death and accounts for 9.5% of all deaths.⁵

Based on the above statistics related to radiation induced oral mucositis and during the visit to cancer centre, researcher came across cancer patients having complaints of side effects of treatment modalities such as oral mucositis which affected their daily living, ability of swallowing, discomfort in drinking and delay in the treatment. Natural honey is effective in reducing oral mucositis, which may be effective in reducing severity of oral mucositis. Public knowledge regarding lethal side effects of cancer treatment modalities is limited in many countries. Nurses can provide secondary level of care to cancer patients to reduce the severity of side effects and maintenance of health. They are in ideal position to use the complementary honey therapy on radiation induced oral mucositis. Therefore, researcher motivated to assess the effectiveness of topical application of honey on radiation induced oral mucositis. This study may be helpful to the cancer patient to gain knowledge regarding the non pharmaceutical measures to tackle problems related to radiation induced oral mucositis.

PROBLEM STATEMENT

A Quasi-experimental study to assess the effectiveness of Topical application of Honey on Oral Mucositis among head and neck cancer patients undergoing radiation therapy in Tertiary Care Hospital of Amritsar, Punjab.

GENERAL OBJECTIVE

1. To assess the effectiveness of topical application of Honey on Oral Mucositis among head and neck cancer patients undergoing radiation therapy.

SPECIFIC OBJECTIVES

1. To assess the pre-interventional level of oral Mucositis among head and neck cancer patients undergoing radiation therapy in control and experimental group
2. To assess the post-interventional level of oral Mucositis among head and neck cancer patients undergoing radiation therapy in control and experimental group.
3. To compare the pre-interventional and post-interventional level of Oral Mucositis among head and neck cancer patients undergoing radiation therapy in control and experimental group.

HYPOTHESIS

(Ho):- There will be no significant difference between pre-interventional and post- interventional level of Oral Mucositis among head and neck cancer patients at $p < 0.05$ level of significance.

METHODOLOGY

Research Approach: Quantitative research approach

Research design: A Pre test and Post test control group design

Research Setting: Tertiary Care Hospital of Amritsar, Punjab.

Target Population: Cancer patients undergoing radiation therapy having oral mucositis, irrespective of cycles of radiation therapy.

Sample size: 60 patients diagnosed with head and neck cancer.

Sampling Technique: Purposive sampling technique.

DESCRIPTION OF TOOL

The tool was divided into two parts.

Part A: Identification data

This part consisted of 8 items for obtaining personal information subjects such as age (in years), gender, occupation, personal habits, type of cancer, duration of illness (in years), stages of cancer, duration of treatment (in months).

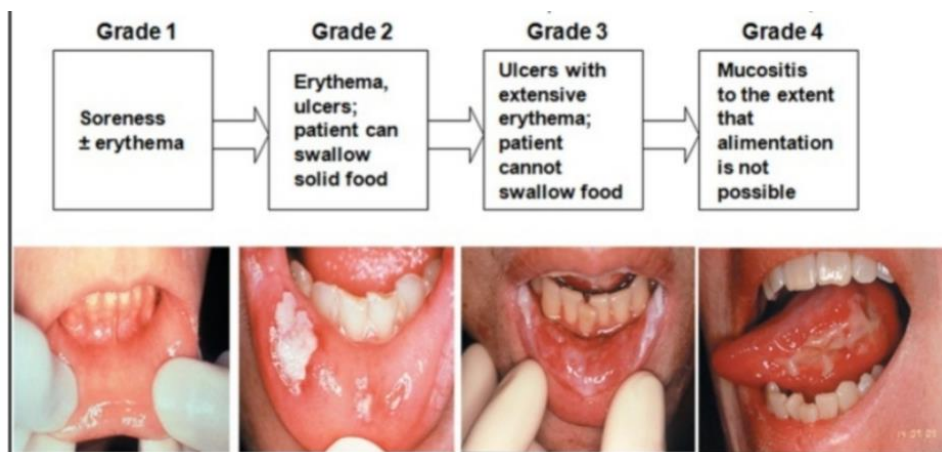
Part B: WHO Oral toxicity assessment scale

The oral toxicity assessment scale was recommended by World Health Organisation (WHO) to measure anatomical, symptomatic and functional components of oral mucositis.

Criteria measures

Maximum score= 4

Minimum score = 0



ANALYSIS AND INTERPRETATION

Table 1: Frequency, percentage and mean distribution of pre-interventional level of oral mucositis of experimental and control group among head and neck cancer patients undergoing radiation therapy. N=60

Level of Oral Mucositis	Experimental group (n=30)				Control group (n=30)			
	n	%	Mean	SD	n	%	Mean	SD
No lesion (0)	0	0			1	3.3		
Mild (1)	8	26.7	1.93	.691	14	46.7	1.57	.728
Moderate (2)	16	53.3			12	40.0		
Severe (3)	6	20.0			3	10.0		

Maximum score=4

Minimum score=0

Table 1 depicts the frequency and percentage distribution of head and neck cancer patients in the experimental group and control group. According to pre-interventional level of oral mucositis in the experimental group more than half (53.3%) were having moderate oral mucositis followed by (26.7%) were having mild mucositis and 2/10th (20%) had severe mucositis. In the control group less than half (46.7%) had mild oral mucositis followed by (40%) were having moderate oral mucositis followed by 1/10th (10%) had severe level of oral mucositis and merely (3.3%) had no lesion.

Hence, it can be concluded that majority of head and neck cancer patients in the experimental and the control group had mild to moderate oral mucositis.

Table 2: Frequency, percentage and mean distribution of post-interventional level of oral mucositis of experimental and control group among head and neck cancer patients undergoing radiation therapy. N=60

Level of Oral Mucositis	Experimental group (n=30)				Control group (n=30)			
	n	%	Mean	SD	n	%	Mean	SD
No lesion (0)	6	20.0			0	0		
Mild (1)	16	53.3	1.10	.759	2	6.7	2.57	.817
Moderate (2)	7	23.3			13	43.3		
Severe (3)	1	3.3			11	36.7		
Life threatening (4)	0	0			4	13.3		

Maximum score=4

Minimum score=0

Table 2 depicts the frequency and percentage distribution of head and neck cancer patients according to post-interventional level of oral mucositis in the experimental group and the control group related to oral mucositis on fifth day of topical application of honey in oral cavity. In the experimental group more than half (53.3%) were having mild oral mucositis followed by (23.3%) had moderate level of oral mucositis followed by 1/5th (30%) had no lesion and only (3.3%) had severe mucositis. On the other hand in the control group (43.3%) of patients had moderate oral mucositis followed by (36.7%) had severe level of oral mucositis followed by (13.3%) had life threatening level of oral mucositis and (6.7%) had mild oral mucositis.

Hence, it was concluded that majority of head and neck cancer patients in the experimental group had mild oral mucositis and in the control group majority had moderate level of oral mucositis.

Table 3: Comparison of head and neck cancer patients undergoing radiation therapy in experimental and control group according to pre- interventional and post-interventional level of oral mucositis. N=60

Intervention	Experimental Group (n=30)		Control Group (n=30)		df	t
	Mean	SD	Mean	SD		
Pre-interventional score	1.93	.691	1.57	.728	58	2.000
Post-interventional score	1.10	.759	2.57	.817	58	7.203*
	df	t	df	t		
	29	12.042*	29	7.883		

Maximum score= 4

* significant at p<0.001

Minimum score= 0

Table 3 depicts the comparison between pre-interventional and post-interventional level of oral mucositis among head and neck cancer patients undergoing radiation therapy. The mean value (1.10) of post-interventional level of oral mucositis in the experimental group was drastically decreased as compared to the mean value (1.93) of pre-interventional level of oral mucositis in the experimental group. In comparison of pre-interventional and post-interventional level of oral mucositis the 't' value was found to be significant in the experimental group (t=12.042; df=29; p<0.001) whereas 't' value was proved to be significant in the control group (t=7.883; df=29; p<0.001). The mean difference of post-interventional level of oral mucositis among both groups was significant (t=7.203; df=58; p<0.001).

Therefore, it can be concluded that the topical application of honey has a significant effect on the level of oral mucositis among head and neck cancer patients undergoing radiation therapy. Hence, the null hypothesis is rejected.

CONCLUSION

It can be concluded that topical application of honey is effective in reducing the level of mucositis. so it is important to encourage the use of this therapy as a complementary measure for cancer patients to maintain health, functional independence and quality of life. Honey is a product with rich nutritional qualities that could be a pleasant, simple and economic modality for the management of radiation induced oral mucositis.



RECOMMENDATIONS

- Similar study can be undertaken on a large sample for making more valid generalization.
- Similar study can be conducted in different areas on different population.
- A comparative study can be conducted between the effectiveness of various non-pharmacological measures on reducing oral mucositis.
- Further researches can be conducted with the help of other oral mucositis assessment scales.

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