

The correlation between gargling with honey water and 0.9% saline solution and quality of life in head and neck cancer patients

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1 Background and objective

Chemotherapy often induces complications in cancer patients. Among them, oral mucositis as a sideeffect can lead to impaired oral function and integrity, difficulty in chewing and speaking, resulting in pain, changes in nutritional status, local infections, and even affecting their quality of life.

2 Methods/intervention

This study adopts a case-crossover study design, where each case serves as both the experimental and control group at different times. Participants undergo interventions with honey water and 0.9% saline solution gargling at three different time points: before intervention (prior to chemotherapy initiation), during intervention (after the first intervention), and after intervention (after the second intervention). The Taiwanese version of the EORTC QLQ-H&N35 quality of life questionnaire is used to assess changes in their functional status and symptom impact.

There were 36 groups of participants, and a total of 31 groups were completed, including 15 odd-number groups and 16 even-number groups (Table 1). The attrition rate was 13.9%.

Table 1. Identification Codes and Definitions for Odd-Numbered and Even-Numbered Groups Comparison Table

Group	Intervention Code	Before Chemotherapy	5th Day After Chemotherapy	10th Day After Chemotherapy	14th Day After Chemotherapy
Odd Group	Hn	Honey Water Gargling (First Gargling)	Hn0	Hn5	Hn10
	hN	0.9% Saline Solution Gargling (Second Gargling)	hN0	hN5	hN10
Even Group	Nh	0.9% Saline Solution Gargling (First Gargling)	Nh0	Nh5	Nh10
	nH	Honey Water Gargling (Second Gargling)	nH0	nH5	nH10

This study is a non-invasive human subject investigation. Regarding ethical issues such as participant benefits and autonomy, to ensure the protection of participants' rights, the study was conducted after receiving approval from the Institutional Review Board (IRB) of Kaohsiung Medical University Chung-Ho Memorial Hospital. IRB number: KMHIRB-F(I)-2020086

3 Results

Using Pearson correlation analysis, it was found that the correlation between the Oral Mucositis Assessment (WHO) and the Oral Assessment Guide (OAG) was the highest ($r=0.757$, $p<0.01$), showing a positive correlation. Additionally, quality of life scores were correlated with both the Oral Mucositis Assessment (WHO) ($r=0.413$, $p<0.05$) and the Oral Assessment Guide (OAG) ($r=0.402$, $p<0.05$), also showing positive correlations. This indicates that regardless of whether the WHO Oral Mucositis Assessment or the OAG scale is used, the more severe the oral mucositis, the worse the quality of life (Table 2).

Table 2. Correlation Analysis of Overall Dimensions for Odd-Numbered and Even-Numbered Groups

Dimension	Oral Mucositis Assessment (WHO)	Oral Assessment Guide (OAG)	Oral Pain Level	Weight Change	Quality of Life
Oral Mucositis Assessment (WHO)	1				
Oral Assessment Guide (OAG)	.757**	1			
Oral Pain Level	.214	.181	1		
Weight Change	-.219	-.151	-.027	1	
Quality of Life	.413*	.402*	.304	-.238	1

* $p<0.01$ $p<0.05$

4 Conclusions/lessons learned

According to the results of Pearson correlation analysis, a positive correlation was observed between the Oral Mucositis Assessment (WHO) and the Oral Assessment Guide (OAG) at all stages. Additionally, the quality of life scores were positively correlated with both the Oral Mucositis Assessment (WHO) and the Oral Assessment Guide (OAG), indicating that the more severe the oral mucositis, the more it impacts quality of life.

Clinical nursing staff are advised to provide patients with relevant care and preventive measures to reduce the occurrence and severity of oral mucositis, thereby enhancing patients' quality of life.

Oral mucositis. Apart from potentially causing impaired oral function and integrity, difficulty in chewing and speaking, resulting in pain, changes in nutritional status, and local infections, it can significantly impact the patient's quality of life.

