29

THE EFFECT OF SALIVA-STIMULATING HEAD AND NECK MASSAGE AND ORAL EXERCISES IN THE MANAGEMENT OF RADIATION-INDUCED XEROSTOMIA – A PILOT STUDY

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Abstract

Objective: Head and neck cancer is the seventh most common cancer worldwide and accounts for 1.5% of cancer-related deaths. Treatment usually involves surgery, radiotherapy and chemotherapy. Radiotherapy can lead to xerostomia (dry mouth), which affects 60-90% of patients and significantly impairs quality of life and makes eating difficult. The aim of this study was to evaluate the efficacy of saliva-stimulating head and neck massage and oral exercises in the management of xerostomia caused by radiotherapy.

Methods: Patients who had completed radiotherapy or chemoradiation therapy at least one month previously participated in this experimental study. Participants diagnosed with xerostomia ≥ 2 were recruited at the Department of Radiation Oncology between July 2023 and December 2024. A total of 23 patients were randomly divided into two groups: an intervention group and a control group. In the first session, saliva samples (unstimulated and stimulated with sugar-free chewing gum for 5 minutes) were collected for analysis. The intervention group participated in a four-week program that included massage and oral exercises developed by the researchers, while the control group received standard clinical treatment. The severity of xerostomia was assessed using the RTOG classification and quality of life was measured using the EORTC H&N35 scale. Statistical analyzes included chi-square, Mann-Whitney U and Kruskal-Wallis tests, with significance set at $p<0.05$.

Results: Both groups had similar demographic characteristics, with the exception of gender, where the proportion of males (100%) was higher in the intervention group than in the control group (54.5%) ($p=0.01$). No significant differences were found between the two groups in terms of disease diagnosis, stage, treatment schedules or radiation treatment areas. Significant differences were found for tooth-related problems ($p=0.04$), with the experimental group expressing more concerns. Regarding saliva pH, the intervention group had a significantly higher pH before the intervention ($p=0.01$), but no significant differences in pH or saliva volume were found after the intervention. After four weeks, the intervention group had significant problems with less sexuality ($p=0.01$) and coughing ($p=0.01$), but an improvement in speech problems.

Conclusion: The study shows that the intervention had a limited impact on coping with xerostomia. Some significant differences in salivary pH and certain symptoms (e.g. decreased sexuality, coughing and speech) were observed, but no significant improvements in saliva volume or severity of xerostomia were found. Further research with larger samples and refined interventions may provide more conclusive evidence of the effectiveness of massage and exercise for radiation treatment-induced xerostomia.

Categories

Mind-body therapies