

A comparison of normal saline mouth rinse and mouth rinse based on *Salvia officinalis* in palliative care: A randomized controlled trial

Ragnhild Elisabeth Monsen¹, Bente Brokstad Herlofson^{2,3}, Caryl Gay¹, Katrine Gahre Fjeld³, Lene Hystad Hove³, Elisabeth Saghaug¹, Joran Slaaen¹, Tone Sundal¹, Anita Tollisen¹, Anners Lerdal^{1,4}

¹Lovisenberg Diaconal Hospital, Oslo, Norway, ²Unit of Oral and Maxillofacial Surgery, Department of Otorhinolaryngology – Head and Neck Surgery Division for Head, Neck and Reconstructive Surgery Unit, Oslo University Hospital, Norway, ³Department of Oral Surgery and Oral Medicine, Faculty of Dentistry, University of Oslo, Norway, ⁴Institute of Nursing Science, Department of Health and Society, Faculty of Medicine, University of Oslo, Norway

	Total sample (n=88)	Normal Saline (n=44)	Salvia officinalis (n=44)	P-value
Age, years				0.728
Mean (SD)	63.9 (10.6)	63.5 (11.8)	64.3 (9.4)	
Range	29 – 84	29 – 84	45 – 83	
Sex, % (n)				0.151
Male	27% (24)	20% (9)	34% (15)	
Female	73% (64)	80% (35)	66% (29)	
Karnofsky score	(n=83)	(n=43)	(n=40)	0.504
Mean (SD)	52.1 (16.9)	53.3 (18.4)	50.8 (17.2)	
Range	20 – 80	20 – 80	20 – 80	
Primary diagnosis				0.325
Gastrointestinal cancer	26% (23)	29% (13)	23% (10)	
Lung cancer	17% (15)	16% (7)	18% (8)	
Gynecologic cancer	16% (14)	23% (10)	9% (4)	
Prostate cancer	3% (3)	5% (2)	2% (1)	
Breast cancer	13% (11)	9% (4)	16% (7)	
Other cancer	25% (22)	18% (8)	32% (14)	
Head/Neck	8% (7)	7% (3)	9% (4)	
Number of medications	(n=85)	(n=44)	(n=41)	0.161
Mean (SD)	11.4 (4.2)	10.8 (4.6)	12.1 (3.6)	
Range	4 – 26	4 – 26	4 – 20	

Table 1: Sample demographic and clinical characteristics.

Background

There are few clinical studies evaluating the effect of interventions within oral palliative care. A mouth rinse solution made from the herb *Salvia officinalis* (SO) has been used in our unit for many years to improve patients' oral health.

Aim

This study examines the efficacy of a SO-based herbal mouth rinse in comparison with normal saline (NS) mouth rinse on oral health and oral symptoms.

Method

This study was a block-randomized controlled trial. Data were collected in an inpatient hospice unit before and after a 4-day oral hygiene intervention with either SO (n=44) or NS (n=44). Numerical Rating Scales (NRS 0-10) and 12 items taken from the European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire-Oral Health 17 (EORTC QLQ-OH17) were used to measure oral symptoms. An oral examination was performed before and after the intervention.

Figure 1: Patient-reported oral symptoms at baseline.

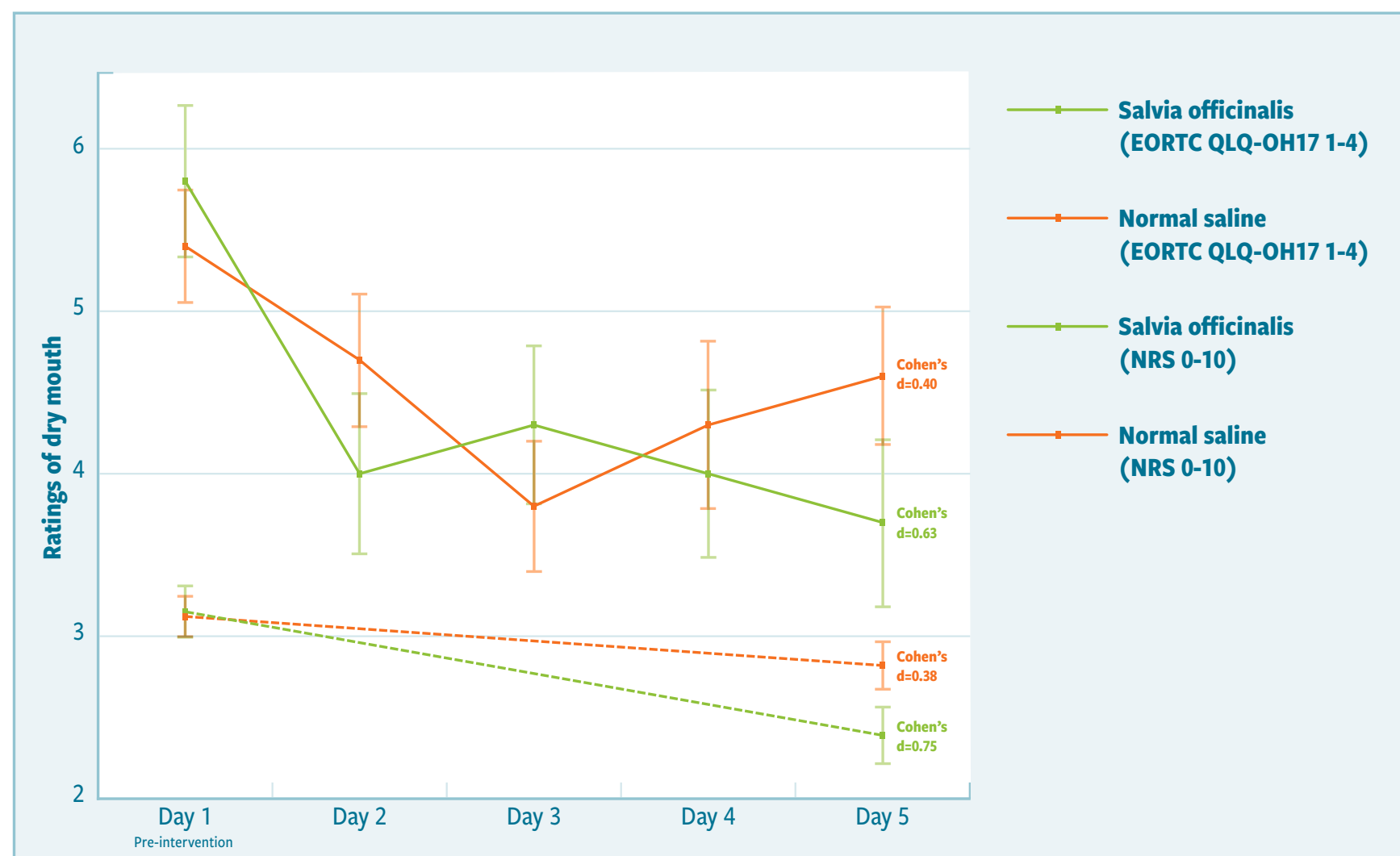
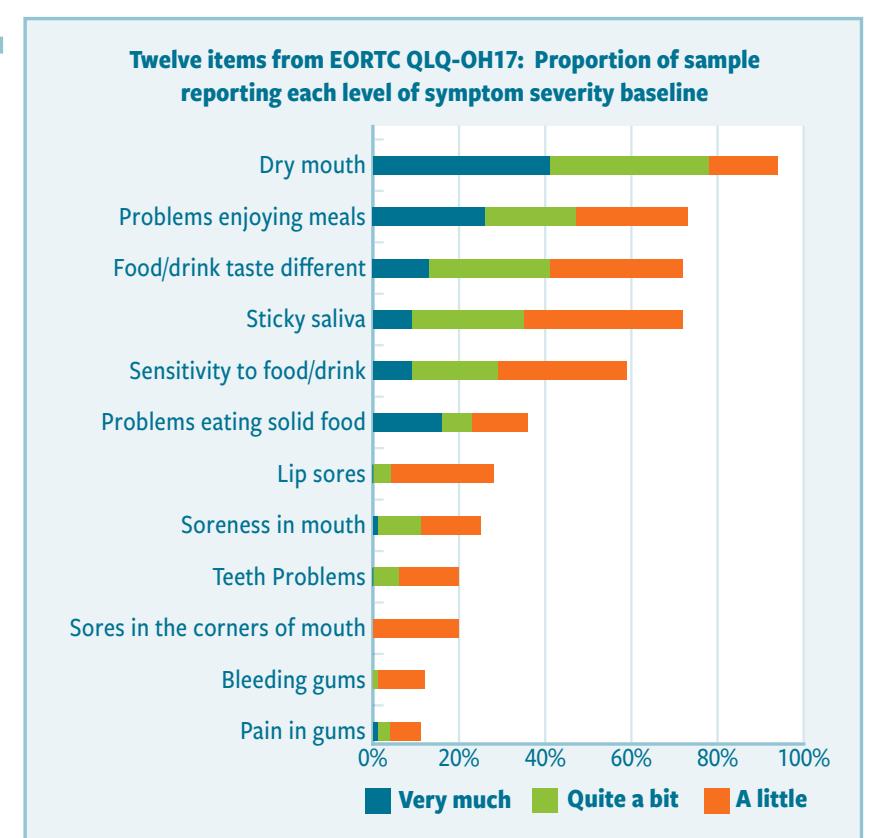


Figure 2: Changes in EORTC QLQ-OH17 and NRS ratings based on dry mouth by treatment group.

Results

Of the 538 patients admitted to the unit, 88 were included, and 73 (83%) completed the study. Of the 159 who met the eligibility criteria only 22 decline to participate. There was no group differences at baseline (Table 1). At baseline 78% reported dry mouth on the EORTC QLQ-OH17 questionnaire, and 80% rated dry mouth ≥ 4 on the NRS. Overall symptom scores (from the EORTC QLQ-OH17) improved in both

groups ($p < .001$), with dry mouth ratings showing particular improvement in the SO group ($p = 0.036$; Cohen's $d = 0.75$). NRS ratings of dry mouth also improved in the SO group ($p = 0.045$; Cohen's $d = 0.63$) (Figure 2). OMAS erythema scores improved for the NS group only. Plaque on the tongue ($p = 0.003$), teeth ($p < 0.001$) and sign of dry mouth ($p = 0.001$) improved in both groups.

Conclusion

This study detected no significant differences between *Salvia officinalis* and normal saline rinses in the treatment of oral symptoms, but showed that systematic assessment and oral care improved oral wellbeing and reduced oral discomfort.

Contact information:
ragnhild.monsen@lds.no

