

# Systematic Review of Nutrition Interventions to Improve Short Term Outcomes in Head and Neck Cancer Patients

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**Table S1.** Additional characteristics of studies reporting nutrition interventions in patients with head and neck cancers.

	Number, Sex	Mean Age	Tumor Location	Stage	Anti-cancer Treatment
Sandmael et al., 2017	n = 41 (25 males, 16 females)	63.2 years	Nasopharynx, oropharynx, or hypo pharynx, larynx, and oral cavity		RT only: n = 24; CRT: n = 17
Cereda et al., 2018	n = 159 (114 males, 45 females)	63.8 year (Control) 66.5 year (Intervention)	Nasopharynx, oral cavity, oropharynx, parotid, hypopharynx, supralottis, larynx, laterocervical, thyroid	Stage 0: n = 5 Stage 1: n = 27 Stage 2: n = 44 Stage 3: n = 37 Stage 4: n = 46	RT: n = 159 (RT was administered to all patients) Concurrent systemic therapy: n = 61
Jiang et al., 2018	n = 100 (69 males, 31 females)	48.18 years	Nasopharyngeal carcinoma	Stage 3: n = 43 Stage 4a-b: n = 57	Induction chemotherapy followed by CRT: n = 100
Britton et al., 2019	n = 307 (244 males, 63 females)	58 years	Nasopharynx, oropharynx, oral cavity, larynx, or hypopharynx	Stage 1: n = 12 Stage 2: n = 39 Stage 3: n = 57 Stage 4: n = 199	Concurrent chemotherapy: n = 147 Platinum-based: n = 205 Cetuximab: n = 40 Postoperative RT: n = 97
Orell et al., 2019	n = 58 (46 males, 12 females)	61 years	Oral cavity, oropharynx, hypopharynx, nasopharynx, or larynx	Stage 1: n = 2 Stage 2: n = 6 Stage 3: n = 12 Stage 4: n = 27	Surgery + Chemoradiotherapy: n = 11 Surgery + Radiotherapy: n = 2 Chemoradiotherapy: n = 41 Radiotherapy: n = 4
Lønbro et al., 2013	n = 30 (23 males, 7 females)	Median PROCR group: 56 years; Median PLA group: 59 years	Larynx (except glottic stage I + II), pharynx, oral cavity or in lymph nodes from an unknown primary tumor	Stage 1-2: n = 1 Stage 3-4: n = 20	RT alone: n = 10 CRT: n = 20
Capozzi et al., 2016	n = 60 (49 males, 11 females)	56.1 ± 9.2	Oral cavity, pharynx, larynx, paranasal sinuses, and salivary glands	Stage 1: n = 1 Stage 2: n = 7 Stage 3: n = 3 Stage 4: n = 48	RT alone: n = 15 CRT: n = 44

**Table S2.** Study Quality Assessment.

Criterion:	Sandmael	Cereda	Jiang	Britton	Orell	Lonbro	Capozzi	Mean	Standard Deviation
1. Was there research question/hypothesis clearly stated?	2, 2	2, 2	2, 2	2, 2	2, 2	2, 2	2, 2	2.0	0.00
2. Were the inclusion and exclusion criteria clearly stated?	2, 1 (2)	1, 1	2, 2	2, 2	2, 2	1, 1	1, 1	1.6	0.53
3. Was a clear aim for the study stated?	2, 2	2, 2	2, 2	2, 2	2, 2	2, 2	2, 2	2.0	0.00
4. Were the methods of the study clearly described?	2, 2	2, 2	2, 2	2, 2	2, 2	2, 2	2, 2	2.0	0.00
5. Were the main findings (results) of the study clearly described?	2, 2	2, 2	2, 2	1, 2 (2)	2, 2	2, 2	2, 2	2.0	0.00
6. Were study limitations discussed?	2, 2	2, 2	2, 2	2, 2	1, 1	2, 2	2, 2	1.9	0.38
7. Were outcomes (nutrition status, QOL, or treatment tolerance) identified via a validated measure?	2, 2	2, 2	2, 2	2, 2	2, 2	2, 2	2, 2	2.0	0.00
8. Was a sample size justification via power analysis provided?	1, 0 (1)	2, 0 (2)	0, 0	2, 0 (2)	1, 2 (2)	2, 2	1, 0 (0)	1.3	0.95
9. Are data analyses discussed?	2, 2	2, 2	2, 2	2, 2	2, 2	2, 2	2, 2	2.0	0.00
<b>Total Score:</b>	17	17	16	18	17	17	15		

Scores for each criterion range from 0 to 2, depending on whether the criterion was unmentioned or unmet (0), partially met (1), or completely met (2). Reviewer 1 and 2 scores are listed with Reviewer 3 scores in parentheses for resolving discrepancies. The possible total study score ranges between 0 and 18. Higher total scores represent better quality.

**Table S3.** Supplements used in studies.

	<b>Product Name:</b>	<b>Produced By:</b>	<b>Calories and Protein Provided:</b>
Sandmael:	E+	Tine SA, Oslo, Norway	350 kcal, 7.5 g protein
Cereda	Resource Support Plus	Nestlé Health Science	500 kcal, 23 g protein
Jiang	Niufutai	EnterNutr, Guangdong, China	402 kcal, 18 g protein
Lonbro	In2Zym WPC80	LinusPro, Risskov, Denmark	120 kcal, 30 g protein

PubMed Search terms:

**Search: (((Nutrition Intervention) OR (Nutrition Counseling)) AND (Cancer)) AND (Head and neck cancer) AND (randomizedcontrolledtrial[Filter])**

("diet therapy"[MeSH Terms] OR ("diet"[All Fields] AND "therapy"[All Fields]) OR "diet therapy"[All Fields] OR ("nutrition"[All Fields] AND "intervention"[All Fields]) OR "nutrition intervention"[All Fields] OR (("nutrition s"[All Fields] OR "nutritional status"[MeSH Terms] OR ("nutritional"[All Fields] AND "status"[All Fields]) OR "nutritional status"[All Fields] OR "nutrition"[All Fields] OR "nutritional sciences"[MeSH Terms] OR ("nutritional"[All Fields] AND "sciences"[All Fields]) OR "nutritional sciences"[All Fields] OR "nutritional"[All Fields] OR "nutritional s"[All Fields] OR "nutritional sci-ences"[All Fields] OR "nutritive"[All Fields]) AND ("counsel"[All Fields] OR "counseled"[All Fields] OR "counselings"[All Fields] OR "counselled"[All Fields] OR "counselling"[All Fields] OR "counseling"[MeSH Terms] OR "counseling"[All Fields] OR "counselings"[All Fields] OR "counsels"[All Fields]))) AND ("cancer s"[All Fields] OR "cancerated"[All Fields] OR "canceration"[All Fields] OR "cancerization"[All Fields] OR "cancerized"[All Fields] OR "cancerous"[All Fields] OR "neoplasms"[MeSH Terms] OR "neoplasms"[All Fields] OR "cancer"[All Fields] OR "cancers"[All Fields]) AND ("head and neck neoplasms"[MeSH Terms] OR ("head"[All Fields] AND "neck"[All Fields] AND "neoplasms"[All Fields]) OR "head and neck neoplasms"[All Fields] OR ("head"[All Fields] AND "neck"[All Fields] AND "cancer"[All Fields]) OR "head and neck cancer"[All Fields]) AND "randomized controlled trial"[Publication Type]

Web of Science Search terms:

((((((TS = (nutritional counseling)) AND TS = (head and neck cancer)) OR TS = (Head and Neck Squamous Cell Cancer) AND SU = (Nutrition & Dietetics)) AND LA = (English)) AND DT = (Article)) AND (DT = ("ARTICLE")) AND TS = (Body Composition))

Embase Search terms:

'nutrition intervention' AND ('head and neck cancer'/exp OR 'head and neck cancer')