Perceived Symptom-Related Barriers to Eating and Associated Quality of Life in Head and Neck Cancer Survivors

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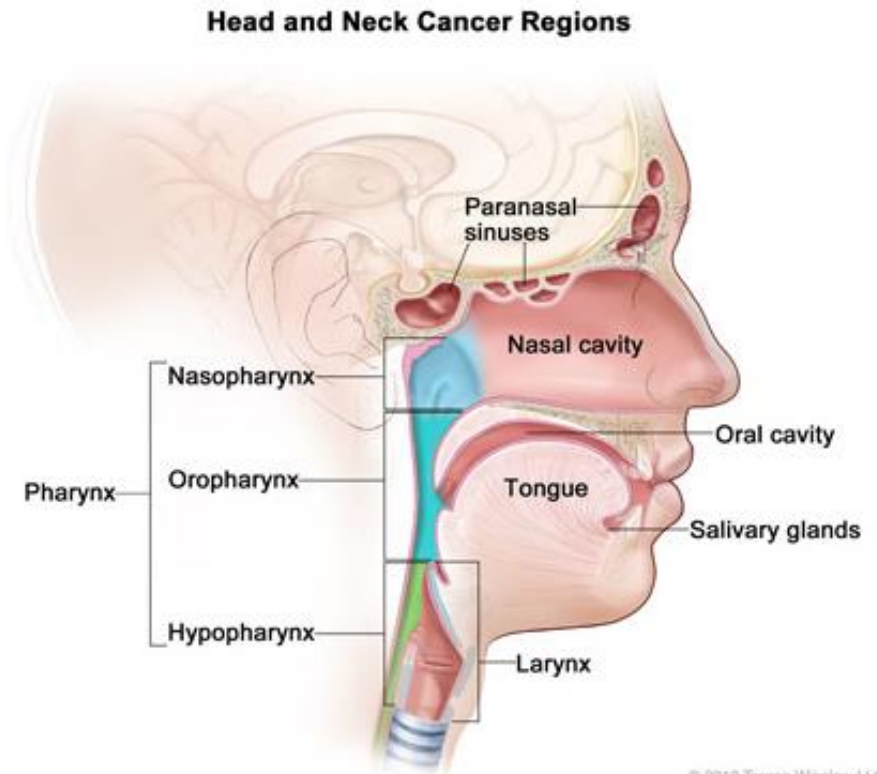
Outline

- Basics of HNC and Survivorship

- Study Overview:
  - Background
  - Methods
  - Results
  - Conclusions

- Future Research and Patient Care

What is Head and Neck Cancer?

- Cancers located in the:
  - Oral cavity
  - Pharynx
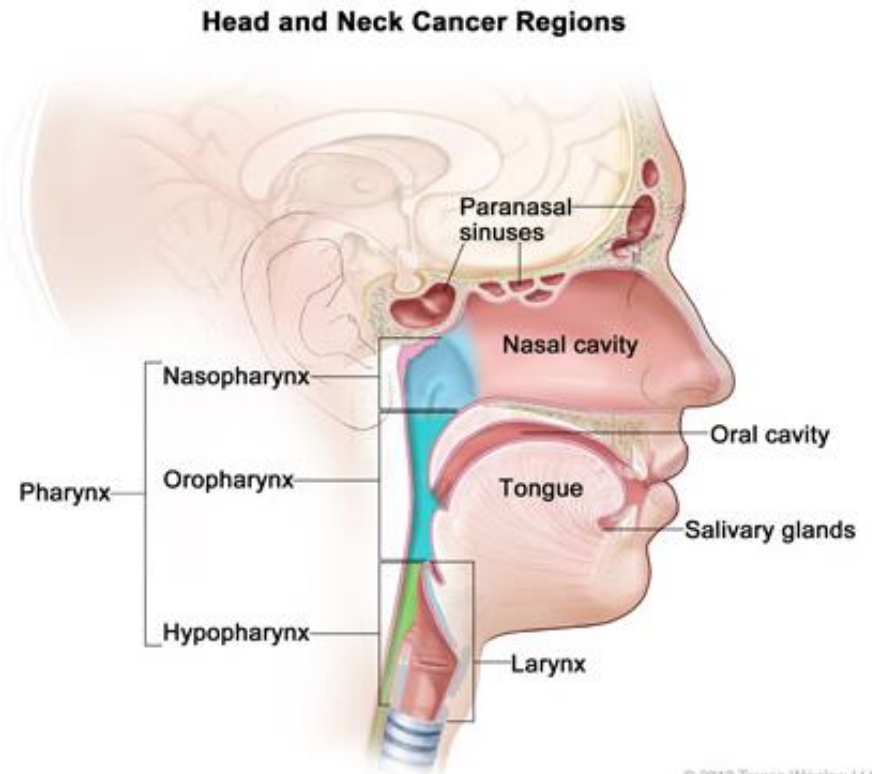 - Larynx
  - Salivary glands[1]

Head and Neck Cancer Regions

Paranasal sinuses
Nasal cavity
Nasopharynx
Oral cavity
Oropharynx
Pharynx
Tongue
Salivary glands
Hypopharynx
Larynx

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1. National Cancer Institute. Head and Neck Cancers. 2017 [cited 2018 April 13]; Available from: https://www.cancer.gov/types/head-and-neck/head-neck-fact-sheet#q1
2. Vigneswaran N, Williams MD. Epidemiological Trends in Head and Neck Cancer and Aids in Diagnosis. *Oral and maxillofacial surgery clinics of North America*. 2014;26(2):123-141.

What is Head and Neck Cancer?

- 6th most common cancer worldwide → 630,000 new diagnoses and 350,000 deaths annually[2]

- Most common risk factors:
  - Tobacco and alcohol abuse
  - HPV virus[1]

Head and Neck Cancer Regions

Paranasal sinuses
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2. Vigneswaran N, Williams MD. Epidemiological Trends in Head and Neck Cancer and Aids in Diagnosis. *Oral and maxillofacial surgery clinics of North America*. 2014;26(2):123-141.

Symptoms from HNC Treatment

- Common Symptoms:
  - Dysphagia
  - Xerostomia
  - Taste changes
  - Mucositis
  - Trismus
  - Dental Problems
  - Pain[6]
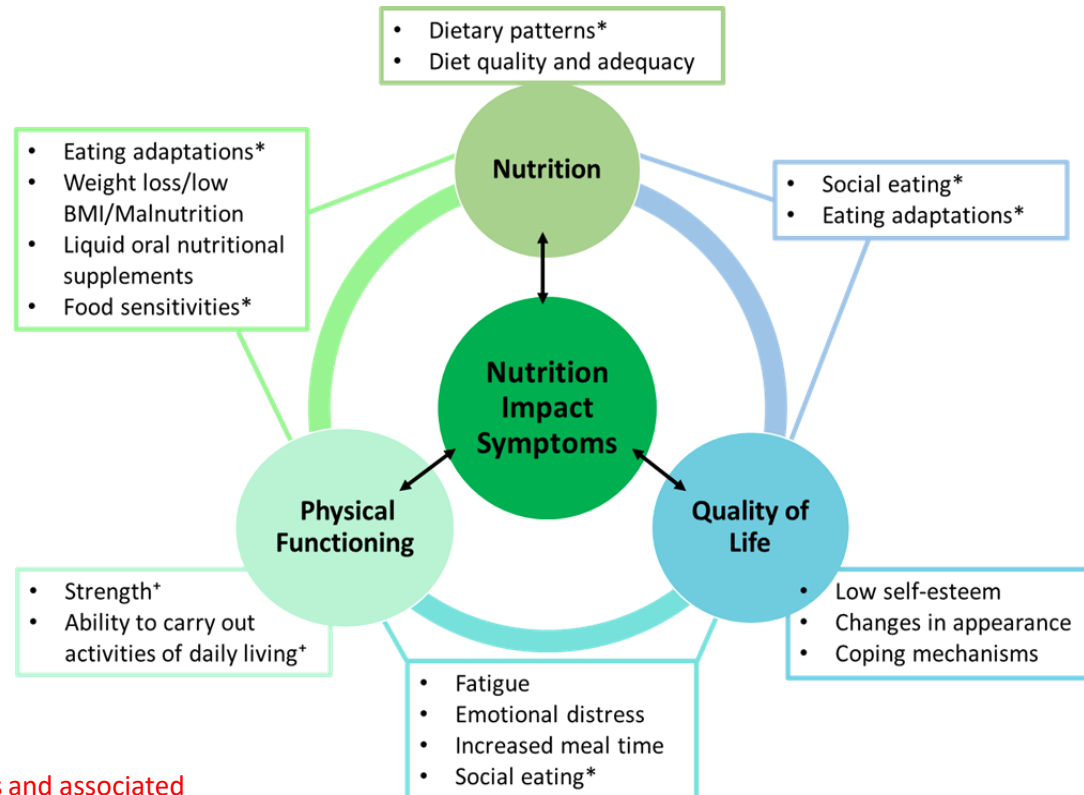
6. Crowder SL, et al. Nutrition impact symptoms and associated outcomes in post-chemoradiotherapy head and neck cancer survivors: a systematic review. Journal of Cancer Survivorship. 2018. https://doi.org/10.1007/s11764-018-0687-7

The Survivor's Experience

- 90% of HNC patients develop nutrition-related symptoms following treatment in the years following treatment3&[6]

- 5-year survival rate of HNC is approximately 65%[4]

- Patients treated with chemotherapy report worse outcomes, performance, and quality of life (QOL) post-treatment[5]

- Symptoms negatively impact QOL[7] by compromising dietary intake[8]

3. Patterson JM, et al. Head and neck cancer patients' perceptions of swallowing following chemoradiotherapy. Supportive Care in Cancer. 2015;26(12):3531-3538.
4. Rettig EM, D'Souza G. Epidemiology of head and neck cancer. Surgical Oncology Clinics of North America. 2015;24(3):379-396.
5. Lazarus CL, et al. Functional outcomes and quality of life after chemoradiotherapy: baseline and 3 and 6 months post-treatment. Dysphagia. 2014;29(3):365-375.
6. Crowder SL, et al. Nutrition impact symptoms and associated outcomes in post-chemoradiotherapy head and neck cancer survivors: a systematic review. Journal of Cancer Survivorship. 2018. https://doi.org/10.1007/s11764-018-0687-7
7. Astrup GA, et al. Symptom burden and patient characteristics: Association with quality of life in patients with head and neck cancer undergoing radiotherapy. Head & Neck, 2017. 39(10): p. 2114-2126.
8. Ravasco P, et al. Impact of nutrition on outcome: a prospective randomized controlled trial in patients with head and neck cancer undergoing radiotherapy. Head & Neck, 2005. 27(8): p. 659-68.

Research Objective

Examine associations between QOL outcomes and perceived symptom barriers to eating in post-treatment HNC survivors

Study Background

- Exploratory analysis of 23 post-treatment HNC survivors who had previously participated in a 12-week RCT intervention study aiming to increase cruciferous (CV) and green leafy vegetable (GLV) intake

Study Background

- Survivors were randomized to one of two groups:

1) an intervention group

2) a standard care attention control group

Methods

- Both the intervention and control groups were combined into one study population for this analysis

Methods

- At baseline and post-intervention (12 week), all participants completed:

  - **FACT-H&N** to assess HNC-specific QOL

  - A ranking of self-perceived **symptom-related barriers to eating** on 5-point Likert scale

    - 1 = "never" to 5 = "very often" [5 on poster]

Study Questionnaires

FACT-H&N

PERCEIVED SYMPTOM-RELATED BARRIERS TO EATING

could put a screen shot with a couple example questions from each and put on two different slides

Data Analysis

Summary score calculated for all symptom-related barriers to eating

- Max score of 80 points

- Higher score indicates greater symptom barriers

Data Analysis

Pearson correlations were examined between:

- Summary score and QOL scores, overall and singular domains

- Individual symptom-related barriers to eating and physical QOL scores

Results: Physical QOL

- Higher symptom score correlated with worse physical QOL
  - High physical QOL score = poor QOL
- Significant at:
  - Baseline (r = 0.78, **p = <0.0001**)
  - Post-intervention (r = 0.68, **p = <0.001**)
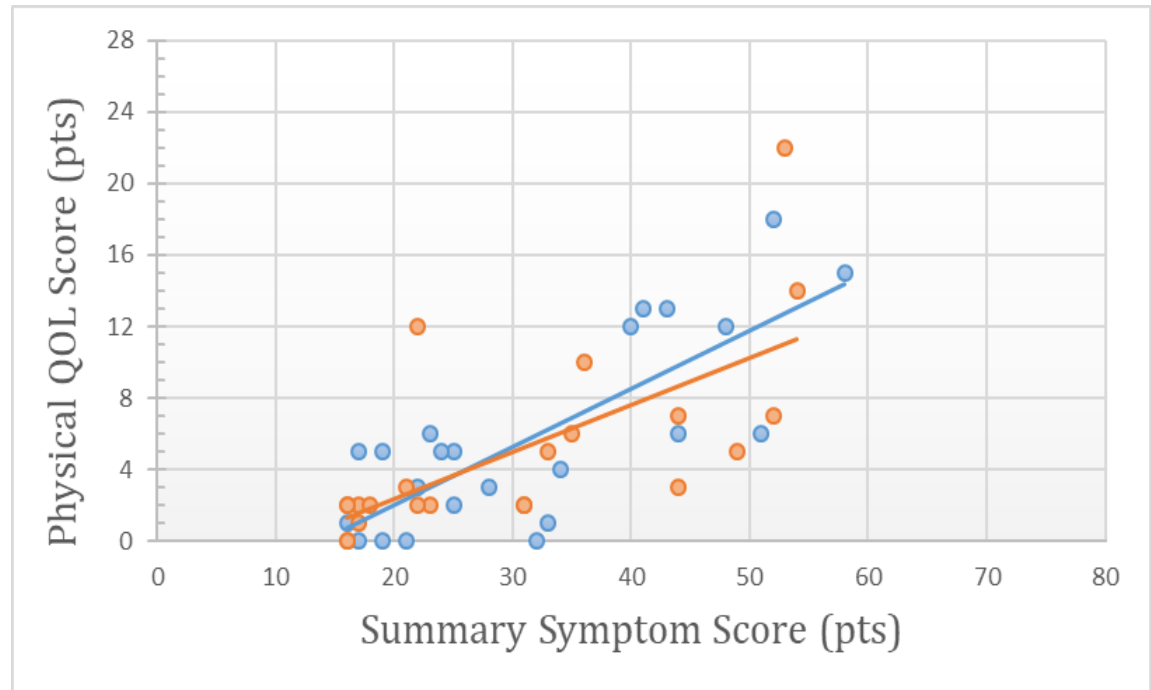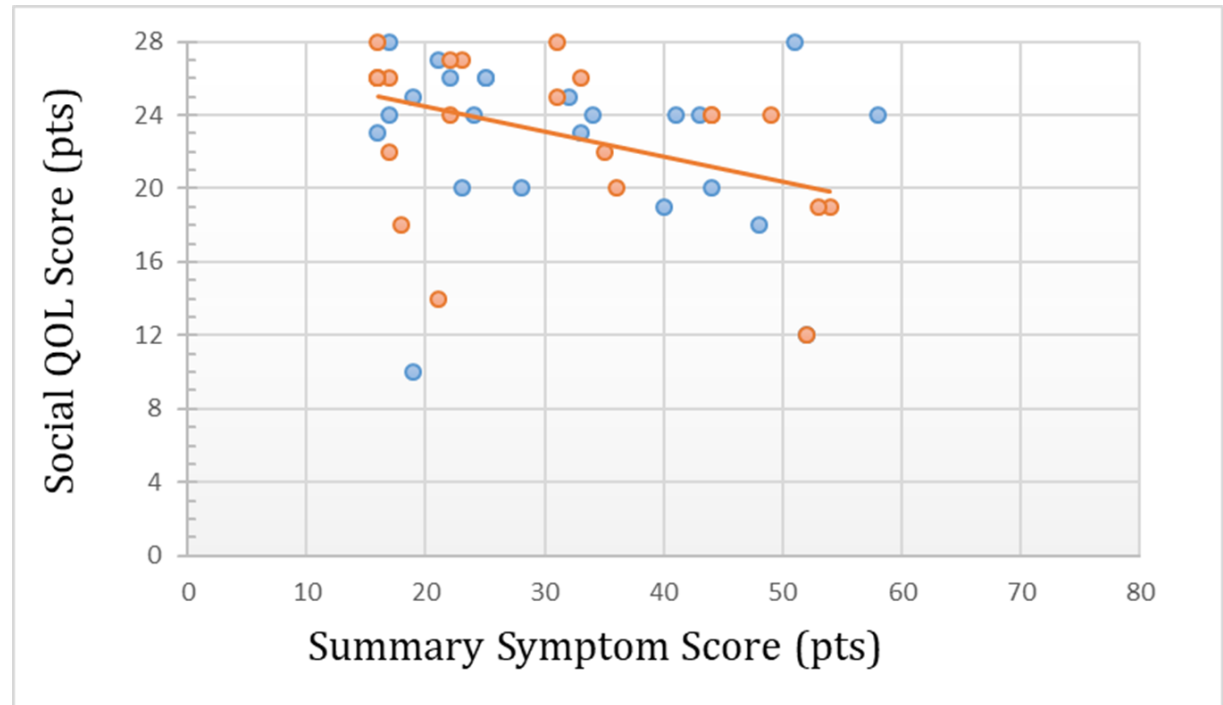

Legend: Blue = baseline, Orange = post-intervention

Emotional QOL

- Higher symptom score correlated with worse emotional QOL
  - High emotional QOL score = poor QOL
- Significant at:
  - Baseline (r = 0.55, p < 0.01)
  - Post-intervention (r = 0.59, p < 0.01)
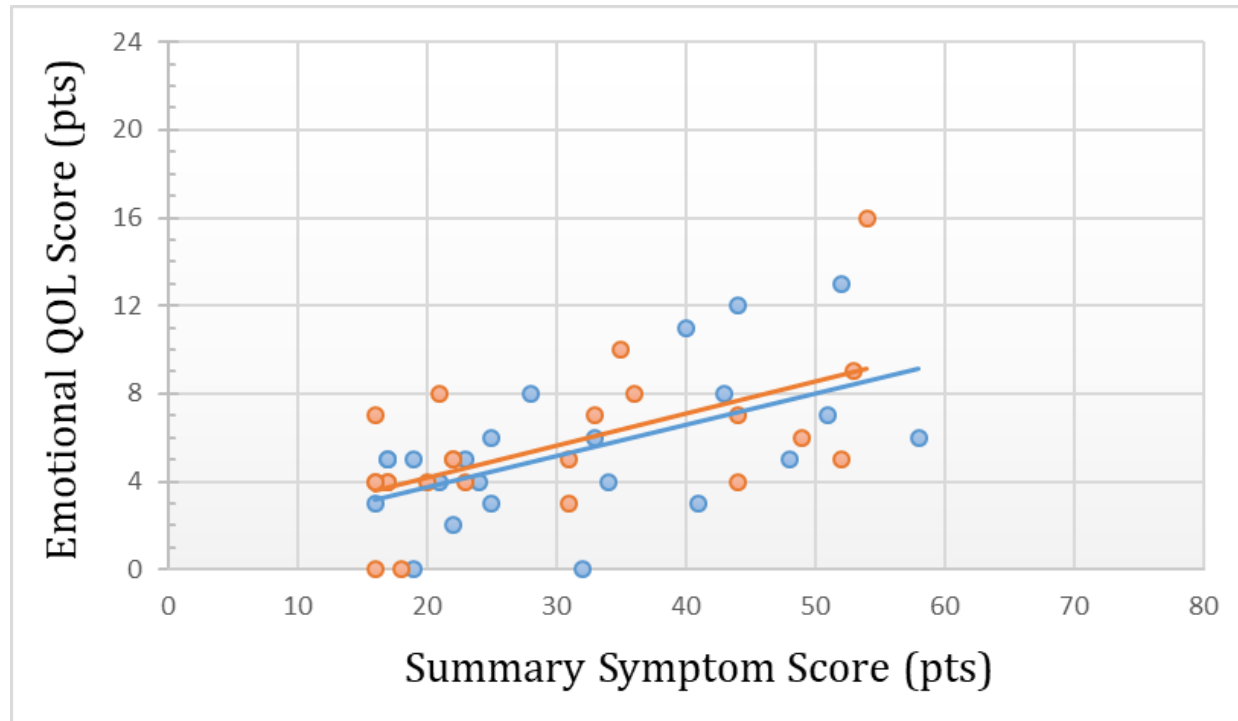
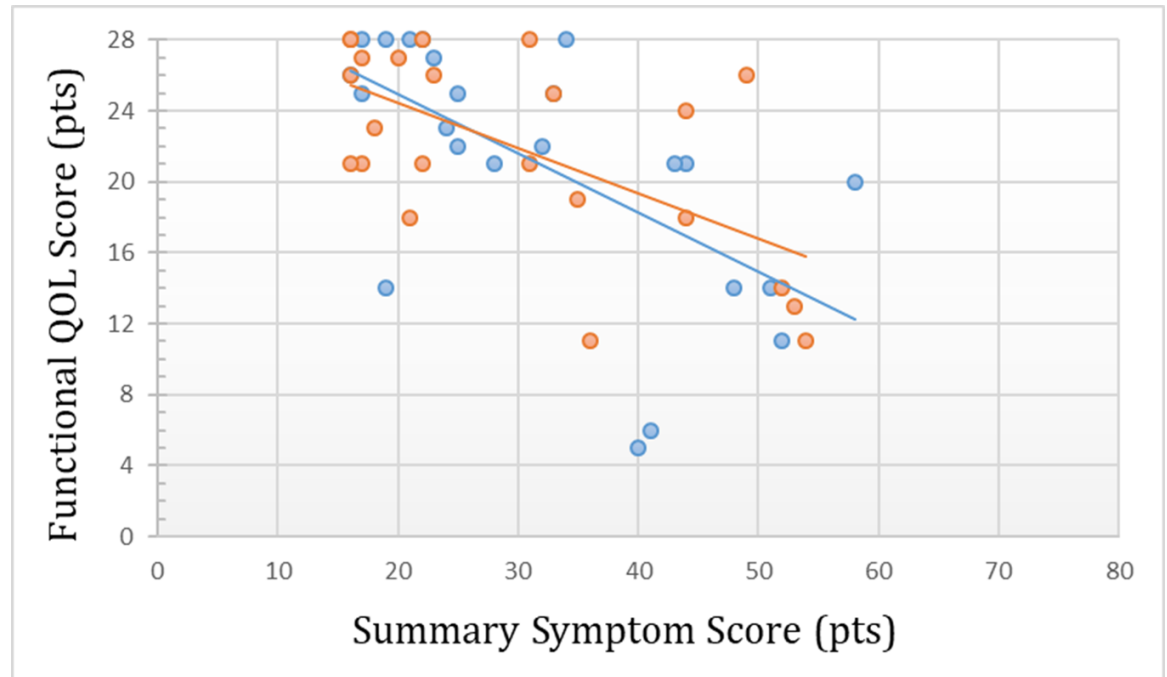# Social QOL

- Higher symptom score correlated with worse social QOL
  - Low social QOL score = poor QOL
- Significant at only post-intervention ($r = -0.43$, $p < 0.05$)

Functional QOL

- Higher symptom score correlated with worse functional QOL
  - Low functional QOL = poor QOL
- Significant at:
  - Baseline (r = -0.61, p < 0.01)
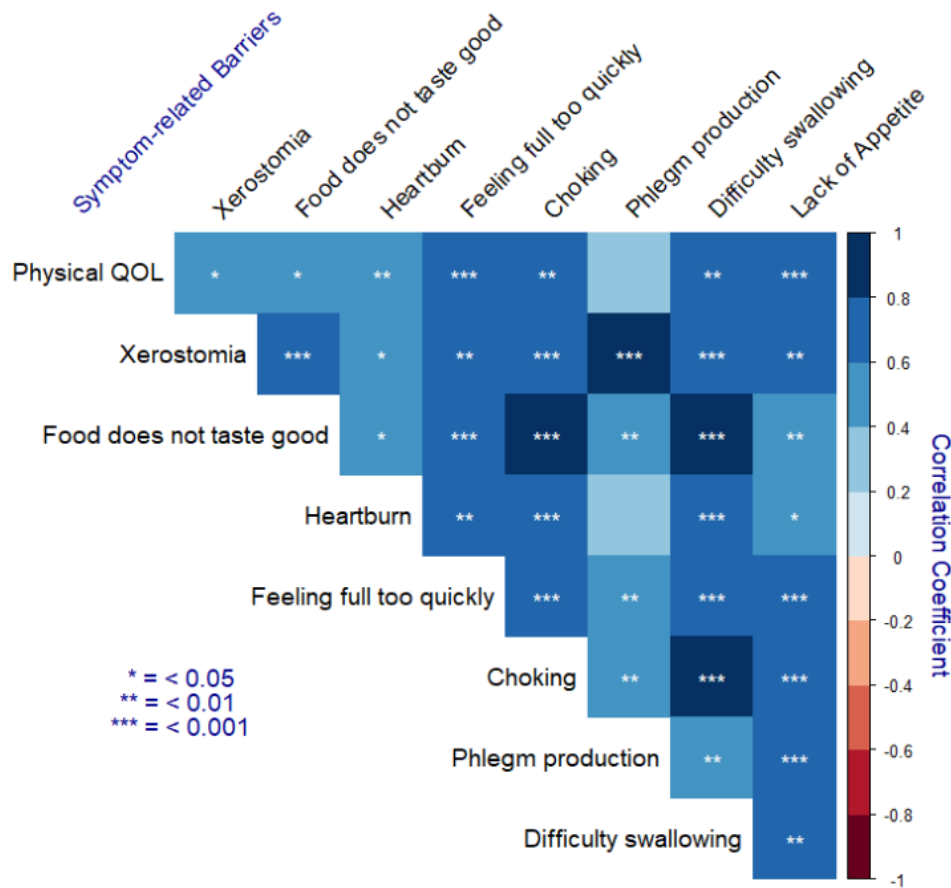 - Post-intervention (r = -0.61, p < 0.01)

Total and HNC-Specific QOL were not significant

QOL Domain	Correlation Coefficient	Significance
Baseline Social	R = -0.20	P = 0.36
Baseline HNC-Specific	R = -0.30	P = 0.17
Baseline Total	R = -0.08	P = 0.73
Post-Intervention HNC-Specific	R = -0.37	P = 0.08
Post-Intervention Total	R = -0.03	P = 0.91

Total QOL and HNC-specific QOL domains were found to not be significantly associated with the symptom-related barriers score at either time point.

Individual Perceived Symptom Barriers to Eating and Physical QOL Outcomes

- Top row = post-intervention correlations between QOL and individual barriers to eating

- All analyzed barriers here, except phlegm production, had a correlation between lower symptom score (meaning lower burden) and better physical QOL outcomes

Conclusion

- Increased total symptom barrier scores were associated with reduced physical, social, emotional, and functional QOL in post-treatment HNC survivors.

- HNC-specific QOL and overall QOL were not correlated with increased symptom barrier scores

- Presence of most individual perceived symptom-related barriers to eating was correlated with reduced physical QOL among the HNC survivor population

- These results suggest that barriers to eating as a result of symptom burden are associated with reduced QOL.

Future Implications & Research

- Future research to focus on the development of interventions to reduce symptom burden and QOL in this survivor population

- HNC survivors would benefit from management of post-treatment symptoms as part of survivorship care

Recommendations for Survivorship Care:

1 Assess symptom barriers to eating beyond the acute phase of care.

2 Offer recommendations based on patient's unique set of symptoms.

3 Provide comprehensive nutritional instruction.

4 Reassess symptoms and nutritional status often to ensure improvement in survivorship period.

Acknowledgements