Joint Event on

20<sup>th</sup> International Conference on

# **Obesity**

September 23-24, 2021 Paris, France

#### 25<sup>th</sup> World Congress on

# **Nutrition and Food Sciences**

September 23-24, 2021 Paris, France

volume: 6

## Effectiveness of Swallowing Exercises on Swallowing-Related Outcomes in Head and Neck Cancer Patients: a Meta-Analysis

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Head and neck cancer (HNC) is the sixth most prevalent cancer, with approximately 650,000 new cases per year and accounts for 2% of cancer deaths. Post-treatment complications are manifested by poor swallowing function and physiology, nutrition and QOL in the short and long-terms. Current evidence regarding the effectiveness of swallowing interventions on improving complications from HNC multimodal treatment is inconsistent. Therefore, we performed a meta-analysis to ascertain the effectiveness of swallowing exercises on the complications from HNC multimodal treatment by summarizing evidence from randomized controlled trials (RCTs). A systematic literature search was done in PubMed, Medline, Embase, Google Scholar, Cochrane library and reference lists. Comprehensive meta-Analysis 2.0 was used for data management. Standardized Mean Differences (SMDs) and 95% Confidence Interval (CI) were calculated for effectiveness of swallowing exercises using the random-effects model. A test using Cochran's Q-statistic and -Statistic were used to identify and quantify heterogeneity. Publication bias was assessed using Begg's adjusted rank correction and the trim and fill methods. In total, 19 RCTs with 1100 participants were included in the current meta-analysis. Swallowing exercises had a significant small effect on swallowing function 0.33 (95%CI; 0.00-0.65) immediately after the intervention. Swallowing exercises had a significant medium effect on mouth opening 0.60 (95%CI; 0.21-0.99) immediately after intervention and 0.46 (95%Cl; 0.11-0.81) at 6-month follow-up. Our meta-analysis suggests that swallowing exercises demonstrate small to medium effectiveness in improving swallowing function and mouth opening in HNC patients undergoing multimodal treatment, which could aid in effective oral intake leading to improved nutrition.

### Biography

Kondwani Joseph Banda is a PhD candidate in School of Nursing aged 33 years at Taipei University in Taiwan. He is in the final year of his studies. He has 4 papers published in reputed journals. Yu-Hao Chu is a final year bachelor of science student in the Department of Food Science, Nutrition, and Nutraceutical Biotechnology aged 22 years at Shih Chin University in Taiwan.

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