

“Effects of oral care protocol on oral hygiene, swallowing ability, taste sensitivity, and nutritional status in older hospitalized patients who undergoing elective abdominal surgery”

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Oral health is an important contributor to the health and well-being. Recent associations between oral health and systemic disease have led to renewed interest in oral health and its contribution to health outcomes. The aim of this study is to develop and evaluate a newly developed oral care protocol for the improvement of oral health and nutritional status in older patients who undergoing midline incision abdominal surgery during hospitalization and 8 weeks post surgery.

Phase I: Given the dearth of data on these outcomes of interest, a prospective observational survey will be conducted to assess the prevalence and status of oral hygiene, taste sensitivity, swallowing ability, oral health, and nutritional status among older patients during and post hospitalization. Based on power analysis, 120 eligible older patients will be enrolled and assessed face-to-face. Findings will add to develop an up-to-date evidence-based oral care protocol.

Phase II: A prospective, single-blind, one-center randomized controlled trial (RCT) using a computer generalized randomization list with a block size of four, will be conducted to test the effects of this newly developed oral care protocol in improving oral health (measured by plaque index, edible taste strips, repetitive saliva swallowing test, oral assessment guide, and general oral health assessment) and nutritional status (measured by MNA and weight changes) in older patients from admission baseline (T0) to postoperative Day 3 (T1), Day 5 (T2), Day 7 (T3), and 2 weeks (T4) and 8 weeks (T5) post surgery.

Sample will be recruited consecutively from four surgical units, 9A, 9C, 7B, 6A, at NTU hospital with a target population of older patients aged 65 years and older who undergoing elective midline incision abdominal surgery with a postoperative length of stay over 5 days. Based on power analysis, a sample size of 120-150 is sufficient to reach 80% power of analysis. Stratified random assignment by the type of surgery (gastric versus colorectal) to the experimental or the usual care group will be performed to have the most precision of the intervention effect. Strict adherence to the resulting randomization will be ensured.

The intervention consisted of a daily oral care protocol on two core components, oral cleaning and oral function stimulation on top of hospital routine care. Usual care consisted of standard hospital services and the same physicians provide care to patients in both experimental and usual care groups.

Data will be analyzed using the SAS statistical package version 9.1. The intention-to-treat principle will be used. Generalized Estimating Equation (GEE) analysis will be performed to test the intervention effect. This study will be the first to use a RCT design to test the effect of oral care in improving oral health and subsequent nutritional status in older patients post abdominal surgery. Since more and more older patients presenting for major surgery, the findings of this study will have implications in both clinical practices and policy making in Taiwan and worldwide as well.

Key words: Oral health, nutritional status, abdominal surgery, acute care for the elderly,