

Online Appendix

Sample size calculation

Sample size was calculated by using G Power 3.1. Since the main objective was to compare the difference in parameters between three groups, One-Way ANOVA was set to calculate sample size. Theoretical large effect size of 0.4 was used. α was set at 0.05. The total samples size of 84 was required to achieve power of 0.9. Adding 5 % drop-out rate, the total of sample size was 90 persons (n =30 each group).

Statistical analysis

Graphing and statistical analysis were performed by using GraphPad Prism V.7.0. Normality test was performed by using D'Agostino & Pearson normality test. Baseline characteristics between groups were compared using One-Way ANOVA for age and Chi-square test for gender, living area, systemic disease, and dry mouth. The characters with P-value > 0.05 were considered matched between groups. Frequencies of consumption and proportions of participants with adequate and inadequate intakes of nutrient were compared between groups by using Chi-square test. Protein intake (g) and muscle mass index (kg/m^2), were compared between groups by using Kruskal-Wallis test. Correlation between muscle mass and protein intake was analyzed by Spearman Rank Correlation. All tests were performed with $\alpha = 0.05$, P-value < 0.05 was considered statistically significant.