

Abstract

Nutritional status and salt taste perception are critical factors influencing dietary choices and overall sodium consumption. The primary objective of this cross-sectional study was to evaluate the relationships among salt taste sensory sensitivity, body composition parameters, dietary intake, and knowledge, attitude, and practice (KAP) regarding salt consumption in 65 Indonesian adults. Body composition was measured using Bioelectrical Impedance Analysis (BIA) to categorize participants by nutritional status. Sensory sensitivity was assessed via 3-alternative forced-choice tests for detection thresholds and the Labeled Magnitude Scale for suprathreshold intensity. It was revealed that overall adiposity, specifically body mass index ($r_s=0.167$, $p=0.183$) and body fat percentage ($r_s=-0.134$, $p=0.648$), did not significantly alter salt detection thresholds or perceived intensity (all $p>0.05$). Initial correlations suggesting a link between sensitivity and lean tissue compartments were determined to be heavily confounded by biological sex. Ultimately, biological sex was established as the dominant physiological determinant, with significantly lower salt sensitivity ($p<0.001$) and higher daily protein ($p<0.001$) and fat intakes ($p=0.026$) being exhibited by male participants. Additionally, a distinct knowledge-practice gap was identified consistently across all BMI categories, where adequate health awareness was demonstrated, yet sub-optimal dietary practices were engaged in. In conclusion, salt taste perception in this cohort was determined to be primarily driven by sex-specific physiological differences rather than baseline nutritional status. Furthermore, a universal behavioral challenge in sodium reduction is highlighted by the persistent gap between health awareness and actual dietary execution. To more accurately evaluate the impact of these inherent sensory and behavioral constraints on actual diet, it is recommended that objective sodium quantification methods be employed by future research.

Keywords: Body Composition, Dietary Behavior, KAP Framework, Salt Taste Sensitivity, Sodium Intake