

## **Impact of anthropometric measurements on taste perception for sucrose in patients with type II diabetes mellitus**

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Obesity is a largely growing health crisis which is strongly associated with diabetes. Taste perception (i.e. preference and supra-threshold intensity ratings) plays a vital role in human life as variations in taste influence food preferences. Even though sugar is essential, excessive intake is a major contributing factor for diabetes. However, the association between anthropometry and the perception of sweet taste in diabetics is inconclusive. Therefore, this study aims to assess the impact of anthropometry on taste perception for sucrose in type 2 diabetics. A sample of 86 diabetics was recruited for the study. Anthropometric measurements were obtained according to Asian standards. Preference for sucrose was assessed by the ‘Monell 2-series, forced choice method. Supra-threshold intensity ratings for sucrose were tested for a series of sucrose solutions using ‘general Labeled Magnitude Scale’. Preference for sucrose was significantly higher (Men:  $p=0.032$  WHtR  $> 0.5$  and Women:  $p=0.018$ ; WC $>80$ ) in diabetics exceeding normal anthropometry cut-offs. Men with anthropometry cutoffs above normal showed significantly higher ( $p=0.035$  for BMI $>23$  vs  $p=0.009$  for WHR $>0.9$ ) supra-threshold intensity ratings for sucrose while women showed significantly lower supra-threshold intensity ratings when their BMI $>23$  ( $p=0.038$ ), WC $>80$  ( $p=0.014$ ) and WHR $>0.85$  ( $p=0.007$ ). In conclusion, irrespective of the gender, preference for sucrose is greater in overweight/obese diabetics. However, the impact of anthropometry on supra-threshold intensity ratings for sucrose was complex with men and women having higher and lower ratings respectively.

**Keywords:** Anthropometry, diabetes, supra- taste perception threshold, intensity ratings

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