



4. ASSOCIATION BETWEEN GLYCEMIC CONTROL AND TASTE PERCEPTION FOR SUCROSE IN PATIENTS WITH TYPE 2 DIABETES MELLITUS

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Introduction: Achieving glycemic control is an important treatment goal in type 2 diabetes mellitus (T2DM). Taste perception (i.e. supra-threshold intensity ratings and preference) seems to play a crucial role in glycemic control in T2DM patients, since alteration in taste determine the food intake.

Objectives: This study aims at assessing the association between glycemic control and taste perception for sucrose in T2DM patients.

Method: Two hundred diabetics were recruited for the study and their HbA1c was determined by HPLC method. Preference for sucrose was assessed by "Monell 2-series, forced choice method" and supra-threshold intensity ratings were tested for six sucrose solutions (2.02M, 0.64M, 0.2M, 0.064M, 0.0202M, 0.0064M) using 'general Labeled Magnitude Scale'. Data was analysed by Mann-Whitney-U-test and Spearman's rank correlation test.

Results: Mean (+/-SD) HbA1c level of the sample was 8.0%(+/-1.8) and 69% of the participants had HbA1c value of > 7%. Diabetics with HbA1c value of < 7% had higher supra-threshold intensity ratings with the results being significant for 0.64M (70.07+/-21.5 vs 58.4+/-20.22, p=0.001) and 0.2M solutions (41.35+/-24.0 vs 33.78+/-19.6, p=0.005) compared to those with HbA1c >7%. The mean preference (+/-SD) for sucrose was significantly decreased (0.15+/-0.1 vs 0.19+/-0.13, p=0.033) in diabetics with HbA1c < 7% compared to their counterparts. HbA1c was negatively correlated with supra-threshold intensity ratings for 0.64M and 0.2M solutions (r = -0.27, p=0.000 vs r = -0.18, p=0.015) and positively correlated with preference for sucrose (r = 0.2, p=0.007).

Conclusion: Supra-threshold intensity ratings for sucrose increases specially for higher concentrations and preference for sucrose decreases with better glycemic control.