

TASTE AND SNP'S FOR NUTRIENTS

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Introduction: Diet preferences are complex, influenced by environmental and host traits, and it impacts both food selection and associated health outcomes.

Aim: To assess taste threshold (TT) and taste preference (PT) for sweet, sour and bitter, genotype 94 taste related gene SNPs, and record habitual diet intake, food preferences and caries status in healthy young Swedish men and women.

Material and methods: 127 men and women aged 18-23 were orally examined and answered questionnaires, executed a tasting session and donated saliva.

Results: Allele variations in the *GNAI3*, *SCL2A4* and *TAS1R2* genes were associated with variations in TT and PT for sweet taste and sweet food intake. Increasing sweetPT was associated with increasing preference and intake of sugary foods and milk. Similarly, increasing sourTT was associated with increasing intake of sour foods, whereas the associations between food preference/intake and TT/PT for bitter was weak. Finally, allele variations in the *GNAI3*, *SCL2A2*, *SCL2A4* and *TAS1R2* genes were associated with caries status.

Conclusions: Based on the present findings it is concluded that not only taste receptor gene variation, but also variations in a glucose transporter and a gustducin gene are associated with sweet intake and the sugar dependent caries disease.