

**ORAL PERCEPTION OF DIFFERENT SIZES OF OBJECTS
IN A GROUP OF YOUNG ADULTS**

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Oral perception or sensitivity deals with assessing the size, shape and surface texture of substances in the oral cavity. The manipulation and swallowing of a food bolus in the mouth will be determined by the size of the food bolus. Therefore, oral perception could be considered as an important factor in controlling mastication and swallowing. The present study was carried out with the objective of assessing the perception of oral mucosa including tongue, palate and buccal mucosa in detecting different sizes of steel spheres.

The accuracy of solid object size perception was measured in fourteen healthy male volunteer individuals (mean age 22.2 ± 0.98 years). Five different sizes (diameter 4.0-7.9 mm) of steel spheres were used as object sizes for oral perception. First, the subjects were instructed to assess the size of the sphere, using the tip of the tongue, anterior hard palate and one cheek without any visual or tactile sense about the size of the testing sphere and match the perceived size with a visual reference set of spheres placed in front of the subject. This experiment was referred to as the control. The same procedure was repeated after local anaesthesia of tongue (T), tongue and palate (TP), tongue palate and cheek (TPC), respectively. Two-point discrimination was also tested on the anterior part of the dorsum of tongue before and after applying local anaesthetic using two-point discrimination caliper.

The results showed that there was a significant difference between two-point discrimination tests carried out with and without local anaesthesia (paired t-test, $p < 0.05$). One way repeated measures of ANOVA showed a significant underestimation of the smallest sphere size (4 mm) in all groups except the control. However, there was a significant overestimation of a large sphere size (7.1 mm) with the local anaesthesia of the buccal mucosa. These findings indicate that perception of smaller sphere sizes could be mainly linked to surface receptors of the tongue, palate and buccal mucosa whereas buccal mucosal surface receptors might also play a role in the detection of large sphere sizes.