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**Original article:**

**Comparative study of tooth size in Normal, Crowded and Spaced permanent dentitions in Gujarati population**

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**ABSTRACT:**

**Introduction:** The orthodontic ‘‘finishing’’ phase is recognized for the multitude of details necessary to achieve an excellent result. In some cases, the finishing phase is very difficult, requiring the production of complicatedbiomechanical forces to reach a satisfactory orthodontic solution. A high percentage of these finishing phase difficulties arise because of tooth size imbalances that could have been detected and consideredduring initial diagnosis and treatment planning.A comparative study of tooth size was carried out to examine theextent to which tooth size contributes to dental crowding or spacing.

**Methods:** A sample of 240 orthodonticstudy casts was selected from a larger sample. These casts met the selection criteria. The sample wasdivided into crowded, spaced, and normal dentition groups with 80 casts in each group. The criterion ofgrouping was based on the tooth size-arch length discrepancy in the arch. The data were statisticallyanalyzed.

**Results:** Mesiodistal crown dimensions of individual teeth, the sum of the incisors, and the sum ofthe canines and the premolars were uniformly larger in crowded arches than in normal and spaced dentitiongroups. Mesiodistal crown dimensions of individual teeth were smaller in the spaced arches compared with normal dental arches.Correlations of the combined mesiodistal crown dimensions of the incisors withthe combined mesiodistal crown dimensions of the canines and the premolars were positive in all 3 groups.

**Conclusions:** Mesiodistal tooth size is an important factor in the assessment of crowding or spacing and inorthodontic treatment planning.

**Key-words:** Tooth-size, Dentition, Biometric study, Tooth size-arch length discrepancy

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