

# TOOTH LENGTH OF MANDIBULAR AND MAXILLAY PREMOLARS - A PRELIMINARY STUDY

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Metrical dimensions of teeth (odontometric data) have been reported to vary in different population groups. Crown dimensions of permanent and deciduous teeth of the Sri Lankan Sinhalese population have been established and are reported to vary from other population groups.

A knowledge of the tooth length is valuable in clinical dental practice especially in root canal treatment, when determining the average working length. Although the lengths of teeth have been established for other population groups, similar studies with reference to Sri Lankan population are scarce. The present study was carried out to establish the root length of (both maxillary and mandibular) premolars in the Sinhalese ethnic group and to make comparison with the values established for other population groups.

The study consisted of 237 extracted premolar teeth from 123 males and 114 females in the age range from 11 – 59 years, belonging to the Sinhalese ethnic group. The teeth were collected from dental surgeries in and around Kandy. The teeth included in this study were morphologically normal, with no attrition, no caries and no restoration. Teeth were stored in 10% formaline before and after the measurement. The tooth lengths of maxillary and mandibular first and second premolars were recorded. All measurements were recorded to the nearest 0.01mm by using a digital vernier caliper by one investigator.

The means and standard deviations of the tooth length for the first and second maxillary permanent premolars in the males were  $20.46 \pm 1.49$  and  $20.65 \pm 1.30$  respectively and for the first and second mandibular permanent premolars were  $21.98 \pm 1.68$  and  $22.36 \pm 2.18$  respectively. The tooth length for the first and second maxillary permanent premolars in the females were  $20.06 \pm 1.48$  and  $20.60 \pm 1.80$  respectively and for the first and second mandibular permanent premolars were  $21.82 \pm 1.81$  and  $22.56 \pm 1.75$  respectively.

Mean values of the lengths of the upper first and second premolars are higher in Sri lankan males than in Sri Lankan females. Mean values of lengths of the teeth are lower in the Sri Lankan sinhalese ethnic group when compared with other Caucasian population groups. The findings of this study will be valuable in clinical dental practice when calculating the working length in root canal treatment.

