

Introduction

Restoring anterior teeth is one of the most challenging tasks in dentistry. People with missing anterior teeth tend to be more psychologically affected. Maxillary anterior teeth dimensions and their apparent width proportion to each other and to the face are one of the critical factors in achieving a natural pleasing smile. Several maxillary anterior teeth width proportions theories have been suggested to establish guidelines for creating a naturally pleasing smile. Also, knowing the ideal relationship between width and length of each anterior tooth would be helpful in restoring anterior teeth in pleasing and harmonious form. Many authors tried to establish width-length ratio that will help and guide dentist to esthetically restore anterior teeth. Achieving natural smile while restoring anterior teeth is a challenging task. Teeth dimensions must be considered when planning to restore anterior teeth. There is no data available for teeth dimensions in Saudi adult population. The aim of this study is to analyze the maxillary anterior teeth dimension and their apparent width and their relation to each other in Saudi population.

Materials and Methods

103 Saudis (65 male and 38 female) with all of maxillary anterior teeth present with age range of 20-30 years participated in our study. The sample were chosen and examined by one examiner. Their selection were according to following criteria: 1. No missing maxillary or mandibular anterior teeth. 2. No veneered, crowned, fractured or apparent tooth loss due to attrition.

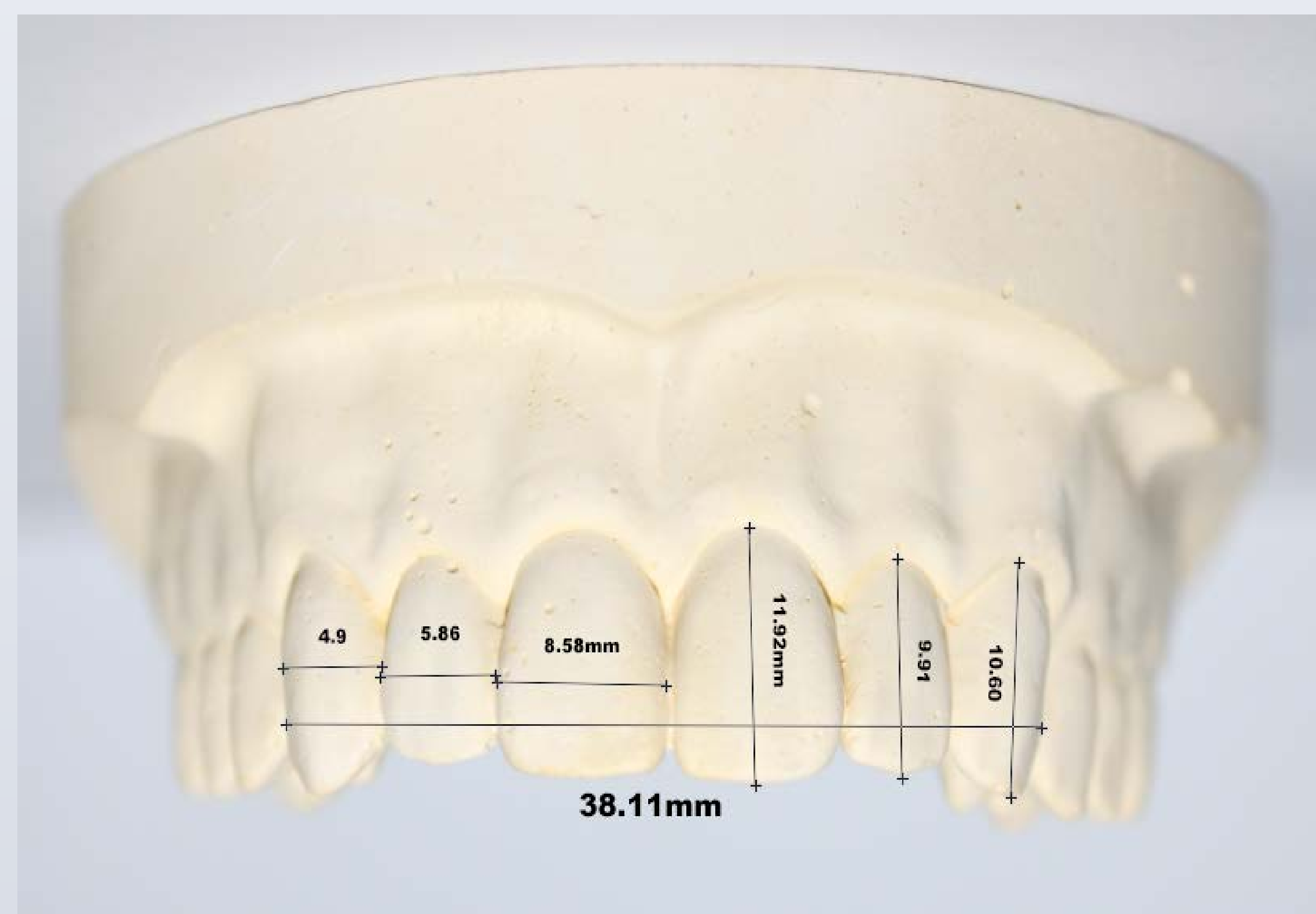
3. Absence of large restoration on anterior teeth.
4. absence of severe tooth rotation or malposition.
5. absence of interdental spacing or crowding.
6. Absence of signs of gingival alteration (such as recession or hypertrophy). Maxillary impressions were made with regular body Vinyl Polysiloxane (VPS) impression material (in disposable plastic impression stock trays. All impression were poured with Type IV dental stone.

Teeth Dimension measurement :

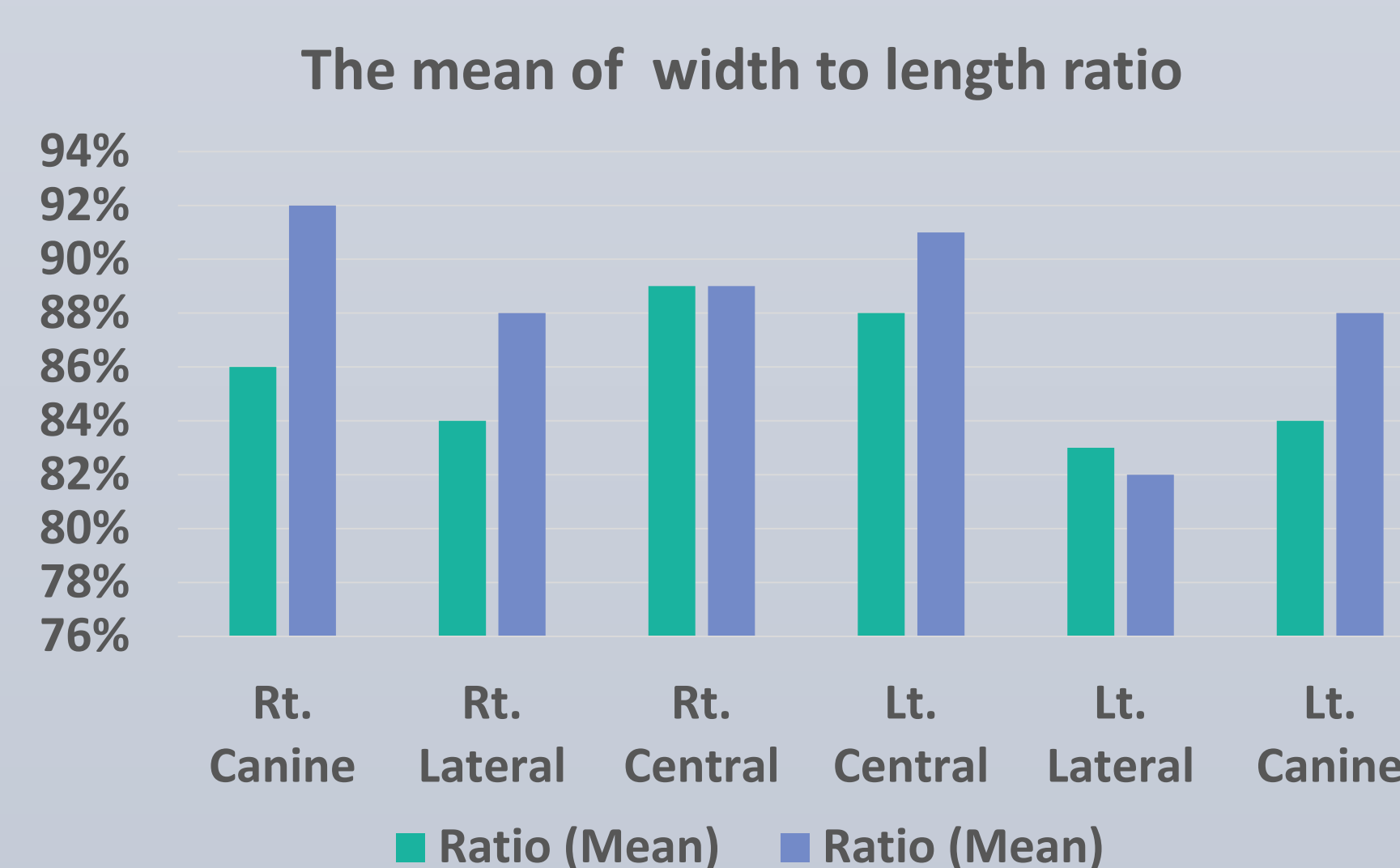
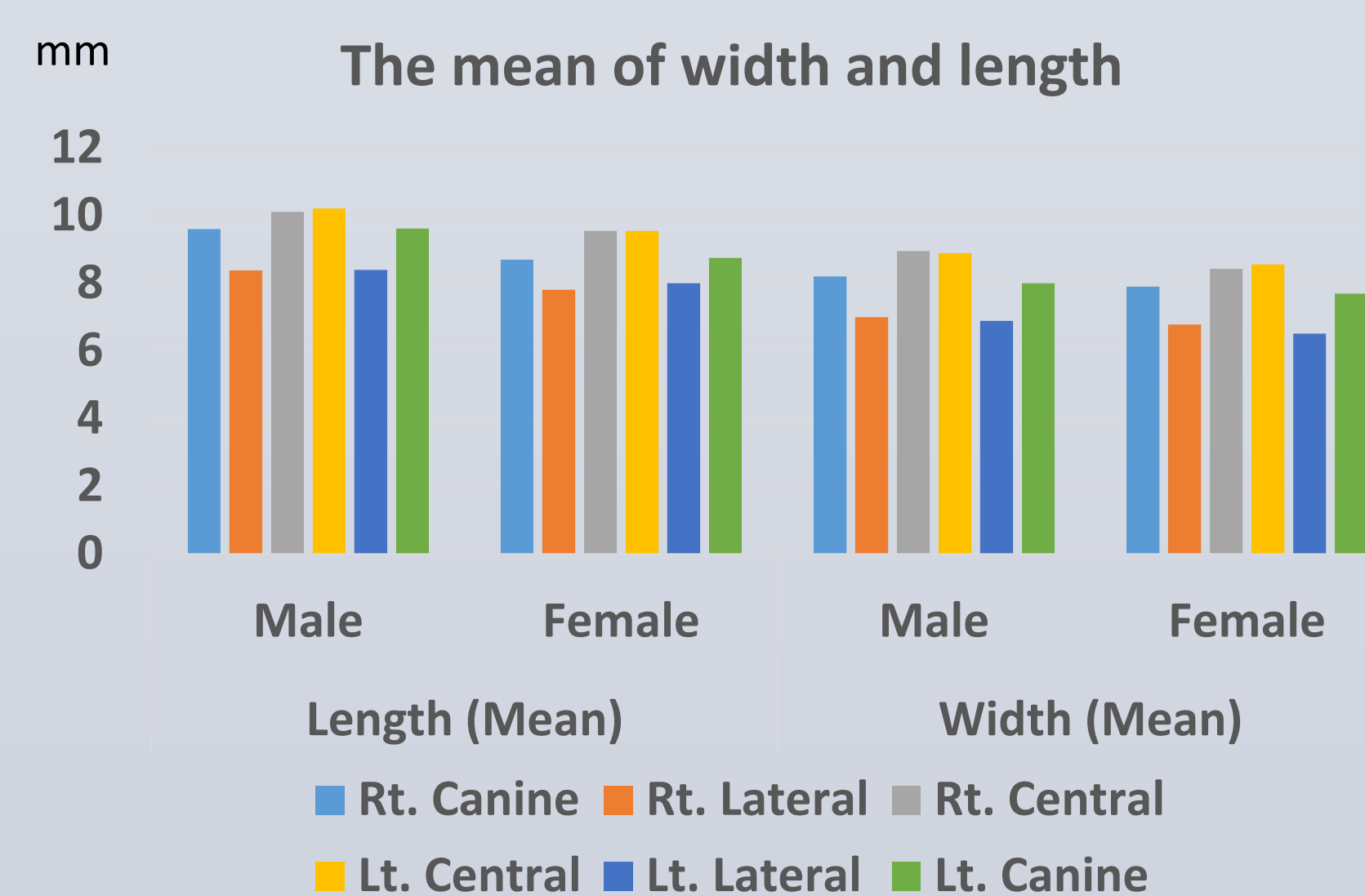
A sharp edged digital caliper with a precision of 0.01 mm were used to obtain measurement from Dental casts. All measurement were taken by one previously trained person. The maximum mesiodistal width between mesial and distal contact points on line perpendicular to the long axis of the tooth was measured to obtain the width dimension of the tooth. For the height dimension, it was recorded by measuring the distance between the most apical points on gingival margin and the most incisal point of the crown on a line parallel to the long axis of the teeth. All measurement were made on the labial surface of Maxillary anterior teeth and recorded in millimeter.

Measurement of apparent tooth width proportions :

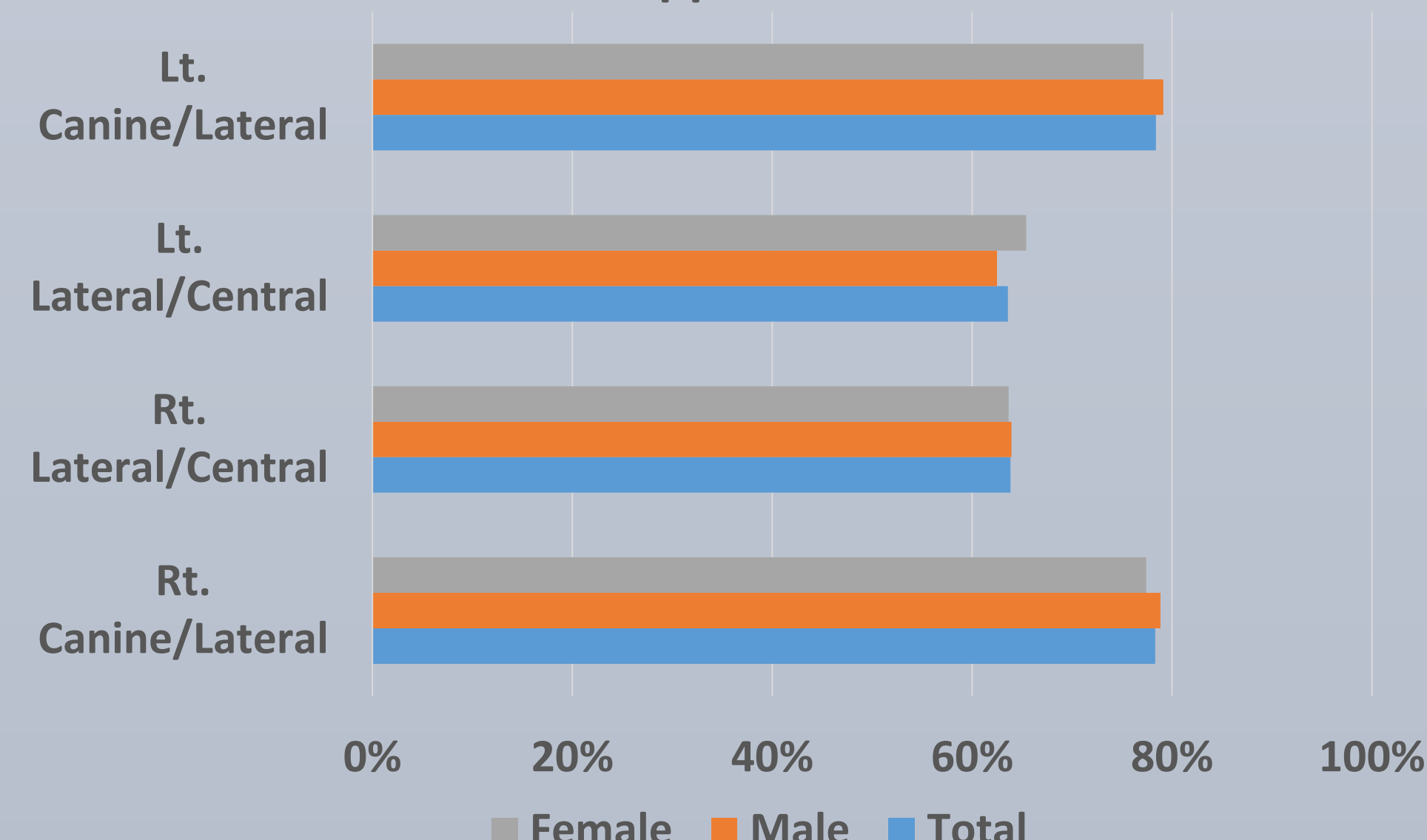
All the casts were digitally photographed from the front in a way that the occlusal and incisal surfaces of the teeth were parallel to the floor. The focus of the image was at the central incisors and the midline of the image was coinciding with dental midline. The measurement tool was used to measure the digital apparent width (pixel based measurement) of the maxillary six anterior teeth.



Results



The mean values of apparent width to width Ratio



Conclusion

Within the limitation of this study it was found that:

Central Incisors had the longest and widest crowns (9.94mm) (8.72mm) followed by canines (9.28mm) (8mm) and at last lateral Incisors (8.21mm) (6.84mm).

2. There was some asymmetry between left and right sides of anterior teeth especially on lateral incisors and canines.

3. The mean maxillary anterior teeth dimension for men were larger compared to female.

4. maxillary anterior teeth had more square like appearance due to a combination of shorter and wider teeth.

5. The average apparent width ratio between lateral to central was 63.7% which is close to GP ratio 62%. The average apparent width ratio between canine to lateral was 78.35. In this study no recurring Esthetic dental proportion were found.

References



Contact Information



acknowledgment

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