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Research Article

**DISTANCE OF MOST PROMINENT PART OF LABIAL
SURFACE OF MAXILLARY CENTRAL INCISORS AND THE
POSTERIOR LIMIT OF THE INCISIVE PAPILLA****Dr. Sama Khaliq, Dr. Nazma Saeed, Dr. Maha Siddiqui, Dr. Aliha Liaquat**
University College of Dentistry, University of Lahore**Abstract:**

After the loss of natural teeth, the prosthesis for prosthetic services becomes an indispensable part of modern life. They provide effective chewing and aesthetics. To do this more proficient both biologically and functionally place the geometric shaped tooth arch on the specific name.

***Objective:** The aim of this study was to compare the distance between the posterior edge of the incisive papillae and the most prominent part of labial surface of maxillary central incisor surface in various forms of the arch.*

***Study Design:** In vitro section experimental study.*

***Place And Working Period:** In Punjab Dental Hospital Lahore for one year duration from march 2017 to March 2018.*

***Methodology:** 203 university Youngsters and Adults were selected with symmetrical faces and with all the teeth available outside the third molars. subjects with impaired teeth, dental problems, orthodontic or dental restoration lip surfaces were excluded. The selection in the exemplary drawings is standardized for each sample after the upper and lower belts and the Casts obtained are made. Arc shapes were evaluated with morphological explanations. The measurements recorded the distance between a digital vernier caliper modified casts placed on a flat surface with incisive papilla (IP) and a central tooth (CL) for upper cut papilla incisal distance (PID). The Vernier caliper jaw fixed blade was extended 10 mm from the original for effective measurements.*

***Results:** 11.06 mm \pm 1.46 was the average PID. Among the volunteers 90.6% had oval, squarish in 3.9% and tapering arch seen in 5.4%. The mean oval arched PID was 11.04 mm, the 10.84 mm contraction angle and 12.02 mm.*

***Conclusion:** The average PID prosthesis proposed for placement of central incisors is 11.06 mm. Oval-shaped forms have a larger presentation.*

***Key Words:** papillo-incisal distance, prosthesis, maxillary central incisor.*

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INTRODUCTION:

Prosthetics are usually smaller than the natural teeth they replace, where the dentures are usually chosen, instead of the front teeth, and the production of these prostheses is a problem. In the absence of recording before extraction, the appropriate size selection of the anterior maxillary teeth is the most difficult and complex aspects of the entire prosthesis construction. Accurate positioning has always caused major difficulties. For place artificial teeth the accurate position is occupied by their predecessors. The task is simple when records for extraction are available. Various methods have been used to accommodate the natural predecessors positions. They have used the

most common multiple reference points, such as sharp papilla, lip channel, retromolar pad, palatine residues, middle palate stitches and cleft palate. The incisive papillae (IP) is a stable and remarkable anatomical sign that can survive from the denture to the eternal process. The position of this midline lip-incisor teeth and prosthesis dog position is used in conjunction with the incisocervical incisor position, the occlusal edge and the central incisor to produce a guide to determine the initiator of the incisor and to determine an initiator for the detection of flat occlusal parallels. From the central incisors the distance of IP was recorded from the posterior or middle edge of the papillae.

Frequencies

Arch Form	Frequency	Percent	Valid Percent	Cumulative Percent
Ovoid	184	90.6	90.6	90.6
Tapering	11	5.4	5.4	96.1
Squarish	8	3.9	3.9	100.0
Total	203	100.0	100.0	

This distance also varies in different arc shapes. Other populations such as the population of the Caucasus, China, Thailand, Korea and Taiwan, and the population of Pakistan have also been conducted. This study aims to document this distance with different bow shapes of dentistry students in two different classes in a dental hospital in Karachi, Pakistan. This will decrease the effort of the chair of dentist's and the patient's duration by enabling the dentist technicians to maintain the association between the supporting facial structures and natural teeth, specifically if they are not recording prior to extraction.

METHODOLOGY:

This in vitro section experimental study was held in Punjab Dental Hospital, Lahore for one year duration from march 2017 to March 2018. Undergraduate students in Grades 3 and 4 were selected for study and all volunteers were between 21 and 23 years of age. Criteria for Selection are based on healthy teeth, first and second premolar and available molars. The subjects were excluded with poor tooth positions, restored front teeth, periodontal disease, acquired and / or maxillary birth defects, history of orthodontic treatment, orthognathic / reconstructive surgical procedures. The maxillary impressions were prepared with the non-recyclable hydrocolloid (Tropicalgin by Zhermack Spa) following the instructions manual of manufacturer's to mix with the spoon and the measuring given water. It was mixed with hand in a rubber container and loaded into trays of perforated stainless steel material. After Entrance from the tray at the patient's mouth, for two and a half minutes the material was allowed to be adjusted to shield an sufficient final assembly. The print was checked, removed, disinfected and washed for 10 minutes, and the Casts were made using the type of tooth stone that was made using 4 bases standard-forming bases.

On a horizontal surface the Casts were placed and the sharp papilla was first verified and with pencil the borders were marked. The distance from the rear surface of the IP device to the middle incisor maximum convexity was measured with a vernier caliper of the papillary incise distance (PID) modified: the fixed incisor jaw vernier caliper was 10 mm extending from the original to the actual measurements. The shape of the arch has been evaluated with the basic morphological definitions classified as, Tapering, Squarish and Ovoid. In SPSS 16 version program the collected data was and analyzed and entered. The variables of study included "PID" and "Arc form". For the variables the comparative mean was recorded defined in the study.

RESULTS:

Approximately 90% of the 203 subjects were dominant in the institution and in the age groups between 20 and 22 years. 11.06 mm \pm SD 1.46 was the average PID. 90.6% of the subjects had ovoid, squarish in 3.9% and 5.4% had sharp arch forms. The mean PID for the oval arches was 11.04 mm, with 10.84 mm contraction and 12.02 mm square.

Papillo-Incisal Distance

Arch form	Total	Mean	Std. Deviation
Ovoid	184	11.03	1.45
Tapering	11	10.83	1.41
Squarish	8	12.01	1.63
Total	203	11.06	1.46

DISCUSSION:

The placement of the artificial teeth according to the anatomical reference points helps to position the teeth according to the general shape of the belt and the other. Premaxilla can be called the "aesthetic region" because of its visibility and its effect on the appearance of the face. Improper placement of the jaw center line can cause a distorted appearance and may affect speech. Many geometric arc shapes and mathematical functions have been proposed for years

to describe the bones of teeth. Since some authors prefer to classify the bones of the tooth as oval, sharp and square, this classification of the arch shapes is used in this study. Most cases had a 90% oval belt, because 6% worked and 4% had a scutellum shape. Compared to Japanese and Caucasian jaw tooth bones¹⁵, the Japanese group had reduced bone density of 46%, bone of bone 42%, and 12% bone. In the Caucasian group, there was 18% quadrilateral, 38% ovoid and 44% gradual decrease.

Statistics

Gender	Frequency	Percent	Cumulative Percent
Male	22	10.8	10.8
Female	181	89.2	100.0
Total	203	100.0	

The author reported ethnic differences in the shape of the arch. This statement may also be related to examples as informed entries from Pakistan. The mean PID value measured in this study sample was 11.06 mm SD \pm 1.46. In the Grave study with the same reference points, the mean PID of the Caucasians was 13.1 mm. In the case of another Caucasus, the average distance was 12.45 mm. In a Thai example, the edge of the incision was 11,093 mm and 12,269 mm, the incisal edge of the central incisor, and a more convex labial surface. In a study on the population of South China, the posterior limit and the permanent center of the papillae. The majority of the central cutter contour was used⁹. The mean values of the distances were 12.71 mm and 9.17 mm, respectively. A Jordanian study is a software program that uses a tangent from a computer scanner and the back limit of 12.93 mm cut papillae. In a 3D orthographic study of Korean samples, the PID at the posterior edge of the cut papule was 11.96 mm in a vector at the midpoint of the mesioincisal tips of both upper incisors. In studies using the posterior border of incisor papilla as a reference point for measurement, EPI can be compared with this study. This study was designed to investigate the various arc shapes in the collected sample and to find the PID relationship in these arch forms. Oval springs were dominant, that is 82.4%,

while the other two mixed springs were only 17.8%, which affected the final result. This may be a limitation of this study, and it can be investigated to use the same amount of spring patterns in future research.

CONCLUSION:

The recommended average PID for inserting a prosthetic center incisor is 11.06 mm. Oval-shaped forms have a larger presentation.

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