INTRODUCTION
Face is paramount for an individual’s recognition each having its own respective features. There are diverse facial types that are of utmost significance in anthropology, forensics, anatomy and surgery.1-3 Facial features are a hallmark of various racial and ethnic origins each having a distinctive trait of its own thereby assisting in their identification and also helping in reconstructive surgeries. Facial shape is also a sexually dimorphic trait thereby manifesting distinctive features amongst males and females.3,4 Precise quantification of the face such as face height, breadth and facial index are therefore helpful in diagnosing the acquired and genetic aberrations, study of standard and atypical facial contour and also for morphologic measurements.1,2 The facial index is measured as a ratio of facial height to breadth which is deemed imperative to determine the multifarious facial types. It can be computed utilizing the formula as Facial Index = facial height/facial width × 100.

In orthodontics determination of facial type is indispensable for treatment planning. Variations in facial types should be kept in mind during treatment so as to prevent changing the proportions erroneously at the end of treatment. According to Banister’s classification of face types the various type of faces are hypereuriprosopic, euryprosopic, mesoprosopic, leptoprosopic and hyperleptoprosopic. euryprosopics are broad, short faces having facial index range from 80-84.9 Mesoprosopics are average round faces having facial index values between 85-89.9. Leptoprosopic is the long narrow face with facial index values ranging from 90-94.9. Facial index values less than 79.9 and greater than 95 were categorized as hypereuriprosopic and hyperleptoprosopic respectively.1,3,9,10 Henceforth, orthodontic treatment planning should be done taking into account the facial types, their ethnic disparity and gender dimorphism.

The rationale of this study was to discern multifarious facial types of the patients and also determine gender dimorphism. This will help in devising the treatment plan so as to improve the facial aesthetics which is the cornerstone of orthodontic treatment. Pertaining to the racial disparity, this study will also assist in identifying the facial types amongst our population aiding the orthodontists in formulating treatment plan. Moreover, this study is the first of its kind and has not been executed in Pakistan earlier.

MATERIALS AND METHODS
Our study comprised 100 subjects with 50 males and 50 females and their ages ranged from 19-30 years. All the patients were in a normal healthy state without any facial asymmetry, scarring or a prior history of cosmetic or reconstructive surgery. The ethical board of the institute approved the study. The patients were notified about the study, its merits and the confidentiality of the collected data. Bertillon caliper was customized that read up to 25 cm to measure facial height and width. The patients were instructed to sit up straight with the eyes looking at a faraway point, at eye level. The morphological height of the face was measured as a vertical distance from nasion (n) to gnathion (gn) utilizing the Bertillon caliper. The facial width was measured transversely between the right and left zygion (zy) points employing the same caliper.

RESULTS
In accordance with the Banister classification the most common facial type was found to be hypereuriprosopic (52%) which symbolizes very short and broad faces. Euriprosopics were 28% and mesoprosopics were 15%. Pertaining to gender dimorphism both males and females were predominantly hypereuriprosopic (31% in females and 21% in males). The second common face type reported was euryprosopics (20%) and for females it was mesoprosopic (10%).

CONCLUSION
Facial phenotype is strongly influenced by genetic and environmental factors. The most common facial type was hypereuriprosopic followed by euryprosopic.
was hyperleptoprosopic [1%] (Table 1). The gender dimorphism is shown in Table 2.

Table 1: Frequency of Banister classification (n=100)

<table>
<thead>
<tr>
<th>Banister classification</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Euriprosopic</td>
<td>52</td>
<td>52.0</td>
</tr>
<tr>
<td>Mesoprosopic</td>
<td>15</td>
<td>15.0</td>
</tr>
<tr>
<td>Leptoprosopic</td>
<td>4</td>
<td>4.0</td>
</tr>
<tr>
<td>Hyperleptoprosopic</td>
<td>1</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Table 2: Frequency of genders according to facial index (n=100)

<table>
<thead>
<tr>
<th>Facial Index</th>
<th>Gender</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Euriprosopic</td>
<td>Male</td>
<td>20 (40%)</td>
<td>8 (16%)</td>
</tr>
<tr>
<td>Mesoprosopic</td>
<td>Female</td>
<td>5 (10%)</td>
<td>10 (20%)</td>
</tr>
<tr>
<td>Leptoprosopic</td>
<td></td>
<td>4 (8%)</td>
<td>6 (12%)</td>
</tr>
<tr>
<td>Hyperleptoprosopic</td>
<td></td>
<td>21 (42%)</td>
<td>31 (62%)</td>
</tr>
<tr>
<td>Hyperleptoprosopic</td>
<td></td>
<td>1 (2%)</td>
<td></td>
</tr>
</tbody>
</table>

**DISCUSSION**

Face is considered the most important feature of human body since it's crucial for one's identity and communication. It is also vital for expressing emotions. Facial Index plays a pivotal role in orthodontics pertaining to different facial types and devising treatment plans accordingly. A regional and ethnic disparity together with gender dimorphism exists amongst numerous facial types. In the present study reported hypereuriprosopic (52%) as the prevalent face type followed by euriprosopic (28%). Ghosh and Malik2 found euriprosopic and hypereuriprosopic to be the predominant face type among Santhals of West Bengal. Feminine were hyperleptoprosopic (40.3%) which is in accordance with the results of our study whilst males were dominantly euriprosopic which slightly varies with our results which found males to be hypereuriprosopic. Shah et al also found in her study on Gujarati, Indians, the most prevalent facial type to be hypereuriprosopic and euriprosopic which conforms to the results of this study.6

Ozsahin et al9 in a study on facial shape evaluation amongst Turkish population found euriprosopic as a predominant face type amongst both males and females which was found out to be the second common face type in our study.

Jeremic et al11 in a study of facial index in the population of Central Serbia found the dominant facial type to be leptoprosopic which varies considerably from the results of this study. This was one of the least occurring facial types in our study accounting for about 4%.

Multiple studies on Facial Index have also been carried out in different states of India to determine the common facial types in their population, with varying results.12-17

This regional and ethnic dissimilitude is pertinent to genetic and environmental factors such as health and life style changes. Gender dimorphism is apt to testosterone levels which lead to changes in the face structure of males. Testosterone levels have been reported to surge 20-30 folds during puberty which has been postulated to explain the increased gender dimorphism in facial appearance as broader forehead, nose, jaw and chin.18 Moreover, growth peaks late in males as compared to females, around 15 years; so they achieve complete facial development late, yielding a more distinct appearance of features.19

**CONCLUSION**

Face is an idiosyncratic and the most dynamic feature. Genetics and environment have a strong impact on the phenotype of the face and hence is the reason for the regional and ethnic divergence. This study found out hypereuriprosopic and euriprosopic as the prevalent facial types.

**REFERENCES**