SOFT TISSUE NORMS OF INDORE MALWA MALES

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The present study was carried out to established soft tissue norms with the help of silhouette profile of Malwa males of Indore with normal occlusion.

Importance of soft tissue profile in orthodontic diagnosis and treatment planning need not bc over emphasized. Angle believed the harmony and balance of face and form and beauty of mouth is dependent largely on the occlusion relationship of the teeth. In his opinion facial esthetics depended on the position of upper incisors. Calvin case was perhaps the first who express his concern with profile analysis and made use of plaster face masks to demonstrate the effect of malocclusion and post treat ment result. He emphasized that a balanced profile should bc the key factor in deciding the method of treatment for any form of malocclusion.

It is very difficult to decide what an ideal profile is. Its acceptability is quite subjective and varies significantly in different races. Although all facial types may be observed with different malocclusion, a statistically significant incidence of specific types do occur with certain type of malocclusion, such as class II malocclusion is associated with retrognathic mandible (with convex profile) and class III malocclusion with prognathic mandible and concave profile. On the other hand an orthognathic facial type is not always associated with an ideal class 1 malocclusion. Numerous studies on facial profile esthetic and its relation with occlusion have been done and are in dental literature.

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MATERIAL AND METHODS

243 cases were selected on following criteria.

1. Age of subject was between 14 19 years. All Permanent teeth up to 2nd molar should be present in the oral cavity with no deciduous teeth retained.
2. None of the subject had been treated orthodontically previously.
3. No. Subject had any bony or soft tissue disharmony e.g. fracture maxilla or mandible bells palsy, cleft lip, cleft palate.
4. No subject had any prosthesis in oral cavity.

Out of these 243 cases 42 cases of class I occlusion with no crowding and overbite and over jet within 2 mm were selected. These cases were used for establishing soft tissue norms.

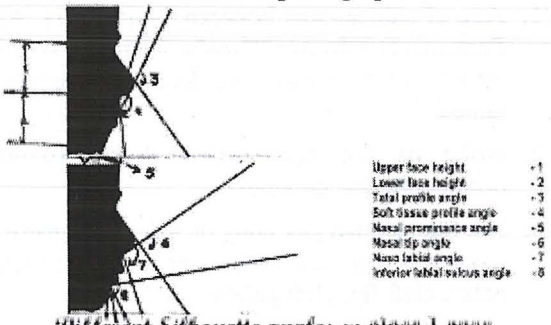
METHOD OF SILHOUETTE PHOTOGRAPHS

An X-ray viewer of 36"X 24" size which was illuminated by 2 small tube lights was placed just be-

hind the subject and camera was fixed on the camera stand, and distance from camera to subject was constant i.e. 65 cm. for each subject position of camera and x-ray viewer is unaltered.

In this method the Nikon camera FG 20, 35 SLR (single lance reflect) with slow film of 100 ASA was used, hard glossy paper of 2B size used for positive.

During silhouette photography the certain of the door and window were drown down to minimize the day light. The light of X-ray viewer was put on. The film number was noted on the history sheets of the subject. The camera was fixed on camera stand, and shutter speed and distance were adjusted. Now the subject was made sitting on the stool just opposite to x-ray viewer and of each subject was oriented on FHP. The subject was instructed not to move his head and keep the teeth in proper occlusion and of relaxed, then profile silhouette photograph were taken. The positive were processed on hard glossy paper of 2B size. All the photograph were taken by one person and processed in studio by one photographer who was instructed to not to do any kind of touching either on negative or on the positive. The photographs after the processing were given the code number behind each photograph.



Different Silhouette angles in class I case

Fig 1

SILHOUETTE ANGLES USED IN THE STUDY

1. Upper face height ratio
2. Lower face height ratio
3. Total Profile in degree
4. Soft tissue profile in degree
5. Nasal prominence angle
6. Nasal tip angle
7. Nasolabial angle
8. Inferior labial sulcus angle.

For the measurement of total profile and soft tissue profile, photographic tracing were made on acetate paper and traced the point on soft tissue nasion, tip of the nose, soft tissue nasal and soft tissue pogonion for measurement of total profile and soft tissue profile join the above point and measure the angle as shown in figure. I -

How to measure different angle and facial heights-

1. Upper facial heights - linear distance from soft tissue nasion to soft tissue subnasal upper face height ratio = $\frac{\text{Upper face height}}{\text{Total facial height}} \times 100$
2. Lower facial height ratio – linear distance from soft tissue sub nasal to soft tissue pogonion lower facial height ratio – $\frac{\text{lower face height}}{\text{Total facial height}} \times 100$
3. Total profile angle – line joined from soft tissue nasion, tip on nose and soft tissue pogonion and the inside angle on tip of the nose was measured.
4. Soft tissue profile angle- Line joined from soft tissue nasion, sub nasal and soft tissue pogonion and the inside angle of sub nasal was measured.
5. Nasal prominence angle- A line from soft tissue nasion to soft tissue pogonion and a tangent on bridge of nose to the inside angle on soft tissue nasion was measured.
6. Nasal tip angle a tangent of bridge of nose and a tangent of septum, angle was measured on point where these two tangents meet.
7. Nasolabial angle a tangent from nasal septum from its starting point and a tangent from upper labial lip from its end point angle measured on the base of the nose.

8. Inferior labial sulcus angle- this angle is formed between the lower lip tangent from its end point and tangent to the soft tissue chin from the same point.

Observation

Table 1: Different soft tissue measurements.

	MEAN	S.D
Upper face height ratio	44.14	2.75
Lower facial height ratio	55.86	2.73
Total profile angle in degree	130.61	4.10
Soft tissue profile angle in degree	161.19	4.82
Nasal prominence angle in degree	35.29	2.85
Nasal tip angle in degree	77.2	8.78
Nasal labial angle in degree	93.90	12.95
Inferior labial sulcus angle in degree	118.53	11.52

Table – 2 : For acceptable profile judged by different judges various soft tissue angles of acceptable profile adjudged.

	ARTIST		BEAUTICIAN		EDUCATIONIST	
	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
Upper face height ratio	46.23	1.52	45.52	3.75	45.88	2.25
Lower face height ratio	53.77	1.52	54.48	3.75	54.12	2.25
Total Profile	129.5	3.39	130.62	3.63	132.07	3.98
Soft tissue profile	158.95	4.14	159.12	5.8	164.57	2.80
Nasal prominance angle	35.79	2.27	32.5	2.38	33.85	3.02
Nasal tip angle	76.87	9.04	79.9	17.98	75.71	13.51
Naso labial angle	91.33	10.43	92.25	15.48	91.85	15.36
Inferior labial sulcus angle	109.25	10.21	110.5	12.42	108.92	19.2

RESULT

Present study has been carried out on school children 42 cases of class I occlusion with no crowding with overbite and over jet within 2mm were selected. These cases were used for establishing soft tissue norms. Silhouette profile photographs were taken; the following angles were measured upper facial height %, lower facial height %, total profile angle, soft tissue profile, nasal prominence angle, nasal tip angle, nasolabial angle, inferior labial sulcus angle. The value recorded for these angles is show in table no.1 as upper facial heights% 44.14%, lower facial height% 55.86%, total profile angle 130.61° soft tissue profile angle 161.90°, nasal prominence angle 35.29 °, nasal tip angle 77.20 °, Nasolabial angle 93.90°, inferior labial sulcus angle 118.53 °

DISCUSSION

Face Height ratio

Upper face height ratio and lower face height ratio to total face height in present study is 44.15 and 55.86 which is close agreement with the finding of Hazberg and Holic, Whylie & Johnson, Jalili & Shaikh i.e. 45.55 and differ from that of Brodie i.e. 47.53

Total profile angle and soft tissue profile angle

The total profile angle in the present study is 130.61 degree. On comparing the above value with those of Rochester and Subtelny, Mengi Nicks Cox & Frans It was found that total profile angle and soft tissue profile angle of these study are quite close to those of Rochester and subtelny i.e. 134.5 ° and 162.5° Mengi in the study on young Kashmiri males reported soft tissue profile angle 159.5 ° Nicks, Cox & Frans in their study found total profile angle mean as 128.7 while soft tissue profile angle mean was 162.3 °

Nasal & Labial angles

(Nasal prominence angle, nasal tip angle, Nasolabial angle, inferior labial sulcus angle)

Nasal prominence angle in present study is 35.29 while Line et al in their study of profilometric and facial esthetics in mixed sample of U.S.A reported mean nasal prominence angle 30 °, electing thereby that the nose is more prominent in indore Malwa males as compared to mixed sample of U.S.A whereas the nasal tip angle recorded in this study which is similar to that of Lines.

The nasolabial angle in present study is 93.90 ° while Hinds & Kent reported 90 ° nasolabial angle and Brown and McDowell reported range from 90-110 The inferior labial sulcus angle recorded in this study is 118.53 which is significantly less than reported by Lines et al i.e. 130° Showing that the inferior labial sulcus of Indore malwa males is deeper that of U.S.A males.

SUMMARY AND CONCLUSION

Norms of silhouette profile angle for Indore Malwa boys have been established on the basis of sample of 42 boys, having class I molar relation with overbite and over jet within 2mm selected Showing total profile 130.61 ° soft tissue profile 161.19 ° Nasal prominence angle 35.29° Nasal tip angle 77.20 Nasolabial angle 93.90 and inferior labial sulcus angle 118.53°.

The acceptability of profile varies from person o person depending upon individual liking and whims.

Boys of Indore malwa shows more nasal pronounce angle and less inferior labial sulcus angle to that of western boys. Soft tissue norms established in this study can be used for deciding the visual treatment objectives in the individual of Madhya Pradesh.

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CONCLUSION

Supernumerary teeth present themselves in various morphologies, varied locations in upper and lower jaw.

In such clinical situations, the clinician concerned should plan out the treatment accordingly, to the best of knowledge, judgment and expertise.

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