The Effect Esthetic Factors in Complete Dentures Wearers Acceptances

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Abstract

Objected: This essay has shown esthetics to be a salient factor for successful complete dentures. Complete denture esthetics can no longer be regarded as a method of tooth selection and arrangement alone or the colors and contours of the denture bases and forms of the denture bases. Denture feel must likewise incorporate those whole face for which those expressions from claiming inward feelings, personality, comfort, image, well-being, and recognitions about previous dental encounters need aid constantly on precise obvious. Both those patients and the dental specialist must comprehend this interrelationship for ideal victory.

Purpose: evaluate hard and soft components that contribute to Creating an effective finish successful esthetical denture stylish rebuilding

Material and Methods : The sample was selected from Baghdad University, College of Dentistry. A total of 100 Iraqi adult Dental patients were clinically examined (females and males). Each person was seated in the Dental chair and was asked to look straight ahead and the measures have been taken according to the case sheet prepared previously.

Result : the results obtained from case sheet analysis using SPSS computer program (version 23) and shown significant statistic results in some criteria of determining aesthetic by facial measurement and other shown some unaesthetic result which may be due to clinical or laboratory error during the construction of complete denture.

Conclusion : A large portion of significant attention throughout finish denture development is those rebuilding from claiming keep going feel. esthetic dives substantially further over the negligible placement of the teeth on the occlusal rims, size, shape, color about simulated teeth and denture bases need aid essential On the development of a stylish denture. Distinctive individuals have communicated different assumptions for settling on tastefully pleasing dentures.

Keywords: *complete denture, esthetics, , H.pound's concept, Ricket:s E -plane, William relationship*

Introduction

The word aesthetics originated from the Greek "aisthetike" and was invented in 1735 by philosopher Alexander Gottlieb Baumgarten to denote "the study of how objects are perceived by the senses." The concept was used in German shortly after Baumgarten adopted its Latin version (Aesthetica), but was not used in English until the beginning of the 19th century.[1]

Dental esthetics can be streamlined in the United States of the 21st century to provide a complete dentition composed of smooth, white teeth. A worldwide recognition can be made of the so-called "Hollywood" smile, popularized by American cinema and television.[2] History shows us that this may not always have been the case throughout the world. The face by which greet the world is the most visible part of the human body, and it is

the face by which social acceptance can be determined. Facial appearance is an important part of the self-image and a major concern for everybody. The loss of teeth, also leaves an individual with significant psychological distress, and it needs urgent replacement. [3]

The prothesis can either enhance or detract from the patient's personal image depending on the naturalness and appeal of the patient's appearance, reflecting the dentist's artistic abilities, which vary from one to the next.

The position of the anterior maxillary arch and the arrangement of the individual teeth contribute most crucially to the appearance of the face .[4]

The teeth are not just an important part of facial appeal. They offer a specific appearance to each face, even as lips, nose, and anatomical composition render each face distinctive and easily identifiable. When the teeth are removed, the teeth are more than just lost. The picture of the body, fertility and beauty is hit. Artificial tooth implants would help to differentiate the identity of each individual, much as the natural teeth did, and in the end preserve the missing picture of the eye. The aim of setting artificial teeth is to simply place them where the natural teeth are .[5]

In the mid on late twentieth century, dentistry developed Similarly as an Exceedingly composed calling with propelled medication methodologies What's more conventions empowering dentists with effectively treat dental ailment. Throughout the later and only those twentieth century, professionals started to see a movement in the kind from claiming dentistry people in general might have been trying. People in general might have been never again constrained on select between metallic therapeutic materials that restored work however exhibited stylish bargains. The practitioner must have the capacity with place aside personage inclination Also permit the patient should aide esthetic choices. Once this occurs, the probability about esthetic accomplishment dramatically builds.

Guiding Principles of Esthetic Dentistry:-

There are several guiding principles that can dramatically improve the success of esthetic treatment.[6]

1. Facial component: which include Facial feature,Tooth visibility.

2. Component of smile: which include Lip line, Smile line, lip curvature, Negative space, and Smile symmetry.

3. Dental components: which include Dental midline, Golden rule, Dental morphology, Contact point.

4. Gingival component: which include Gingival morphology, Gingival contour.

Facial component:-

· Facial feature

The esthetics of dentures depend on the facial and oro-dental factors. The facial factors are all important in producing a pleasant harmonious facial expression. the facial feature depends on occlusal rim, proper thickness of the labial flange and a Position of the anterior teeth anteroposterior.[7]

· Tooth visibility

The measure from claiming tooth visible structure that is uncovered the point when a tolerant will be at rest, talking, grinning, alternately snickering need A critical impact on the stylish showing arrangement 2–4 mm for tooth structure uncovered at rest is tastefully accepted .[7,8] However, the dental specialist must Think as of that as patient age, they Regularly indicate least maxillary tooth structure at rest because of incisal wear in the nonattendance of compensatory ejection Also passing about versatility in the upper lip About whether. Vig and Brundo (1978) found that those Normal incisor introduction at rest in period 30 of age might have been 3–3. 5mm, at age 50 a considerable length of time it might have been 1. 0–1. 5mm , Furthermore Eventually patient 70 A long-time of age it might have been 0–0. 5mm.[9]

Component of smile:-

· **Negative space**

An alternate component for thought for grin configuration the point when assessing a patient's grin may be the measure from claiming negative space made

bilaterally between those maxillary teeth and the corners of the lips. Patients for limited arches What's more totally smiles need that's more negative space, while patients for wider arches What's more narrower smiles need lesser. Investigations bring really demonstrated that negative space doesn't altogether influence the generally stylish assessment of a smile, so choices to fill those buccal hall Toward expanding those forms of maxillary posterior restorations ought further bolstering a chance to be aggravated with respect to a case-by-instance premise.[10]

- **Smile symmetry**

In dental terms beauty is all about a person's smile being symmetrical. Symmetry on the left and right side is the same shape, using an ideal amount of space for your dental arch (the way your teeth are positioned in your jawbone) which determine by placement of midline. Draws this line naturally the middle of the central incisors, whereas in a horizontal type of symmetry, the eye e fixes looking into a central midline.[11]

Dental components

- Dental midline

The balance smile depends on the facial and dental midline coincidence, respectively. The facial midline is aligned in a straight line by landmarks such as nose, philtrum and chin. It should be in the centred of the face, and match the dental midline. The midline in dentistry is the midline between maxillary and mandibular arches while the teeth are in full interception.[12] Dental midline is the basic aspect of smile design and should be parallel to the long facial axis. It will also be perpendicular to the line of incisal and perpendicular to the papilla. Establishing a dental midline parallel to that of the face is the first step during the manufacture of set or removable prosthesis.[13]

- Height of lip line:

The lip line divides the bottom third of the face in the relaxed face, where the teeth do not touch together (when the lower jaw is in the rest position with freeway space present).[14]

A smile's esthetics are determined by characteristics such as the level of gingival showing and the incisors. A smile displaying limited gingival display was considered more esthetic than a smile revealing extreme gingival display.[15]

In 1970, Hulsey investigated the effect of upper lip height on smile attractiveness and found that the upper lip at the height of the gingival edge of the upper central incisors has the most desirable smiles.[16]

Factors influencing the size and form of the anterior teeth: -

(1) The size of the face.

(2) The amount of available inter-arch space.

(3) The measured distance between the right and the lift maxillary canines, using the arch and incisal papilla as measuring guides.

(4) The length of the lips.

(5) The size and the relation of arches.[17]

- Teeth Arrangement :

The maxillary foremost teethe will be positioned on the denture base. The vast majority vital thought to making an stylish denture is those position of the maxillary foremost teeth, E. Pound (personal communication, 1975) said that, in the early days Pound said that he strove on settle on dentures stunningly stylish Furthermore that those better they looked, those superior they spoke. This will be how as much lifetime study about phonetics started. In the act from claiming finish denture prosthetics.[18]

- Key to Superior Denture Esthetics :

The position of the maxillary central incisors is the key to denture aesthetics. If the maxillary central incisors are correct, they will directly influence the position of every other tooth in the denture. Correctly placed, the maxillary six incisors should be as close as possible to the exact position once occupied by the natural teeth.[19]

Anterior teeth, both maxillary and mandibular, will look at a subtly different angle as though they were emerging from the jaw. However, Sharry wrote that the older the patient, the more the incisal edges should be. If photographs are available and show diastemas, it should be remembered that the younger the patient, the more

the incisal embrasure is opened.[20]

Always keep the incisal plane level and slightly curved to follow the smile line of the lower lip. There is nothing more unesthetic than a slanted occlusal or incisal plane.[21]

Materials and Methods

The sample

The sample selected from Baghdad University, college of Dentistry. A total of 100 Iraqi adult Dental patients were clinically examined (females and males) . After getting the approval of the prosthodontic department authority in college, prosthodontic diagnosis clinic was prepared to be used as an examination room in order to use the dental chair in my clinical examination of the sample. After explaining the purposes and the aims of my study to the sample patient, consent was taken from the subjects to participate in my study.

Methods

· History

Each subject was seated on the dental chair in a comfortable position and asked information about name, age, sex. Then the subject was clinically examined (extra orally and intraorally) to check his/her fulfilment of the required sample selection.

· Clinical examination :-

Each person was seated in the Dental chair and was asked to look straight ahead and the following measures have been taken:-

1. The patient was, seated at up right position and asked to look straight, the inter-pupillary width was measured from mid pupil to mid pupil , the incisal edge parallelism to the inter-pupillary line was checked , and the head in natural (relaxed) position.

2. Then the midline coincidence with the face was measured

3. By using the 2 ruler and asking the patient to relax and sit in upright position we checked the space between the Ricket's E-plane (the straight line from tip of nose to chin prominence) and the upper and lower lip.

4. The negative space were checked by asking the patient to smile and laugh.

5. Then checked Williams's relationship (the shape of the central incisor coincidence with the shape of the face)

6. Those subjects were situated agreeably on the dental seat to a loose state for an upright position for those leader resting solidly against those mind rest. The ICD might have been measured from those average angle of the average angle of the palpebral fissure. The separation the middle of these two focuses might have been measured utilizing a vernier caliper without the application of pressure by the recording parts of the caliper only Previously, contact with the average angle of the palpebral fissure, and the effect might have been contrasted with those width of the six foremost teeth.

7. By checking the length of the face (from hair line to chin prominence) and the length of the central incisor have the H.pound's concept result.

8. By asking the patient to relax checked the relationship of corner of the mouth to the distance from canine to canine.

· Statistical analysis:

The descriptive data were expressed as mean and standard deviation (Mean ± SD). Comparison of clinical parameters of the groups was analyzed using T-test Statistical analyses were performed with SPSS version 23 (SPSS, Chicago, IL, USA), and P-value<0.05 were considered statistically significant.

Results

The results obtain from case sheet analysis using SPSS computer program (version 23) and each question results show in separated tables and descriptive statistics data of study groups in table 2. frequency of age, sex ,negative space , William relationship , corner of mouth from canine to canine and inter ala of nose to width of 4 anterior teeth of study sample shown in table 3. The relationship between length of face and length of central incisor by test .Distance from Ricket's E -plane to upper and lower lip of study sample .

Table 1: frequency of age of study sample

No.	Frequency of age	Number of samples
1	30-39	4
2	40-49	8
3	50-59	28
4	60-69	34
5	70-79	26
sum		100

Table 2 : Descriptive statistics data of study groups

		sex	midline	William relationship	Negative space	Cesaro and letta relationship	Corner of mouth to canine to canine	Inter ala of nose to width of 4 ant. teeth
N		100	100	100	100	100	100	100
Std. Error		.08468	.10426	.07771	.09829	.10389	.10389	.09478
Median		1.0000	1.5000	1.0000	1.0000	1.0000	1.0000	2.0000
Mode		1.00	1.00a	1.00	1.00	1.00	1.00	2.00
Std. Deviation		.41485	.51075	.38069	.48154	.50898	.50898	.46431

samples		frequency	present	Valid present	Cumulative present
sex	male	78	78	78	78
	female	22	22	22	100
	total	100	100	100	
Negative space	present	66	66	66	66
	absent	34	34	34	100
	total	100	100	100	
William relationship	yes	79	79	79	79
	no	21	21	21	100
	total	100	100	100	
Corner of mouth from canine to canine	equal	57	57	57	57
	unequal	43	43	43	100
	total	100	100	100	
Inter ala of nose to width of 4 anterior teeth	equal	7	29.2	29.2	29.2
	unequal	17	70.8	70.8	100
	total	24	100	100	

Discussion

· The incisal edge parallelism with the inter-pupillary line:-

The inter-pupillary distances is a facial landmark that is stable and does not modify after the age of fourteen and it's aid in the selection and arrangement of the anterior teeth, in more than two thirds of the patients the incisal edge was parallel with the inter pupillary line, except in few cases were there was no parallelism because faulty arrangement of teeth or the problem in patient eyes

Correlation exists between the bipupillary plane and the tangent at the upper central incisor incisal tip. This state is verified as real, regardless of gender which agree with Da Silva-ConcÍlio *et al.*,[3]

· The mid line :

It is an imaginary vertical line that separates the tow central incisors. In most of the patient the mid line was coincide with the face , the results shown 50% of sample have deviation in the mid line and that may be either the errors either by clinical in recording the centric or laboratory steps from the technician or the patient has

facial asymmetry .

· Distance from Rickets E-plane to upper and lower lip :-

There was a deviation from normal values which is in the average the lower lip would be 2 mm behind the line, and the upper lip 4 mm behind the line .in some patient the lower lip was 6mm behind the line and the upper lip was 1cm behind the plane. this result may different due to absent middle east people rang because no research in this flied or may be due the denture didn't give the normal support to the lips or the

· The negative space :-

The negative space (buccal corridors) is the dark space that appears bilaterally during laughter and mouth opening, the adequate restoration of the lateral negative space will permit the characterization of the smile and enhances personality.

More than half of the patients have bilateral negative space that show when the patient smile and laugh, but in some patient the negative space didn't show and that because the faulty arrangement of the teeth.

Factors contributing to buccal corridor:

1. Size

2. Photography

3. Mandibular opening

4. Dental arch. [22]

· Williams's relationship :-

Almost in all the patients the shape of the central incisor was coincide with the shape of the face. The result show most patient have the harmonies between face form and incisor form. Clinically, many factors combine to decide the shape of the tooth, such as color and the contour of the reflective field, resulting from light interaction.[23]

The esthetic effect of the shape of the incisor does not depend on an agreement between the shapes of the face and the teeth, because changes in the smile are more important than the shape of the incisor. study showed neither a metric relationship between face and central incisor nor data to support Williams' "law of harmony" or "Dentogenic Theory" [24].

· H.pound's concept:

The H.pounds concept can be calculated by:-

Length of the central incisor = length of the face \ 16, the two measures must be equal

The result show significant relation between length of face and length of central incisor which can be control during arrangement of teeth. H.Pound's formula is one of the calculating methods for assessing the thickness of the central incisor in the maxillary.

Pound derived two formulae to evaluate central incisor width and length using bizygomatic width and face length respectively. The use of H.Pound's formulae for the maxillary central incisor may be useful because just a small difference between the real lengths of the tooth and the proposed one, which is only 1.70 mm. H.Pound's formula is therefore proved to be accurate which agree with Bin Abdul Salim et al [25]

The wrong selection may result in the teeth looking 'awkward.' Many formulae have been devised for selection of anterior teeth and one of them is the formula of H.Pound.[26]

· The relation between the corner of the mouth and the distance from canine to canine:

In a relaxed patient the normal and esthetic position of the canine is the corner of the mouth , in 2\3 of the patient the canines was in the corner of the mouth as shown in result as result of technical error in teeth selection or clinical error in determine canine line in centric step.

· Inter-ala distance with the four anterior teeth**:**

The width of the nose may be used in the selection of the size of the anterior teeth, for the positioning the maxillary canines and for registering the curve of the anterior arch (Picard 1958 , Lee 1962 , Wehner 1967, Smith 1975, Mavroskoufis 1981, Scandrett 1982, Hoffman 1986) . The result shown large percent not equal the Inter-ala distance with the four anterior teeth which may be due to size and shape of arch or may be due to use large teeth to be in harmonized with age. Sex

and personality of patients or due technical error during selection size of teeth or during arrangement.

Conclusion

This artistry strives to soften the marks imposed upon the face by time and enables people to face their world with renewed enthusiasm and confidence.

A large portion significant attention throughout finish denture development is those rebuilding from claiming keep going feel. esthetic dives substantially further over the negligible placement of the teeth on the occlusal rims, size, shape, color about simulated teeth and denture bases need aid essential On development of a stylish denture. Distinctive individuals have communicated different assumption for settling on tastefully pleasing dentures.The most important consideration during complete denture construction is the restoration of last esthetics. Esthetics goes much further than the mere placement of the teeth on the occlusal rims, size, shape, color of artificial teeth and denture bases are important in construction of an esthetic denture. Different people have expressed different opinion for making esthetically pleasing dentures.

Several variables affect the esthetic outcome of anterior teeth in complete denture regarding the size, probably more than one anatomic reference is needed to predict correctly the width of maxillary incisors and canine.

Autologous techniques should be used wherever possible to match the original smile of the patient.

Final decisions, including the color of teeth and their customization should be made during the trial insertion stage and should be confirmed through consultation with patient. esthetic parameters should also be integrated with phonetics, so that tooth position is changed within functional limits.

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