Measuring Patient's Orofacial Appearance in Regional Language using Orofacial Esthetic Scale: An Observational Study

Dr. Radha Goverdhan[1], Dr. Neelam Pande[2], Dr. Saee Deshpande[3], Dr. Twinkle Hatmode[4]

Abstract: *The significance of orofacial appearance in a persons oral health-related quality of life and its impact on self-esteem and social interactions cannot be understated. The purpose of this study is to evaluate the psychometric qualities of the Orofacial Aesthetic Scale OES-R regional-language version among adult regional language speakers seeking aesthetic and restorative dental procedures. In evidence-based dentistry, patient perspective is critical, and orofacial appearance is important in patients' pursuit of dental care. The study demonstrates the OES-R's unidimensionality and reliability, emphasising its utility in assessing orofacial aesthetics in a variety of linguistic circumstances. This novel approach fosters cultural sensitivity and inclusivity in healthcare, highlighting the significance of linguistic and cultural diversity in patient-centered treatment. The study supports for the incorporation of regional languages into healthcare practises, creating an environment in which every patient feels understood and respected, ultimately leading to better healthcare experiences worldwide.*

Keywords: Orofacial appearance, Orofacial Esthetic Scale, regional language, patient perspective, cultural sensitivity, linguistic diversity, patient-centered care, healthcare inclusivity

1. Introduction

Orofacial appearance is increasingly recognized as an essential part of a person's oral health related quality of life and an important outcome of dental treatment.[1,2]The appearance of the face is also of outstanding significance for a person's physical attractiveness and, therefore, a fundamental factor for self-esteem and for social interactions.[3-6]With the increasing importance of esthetics in society, esthetic impairments may also represent reasons for perceived social problems and disadvantages. Patient perspective is fundamental for evidence-based dentistry.Orofacial appearance is one of the main reasons for patients to pursue dental treatments. The purpose of this study is to determine the psychometric properties of the regional-language version of the orofacial esthetic scale (OES-R) in a population of adult regional language speaking population reporting to the dental OPD for esthetic and restorative dental treatments.

Aim

To seek and understand patient perspective as it is fundamental for evidence dentistry.

Objective

To derive a version of the ororfacial esthetic scale (OES) in the Regional /National Language. Patient's perception of self Esthetics.

2. Materials and Method

Subjects: 100 Regional language speaking adult population reporting to the dental OPD at dental institute in Nagpur, Maharashtra state for esthetic and restorative dental treatments.

HOW DO YOU FEEL ABOUT THE APPEARANCE OF YOUR FACE, YOUR MOUTH, YOUR TEETH, AND YOUR TOOTH REPLACEMENTS (CROWNS, BRIDGES, AND IMPLANTS)?*
1) Your facial appearance
2) Appearance of your facial profile
3) Your mouth's appearance (smile, lips, and visible teeth)
4) Appearance of your rows of teeth
5) Shape and form of your teeth
6) Color of your teeth
7) Your gingiva's appearance
8) Overall, how do you feel about the appearance of your face, your mouth, and your teeth?
*0 ¼ very dissatisfied, 10 ¼ very dissatisfied

Material: The original Orofacial Esthetic Scale

The English-language version of the Orofacial Esthetic Scale.

The Regional-language version of the Orofacial Esthetic Scale.
दंतसाहित्यवकृती

आठअंकीप्रश्नतालीकेवरूनएकगुणवत्तावपरीणामात्मकमापदंडबनवण्यातआला.
ओरोफेशीयलअस्थेटिकमापदंड
गुणवत्तामोजणी.....0 ते 10 , 0 ..... असंतुष्टते
10......संतुष्ट,परीणामात्मकमोजणी
क्र. 1 ते 7 चेगुणसरासरी 0 ते 70 ह्यातालिकेतयेतील.

Orofacial esthetic scale in regional langue:

अनुक्रमांक	प्रश्न	गुण (1 ते 10)
1	चेहऱ्याची रचना	
2	चेहऱ्याची ठेवण	
3	दाताची ठेवण	
4	दाताचा आकार	
5	दाताचा रंग	
6	हिरड्यांचा रंग	
7	तोंडाची ठेवण	
8.	एकंदरीत चेहऱ्याची ठेवण	

Since the 8th Question gives overall impression of face, mouth and teeth it does not concern any one specific esthetic component, it can serve as 'One item Orofacial esthetic scale'

3. Results

All analyses for dimensionality revealed that the OES is sufficiently represented by a single factor. Convergent validity was supported by means of the correlations of the OES summary score.

Characteristics of orofacial esthetic scale items

Item		Difficulty		Distribution			Floor & Ceiling effect		Discrimination
No	Content	Mean (SD)	Median (IQR)	Range	Skewness	Kurtosis	% of value 0	% of value 10	Item-Total correlation*
1	Face	6.06 (2.85)	6 (4.25)	0-10	-0.46	-0.85	1	7.8	0.924
2	Profile	6.84 (2.85)	7 (5)	0-10	-0.68	-0.48	2.9	26.5	0.856
3	Mouth	5.41 (2.93)	5 (4.25)	0-10	-0.40	-0.97	8.8	2	0.963
4	Tooth alignment	5.27 (3.12)	6 (5)	0-10	-0.34	-1.18	11.8	3.9	0.932
5	Tooth shape	5.41 (2.95)	5 (4)	0-10	-0.35	-0.85	9.8	5.9	0.952
6	Tooth color	5.03 (3.02)	6 (6)	0-10	-0.31	-1.12	12.7	2.9	0.885
7	Gingiva	5.51 (2.97)	6 (5)	0-10	-0.43	-0.89	9.8	5.9	0.922
8	Overall appearance	5.44 (2.96)	6 (5)	0-10	-0.41	-0.91	9.8	5.9	

* **Indicates only items that contribute to the orofacial esthetic scale summary score**

Items' mean points ranged from 5.02 to 6.84, with most of the medians being 6 points. Participants used an entire range of scores from 0 to 10. Values for skewness (-0.31 to -0.68) and kurtosis (-0.48 to -1.18) indicated sufficient symmetry around the mean and appropriate shape. Although floor effects were low (1%-12.7%), ceiling effects were substantial (2%-26.5%). Item-total correlations were all above 0.8 indicating that each item was a good indicator for the measured construct with the other measures of the construct with Pearson product moment and Spearman rank correlation coefficients of the expected size and direction.
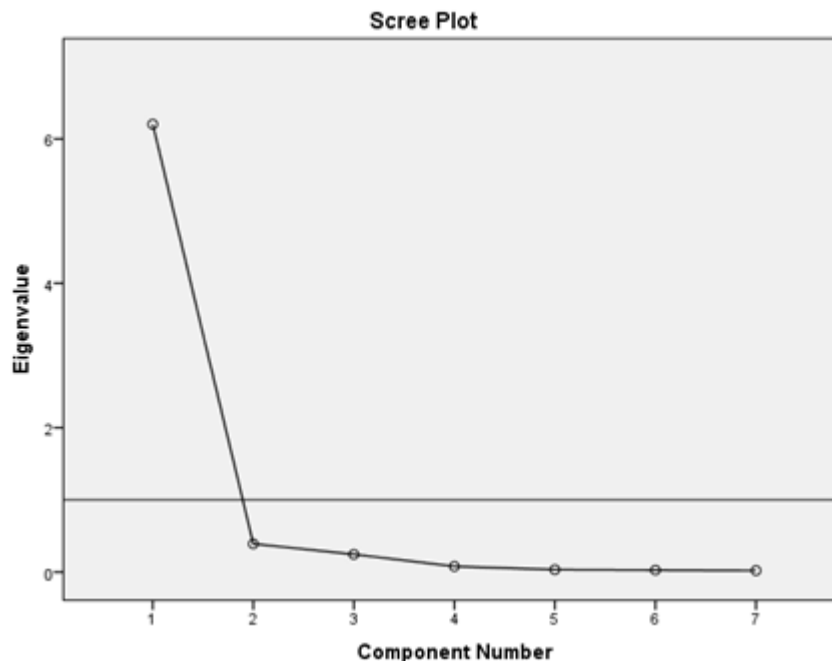
Correlation matrix (r value) of orofacial esthetic score items (only items that contribute to the orofacial esthetic scale summary score)

Variable	Face	Profile	Mouth	Tooth alignment	Tooth shape	Tooth color	Gingiva
Face							
Profile	0.948*						
Mouth	0.901*	0.822*					
Tooth alignment	0.846*	0.777*	0.924*				
Tooth shape	0.887*	0.813*	0.966*	0.891*			
Tooth color	0.797*	0.735*	0.872*	0.962*	0.839*		
Gingiva	0.853*	0.803*	0.922*	0.857*	0.960*	0.817*	

Pearson correlation test; * indicates significant difference at p≤0.05

The correlations coefficients of pairwise correlations of OES items showed that all the correlation coefficient were above 0.7 and did not vary much, indicating the unidimensionality of OES items. Many of them were above 0.9 indicating that particular means were strongly correlated to each other.

The scree plot showed that there was a large difference between first and all the other eigenvalues as a sharp decrease was seen after the first factor and only the first factor having an eigenvalue larger than 1. All these analyses support the unidimensionality of OES scale.

Reliability:
Cronbach's $\alpha = 0.98$ which shows good reliability
Average inter-item correlation $= 0.87$ shows that items are correlated well.

4. Discussion

In the study "Measuring Patient's Orofacial Appearance in Regional Language Using Orofacial Esthetic Scale," a groundbreaking approach was employed by integrating regional languages into orofacial esthetic evaluations. This innovative method not only enhances the accuracy of assessments but also promotes cultural sensitivity and inclusivity in healthcare.

The study's strength lies in its use of the Orofacial Esthetic Scale, bridging language barriers and ensuring patients' accurate expression of concerns in their native languages. This inclusive approach fosters better communication, trust, and understanding between patients and healthcare providers, leading to improved patient satisfaction and treatment outcomes.

Furthermore, the research emphasizes the vital role of linguistic and cultural diversity in healthcare. Understanding diverse languages and cultures is essential for providing personalized, empathetic care. The study's findings advocate for a patient-centered approach globally, encouraging future research in different medical contexts to enhance healthcare experiences universally.

5. Conclusion

In conclusion, the study "Measuring Patient's Orofacial Appearance in Regional Language Using Orofacial Esthetic Scale" illuminates the path toward a more inclusive and patient-centered healthcare paradigm. By recognizing the significance of regional languages in orofacial esthetic assessments, this research not only advances the accuracy of medical evaluations but also embodies cultural competence and empathy.

The implications of this study stretch beyond orofacial esthetics, serving as a beacon for healthcare practices worldwide. Embracing linguistic and cultural diversity is not merely an option but a necessity in our interconnected world. As we move forward, it is essential for healthcare providers to acknowledge and integrate regional languages, fostering an environment where every patient feels understood, valued, and cared for.

This study stands as a testament to the power of cultural sensitivity in healthcare. It prompts a shift in our approach, encouraging the development of universally inclusive assessment tools and practices. By doing so, we can create a healthcare landscape where language is no longer a barrier but a bridge, connecting patients and healthcare providers in a shared journey toward improved health and well-being.

References

[1] Hua F (2019) Increasing the value of orthodontic research through the use of dental patient-reported outcomes. J Evid Based Dent Pract 19:99–105
[2] Reissmann DR (2019) Dental patient-reported outcome measures are essential for evidence-based prosthetic dentistry. J Evid Based Dent Pract 19:1–6
[3] John MT, Sekulic S, Bekes K et al (2020) Why patients visit dentists - a study in all World Health Organization regions. J Evid Based Dent Pract 20:101459

[4] Hamdan AM, Singh V, Rock WP (2012) Assessment of the relationship between perceptions of dental aesthetics and demand for orthodontic treatment in 10–11 year old school children in Birmingham, UK. Community Dent Hlth 29:124–128

[5] Pietila T, Pietila I (1996) Dental appearance and orthodontic services assessed by 15–16-year-old adolescents in eastern Finland. Community Dent Health 13:139–144

[6] John MT, Reissmann DR, Feuerstahler L et al (2014) Exploratory factor analysis of the Oral Health Impact Profle. J Oral Rehabil 41:635–643

[7] John MT, Feuerstahler L, Waller N et al (2014) Confrmatory factor analysis of the Oral Health Impact Profle. J Oral Rehabil 41:644–652

[8] The Glossary of Prosthodontic Terms: Ninth Edition. J Prosthet Dent. 2017 May;117(5S)