CODEN [USA]: IAJPBB ISSN: 2349-7750

INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES
http://doi.org/10.5281/zenodo.3590240

Available online at: http://www.iajps.com Research Article

PERCEPTIONS ABOUT THE SYMMETRICAL PATTERN OF FACE WITH THE DEMONSTRATION OF OBJECTIVE AND SUBJECTIVE EVALUATIONS

[1]Dr Farman Mahmood, [2]Dr Maria Tariq, [1]Dr Muhammad Tahir
[1]Bolan Medical College Quetta
[2]Al-Khidmat Hospital Jhang

Abstract:
Objectives: *Facial symmetrical designs or patterns have the main preferences by the viewers. But, this process about the perception of the symmetrical patterns is very much away from perfection and it has a great influence of the subjective features. The aim of this research work is to elaborate the disparities among subjective and objective evaluations for the perception of the symmetrical patterns of face.*
Methodology: *To perform the objective assessment, we analyzed the anteroposterior photographs of four hundred and fifty persons anthropometrically for their facial symmetries. The subjective assessments were carried out by 7 persons who evaluated every face on the basis of solely on the facial symmetry.*
Results: *This research work showed the disparity among subjective assessments and the objective evaluations. We found no statistically essential difference having concern about the frequencies derived from the points of anthropometry between both genders. When we carried out the comparison of the frequencies, no person was present with a perfect symmetrical face and all the patients were present with asymmetry in 1 or more than 1 of their points of anthropometry.*
Conclusion: *While performing subjective assessment, we found asymmetry most frequently in middle 3rd of the face. During the subjective assessment, alar margins and the nose are the determining points for the examiners. So, we can say that best sit for the inference of the asymmetry is middle 3rd of the face. Due to these factors, majority of the population having complaints about asymmetrical pattern of noses and they undergo rhino-plastic surgical intervention. This study also shows the disparities among persons for subjective assessment. These disparities and deficiency of objectively facial symmetries for every points set are much vital for the persons pleading for plastic surgery methods like rhinoplasty out of appealing outlook.*
KEYWORDS: *Symmetry, Assessment, Evaluation, Plastic Surgery, Rhinoplasty, Facial, Surgical Intervention.*

Corresponding author:
Dr. Farman Mahmood,
Bolan Medical College Quetta
.

QR code

Please cite this article in press Farman Mahmood et al., ***Perceptions About The Symmetrical Pattern Of Face With The Demonstration Of Objective And Subjective Evaluations.,*** *Indo Am. J. P. Sci, 2019; 06(12).*

INTRODUCTION:

For the perception of aesthetic outlook, the most important determinant is the facial beauty which have a close relation with the gender, race and the age of the person. Social norms form the perception of the beauty as it is said that eye of the beholder has the perception of beauty. But some later research works have discovered that some standards as sexual dimorphism, awareness about ideal ratios, symmetry and averageness are very common among different cultural norms. The assessment of the beauty of face by brain of human is very rapid cognitive process; but, this procedure is much away from perfection and many subjective features have influence on this procedure.

Different research works carried out to find association between subjective evaluations with the objective assessments as value of the faces like ratio, symmetry, angle and height. Anthropometric calculations are supportive for surgeons to assess the deformities in objective manner and to make the surgical evaluations. However, disparity between the objective assessment and subjective evaluations can be a reason of dissatisfaction with plastic surgery of face. The purpose of this research work was to elaborate the disparity between subjective and objective evaluations for the perception of the asymmetry of face.

METHODOLOGY:

The ethical committee of institute gave the permission to conduct this research work. Total four hundred and fifty persons in which 229 were males and 221 were females having the age from 18 years to 25 years were the part of this research work. The persons present with the congenital craniofacial abnormalities, history of trauma or other past history of treatment were not the part of this research work. We took the photographs of all the faces in sitting position, with 110 away from camera. We adjusted the tripod according to the height of the subjects. We put the hair of the subjects for complete revealing of forehead and hairline and we also asked them to remove spectacles. Persons present with the hair on face and make-up were not included in this research work. All the patients were in them relax position and naturally close lips for accurate symmetry. We took the photographs using 16.40 MP Nikon D-7000 camera.

Objective Assessments: We measures, stored and marked all the photographs digitally. We used the adobe Photoshop for the marking of the photographs. We used A-5 pixel round brush tool for the anthropometric and used the midline tool for midline. We uploaded all images on the software of ADI (Analyzing Digital Images) invented by John Pickle. Total 10 anthropometric points were in use for the calculation of the symmetry in this research work as Oral Commissures, Lateral Canthi, Medial Canthi, Zygoma Points and AM (Alar Margins) as presented in (Figure-1). Same researcher performed all the calculations. We carried out the measurements of the objective values in accordance with the standard guidelines. We repeated fifteen percent calculations to assess the measurement's consistency. As described in Tabele-1, all the calculations were present with high reliability. There was variation between 0.9060 and 0.9870, displaying a significant reliability of assessment.

Table 1: The Evaluation Of Consistency Between The Measurements

Measurement	Side	ICC	p
MC	Left	0.9060	p<0.0010
	Right	0.9170	
LC	Left	0.9110	p<0.0010
	Right	0.9650	
Z	Left	0.9380	p<0.0010
	Right	0.9630	
AM	Left	0.9610	p<0.0010
	Right	0.9650	
OC	Left	0.9870	p<0.0010
	Right	0.9380	

AM: alar margins; LC: lateral canthi; MC: medial canthi; OC: oral commissures; Z: zygoma points

Subjective Assessments: Total seven persons performed the subjective assessments in which 3 persons were from non-medical background. We instructed the persons to evaluate the face totally relying on symmetry nor on physical beauty or color. We set all the photographs on a presentation. We showed the photographs to the evaluators on big screen. We show each photo for 3 seconds and give only 2 seconds to write down their evaluation. We gave the complete detail of the procedure to the evaluators. They were to provide their perception about symmetrical or asymmetrical faces. Faces assessed by 4 or more than 4 persons as symmetrical were confirmed as symmetrical. Student T test was in use for the comparison of the both groups present in this research work. We used the Mann-Whitney U method for the comparison of the medians of both groups. Chi square method was in use for the calculations of the categorical variables. SPSS V. 20 was in use for the statistical analysis of the collected information.

RESULTS:

We performed the calculations from the determined points of anthropometry for the objective assessment. We determined a rate for every corresponding points of couple on every face side with the division of the large length with the small length. Among male participants, rates of ZP and LC were present close to one. Among female participants, rate of the LC was close to one. In both genders, the rate of MC was present farthest from one as presented in Table-2.

Table 2: Objective measurements of facial symmetry.

Ratio	Male (n=229)				Female (n=221)				p
	Mean	SD	Median	Range	Mean	SD	Median	Range	
AM ratio	1.09	0.12	1.06	1-2.43	1.1	0.24	1.07	1-4.41	0.970
LC ratio	1.16	0.97	1.04	1-1.27	1.06	0.14	1.04	1-2.99	0.930
MC ratio	1.13	0.12	1.1	1-2.22	1.12	1.11	1.1	1-1.72	0.610
OC ratio	1.09	0.23	1.06	1-4.3	1.06	0.05	1.06	1-1.25	0.180
Z ratio	1.06	0.12	1.04	1-2.72	1.08	0.22	1.05	1-3.89	0.450

AM: alar margins; LC: lateral canthi; MC: medial canthi; OC: oral commissures; Z: zygoma points

We found no statistically essential disparity concerning these frequencies between genders. No person was present with the perfect symmetrical face. All the persons were present with asymmetry in 1 or more than one points of anthropometry. Total 450 photographs were assessed subjectively for the asymmetry of face by 7 persons. We found 43.30% photographs as symmetrical, while 56.70% photographs were asymmetrical. Features of asymmetry were available mostly in middle 3rd site of face as 26.70%, followed by lower 3rd as 10.10%, upper 3rd as 7% and these features were least on upper and lower 3rds as 1.250% as presented in Tbale-3.

Table 3: Subjective Measurements Of Facial Symmetry

Evaluator	Upper third	Middle third	Lower third	Upper + middle thirds	Upper + lower thirds	Middle + lower thirds	Upper + middle + lower thirds	Symmetrical
1*	7.0	214.0	37.0	11.0		82.0	11.0	73.0
2*	14.0	107.0	33.0	1.0	4.0	1.0	-	290.0
3*	35.0	96.0	42.0	11.0	-	12.0	3.0	251.0
4*	15.0	88.0	9.0	3.0	3.0	5.0	3.0	324.0
5	47.0	100.0	70.0	-	-	-	-	233.0
6	55.0	118.0	75.0	28.0	10.0	58.0	28.0	78.0
7	47.0	117.0	53.0	48.0	7.0	47.0	16.0	115.0
Total (No)	220	840	319	102	39	205	61	1364
Total (%)	7.00%	26.70%	10.10%	3.20%	1.25%	6.51%	1.94%	43.30%

*Evaluators with medical background.

DISCUSSION:

In this research work, we evaluated four hundred and fifty faces with objectively and subjective approach. Our findings discovered a disparity between objective assessment and subjective assessments. Definite points discernable on soft tissue and distance among these points and midline were in use for the evaluation of symmetry. Hairline middle is the start of the midline, follows the bridge of nose as straight line, go through the upper lip's middle and it has its finishing point under chin. Chatrath in his research work discovered that no patients out of 234 who underwent rhinoplasty was present with the symmetrical face and every face was present with the asymmetrical outcome for minimum one point. Shaner discovered that there is more prominence of the lower face asymmetry in comparison to the middle or upper face asymmetries. But, Farkas discovered the most prominent and common asymmetry in middle 3rd part of the face. These findings were very much comparable with the results of this current research study.

In the research works of the past, it was discovered that there was statistically important association between objective assessments of the spaces between midline and AM and subjective face perception as asymmetrical and they discussed that there was presence of the association between nasal asymmetry of objective nature and facial asymmetry of face in subjective nature. Chatrath discovered in his research work that objectively evaluated persons pleading for rhinoplasty were present with the asymmetrical facial patterns and their percentage was 97.0%.

CONCLUSION:

Our objective calculation was not able to find the symmetry of the face for every point of the anthropometry. This outcome has much importance for the persons pleading for the procedures of the plastic surgery like rhinoplasty. During the discussion before surgery, we should tell these persons that there is no face with full symmetry is present in nature.

REFERENCES:

1. Glei, D. A., Goldman, N., & Weinstein, M. (2018). Perception has its own reality: Subjective versus objective measures of economic distress. Population and development review, 44(4), 695-722.
2. Zakia, R. D., & Suler, J. (2017). Perception and Imaging: Photography as a Way of Seeing. Routledge.
3. Heilman, M. E., Manzi, F., & Caleo, S. (2019). Updating impressions: The differential effects of new performance information on evaluations of women and men. Organizational Behavior and Human Decision Processes, 152, 105-121.
4. Yang, J., Zhao, Y., Zhu, Y., Xu, H., Lu, W., & Meng, Q. (2019). Blind assessment for stereo images considering binocular characteristics and deep perception map based on deep belief network. Information Sciences, 474, 1-17.
5. Freiwald, W., Duchaine, B., & Yovel, G. (2016). Face processing systems: from neurons to real-world social perception. Annual Review of Neuroscience, 39, 325-346.
6. Grubov, V. V., Runnova, A. E., Kurovskaya, M. K., Pavlov, A. N., Koronovskii, A. A., & Hramov, A. E. (2016, March). Demonstration of brain noise on human EEG signals in perception of bistable images. In Dynamics and Fluctuations in Biomedical Photonics XIII (Vol. 9707, p. 97070Z). International Society for Optics and Photonics.
7. Correll, J., Hudson, S. M., Guillermo, S., & Earls, H. A. (2017). Of kith and kin: Perceptual enrichment, expectancy, and reciprocity in face perception. Personality and Social Psychology Review, 21(4), 336-360.
8. Matthews, W. J., & Meck, W. H. (2016). Temporal cognition: Connecting subjective time to perception, attention, and memory. Psychological bulletin, 142(8), 865.
9. Porter JP, Olson KL. Anthropometric facial analysis of the African American woman. Arch Facial Plast Surg 2001; 3:191-7.
10. Shaner DJ, Peterson AE, Beattie OB, Bamforth JS. Assessment of soft tissue facial asymmetry in medically normal and syndromeaffected individuals by analysis of landmarks and measurements. Am J Med Genet 2000; 93:143-54.
11. Murstein BI. Physical attractiveness and marital choice. J Pers Soc Psychol 1972; 22:8-12.
12. Zaidel DW, Cohen JA. The face, beauty, and symmetry: perceiving asymmetry in beautiful faces. Int J Neurosci 2005; 115:1165-73.
13. Zaraki, A., Pieroni, M., De Rossi, D., Mazzei, D., Garofalo, R., Cominelli, L., & Dehkordi, M. B. (2016). Design and evaluation of a unique social perception system for human–robot interaction. IEEE Transactions on Cognitive and Developmental Systems, 9(4), 341-355.
14. Kantar, R. S., Maliha, S. G., Alfonso, A. R., Ramly, E. P., Eisemann, B. S., Shetye, P. R., ... & Wang, M. M. (2019). Nasolabial Aesthetics Following Cleft Repair: An Objective Evaluation of Subjective Assessment. The Cleft Palate-Craniofacial Journal, 1055665619851432.

15. Sadr, J., & Krowicki, L. (2019). Face perception loves a challenge: Less information sparks more attraction. Vision research.
16. Lapate, R. C., Samaha, J., Rokers, B., Postle, B. R., & Davidson, R. J. (2019). Perceptual metacognition of human faces is causally supported by function of the lateral prefrontal cortex. bioRxiv, 772632.