

## Analisis Pola Asimetri Wajah Berdasarkan Jenis Kelamin Pada Usia Dewasa Muda di Indonesia Tahun 2020

### Abstrak

**Latar belakang:** Analisis asimetri wajah banyak digunakan dalam tatalaksana di bidang orthodontik, prosthodontik dan juga bedah orthognatik. Analisis *photogrammetry* merupakan alternatif yang lebih ekonomis dan praktis dibanding dengan *radiometry*. Belum banyak dilaporkan analisis wajah menggunakan *photogrammetry* khususnya di Jawa Timur, Indonesia. **Tujuan:** Untuk menganalisis perbedaan pola asimetri wajah berdasarkan jenis kelamin pada usia dewasa muda di Indonesia. **Material dan metode:** Pada penelitian ini n= 65 (36 laki-laki dan 29 perempuan); rentang usia 19-25 tahun diambil foto wajah dengan menggunakan kamera DSLR (Canon, 1100D, Jepang) pada jarak 1,5 m menggunakan *dynamic tripod* dengan posisi duduk tegak, rileks, kepala menghadap lensa, arah pandang sejajar dataran Frankfurt, tidak ada aksesoris yang menutupi daerah wajah, dan mulut dalam keadaan tertutup. Foto wajah dianalisis dengan *software tpsDig2 ver 2.3* pada *horizontal reference lines* (garis pupil, exocanthion, subauriculare, alanasi, cheilion), *vertical reference lines* (garis alanasi dan cheilion) dan sudut gonion. Data dianalisis menggunakan SPSS 24 dengan tingkat signifikansi  $p < 0,05$ . Uji beda menggunakan *t-test* dan Mann-Whitney, uji normalitas menggunakan uji Shapiro-wilk dan uji homogenitas menggunakan uji Levene. **Hasil:** Rerata usia laki-laki  $22 \pm 1,8$  tahun, perempuan  $21 \pm 1,8$  tahun. Ras partisipan terbanyak dari Jawa. Ukuran *horizontal reference lines* PU,EX,SA,AN,CH lebih besar pada laki-laki dibanding perempuan pada sisi dextra ( $p=0,184$ ,  $p=0,152$ ,  $p=0,409$ ,  $p=0,004$ ,  $p=0,474$ ) dan sinistra ( $p=0,413$ ,  $p=0,192$ ,  $p=105$ ,  $p=0,000$ ,  $p=0,390$ ) berturut-turut; semua variabel pada sisi dextra lebih besar daripada sinistra baik pada laki-laki dan perempuan; indeks asimetri semua variabel tidak berbeda signifikan antara laki-laki dan perempuan ( $p=0,768$ ,  $p=0,963$ ,  $p=0,895$ ,  $p=0,644$ ,  $p=0,630$ ) berturut-turut. Pada *vertical reference lines* tidak didapatkan perbedaan signifikan asimetri wajah vertikal garis AN antara laki-laki dan perempuan pada sisi dextra ( $p=0,718$ ) dan sinistra ( $p=0,758$ ); didapatkan perbedaan yang signifikan asimetri wajah vertikal garis CH antara laki-laki dan perempuan pada sisi dextra ( $p=0,016$ ) dan sinistra ( $p=0,016$ ). Tidak didapatkan perbedaan besar sudut gonion yang signifikan antara laki-laki dan perempuan pada sisi dextra ( $p=0,472$ ) dan sinistra ( $p=0,898$ ); sudut gonion sisi dextra lebih kecil dibandingkan sisi sinistra baik pada kelompok laki-laki ( $p=0,591$ ) maupun perempuan ( $p=0,293$ ). **Kesimpulan:** Didapatkan asimetri wajah subklinis pada semua partisipan laki-laki dan perempuan berdasarkan analisis pengukuran *horizontal reference lines*, *vertical reference lines* dan sudut gonion. Ada perbedaan signifikan asimetri wajah vertikal garis CH antara laki-laki dan perempuan.

**Kata kunci:** Asimetri wajah, *photogrammetry*, jenis kelamin, dewasa muda.



## ABSTRACT

ANALYSIS OF FACIAL ASYMMETRY IN HEALTHY YOUNG MALES  
AND FEMALES IN INDONESIA IN 2020

**Background:** Facial asymmetry analysis is widely used in treatments in the field of orthodontics, prosthodontics, and also orthognathic surgery. Photogrammetry analysis is a more economical and practical alternative compared to radiometry. There has not been much-reported photogrammetry analysis, especially in East Java, Indonesia. **Purpose:** To analyze differences in facial asymmetry based on gender in young adults in Indonesia. **Materials and methods:** In this study n= 65 (36 males and 29 females); aged 19-25 years old were taken facial photos using DSLR cameras (Canon, 1100D, Japan) at a distance of 1.5 m held by dynamic tripod with an upright sitting and relaxposition, head facing lens, parallel view direction frankfurt plane, no accessories covering the face area and closed mouth. Photographs were analyzed with tpsDig2 ver 2.3 software on horizontal reference lines (pupil lines, exocanthion, subauriculare, alanasi, cheilion), vertical reference lines (alanasi and cheilion lines), and gonion angles. The data were analyzed using SPSS 24 with a significance of  $p < 0.05$ . Different tests using t-test and Mann-Whitney, normality test using Shapiro-Wilk test and homogeneity test using Levene test. **Results:** The mean age of male  $22 \pm 1.8$  years; female  $21 \pm 1.8$  years. The largest number of participants from Java. The horizontal reference lines PU,EX,SA,AN,CH are larger in males than females on the right side ( $p=0.184$ ,  $p=0.152$ ,  $p=0.409$ ,  $p=0.004$ ,  $p=0.474$ ) and left ( $p=0.413$ ,  $p=0.192$ ,  $p=105$ ,  $p=0.000$ ,  $p=0.390$ ) respectively; all variables on the right side were greater than left side in both males and females; there was no significant differences of the asymmetry index between males and females ( $p=0.768$ ,  $p=0.963$ ,  $p=0.895$ ,  $p=0.644$ ,  $p=0.630$ ) respectively. Based on vertical reference lines, there was no significant difference in the vertical facial asymmetry of AN line between males and females on the right side ( $p=0.718$ ) and the left ( $p=0.758$ ); there was a significant difference in the vertical facial asymmetry of the CH line between males and females on the right side ( $p= 0.016$ ) and left ( $p=0.016$ ). There was no significant difference in the gonion angle in males and females on the right side ( $p=0.472$ ) and left ( $p=0.898$ ); the right side was smaller than the left in both males ( $p=0.591$ ) and female groups ( $p=0.293$ ). **Conclusion:** There was a subclinical facial asymmetry in all participants based on analysis of horizontal reference lines, vertical reference lines, and gonion angle measurements. We found significant differences between males and females in the vertical asymmetry of cheilion lines.

**Keywords:** Facial asymmetry, photogrammetry, gender, young adults