

Sex determination and age estimation by mandibular measurements in Brazilian sample

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Julia Gabriela Dietrichkeit
Pereira¹
Karinna Froes Lima²
Ricardo Henrique Alves
da Silva³

¹ MSc Student, Forensic Odontology, University of São Paulo, Ribeirão Preto Medical School

² Forensic Odontology Specialist, University of São Paulo, School of Dentistry of Ribeirão Preto

³ PhD Professor, Forensic Odontology, University of São Paulo, School of Dentistry of Ribeirão Preto

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Corresponding author:
juliadie@usp.br

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ABSTRACT

For human identification purposes, the most important steps in the anthropological profile are the sex determination and age estimation. Mandible has proved to be efficient for these determinations. The aim of this study was to determine sex and estimate age in Brazilian sample using mandibular measurements: ramus height (Co-Go), coronoid height (Cr-Go), gonial angle (Go), bigonial distance (Go-Go) and maximum mandible length (Co-Pg). It was used 53 female mandibles and 50 male mandibles with mean age of 59.96 and 52.92 respectively, from the Bones Museum (Department of Social Dentistry and Forensic Dentistry, Piracicaba Dental School). All values were higher in men than in women except for Go. All measurements were statistically significant for sex determination. Even using measures that have points considered subjective, the intraclass correlation was 0.89 to 0.93, being considered excellent. When the measurements were remade were found excellent intraobserver index. For age estimation, the mandible sample were grouped per age, G1: 0-20 years; G2: 21-40 years; G3: 41-60 years; G4: 61-80 years; G5: 81-100 years, regardless of sex. It was observed a gradual increase in all measures between G1 and G2, but the other groups were not uniform. It was verified that in group G1 the smallest measures were found: Go 118; Go-Go 83.7; Co-Pg 109.6; except for Cr-Go 55.8 and Co-Go 53.15 values that were lower in G5. The measurements that were statistically significant for age estimation were Go and Co-Go. It was concluded that it is possible to perform the sex determination by mandibular measurements, but the age estimation suffered large variations, not having a pattern between the groups and measures, so it is not recommended to use only these measurements for this purpose.