

**SEX DETERMINATION WITH GONIAL ANGLE MEASUREMENT IN
ELEMENTARY SCHOOL CHILDREN IN SURABAYA**

ABSTRACT

Background: In the field of forensic medicine and medicolegal, sex determination is the first thing to know. Cranium, pelvis, and mandible are part of the human skeleton that can be used as an indicator of sex determination. **Objective:** The objective of the study was to evaluate the differences in sex determination based on differences in daily life patterns and sun exposure. **Methods:** The present study consists of 104 subjects (51 males and 53 females), age 7-12 years were taken randomly. Divided into groups using bicycles, on foot, and exposed sunlight (Group A) and using cars and not exposed sunlight (Group B). Measurements were made using a goniometer. **Results:** In the whole studied sample, the gonial angle of females is greater than that males ($p=0.002; p<0.05$). When comparing gonial angle based on sex for each group were no significant differences, because only one sample were significant that is males group A and females group B ($p=0.044$). Between gonial angle males and females group A there was no significant differences ($p=0.061$), but in group B there were significant differences ($p=0.001$). The regression model equation was: $y = 0.129x - 16.907$ ($y = \text{sex}$ and $x = \text{gonial angle}$) with an overall accuracy of 62.54%. **Conclusion:** Differences in daily life patterns and sun exposure do not affect sex determination by gonial angle measurements.

Keywords: Sex determination, Mandible, Gonial angle, and Goniometer.