

The horizontal angle of inclination, is important in maintaining the function of the temporomandibular joint. It should be maintained in the manufacture of condylar prostheses since deviation may lead to disk displacement and degeneration of the articular fossa. While inter-population variations exist in mandibular morphometry, published information on the horizontal angle of inclination in the African population is not available. This study therefore aimed to determine the normal range of the horizontal angle of inclination amongst Kenyans. Sixty three mandibles of African origin were used. The horizontal angle of inclination was measured as the angle between the medio-lateral axis and the coronal plane. Data collected were analyzed using SPSS v.17 for means and variance, and represented using tables, charts and photographs. The horizontal angle of inclination was larger on the right (22.55°) than on the left (20.01°) ($p = 0.002$). The mean angle was larger on the right (24.76° vs. 21.75° in males) but smaller on the left in females (17.80° vs. 20.37° in males), but the difference was not statistically significant. The difference between right and left angles was larger in females (6.96° , $p < 0.05$) than in males (1.38° , $p > 0.05$). It differed significantly between the left and the right. This difference was more pronounced in females than in males for unknown reasons. The horizontal angle of inclination in Kenyans was different from those reported in general literature, and manufacturers of condylar prostheses need to factor these variations during fabrication to avoid post-operative morbidity.