

## **A study of sexual dimorphism of human sternum in southern Nigerian population**

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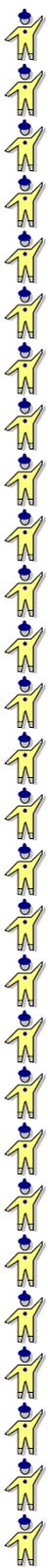
### **ABSTRACT**

**Introduction:** The human sternum is a flat elongated bone that forms the middle of the anterior part of the thoracic cage. It is attached to the clavicles superiorly and its margin articulates with the cartilages of the first seven ribs. The correct determination of skeletal sex is a critical requirement for medico-legal case, and the accuracy with which sexing can be done depends on the nature of the materials and methods applied.

A study on sexual dimorphism of human sternum in southern Nigeria was conducted using adult human sterna comprising of males and females, all obtained from the cadavers in the laboratories of some Nigerian universities.

**Objectives:** The objective of this study is using the sternum to distinguish factors for medico-legal studies where examination of human skeleton is obviously of utmost importance for identification purposes.

**Methodology:** A total number of 94 sterna comprising of 68 males and 26 females were used for this study. The sterna were obtained from University of Port Harcourt, University of Benin, Niger Delta University, Imo State University and



University of Calabar all in south –south and south- east Nigeria. Measurements were done along the length of the manubrium, mesosternum and combined length of the manubrium and mesosternum using a meter rule.

**Results:** Results showed that the average mean length of male and female manubrium was  $60.7 \pm 10.7\text{mm}$  and  $46.0 \pm 6.13\text{mm}$  respectively. The average mean length of the male and female mesosternum was found to be  $101.3 \pm 13.22\text{mm}$  and  $77.9 \pm 7.07\text{mm}$  respectively. The combined length of the manubrium and mesosternum was gotten for male and females as  $164.6 \pm 19.96\text{mm}$  and  $123.3 \pm 11.8\text{mm}$  respectively.

**Conclusion:** It was concluded that in the human sternum which is a highly sexually dimorphic bone, only the mesosternum and combined length of the sternum was seen to be very useful in distinguishing a male from a female sternum. The length of the manubrium was not found to be useful in sexual dimorphism of the sternum.

**Applications:** This study could be of immense importance to forensic scientists and anthropologists in areas of anthropological, medical and forensic investigations.

Key words: Sexual dimorphism, human sternum, southern Nigeria.