

ABSTRACT

Background: No local study has been done to determine the anthropometric features of the proximal tibia, compared it with other studied populations and some of the widely used total knee replacement implants. **Objective:** To determine the Medio-Lateral (ML) width of the condyles of the tibia, the anteroposterior (AP) diameter of the condyles, determine the relationship between length of the tibia and the proximal tibia measurements, compare the results with other studied populations and the tibial components of widely used total knee replacement implants. **Methods:** The distances were measured using digital vernier calipers on dried tibiae which were grossly not deformed. The dimensions of the tibial components of widely used total knee replacement implants were obtained from respective product monographs. **Results:** Average ML width was 69.38mm while average AP diameter was 49.38mm. There was a positive correlation between length of the tibia and the ML and AP dimensions. The dimensions in the Kenyan tibiae were less than those of other populations. Comparison with tibial components of widely used TKR implants showed that most of the implants had dimensions that did not match closely with those of the local tibia specimens. **Conclusion:** The dimensions of the proximal tibia in the Kenyan population are different from those of other populations. Dimensions of tibial components of widely used TKR implants did not match closely with dimensions of the local tibia specimens.

Key words: Proximal tibia width, Aspect ratio, Total knee replacemen