

ABSTRACT

Femur is known as the largest and the strongest of bone of the human body. The anthropometric profile of Asian femur is known to vary from those of the westerners. Therefore, it also creates clinical complications when western standardized implants are used for femoral fractures in Asian countries.

This study is conducted to collect anthropometric measurements for cadaveric bones from Malaysian Universities and to compare the measurements with various datasets available on this study done by researchers in other countries.

Sixty nine cadaveric femora were studied morphologically using standardized techniques to obtain anthropometric data to generate a database for proximal end femur. Various measurements like femoral head diameter, femoral head length, femoral neck diameter, femoral neck length, canal width 20mm above, at the level and below lesser trochanter, femoral neck anteversion and neck shaft angle of femur were recorded. These measurements were taken using vernier caliper and goniometer. The mean \pm SD of these values were calculated. These values were compared with those reported in the literatures from other countries and were found to be different.

Through observation of the data, it is significant that the studied bones were morphologically smaller compared to those of westerners. But it is similar to studies conducted to China and India, which explains the origin of the bones that were used in this study. This study proves to be vital information to enlighten the biomedical engineers to be more specific on designing the femoral fracture implants to avoid and nullify post-surgery clinical complications.

KEYWORDS: Proximal femur, anthropometry, diameter, cadaver