**Original article:**

**Morphometric study of some lower femoral anatomy in Eastern Indian population**

**Sujay Mistri1\*, Sudeshna Majumdar2, Sarmistha Biswas3**

1, 3 Associate Professor, Department of Anatomy, NRS Medical College, Kolkata – 700014

2 Professor, Department of Anatomy, NRS Medical College, Kolkata – 700014

\*Corresponding author: Dr Sujay Mistri

Date of submission: 28 Aug 2014 ; Date of publication : 22 September 2014

**ABSTRACT:**

**Introduction:** Knee joint, being in pivotal role in bipedal locomotion, encounter frequent traumatic as well as degenerative threats. Study of the anatomy of the distal femur is important for the design of total joint replacement and internal fixation material.

**Methods:** One hundred twenty seven adult dry femora were considered for the study. Bicondylar Width and Shaft Robustness measured for all the femora by a single author using suitable calipers and following standardized methods.

**Observations & Results:** Mean bicondylar width of 127 study samples observed to be 7.421 ± 0.603 cm, of which 62 left sided femurs showed 7.398 ± 0.599 cm and 65 right sided femora having 7.443 ± 0.610cm measurements. Comparison of shaft width of left and right sides revealed mean shaft widths of 3.150 ± 0.331 cm and 3.189 ± 0.345 cm respectively. Mean shaft width came as 3.170 cm with standard deviation of 0.337when calculated for all the femora. Mean Robustness Index obtained in the study as 42.86 ± 4.61with no significant left vs. right variation.

**Conclusion:** Knowledge of mean bicondylar width and shaft robustness with their significant correlation and robustness index of Eastern Indian population will act as ready-reckoner for biomedical engineers engaged in prosthesis designing for Indian recipient.

**Key words:** Femur, Femoral Shaft, Femoral Condyle, Bicondylar width, Robustness Index