

Correspondence to Article “Correlation between BMI and Static Biomechanical Lower Extremity Kinetic Chain Variables in Overweight Young Adults: A Cross-sectional Study”

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Dear Editor,

We are truly obliged to be able to read articles in your esteemed journal. We recently read an article published in your prestigious Journal of Clinical and Diagnostic Research under the Physiotherapy Section in 2023;17(5):YC01-YC06 by Bali NK et al., titled “Correlation between BMI and Static Biomechanical Lower Extremity Kinetic Chain Variables in Overweight Young Adults: A Cross-sectional Study” [1]. The authors’ meticulous work is extremely beneficial in evaluating variables related to the lower extremity kinetic chain, including pronated feet, femoral anteversion, Q-angle, tibial torsion, plantar arch index, angle of the toe, and pelvic inclination. However, we would like to draw the attention of the authors to a few concerns.

The authors intended to calculate the correct procedure of pelvic inclination in the manuscript. Nevertheless, there is a disagreement between the process described and the picture of the pelvic inclination portrayed in [Table/Fig-6], which is very challenging to understand. [Table/Fig-6] shows the angle of the toe out twice, but doesn’t show the use of an inclinometer, despite the procedure for placing one to measure pelvic inclination being precisely described. The authors should have specified the photos in the manuscript before the final draft.

Craig’s test was used to compute the femoral anteversion yet it was already found to have poor reliability and validity. Consequently, stronger inference in variables would have been verified by the gold standard Magnetic Resonance Imaging (MRI) approach [2]. Similarly, the measurement of Q-angle over an X-ray would have been a more efficient technique as compared to the physical examination method. The author should have used gold-standard methodologies to interpret the actual values of the variables to have a better understanding of the link between body mass index and lower extremity alignment factors, as physical examinations might increase human error [3].

In the statistical analysis section, the normality of all the data was established by using the Shapiro-Wilk and Kolmogorov-Smirnov tests. Nevertheless, the Shapiro-Wilk test data, which is frequently used for small sample sizes ($n < 50$), cannot be applied to this study because of its sample size of 160 ($n > 50$) [4].

The STROBE checklist should have been utilised by authors to ensure high-quality reporting and a transparent depiction of the strategies and procedures followed in this cross-sectional study [5].

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AUTHOR’S REPLY

The error in the [Table/Fig-6] has been identified. This was a publication error and a corrected picture of pelvic inclination measurement through inclinometer has been added [1].

Though the validity and reliability was low, but similar citations are provided by previous author also [2].

The validity and reliability of measuring Q-angle is similar to that of X-ray. Since, the X-ray is hazardous, due to radiation, we preferred the use of goniometer as it was a physiotherapy study [3,4].

As per literature, the Shapiro-Wilk test is a more appropriate method for small sample sizes (< 50 samples); although it can also be applied on larger sample size [5]. Further both tests were mentioned in the article.

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Regards,
Authors and editor of the article.