International Journal of Healthcare Education & Medical Informatics
CHETPHYSIOCON 2024 Conference
1-June-2024

Influence of Subject and Therapist Body Mass Index on Lean Release Angle and Forward Stepping Characteristics

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Abstract

Introduction: The influence of body mass index (bmi) on movement characteristics has garnered significant interest in biomechanics and rehabilitation research.

Methods: This is the observational study conducted among healthy young adults of the age group between 18 to 25 years of both genders. initial demographic details was taken which included their name, age, gender, and bmi (height, weight) using 5 raters with different ranges of bmi. during this procedure, a laser pointer is attached to the pelvis with a waistband. the examiner stands in front and side of the subject placing both hands over the shoulder bilaterally. the subject is then asked to lean forward till his shoulders and hips are in front of their toes and asked to relax after the lean and the support from the shoulder is released suddenly and the subject will recover the balance by taking a forward step. the above-said procedure will be captured as a video in a mobile phone camera. the video will be analysed using a software called “tracker” which can calculate the spatiotemporal parameters of the reactions taken. the data will be taken for analysis.

Results: Based on the anova results from the three trials, we found the following: these results indicate that there is significant variability in the outcomes of trail 1, but not in trails 2 and 3. this suggests a potential difference in effectiveness or performance among groups in trail 1 that is not observed in the other two trials.

Conclusion: By understanding how bmi affects the lean release angle and forward-stepping characteristics, we can develop a more effective protocol to analyse the lean release angle and forward-stepping influenced by bmi.