

Comparison of static balance and core endurance between female undergraduate Ballet dancers and Kandyan dancers

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Dance is a rhythmic movement of the body that enhances physical attributes, especially balance and endurance. Ballet and Kandyan dance, both highly technical and physically demanding, require exceptional postural control, static balance, and core endurance. While Ballet is globally recognized for its athleticism and precision, Kandyan dance, a traditional Sri Lankan form, emphasizes vigorous and unique lower-body movements. This study examines the differences in static balance and core endurance between Ballet and Kandyan dancers, contributing to the understanding of biomechanical demands in these dance forms. This cross-sectional study was conducted among 86 dancers (Ballet=43, Kandyan=43) from the University of the Visual and Performing Arts. Participants were selected through purposive sampling. Socio-demographic characteristic and training time were collected using an interviewer-administered questionnaire. Static balance and core endurance were assessed using the Stork Stand Balance Test and plank test. Descriptive statistics, Independent sample t-test, and Pearson's correlation test were used for statistical analysis. Data were analysed using Statistical Package for Social Science version 30. There was no significant difference in age (Ballet: 24.05±0.69 years, Kandyan: 24.35±0.78 years, $p=0.061$) and body mass index (Ballet: 20.74±2.80 kgm⁻², Kandyan: 20.94±2.39 kgm⁻², $p=0.710$) between the two groups. Ballet dancers demonstrated significantly better static balance compared to Kandyan dancers (Ballet: 57.05 ± 22.37 seconds, Kandyan: 32.09 ± 16.99 seconds, $p < 0.001$). Kandyan dancers exhibited significantly better core endurance compared to Ballet dancers (Ballet: 75.14 ± 37.77 seconds, Kandyan: 93.02 ± 43.69 seconds, $p=0.045$). A strong positive correlation between static balance and core endurance was observed in Ballet dancers ($r = 0.854$; $p < 0.001$), and a moderate positive correlation was found in Kandyan dancers ($r = 0.692$; $p=0.001$). Ballet dancers exhibited superior static balance, while Kandyan dancers demonstrated significantly greater core endurance. These findings reflect the distinct biomechanical demands of each dance style. Understanding such differences can guide tailored training and rehabilitation strategies for dancers to optimize performance and prevent injuries.

Keywords: *Static balance, Core endurance, Ballet, Kandyan*