

Comparison of Lower Extremity Intrinsic Factors Between Non-Contact Anterior Cruciate Ligament Injured and Non-Injured Elite Football Players of the Super League in Sri Lanka

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Non-contact Anterior Cruciate Ligament (ACL) injuries are one of the commonest types of knee injuries among elite football players, which has a negative impact on the overall performance and quality of life of players. There are many risk factors for ACL injuries. It is important to study the association between intrinsic risk factors and ACL injuries because of their higher prevalence, expensive treatment methods, and secondary complications which occur in athletes. A retrospective case-control study was conducted, among 31 male elite football players aged 20-25 years. Of the total sample, 15 players presented with a history of non-contact ACL injury, and 16 players did not have a history of non-ACL injury. Height, weight, and body-mass index (BMI) were measured in all participants, to evaluate the degree of similarity between the two groups. The intrinsic factors measured were femoral torsion, tibial torsion, both measured using the universal goniometer, pronation of the foot measured by the navicular drop test and flat feet assessed using the Staheli plantar arch index. Data were analysed using SPSS software version 26.0. Mean age of study participants was 22.13 ± 1.0 years and mean BMI was 21.3 ± 1.55 kg/m³. There was no significant difference in all intrinsic factors between the injured and non-injured groups at $p < 0.05$. A significant difference ($p < 0.05$) in pronation of the foot was observed between the affected and non-affected limbs within the injured group. In conclusion, pronation of the foot is an intrinsic factor influencing the lower extremities for non-contact ACL injury.

Keywords: *non-contact anterior cruciate ligament injury, football, femoral torsion, tibial torsion, pronation of foot, flat feet*