

The Effects of the GAA15 (Gaelic Athletic Association 15) on Lower Extremity Injury Incidence and Neuromuscular Functional Outcomes in Collegiate Gaelic Games: A 2 Year Prospective Study

Authors : Brenagh E. Schlingermann, Clare Lodge, Paula Rankin

Abstract : Background: Gaelic football, hurling and camogie are highly popular field games in Ireland. Research into the epidemiology of injury in Gaelic games revealed that approximately three quarters of the injuries in the games occur in the lower extremity. These injuries can have player, team and institutional impacts due to multiple factors including financial burden and time loss from competition. Research has shown it is possible to record injury data consistently with the GAA through a closed online recording system known as the GAA injury surveillance database. It has been established that determining the incidence of injury is the first step of injury prevention. The goals of this study were to create a dynamic GAA15 injury prevention programme which addressed five key components/goals; avoid positions associated with a high risk of injury, enhance flexibility, enhance strength, optimize plyometrics and address sports specific agilities. These key components are internationally recognized through the Prevent Injury, Enhance performance (PEP) programme which has proven reductions in ACL injuries by 74%. In national Gaelic games the programme is known as the GAA15 which has been devised from the principles of the PEP. No such injury prevention strategies have been published on this cohort in Gaelic games to date. This study will investigate the effects of the GAA15 on injury incidence and neuromuscular function in Gaelic games. Methods: A total of 154 players (mean age 20.32 ± 2.84) were recruited from the GAA teams within the Institute of Technology Carlow (ITC). Preseason and post season testing involved two objective screening tests; Y balance test and Three Hop Test. Practical workshops, with ongoing liaison, were provided to the coaches on the implementation of the GAA15. The programme was performed before every training session and game and the existing GAA injury surveillance database was accessed to monitor player's injuries by the college sports rehabilitation athletic therapist. Retrospective analysis of the ITC clinic records were performed in conjunction with the database analysis as a means of tracking injuries that may have been missed. The effects of the programme were analysed by comparing the intervention groups Y balance and three hop test scores to an age/gender matched control group. Results: Year 1 results revealed significant increases in neuromuscular function as a result of the GAA15. Y Balance test scores for the intervention group increased in both the posterolateral ($p=.005$ and $p=.001$) and posteromedial reach directions ($p=.001$ and $p=.001$). A decrease in performance was determined for the three hop test ($p=.039$). Overall twenty-five injuries were reported during the season resulting in an injury rate of 3.00 injuries/1000hrs of participation; 1.25 injuries/1000hrs training and 4.25 injuries/1000hrs match play. Non-contact injuries accounted for 40% of the injuries sustained. Year 2 results are pending and expected April 2016. Conclusion: It is envisaged that implementation of the GAA15 will continue to reduce the risk of injury and improve neuromuscular function in collegiate Gaelic games athletes.

Keywords : GAA15, Gaelic games, injury prevention, neuromuscular training

Conference Title : ICSEHS 2016 : International Conference on Sport, Exercise and Health Sciences

Conference Location : Vancouver, Canada

Conference Dates : August 04-05, 2016