A005 HSCI

Is the Use of Oral Contraceptive Beneficial to Female Athletes in the Prevention of Anterior Cruciate Ligament Injury?

Abstract:

Research has shown that women are 2 to 9 times more likely to sustain an anterior cruciate ligament (ACL) injury than men. The increased risk of ACL injuries in females can be attributed to several factors including anatomical, hormonal, biomechanical, and neuromuscular variations. Previous literature found that female hormones such as relaxin, progestin, and estrogen play a role in ligamentous laxity within the female ACL. Oral contraceptives (OC) regulate these hormones by inhibiting the spike of estrogen and progestin during the menstrual cycle. The aims of this study were to investigate the influence of female hormone concentrations on the ACL and to determine if OC can reduce the risk of ACL injuries in female athletes. We hypothesize that OC will have an effect on reducing the incidence of ACL injuries in female athletes. Articles were retrieved from Google Scholar and PubMed databases. A systematic review was conducted and ranked using the Oxford Levels of Evidence. The result revealed there are variations in the ranking of literature based on the Oxford Levels of Evidence. The evidence reveals that OC may have an inhibitory effect on relaxin receptors within the female ACL and could be recommended as a preventive measure for ACL ligamentous injury. Further research is needed to determine the causal effect of oral contraceptives on ACL prevention.

Keywords: *oral contraceptive, hormones, menstrual cycle, female, athlete, estrogen, progestin, relaxin, anterior cruciate ligament, tears, injury, joint laxity, ligamentous laxity, soft tissue*