The effect of neuromuscular training on the incidence of knee injury in female athletes. A prospective study

References:


Abstract: To prospectively evaluate the effect of neuromuscular training on the incidence of knee injury in female athletes, we monitored two groups of female athletes, one trained before sports participation and the other not trained, and a group of untrained male athletes throughout the high school soccer, volleyball, and basketball seasons. Weekly reports included the number of practice and competition exposures and mechanism of injury. There were 14 serious knee injuries in the 1263 athletes tracked through the study. Ten of 463 untrained female athletes sustained serious knee injuries (8 noncontact), 2 of 366 trained female athletes sustained serious knee injuries (0 noncontact), and 2 of 434 male athletes sustained serious knee injuries (1 noncontact). The knee injury incidence per 1000 athlete-exposures was 0.43 in untrained female athletes, 0.12 in trained female athletes, and 0.09 in male athletes (P = 0.02, chi-square analysis). Untrained female athletes had a 3.6 times higher incidence of knee injury than trained female athletes (P = 0.05) and 4.8 times higher than male athletes (P = 0.03). The incidence of knee injury in trained female athletes was not significantly different from that in untrained male athletes (P = 0.86). The difference in the incidence of noncontact injuries between the female groups was also significant (P = 0.01). This prospective study demonstrated a decreased incidence of knee injury in female athletes after a specific plyometric training program.