ABSTRACT

Background: Leg-length inequality (LLI) is a common condition that may contribute to various spinal, pelvic, and lower extremity dysfunctions. Iliac crest height difference (ICHD) has been demonstrated to be a good estimate for LLI and may be a useful measure for identifying individuals who are at risk for injury.

Purpose: To investigate the relationship between ICHD and other running-related variables with running injury.

Methods: An observational retrospective case-control design was used. Data were collected via questionnaire and physical examination from a purposive sample of 100 runners and were analyzed using chi-squared tests of independence.

Results: The prevalence of ICHD ≥ 5mm reported by subjects via questionnaire was ~40%. There was no difference in report of injury between subjects with ICHD >5mm and those with ICHD <5mm ($\chi^2=0.02$, p=0.88); however, lifetime history of injury ($\chi^2=15.68$, p=0.00) and the number of running events participated ($\chi^2=3.09$, p=0.04) were significant factors associated with injury; although not significant, there was a trend towards relationship with gender ($\chi^2=3.2$, p=0.07).

Conclusion: Small ICHD is not associated with running injury among recreational runners. There appears to be an increased risk of running injury among runners who participate in more than one running event annually and those that have had a past history of running injury. Also, males may be at slightly greater risk of sustaining a running injury compared to females.

Level of Evidence: Therapy, level 3b

Keywords: leg-length inequality, Palpation Meter, movement system, physical therapy, sports