






ORIGINAL ARTICLE

Injury epidemiology and preparedness in powerlifting at the Rio 2016 Paralympic Games: An analysis of 1410 athlete-days

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Abstract

Purpose: To describe injury epidemiology in Para powerlifters during the Rio 2016 Paralympic Games.

Methods: This cohort study was a sub-analysis of the web-based injury and illness surveillance system survey (WEB-IISS) carried out by the International Paralympic Committee (IPC) Medical Committee. The WEB-IISS survey was completed daily by the Chief Medical Officers of each National Paralympic Committee (NPC). Main outcome measures were injury incidence rate (IR; number of injuries per 1000 athlete-days), injury incidence proportion (IP; number of injuries per 100 athletes), and injury incidence rate ratio (IRR; the ratio between the calculated IRs). After the competition, a survey assessed the available clinical resources of each NPC.

Results: A total of 180 athletes participated in the time period; injuries for 141 athletes with their own medical support were recorded during the 10-day period, accounting for 1410 athlete-competition days of exposure. Overall IR was 15.6/1000 athlete-days (95% CI; 9.61-21.59). Most injuries were from chronic overuse (63.6%). The most commonly injured anatomical region was the shoulder (45.5%; IR = 7.09). There were no significant differences in injury patterns between male and female powerlifters (IRR = 0.78 [95% CI; 0.36-1.69], *P*-value = .699). The oldest age group (35-75) had the highest injury incidence rate (IR = 21.8 [95% CI; 12.63-30.96]). There was no significant difference in IP among lighter compared with heavier athletes. Of 34 NPCs, the majority of federations (91.6%-95.8%) felt their powerlifters have access to sports medicine doctors or sports medicine-trained clinicians who could implement and/or direct injury prevention protocols.

Conclusions: The information obtained in this study supports the need for injury prevention protocol development in this high-risk Para sport.

KEYWORDS

injury epidemiology, injury incidence proportion, injury incidence rate, injury prevention, Paralympic Games, powerlifting, sports medicine, WEB-IISS