Continued Sex-differences In The Rate And Severity Of Knee Injuries Among Collegiate Soccer Players

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Studies continue to report a greater risk of knee injury in female, compared with male athletes; however, there are no comparable data on injury severity.

PURPOSE: To examine sex-differences in the rate and severity (lost days of participation, need for surgery) of knee injuries among collegiate soccer players between 2004 and 2009, while controlling for several covariates previously linked to injury occurrence.

METHODS: Data from the National Collegiate Athletic Association Injury Surveillance System (NCAA-ISS) were used to calculate injury incidence density (ID) per 1000 athletic exposures (AE). As per the data collection guidelines of the surveillance system, injury incidence was defined as: 1) any injury event involving the knee that occurred during participation in an intercollegiate game or practice; 2) that required medical attention and/or surgery; and 3) restricted participation or performance for > 1 day beyond the event. The rate ratio (RR), along with the 95% confidence interval (CI), compared ID among female, relative to male soccer players. Multivariable logistic regression and multivariable negative binomial regression modeling then tested the relation between sex and knee injury incidence and severity while controlling for contact, setting, and competition level.

RESULTS: Between 2004 and 2009, the sex-specific rate of soccer-related knee injuries was 1.20 per 1000 AEIs in women and 0.90 per 1000 AEIs in men (RR = 1.45, 95% CI = [1.27, 1.64]). In the multivariable modeling, women continued to experience significantly higher odds of knee injury compared with men (aOR = 1.44, 95% CI = [1.27, 1.63]). Also, the adjusted odds of a knee injury that resulted in surgery remained higher in women compared with men (aOR = 1.61 (1.00, 2.58), but this was marginally so. From the negative binomial regression modeling, we observed that women also experienced significantly more time lost from participation, independent of contact, competition level and surgery (p < 0.05).

CONCLUSION: Given the prominence of soccer play in the United States, continued efforts to evaluate and improve knee injury prevention practices and policies may be especially important for female players.

Epidemiological Analysis Of Injuries Occurring In Marine Corps Forces Special Operations Personnel

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Special Operation Forces have been shown to sustain greater rates of musculoskeletal injuries than conventional forces. These injuries result in loss in deployable operators, which negatively impacts force readiness. In addition to Operators (OPs), Marine Corps Forces Special Operations Command (MARSOC) also utilizes Combat Support Personnel (CSP) to support OP missions. These CSP may also be at risk for sustaining similar injuries and mechanisms as OPs.

PURPOSE: Describe injury epidemiology in MARSOC personnel and compare injury patterns between OPs and CSP.

METHODS: A total of 141 MARSOC personnel (85 OPs, 56 CSP) completed an injury history questionnaire and described musculoskeletal injuries that occurred in the previous 12 months. Injury proportions were calculated for OPs and CSP. Proportions of injured subjects were compared between OPs and CSP using Fisher’s exact tests.

RESULTS: A total of 43 injuries were reported within the previous 12 months, 25 of which were classified as preventable (15 in OPs, 10 in CSP). There were no statistically significant differences in the proportion of injured subjects between OPs and CSP. Preventable injuries were sustained by 14% of OPs and 16% of CSP. Both OPs and CSP sustained the majority of preventable injuries while performing lifting and running activities (27% and 40% for OPs and 40% and 50% for CSP, respectively). Also, the knee and lumbar/pelvic region were the most commonly reported location of preventable injuries for OPs (20% each) and CSP (30% each). The top three most common injury types were muscle strain, tendinopathy, and pain/spasm.

CONCLUSIONS: Approximately 15% of MARSOC personnel experienced preventable injuries within 12 months prior to the questionnaire. Therefore, the force would significantly benefit from performance and injury prevention programs to mitigate preventable injuries and optimize force readiness. Because the majority of injuries were sustained during physical training there is a need to monitor training readiness to avoid overtraining and fatigue. Additionally, OPs and CSP seem to sustain similar injury patterns with similar mechanisms, suggesting CSP should also be included in injury prevention initiatives to optimize force readiness.

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Descriptive Epidemiology of Injuries Among Masters Alpine Ski Racers

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There have been an increasing number of publications on recreational and elite alpine skiing injury epidemiology. To our knowledge, however, there are no previously published data on injuries in Masters alpine ski racers.

PURPOSE: To examine sex-differences in injury patterns among Masters alpine ski racers incurred during competition and training.

METHODS: In this cross-sectional study, data were collected from competitors at a single United States Ski and Snowboard Association Masters ski racing national championship during the 2012-2013 winter season via an online injury survey (N = 124; survey response rate 61.7%).

RESULTS: The age of the respondents ranged from 22 to 84 years with a mean age of 53.4 years (SD = 12.8 years). In general, this group of Masters skiers was very experienced, with 83.1% of respondents reporting that they had participated in more than 15 Masters ski races. A total of 158 training or competition-related injury cases were reported from 65 competitors (52.4%), with an injury rate of 1.3 injuries per athlete and 2.4 injuries per injured athlete. Among the 158 injury cases reported, there were 289 separate injuries that occurred at nine different body regions, with the knee/leg region being the most commonly injured anatomic location (52 cases, 16.0%), followed by back (12.8%) and shoulder (12.1%). Among the knee injuries, meniscal injury was most common (22.3%), Median and anterior cruciate ligaments were the most common ligamentous knee injuries (17.9% of all knee injuries, each). Fractures accounted for 22% of all injuries. There were a total of 25 concussions reported. Hitting a gate was the most common event related to injury cases (52.3%) and equipment failure played a role in only 3.1% of injury cases. Masters skiers had substantial time-loss caused by injuries, with 41.5% of all injured athletes requiring more than 28 days off from training and competition. Injury rates were not associated with athletes’ ages (p = 0.724).

CONCLUSIONS: In conclusion, the results of this survey suggest that the risk of injury in Masters alpine ski racing is high. Further research in this area will better characterize injury risk in this athlete population and inform injury prevention measures.