

Conclusions This information in combination with other relevant factors and expert knowledge can be helpful to guide player monitoring and decision making.

240 ABSTRACT WITHDRAWN

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242 THE EPIDEMIOLOGY OF INJURY IN ENGLISH PROFESSIONAL WOMEN'S FOOTBALL: A PROSPECTIVE COHORT STUDY

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Background Despite the professionalization of women's football the incidence and prevalence of injuries occurring within England is currently unknown.

Objective To estimate the incidence, prevalence and nature of injury in a single professional Women's football squad over one season (2018/2019)

Design Prospective single site cohort study.

Setting Professional women's football squad competing in the English Women's Championship.

Patients (or Participants) 25 players with a professional contract. Ethical approval was obtained from Leeds Beckett University.

Interventions (or Assessment of Risk Factors) Data collection procedures followed the UEFA consensus guidelines. Player exposures were recorded via GPS for all football related activity

Main Outcome Measurements Incidence of injury per 1000h of exposure, prevalence and severity of injury per anatomical site, epidemiologic incidence proportion and clinical incidence to provide measures of injury burden and resource management.

Results The incidence of injury was 8.04/1000 h (95% CI 4.32–11.77), 30.68/1000 h (95% CI 14.61–47.75) during match play and 2.24/1000 h (95% CI: 0.25–4.66) during training. A total of 18 injuries including re-injuries were sustained providing a clinical incidence of 0.72 (95% CI 0.54–0.89) injuries per player. The most common sites of injury were the knee (5/18, 27%) and anterior thigh (3/18, 17%). There was 1 non time loss injury, 3 minimal injuries (16.6%; 1–3 days), 4 mild (22.2%; 4–7 days), 6 moderate (33.3%; 8–28 days) and 4 severe injuries (22.2%; > 28 days). Of the 5 knee injuries, 2 were ruptures of the anterior cruciate ligament via a non-contact mechanism. Epidemiological incidence proportion was 0.44 (95% CI: 0.24–0.74) thus the average probability that any player would sustain at least one injury was 44% (95% CI: 25%–63%).

Conclusions This is the first prospective investigation capturing injury incidence from a cohort of English players. The relatively high proportion of ACL injuries imposes a significant burden on a squad of this size. Multi-site prospective investigations of injury are required

243 LONGITUDINAL DOCUMENTATION OF SELF-REPORTED AND PHYSICAL FUNCTION IN FEMALE ADOLESCENT ATHLETES WITH BILATERAL RECURRENT ANKLE SPRAINS

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Background Recurrent ankle sprains (RAS) are often preventable through sensorimotor training interventions. However, implementation of RAS prevention programs for athletes is often limited because of a lack of resources, time, and understanding of long-term negative consequences associated with RAS. Prospective, longitudinal documentation of self-reported and physical functions in athletes with RAS over the duration of an athletic season without participation in RAS prevention training is needed to highlight an importance of implementation of specific injury managements for athletes.

Objective Determine whether changes in factor contributing to RAS occur in high school female basketball athletes with bilateral RAS following six months.

Design Prospective cohort study.

Setting High school basketball facilities.

Participants Eighteen high school female basketball athletes with bilateral RAS (age=15.81±0.40yrs, BMI=21.56±1.70kg/m²) participated. Participants were defined as having RAS if they have sustained a minimum of two acute lateral ankle sprains on the same lower extremity.

Assessment of Risk Factors Participants completed patient-generated, clinician-generated, and laboratory-based outcome assessments in two testing sessions separated by six months. No specific injury prevention program for RAS was provided during the duration of an athletic season.

Main Outcome Measurements The Cumberland Ankle Instability Tool (CAIT) was used to assess self-reported ankle instability. Foot cutaneous sensation thresholds was assessed using Semmes-Weinstein monofilaments. Rate of force development (RFD) during a single-leg drop landing was quantified with a force platform. Paired t-tests were utilized to examine between-session differences in each dependent variable.

Results There were no differences in CAIT (Right:p=0.831 Left:p=0.688), foot cutaneous sensation thresholds (Right:p=0.177, Left:p=0.199), and RFD (Right:p=0.064, Left:p=0.079) between two testing sessions.

Conclusions No changes in the selected outcome measures occurred in high school female basketball athletes with bilateral RAS following six months, indicating that specific prevention strategies for RAS may be necessary to restore and improve self-reported and physical functions.

244 EPIDEMIOLOGY OF MATCH INJURIES IN SCOTTISH PROFESSIONAL RUGBY UNION

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Background Injury incidence in professional rugby union tends to be greater than other team sports. Epidemiological studies

are required to describe injury occurrence and inform injury prevention measures.

Objective To analyse injuries sustained by professional rugby union players in Scotland.

Design Prospective observational.

Setting Time-loss match injuries sustained in men's and women's international rugby, men's professional club rugby and men's and women's international sevens during the 2017/18 and 2018/19 seasons were recorded by Scottish Rugby medical staff. Match exposure was recorded by GPS device and/or video analysis.

Patients (or Participants) Across all cohorts, 208 players (men: 163; women: 45) participated during the 2017/18 and 2018/19 seasons (men's international n = 60; women's international n = 37; men's professional club n = 134; men's international sevens n = 29; women's international sevens n = 25). Several players represented multiple cohorts.

Interventions (or assessment of Risk Factors) Injuries within and between cohorts were compared.

Main Outcome Measures Injury incidence, severity, type and location.

Results Injury incidences were 292.8 (95% CI: 227.8–358.0)/1000 player match hours for men's international sevens, 183.3 (139.5–227.1)/1000 hours for women's international rugby, 167.5 (81.1–254.1)/1000 hours for women's international sevens, 160.0 (124.1–195.9)/1000 hours for men's international rugby, and 154.5 (140.2–168.8)/1000 hours for men's professional club. Median severity ranged from 6.0 - 19.5 days. Concussion (men's international: 22.5/1000 hours; women's international: 26.7/1000 hours; men's professional club: 28.9/1000 hours; men's international sevens: 37.3/1000 hours) was the most common injury for all cohorts except women's international sevens, where knee sprain/ligament injury was most frequent (41.9/1000 hours).

Conclusions Men's international sevens had the greatest injury incidence. Concussion was the most frequent injury in all cohorts except women's international sevens, where it was the second most common. Interventions to reduce concussion incidence would benefit all professional cohorts in Scotland.

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UTILITY OF THE HEALTH ACTION PROCESS APPROACH (HAPA) MODEL TO PREDICT INTENTION AND ADOPTION OF THE ACTIVATE INJURY PREVENTION EXERCISE PROGRAMME BY SCHOOL RUGBY COACHES

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Background Using *Activate*, a rugby-specific injury prevention exercise programme, has been shown to reduce injury risk in school rugby; however, implementing such programmes is challenging and adherence is often suboptimal. The Health Action Process Approach (HAPA) model is a promising theory for identifying modifiable determinants of programme uptake.

Objective To evaluate the utility of the HAPA model when predicting coaches' intentions to use *Activate*, and to explore the relationship between intention and programme adoption.

Design Prospective cohort study.

Setting English schools rugby (under-12 to under-18).

Participants Rugby coaches and support staff (n=38).

Interventions All coaches attended a pre-season *Activate* workshop. Coaches completed a questionnaire pre- and post-workshop, assessing HAPA predictors: risk perception, outcome expectancies, task self-efficacy, intention, action and coping planning, maintenance self-efficacy and recovery self-efficacy.

Main outcome measures Standardized regression coefficients (β) were used to measure the association between HAPA variables. Goodness-of-fit was assessed using the Comparative Fit Index (CFI), Tucker Lewis Index (TLI) and root mean square error of approximation (RMSEA). Programme adoption was self-reported at post-season.

Results Coaches' outcome expectancies ($\beta=0.33$, $p<0.05$) and task self-efficacy ($\beta=0.40$, $p<0.01$) were significantly associated with intention to use *Activate* ($r^2=0.28$). The model demonstrated good fit to predict intention (CFI=0.95, TLI=1.00, RMSEA=0.00). Task self-efficacy ($\beta=0.49$, $p<0.01$) and intention ($\beta=0.27$, $P<0.05$) were significantly associated with action and coping planning ($r^2=0.43$), though the relationship between intention and adoption was not significant ($\beta=0.09$, $p=0.63$).

Conclusions As hypothesised by the HAPA model, outcome expectancies and task self-efficacy were significant predictors of intention, and behaviour change strategies should focus on improving these. Predicted pathways between task self-efficacy, intention, and planning were also supported, though the model was underpowered to assess relationships between post-intentional variables and programme adoption. The model's utility beyond intention needs further exploration with larger sample sizes to identify additional intervention targets.

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SAFE AND SOUND FOR PERFORMANCE'S SAKE? AN EXPLORATION ON HEALTH AND SAFETY AWARENESS IN ELITE RUGBY

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Background In elite rugby union, players often expose themselves to risk-taking behaviours resulting in a high risk acceptance level. The practical and theoretical occupational safety and health (OSH) have the potential to reflect health outcomes (e.g., injuries and accidents) in sports settings.

Objective This study explores key indicators of injury prevention and welfare protection in rugby union from an OSH perspective.

Design This study utilises semi-structured interview, the duration of which ranged from 22 to 50 minutes digitally recorded with consents.

Setting Individual interviews were conducted with current rugby supporting staff involving in national, provincial and university level.

Patients (or Participants) The participants (n=15) were current rugby supporting staff including coaching staff, medical staff and other management personnel.

Interventions (or Assessment of Risk Factors) The interview transcripts were inductively analysed by using Nvivo software, the key risk factors were then identified using abductive analysis by adopting an existing safety climate framework.