Background Para athletes may have specific mental health challenges that, together with the demands of high-level sports performance, could put them at risk for mental health disorders.

However, research in this population is limited.

Objective To investigate factors associated with mental health in South African para athletes.

Design Descriptive, cross-sectional survey.

Setting National to international level athletes competing in the 2019 National Championships.

Patients (or Participants) A total of 124 athletes (93 males; 31 females) with a mean age 26.7 (±9.2) were included in the study.

Interventions (or Assessment of Risk Factors) Demographic, medical history and sleep-related variables were included in bivariate analyses to assess their association with mental health. Between-group differences were analysed using the Mann-Whitney U or T-tests. Variables significantly associated in the bivariate analyses were included in multiple regression analyses for mental health.

Main Outcome Measurements Mental health was measured with the State/Trait Anxiety Inventory (STAI) and the Kessler Psychological Distress Scale (K-10 Questionnaire). Sleep quality and chronotype were measured with the Pittsburgh Sleep Quality Index (PSQI), the Epworth Sleepiness scale and Morningness-Eveningness Questionnaire (MEQ-SA).

Results The model explained 40% of the variance in mental health (F=12.04, p<0.001) in these athletes. Compared to athletes with ‘good’ sleep quality, K-10 and STAI scores were significantly higher (indicating poorer mental health) in athletes with ‘poor’ sleep quality (U =2.6, p<0.001; t(116.8)=-3.40, p<0.001). ‘Poor’ sleep quality (B:0.8; 95% CI 0.4 to 1.3), moderate to severe daytime sleepiness (B:4.2; 95% CI 1.1 to 7.3) intermediate (B:3.5 95% CI 0.4 to 6.6) and evening chronotypes (B:12.0 95% CI 5.0 to 19.1), the presence of allergies (B:3.9 95% CI 0.1 to 7.6) and male gender (B:3.3 95% CI 0.1 to 6.5) were most strongly associated with high STAI scores.

Conclusions This study has identified novel factors associated with poor mental health in elite para athletes. As some of these factors are modifiable, further research towards prevention strategies is warranted.

Background Sports-related injuries and illnesses in Paralympic sport is a growing concern, but knowledge about the aetiology and risk factors is limited.

Objective To describe the annual incidence of injuries and illnesses among Paralympic athletes and to assess risk factors.

Design Prospective cohort study.

Setting Paralympic athletes

Patients (or Participants) 107 Swedish Paralympic elite athletes with vision, physical and intellectual impairments, active in 19 para sports.

Interventions (or Assessment of Risk Factors) The athletes were asked to weekly report over 52 weeks the annual incidence of injuries, illnesses and quality of health in an adapted eHealth application.

Main Outcome Measurements Time to event, incidence rate (IR) and incidence proportion (IP) and risk factors.
Results The median number of completed weekly reports was 45 (IQR 25–52). The annual IP for injury was 68% and for illness 77%. The injury IR was 6.9/1000 hours and the illness IR 9.3/1000 hours. The median time to injury was 19 weeks (95% CI: 10.5–27.4) and to illness 9 weeks (95% CI: 1.4–16.6). Most injuries occurred during training and 34% were classified as severe (≥21 days of time loss). An increased injury risk was observed among athletes in team sports (HR 1.88; 95% CI: 1.19–2.99), athletes with a previous severe injury (HR 2.37; 95% CI: 1.47–3.83) and male athletes (HR 1.76; 95% CI: 1.06–2.93). The most common illness type was infection (84%). Athletes in team sports (HR 2.54) had a higher illness risk. One third of the athletes (34%; 95% CI 32.0–35.2) reported weekly that they felt anxious/depressed and 48% (95% CI 45.7–50.1) reported moderate or extreme pain every week.

Conclusions Paralympic athletes report a considerably high incidence of injuries and illnesses as well as pain and psychological complaints. This emphasizes the need to develop preventive strategies and optimize medical services for this heterogeneous athlete population.

077 THE IMPORTANCE OF HEALTH MONITORING IN COMPETITIVE PARA ATHLETES: RESULTS OF THE GERMAN INJURY AND ILLNESS SURVEILLANCE SYSTEM

1Anja Hirschmüller, 1Katharina Fassbender, 1Johanna Kubosch, 2Rainer Leonhart, 2Kathrin Steffen. Department of Orthopedics and Trauma Surgery, Medical Center – Albert-Ludwigs-University of Freiburg, Faculty of Medicine, Albert-Ludwigs-University, Freiburg, Germany; 3Norwegian School of Sports Science, Oslo, Norway; 1University of Freiburg, Department of Psychology, Freiburg, Germany

Background Injury profiles during Paralympic Games have been extensively studied, whereas longitudinal monitoring data of para-athletes are still sparse.

Objective Implementation of an injury and illness surveillance system in high-level Paralympic athletes.

Design Longitudinal monitoring of injuries and illnesses within the German National Paralympic Team.

Setting In preparation for the Paralympic Games in Rio de Janeiro 2016, all German elite athletes (n=178) were invited to take part in the weekly monitoring program using the Oslo Sports Trauma Research Center Questionnaire. The prevalence data on injury and illness were extracted and analysed with regard to age, sex, impairment, sport and training volume. Acceptance of the program was evaluated at the end.

Patients (or Participants) 58 athletes comprised the final cohort (32 male, 26 female; main sports: paracycling (n=18), wheelchair basketball (n=12), swimming (n=8). Main disabilities: SCI (n=19), limb pathologies (n=15), neurological impairments (n=17).

Interventions (or Assessment of Risk Factors) Prospective cohort study.

Main Outcome Measurements Weekly prevalence of injuries and illnesses, injury rate per 1000 athlete-days.

Results With a weekly response rate of 92.4 ± 8.5%, 10.927 interventions (or Assessment of Risk Factors) were reported. This emphasizes the need to develop preventive strategies and optimize medical services for this heterogeneous athlete population.

Conclusions Paralympic athletes report a considerably high incidence of injuries and illnesses as well as pain and psychological complaints. This emphasizes the need to develop preventive strategies and optimize medical services for this heterogeneous athlete population.

078 INJURY RISK IN SCHOOL CHILDREN WITH PROBABLE DEVELOPMENTAL COORDINATION DISORDER OR ATTENTION DEFICIT HYPERACTIVITY DISORDER 2021

1Kyle McCallum, 1Benjamin Tan, 2Rebecca Marjoram, 2 Carly McKay, 1Patricia K Doyle-Baker, 3Tal Jarus, 4Deborah Dewey, 1Carolyn Emery. 1Faculty of Kinesiology, University of Calgary, Calgary, Canada; 2Department of Health, University of Bath, Bath, UK; 3Occupational Science and Occupational Therapy, University of British Columbia, Vancouver, Canada; 4Cumming School of Medicine, University of Calgary, Calgary, Canada

Background Sport and recreation-related (S&R) injury burden is high in adolescents (ages 13–19; incidence proportions (IP) ranging 29.4–40.2 injuries/100 students/year). There is a paucity of S&R injury data in children (<13 years). Individuals with Developmental Coordination Disorder (DCD) and/or Attention Deficit Hyperactivity Disorder (ADHD) may have a higher risk of injury; however, the focus has not been S&R injury or children in these studies.

Objective To examine S&R injury risk in school children, comparing typically developing children to those screening positive for probable (p) DCD and/or ADHD.

Design Cross-sectional study.

Setting Elementary schools in Calgary, Canada.

Patients (or Participants) In total, 681 students (grades 4–6; ages 8–13) from 33 randomly selected schools were recruited.

Interventions (or Assessment of Risk Factors) Children were screened for pDCD and/or pADHD through the DCDQ questionnaire (DCDQ’07) and the Vanderbilt ADHD Rating Scale (VADPRS), respectively.

Main Outcome Measurements S&R participation and one-year injury history (medical attention and time loss) were child/parent/guardian reported on a survey.

Results The overall S&R IP was 28.2 injuries/100 participations (95% CI: 24.8–31.6). The injury rate (IR) was 2.43 injuries/1000-participation hours (95% CI: 2.06–2.85), with no significant differences between typically developing children and those screening positive for pDCD and/or pADHD. The IR for typically developing children was 2.2 injuries/1000-hours (95% CI: 1.79–2.68), 3.13 (95% CI: 2.21–4.42) for pDCD, 2.82 (95% CI: 1.29–5.34) for pADHD, and 2.93 (95% CI: 1.52–5.12) for children with pDCD and ADHD. Compared to typically developing children, children with pDCD [adjusted odds ratio (OR) = 1.08; 95% CI: 0.64–1.84], pADHD (OR = 1.14; 95% CI: 0.53–2.45), and pDCD/pADHD (OR = 1.24; 95% CI: 0.58–2.65) were at no greater risk for S&R injuries.