Abstracts

Monday 28th June, 13.00-14.30

<https://stmarys.zoom.us/j/83009410787?pwd=d1hVSXFQNDlSRm9VTWJrczVBVmpsUT09>

**Theme 1: Female Athletes and Exercisers (Session Chair: Jamie North)**

**Talk 1: Emily Bowring:** The effect of the menstrual cycle and hormonal contraceptives on training volume, intensity and adherence in endurance runners

**Talk 2: Kat Kryger:**Research on women’s football: A scoping review

**Talk 3: Britta Maria Sorensen:** A case study approach for monitoring the real-time race pain and coping experiences of the female ultra-athlete

**Talk 4: Luke Woodhouse:**Physical performance and physical match characteristics of International female rugbyplayers

Title: The effect of the menstrual cycle and hormonal contraceptives on training volume, intensity and adherence in endurance runners

Presenter: Emily Bowring

Female participation within all sporting modalities has significantly increased over the past two decades, however there is still a dearth of knowledge within female specific research.  Practical application of the research, aimed at improving training programmes and performance in female athletes is therefore often based on male dominant research (Bruinvels et al., 2016).

Eumenorrheic women experience cyclical and fairly predictable hormonal fluctuations of oestrogen and progesterone across their menstrual cycle (MC), allowing for identification of three distinct phases – early follicular, late follicular and mid luteal. Evidence suggests these hormonal fluctuations can cause a multitude of effects across different psychophysiological systems potentially affecting performance and training (Hackney, Kallman, & Aggon, 2019).

Eumenorrheic MC’s vary in length between 22-35 days, and both inter and intra-individual differences in length and symptoms are evident. When conducting research on female athletes, in addition to considering the inter/intra-individual differences, research must also consider the increased prevalence of MC dysfunction (Nazem & Ackerman, 2012), and hormonal contraceptive use.

To date there is no research available on how these aforementioned psychophysiological factors affect training in a ‘real world’ setting. Therefore, the aim of the study is to investigate the effects of the MC on training load, adherence and volume within endurance runners.

Endurance runners of all abilities will be included (minimum criteria of two training runs per week), with all training sessions self-determined by the individual participant. Additionally, participants on any (or no) form of hormonal contraceptive and with any history of MC dysfunction will be included in the study and allocated into research groups accordingly.

Participants will complete a questionnaire to gain an understanding of how they currently perceive their MC to influence training and performance. This questionnaire will then be compared to 16 weeks of training and menstrual cycle data collected through two smart phone applications.

Title: Research on women’s football: a scoping review

Presenter: Kat Kryger

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Aim: This study aims to scope available peer-reviewed literature published in a FIFA language to understand the current quantity of research on women’s football.

Methods: Five databases were searched (PubMed, PsycINFO, Web of Science, Scopus, SPORTDiscus) on the 15/12/2019. Studies were included when containing original research published in a peer-reviewed journal around female competitive football of any level, any age and on any subject. Author, journal, title and abstract of all included studies were scoped. Population assessed, number of participants, level of play, age level of football and publication theme(s) were extracted.

Results: A total of 1,634 articles were screened. The oldest publication dated back to 1939, whilst a total of 202 studies were gathered from 2019. The publication theme most frequently researched was sports medicine (N=521) followed by strength and conditioning (N=331) and sociology (N=299). The majority of studies focused on elite (N=442), senior (N=977) players.

Conclusion: A continuous growth in research attention has been seen. However, the numbers are not comparable to current research output levels in men’s football. This study represents an essential first step in a larger ‘research agenda setting’ project to determine research priorities for women’s football during the next ten years.

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Title: A case study approach for monitoring the real-time race pain and coping experiences of the female ultra-athlete

Presenter: Britta Maria Sorensen

An athlete’s pain or discomfort tolerance levels can by influenced by various biopsychosocial factors. There is a lack of research into the female ultra-athlete and their pain experiences and management within a naturalistic race/event setting. Therefore, the aim of this study is to use a single-case study approach that combines different methods to capture naturalistic data before, during and after two different ultra-events. The principal researcher will provide to support to the athletes and collect data at agreed checkpoints during the event in order to examine the pain experiences and coping strategies of two female athletes.

Title: Physical performance and physical match characteristics of International female rugby players.

Presenter: Luke Woodhouse

Previous research projects studies within this project have investigated the longitudinal changes in physical performance characteristics and physical match characteristics by position and opposition strength, among elite level female rugby union players. We have shown that considerable changes have occurred over a five-season period in both the physical performance characteristics of elite level players, and the physical match characteristics observed during competition. Players have become progressively stronger, heavier and more muscular, with greater absolute power and acceleration momentum over this period. The relative speed of movement within matches has not changed, except during a world cup season, suggesting a peaking effect for total running outputs which appears to be accounted for by repeated sprint efforts among outside backs, and greater demand when playing higher quality opposition. Subsequently, sprint outputs have declined but high intensity accelerating and decelerating demands have increased, which may be an outcome of the changing physical profile of elite-level players, improvement in the quality of opposition and differences in tactical approaches among the sampled cohort. The subsequent research has investigated how these match physical characteristics and physical performance characteristics influence key performance indicators in matches, which provides further understanding around the specific underpinning characteristics of elite level female rugby union, and how these differ from elite-level male rugby union.