



International Women's Day

Tuesday 8 March

#BreakTheBias





University of the
Highlands and Islands
Oilthigh na Gàidhealtachd
agus nan Eilean

How the menstrual cycle and menstruation affect sporting performance: experiences and perceptions of elite female rugby players

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Background



- Experiences
 - *Female athlete*
 - *Female athlete practitioner*
- Publications:
 - *Female athlete triad/RED-S*
 - *HMB*
 - *Reporting of issues*
 - *Lack of research*

Consensus statement

The IOC consensus statement: beyond the Female Athlete Triad—
Relative Energy Deficiency in Sport (RED-S) FREE

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The Prevalence and Impact of Heavy Menstrual Bleeding (Menorrhagia) in Elite and Non-Elite Athletes

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Sport, exercise and the menstrual cycle: where is the research?

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Objectives & methods



- International female rugby players
- Semi-structured interviews
 - *Menstrual cycle related medical records*
 - *Past and current menstrual cycle status*
 - *Symptoms*
 - *Impact on daily life sporting performance*
- Thematic analysis

Original research

Table 1 Topic areas and key content covered in athlete interviews with example questions

Topic area	Content	Example questions
Related medical records	Point of contact (if any) for gynaecological issues, check-up/investigation history, check-up regularity, iron status and supplementation.	<i>Do you have a family practitioner, gynaecologist or someone else you can speak to about menstrual cycle-related issues? Who would be your preference?</i>
Hormonal contraceptive history	Current hormonal contraceptive used (if any), contraceptive type/name, duration of use, reason for use, side effects experienced, previous contraceptive history (contraceptive type/name, duration of use, reason for change).	<i>Are you currently using any hormonal contraceptive, and if so why did you start on this?</i>
Menstrual cycle status	Age at menarche, initial regularity of cycle, cycle irregularity (previous or current), current frequency of cycle*, current menses duration, menstrual bleeding heaviness. *If infrequent: family history (age of menarche and historical cycle regularity, current regularity, frequency and duration of mother's menstrual cycle) and training history (training development—type, frequency, duration and intensity) if menstrual cycle disturbance suspected.	<i>Have you ever had an irregular cycle? <small>Background</small> an you think of any reason that may have led to this?</i>
Sanitary protection	Sanitary protection type, changes of sanitary protection, double sanitary protection required, prone to blood clots, prone to flooding, impact on daily life, training or competition.	<i>Do you or have you ever had to use double sanitary protection, for example, a towel and a tampon at the same time?</i>
Symptoms and discomforts	Symptoms type (physical and psychological), duration of symptoms, medication used and effectiveness, symptoms during ovulation, impact of symptoms on performance, record keeping of hormonal changes and performance impacts.	<i>Do you feel that your symptoms have an impact on any aspect of your daily life, training or competition performance? If so, how?</i>



Descriptive data

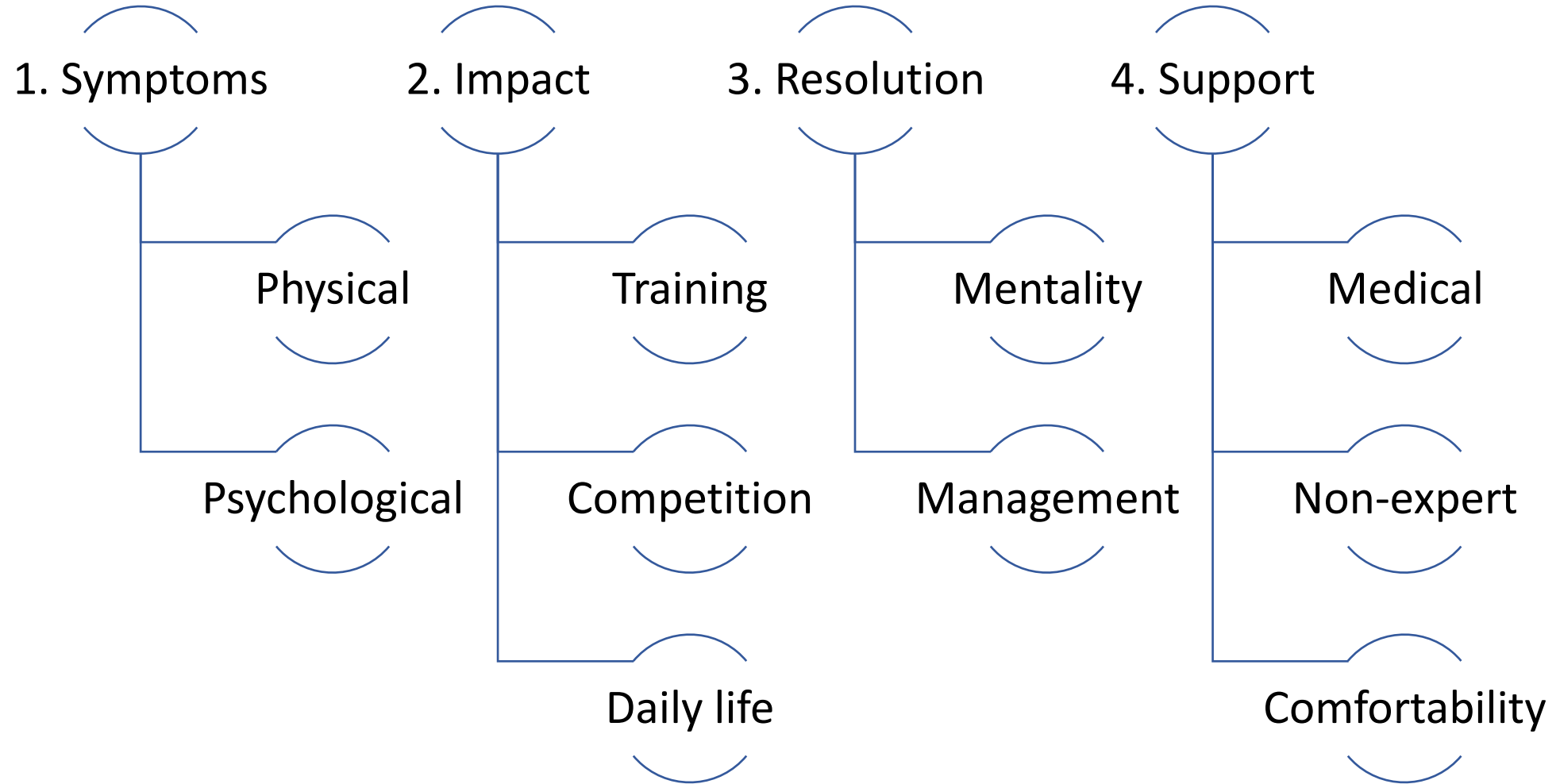
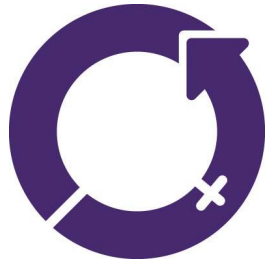
- 93% reported negative symptoms (physical or psychological)
- 27% using HC
- 33% perceiving HMB
- 40% experience flooding

Table 2 Participant menstrual cycle status characteristics (n=15)

Menstrual cycle history	
Mean age at menarche (years)	14±1 (range: 12–17)
Cycle regular at menarche	8 athletes
Previously noted irregular cycle	7 athletes
Mean frequency of menses (days)	28±5 (range: 18–35)
Mean duration of menses (days)	5±1 (range: 3–7)
Heavy menstrual bleeding*	5 athletes
Hormonal contraceptive history	
Currently using hormonal contraceptive	4 athletes
Type of contraceptive used	Oral=2, implant=2
Previously used hormonal contraceptive	10 athletes
Sanitary protection	
Sanitary preference	Towel=2, tampon=5, both=8
Sanitary absorbency	Regular=10, super=7, super plus=3
Mean number of changes per day	4±2 (range: 2–8)
Double sanitary protection (towel and tampon)	5 athletes
Blood clots	3 athletes
Flooding	6 athletes
Symptoms	
Perceived negative impact on health, life or performance	6 athletes
Self-medication (eg, paracetamol)	10 athletes
Prescribed medication	3 athletes
Symptoms mid-cycle	1 athlete
Perceived negative impact on health, life or performance	10 athletes
Recording of symptoms throughout menstrual cycle	3 athletes

*Heavy menstrual bleeding was based on athletes' perception and was not directly measured. Where mean data are presented, data expressed as mean±SD (range).

Qualitative findings





1. Symptoms

Physical

- Cramps/pain
- Energy levels
- Flooding
- Discomfort

'Really bad cramps, kind of [in] the worst times I'll be doubled over and be retching'

'Slight cramps, but ... they only last about an hour and they're bearable'

Psychological

- Worry
- Distraction
- Negative mood
- Tearful/emotional
- Low motivation
- Agitated

'I'm definitely worried about being caught without [ibuprofen] because the pain is quite bad'

'Yes I'd say a bit of a distraction from training, just in the sense of fear from flooding through'

2. Impact



Over 2/3 perceived negative impact on training

Over ½ perceived negative impact on competition

Most prevalent symptoms caused greatest impact e.g. pain/cramps

Low number missed training

Psychological impact varied between daily life, training and competition

‘When I have a bad period (once every couple of months or so) it can stop me from completing a high intensity session (Intervals etc.), and other sessions will not be as productive (sometimes, [although] rarely, not completed at all) due to cramping and pain’

‘I think psychologically it takes my mind off of what I’m supposed to be thinking about, it’s kind of distracting’

‘My period sometimes make me feel tired before a session, but [I] generally don’t have any noticeable effects during or after the session’

But when I’m in a situation where I feel like I have to be performing, well then I, obviously I’d much rather not be on my period, but do you know then I think it affects me’



3. Resolution

Mentality
<ul style="list-style-type: none">• Accept• Adapt

Management
<ul style="list-style-type: none">• Self treatment<ul style="list-style-type: none">➤ Exercise➤ Over-the-counter medication• Expert treatment<ul style="list-style-type: none">➤ HC

'I got [my menses] one day in camp and felt awful but we were training all day—I just kinda [sort of] had to get on with it'

'I have to just be quite on top of [my symptoms], I think, if I'm training or competing'

'If I'm on my period, if my tummy is crampy and sore, sometimes if I go into exercise that can make it a bit better'

'I try to make sure that I've like timed the pill so that I've, either if you have to take another packet, to make sure it's [menses is] not there'



4. Support

Medical
<ul style="list-style-type: none">• GP• Gynaecologist• Sports Doctor• Preference

Non-expert
<ul style="list-style-type: none">• Family/friends• Coaches<ul style="list-style-type: none">➤ Awkward➤ Embarrassed➤ Gender➤ Ability to help

Comfortability
<ul style="list-style-type: none">• No confidant• Reluctance<ul style="list-style-type: none">➤ Gender➤ Personality• Uncertainty• Impartial

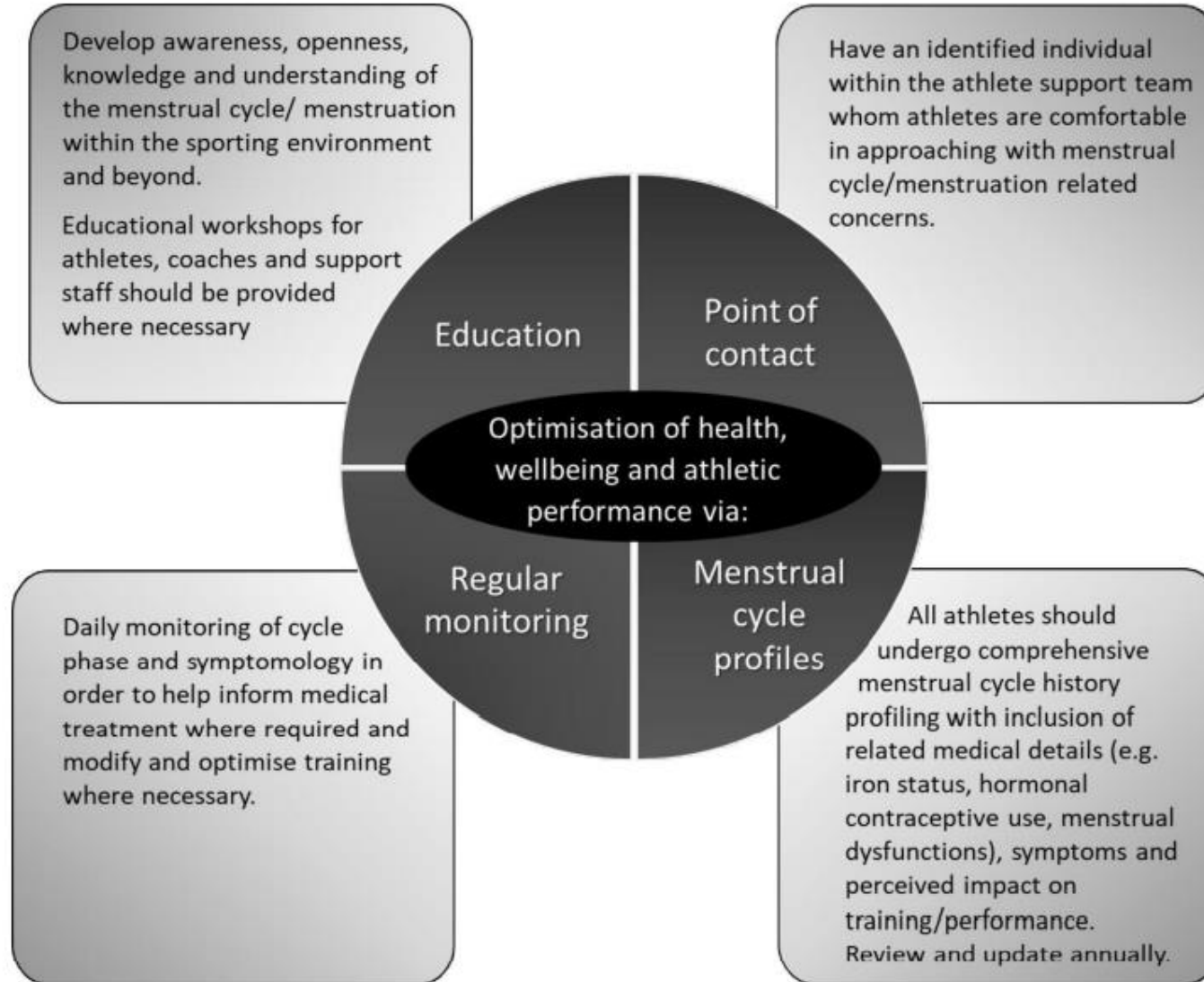
'I think it's [be] 'cause you don't have to see your GP regularly, I think there's probably still a stigma about it all, and you only have to see your GP when you want to really, but you're always around everyone else'

All the coaches I've had in rugby are male, and I don't know, I'd just feel uncomfortable'

'I'm just quite a quiet person, and quite a private person'

'I don't really care who I talk to, if he's a Doctor he's a Doctor'

Recommendations





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