

The impact of the menstrual cycle – understanding athlete and coaches' perspectives in Scottish Swimming.

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Forthcoming publication in the journal *Sport in Society: Cultures, Commerce, Media and Politics*.

Abstract

Menstrual health has historically been a taboo subject, limited to girls briefly learning about it in school. It has subsequently been ignored within sporting realms, as a contributing performance factor and topic of discussion within coaching badges. This is an exploratory study, using a general feminist lens to understand coaches' current awareness of menstrual health, the current levels of stigma, the coach-athlete dialogue around the menstrual cycle and how menstrual health could be incorporated into coach learning. Semi-structured interviews were undertaken with 13 coaches and 6 athletes. The results revealed a large spectrum of knowledge, most with a limited knowledge of the physiological process of the menstrual cycle. The results revealed that there was a need and desire from both coaches and athletes for menstrual health education. While most of the coaches felt they would be comfortable discussing menstrual health, they were not confident in their knowledge and would not be able to provide their athletes with practical advice. Athletes indicated an openness at speaking about the menstrual cycle as they got older, but felt coaches should be responsible for opening the dialogue. Overall, the findings indicate that the menstrual cycle should be incorporated into coach education as well as educating athletes and parents, specifically of younger athletes. Providing education may help coaches to feel able to openly discuss and assist their athletes, supporting their overall physical and psychological wellbeing.

Key words: Athlete, coach, coach education, menstrual cycle, menstruation, sport, stigma, swimming, taboo.

This article is from the MSc thesis in Sport Management by Molly Hyde. Supervised by Dr Sarah Zipp and in collaboration with Scottish Swimming.

1. Introduction

Menstrual health has historically been a taboo subject, shrouded by myths and rarely spoken about due to feelings of shame and embarrassment. Academic research into menstrual health has been conducted since the 1970s (Stubbs, 2008), and more generally there has been a rise in the social awareness on period poverty and its impact on female social participation. In 2018 Scotland became the first country to make menstrual products freely available in schools, colleges and universities (Wamsley, 2020). Whilst this tackles the practicalities of menstruation, there is still a stigma around menstrual health discussion. There is currently a lack of research exploring the menstrual cycle and sport. While there is a growth in scientific studies (Bruinvels *et al.*, 2016a; 2016b) there is a lack of qualitative research. There have been ground-breaking programmes involving elite athletes tailoring their training to their menstrual cycle (Rowan, 2020). However, little is known about the experiences and support available for coaches and younger and non-elite athletes. This research, therefore, aims at contributing to this, exploring both coaches' and athletes' experiences.

Definitions

This paper recognises **gender** as non-binary (de Soysa & Zipp, 2019) and the difference between biological **sex** and **gender**. However, due to the sporting world's use of gender as a binary term (de Haan & Knoppers, 2020), the study uses the terms **female**, **male** and **gender** to refer to the biological characteristics that determine if an individual is male or female. In this study, a **coach** is someone who partakes in coaching, instruction, training or tuition of sport at any level (Thompson & McIlroy, 2017). An **athlete** is thus "a person who is very good at sports... especially one who competes in organized events" (Cambridge Dictionary, 2020) and specific to this study, are females who compete in swimming.

2. Literature Review

2.2 Women in Sport

Sport has historically excluded and marginalised women. Theberge (1981, cited in Delaney & Madigan, 2015, pg 42) critiqued sport as being inherently sexist, understanding women in sport has consequently been largely understood using a feminist framework (Costa &

Guthrie, 1994; Hargreaves, 2000; Hargreaves, 1994; Parratt, 1994). There has been notable progress made in giving “girls and women their rightful place in the world of sport and physical activity” (de Soysa & Zipp, 2019, pg 1785). However, because sport has been dominated by male discourse, women’s sport is often marginalised (Scruton *et al.*, 1999). With the growing number of studies there have been some key areas of focus emerge; gender (de Haan & Knoppers, 2020; Hall, 1996; LaVoi & Dutove, 2012; Shaw, 2007), the body (Cox and Thompson, 2000), stereotypes (Griffin, 2014; Russell, 2017) and power (Aitchison, 2007; Caudwell *et al.*, 2018; Jones & Aitchison, 2007; Welford, 2008)

Gender is a main category used to organise the social world (Juscheka, 2016) and has been central when researching females in sport. The United Nations Education, Scientific and Cultural Organization (UNESCO), refers to gender equality as “the equal rights, responsibilities and opportunities of women and men and girls and boys... it recognises the diversity of the different groups... it is a human rights principle...” (2014, pg 12). Sport is consequently also seen as a human right, however, as de Soya and Zipp stress, it relies on the “binary gender model” (2019, pg 1786). Research has also addressed the damaging lesbian stereotype (Griffin, 2014; Huntoon, 2009; Russell, 2017), which has been used to marginalise and stigmatise females’ in sport (Griffin, 2014).

Feminist scholars have drawn on Foucault’s theories of self-surveillance and power discourse, critiquing sport as something that constrains the female body (Caudwell *et al.* 2018). Studies have suggested that female athletes accept power discourses and conform to acceptable sporting behaviours (Johns & Johns, 2000). However, others have argued that for women, sport can be empowering and transformative, with women recognising themselves as individuals with agency (Jones & Aitchison, 2007).

Despite a huge advancement in gender equality, women’s rights are becoming increasingly threatened, (de Soya & Zipp, 2019; Kaufman & Esquivel, 2015). Phumzile Mlambo-Ngcuka (2019), the United Nations Under-Secretary-General, argues that this could risk women’s rights to physical activity and sport, with the sporting world reflecting many broader societal issues.

2.3 Coaching and Coach Learning

The depth and quality of academic study of sports coaching have significantly increased. Several studies outline the current literature and seek to bind the slightly fragmented field of study together (Cushion *et al.*, 2010; Lyle & Cushion, 2016). There is a range of research exploring coach education and coach learning (Jones & Turner, 2006; Lyle & Cushion, 2016; Mallett *et al.*, 2009; Morgan *et al.*, 2013; Nelson *et al.*, 2006; Piggott, 2012). There have also been several studies that focus on female coaches and gender discourse (de Haan & Knoppers, 2019; Kerr & Marshall, 2007; Norman, 2010; Reade *et al.*, 2009) as well as the coach-athlete relationship (de Haan & Norman, 2018; de Haan & Sotiriadou, 2019; de Haan & Sotiriadou, 2016).

Piggott (2012) identifies coach education as a subset of the broader process of coach learning, which encompasses a multitude of learning experiences (Cushion *et al.*, 2010; Mallett *et al.*, 2009). Coach learning can subsequently be conceptualised as formal, informal, and non-formal (Cushion *et al.*, 2010; Mallett *et al.*, 2009; Nelson *et al.*, 2006). While formal coach education can provide recognition of achievement and quality assurance (Lyle & Cushion, 2016; Mallett *et al.*, 2006;) coaches often learn the idiosyncrasies of coaching from personal experiences (Stodter & Cushion 2014). Coaches consequently reproduce learnt discourses about power and gender relations (de Haan & Knoppers, 2019).

In the UK approximately 46% of coaches are females compared to 54% of males (Thompson & McIlroy, 2017). However, women are more likely to hold lower-level coaching positions (Reade *et al.*, 2009), meaning elite female athletes often have a male coach (de Haan & Sotiriadou, 2019). de Haan and Sotiriadou, (2019) found that male coaches would or would not discuss menstrual health with their athletes depending on the countries cultural attitudes toward the menstrual cycle. Armour *et al.*, (2020) argues that there is a critical need for coaches to receive evidence-based education on the menstrual cycle, as it is something that very few athletes currently discuss with their coaches (Armour *et al.*, 2020).

Reade *et al.*, (2009) found that high-performance female coaches were consistently more qualified than males, and suggested that “without very high credentials, they [females]

cannot achieve high-performance positions” (pg 516). Although it uncovers an inequality, it fails to explain it, as it uses quantitative methods. Norman (2010) used qualitative methods to understand the experiences of elite female coaches. The women in her study felt that there were structural barriers in place, including fewer coaching and developmental opportunities for them. She argued that women are less likely to continue with coaching due to the ideological constructions of sport as a masculine domain (*ibid*). One of the largest barriers identified by researchers is discrimination (Abney & Richey, 1991; Reade *et al.*, 2009), with women feeling “undervalued and underrated” (Norman, 2010, pg 94). There still needs to be more research exploring female coaches experiences, specifically looking at community level coaches as this is where women are predominantly more active.

2.4 The Menstrual Cycle

Scientific research has historically viewed men as adequate proxies for women, failing to consider the effects of the menstrual cycle (Bruinvels *et al.*, 2016b). Physiologists and scientists have, however, made progress in exploring the link between exercise and the menstrual cycle (Bruinvels *et al.*, 2016b; de Souza *et al.*, 1994; Julian *et al.*, 2017; Madhusmita, 2014; Romero-Moraleda *et al.*, 2019; Witkos & Wrobel, 2019). There is also growing literature exploring experiences of the menstrual cycle (Burrows & Johnson, 2005; Fahs, 2020; Jackson, 2018; Newton, 2016; Tingle & Vora, 2018) and of menstrual health education (Diorio & Munro, 2000). There are several detailed studies exploring females’ experience of menstruation (Chrisler, 2011; Fingerson, 2006; Burrows & Johnson, 2005; Prendergast, 1995). More recently there has been an increase in qualitative studies exploring elite athletes experiences of the menstrual cycle (Armour *et al.*, 2020; Brown *et al.*, 2020; Findlay *et al.*, 2020).

Menstrual health is a key way of assessing a females’ overall health. Amenorrhea can be a key sign of inadequate nutrition or overtraining (Madhusmita, 2014; Witkos & Piotre, 2019). Heavy menstrual bleeding (HMB) can also be problematic for females who have ‘normal’ menstrual cycles, affecting a quarter of menstruating females (Bruinvels, *et al.*, 2016a). Despite this, only a minority of women seek medical help, highlighting a lack of awareness (Bruinvels, *et al.*, 2016b). De Souza *et al.* (1994) argued that coaches have a responsibility for their athletes’ performance without compromising their athletes’ health, and menstrual

health is part of this (pg 204). However, there is no evidence of it being covered within formal coach education.

Historically, menstruation is seen as unsanitary and disgusting (Johnston-Robeldo & Chrisler, 2013) and females' experiences of menstruation are predominantly negative (Jackson, 2018; McPherson & Korfine, 2004), with stigma being a contributing factor (Chrisler 2011; Lee & Sasser-Coen 1996). Although studies suggest that asking about positive experiences elicits respondents to think about menstruation positively (Aubeeluck & Maguire, 2002). Fahs (2020) found this not to be the case.

Research suggests that 41.7% of women who exercise believe that their menstrual cycle has a negative impact on exercise (Briunvels, 2018; Briunvels *et al.*, 2016b), however, qualitative studies have only briefly addressed this. The most common symptom is cramping, but there are other physical and psychological symptoms including, pain, headaches, worry, distraction and reduced motivation (Findlay *et al.*, 2020). As women may avoid situations where their menstruating bodies would be exposed due to fear of embarrassment (Oxley, 1998) female athletes reduce or avoid sporting activities during menstruation itself (Armour *et al.*, 2019). Fear of leaking is the largest reason for this (Tingle and Vora, 2018).

Education on the menstrual cycle mainly occurs at school (Tingle & Vora, 2018). Newton (2016) found that puberty was presented as a 'sensitive subject' and a hygiene crisis (Lee, 2009), socialising girls to believe these damaging ideologies. Menstrual health is also taught as part of sex education (Diorio & Munro, 2000), which remains deeply gender biased (Burrows & Johnson, 2005). Tingle and Vora (2018) revealed that not only did girls experience shame and embarrassment, one in four girls in the UK felt that they were "unprepared" for menarche (pg 15). They highlighted the importance of female relatives as sources of informal education which supports Kissling's (2006) claim that mothers are one of the primary sources of information for young girls. However, there have been few studies exploring other sources of education.

In the UK there have been movements in sport to educate coaches and elite athletes about their menstrual cycle and how to accommodate this in their training schedules. These

include the English Institute of Sports (EIS) SmartHER campaign, led by Emma Ross (Jamieson, 2019) and Dr Georgie Bruinvels, development of the free app FitrWoman. The SmartHER campaign ran several workshops, discussing the health and wellbeing of female athletes, including the menstrual cycle (*ibid*). The FitrWoman app is a menstrual cycle tracker designed to be used by athletes, with an option for it to be linked to a coaches version enabling them to track their athletes' cycle and tailor their training accordingly (Bruinvels, 2018). Despite these huge advancements, there is an obvious focus on elite athletes. There is a clear research gap in the ways this knowledge and education can be applied to younger and non-elite athletes.

3. Research Aims

There is currently no research exploring the menstrual cycle in sport that focuses on the coaches' perspective. As well as limited qualitative research understanding female athletes experiences. The research will therefore be exploratory. The purpose of this study is:

1. To understand the current level of knowledge of coaches and athletes, looking at aspects such as; general knowledge on the menstrual cycle, coping with symptoms and side effects, shame/ taboo and participation through menstruation.
2. Understand how the menstrual cycle is viewed by coaches and athletes pertaining to training and performance.
3. To understand the coach-athlete dynamic relating to the communication of the menstrual cycle.
4. To ascertain the coaches and athletes perceptions of including menstrual health in coach/athlete education.

4. Theoretical Framework

This study sets out important questions regarding current knowledge levels and how menstruation is understood and communicated within a sporting environment. This research will take a critical approach and will be informed by a general feminist perspective, it may also draw on social constructivist and gender theories which will provide guidelines for interpreting the results of the study. Feminists are a very heterogeneous group, there is a consensus that research should not only expose inequality through theoretical

development but also evoke actions to reduce it (Costa & Guthrie, 1994; Sprague, 2016). Feminist theories are grounded in an epistemological and ontological vision that focuses on patriarchal power structures (Atkinson, 2017). The research will also draw on post-structuralist feminists, who have explored the connections between power and discourse, language, gendered subjectivity and social organisation (Prasad, 2005). The research, therefore, recognises that participants' beliefs and understanding of menstruation operates within larger social and cultural discourses of gender and power relations.

4. Methodology

4.1 Research Approach

The methods must reflect the ontological and epistemological position of feminists theory, as well as the research aims, enabling the research to understand lived experiences and uncover inequalities. Quantitative research is heavily criticised by feminists (Westmarland, 2001), as it has a history of ignoring and excluding women from research. My research will work from an ontological belief that focuses on social constructions, negotiation of meanings and lived experiences. I will, therefore, use qualitative methods, specifically semi-structured interviews and focus groups, which allow for open-ended questions whilst remaining focused (Galletta, 2013).

As the research is exploratory, focusing on a sensitive and complicated topic, qualitative methods will provide more in-depth and nuanced perspectives than quantitative. Semi-structured interviews permit an informal tone, which can put participants at ease and allow them to respond openly (Longhurst, 2016). Due to COVID-19, the interviews took place over Microsoft Teams. Like face-to-face interviews they allowed me to pick up on "nonverbal cues" (Shuy, 2003, pg 179). These provided almost the same experience as face-to-face interviews, however, as they are prone to technical quirks (Walliman, 2018) this was sometimes an added factor. Using an online platform also allowed me to reach participants who lived in more rural areas of Scotland and allowed participants to complete the interview in their own homes at a suitable time.

4.2 Recruitment

A combination of purposive, and snowball sampling was used to ensure a rich depth of data. Using purposive sampling helped to ensure a 'symbolic representation' of coaches and athletes (Ritchie & Lewis, 2003, pg 113). Having previously made links with Scottish Swimming, Suzie (who also participated in the study) shared the research information onto a coaching platform as well as directly with other coaches. Several athletes were then recruited through the coaches who were interviewed as well as through personal contacts. A sample size of 13 coaches and 6 swimmers was used, ensuring not to have too large a sample as it is 'impossible to do justice to the richness of the data yielded if the sample is large-scale' (Ritchie & Lewis, 2003, pg 114).

4.3 Participants

A total of seven female and six male coaches aged $26 \geq 57$ (Table 1) were interviewed. The coaches were a mixture of paid and voluntary coaches who worked from part-time to full time and who coached swimmers ranging from beginners to National level aged $8 \geq 25$. The criteria for the recruitment of swimming coaches was that they must currently, or have done in the past year, be coaching girls of menstruating age of around 8 and up, at club level or above and be over 18. The females were aged $18 \geq 22$, and biologically menstruating females, having had at least one menstrual period. They also identified as females and regularly swam, having competed at district level or above.

Table 1

Demographics of Athletes (a)

	n=6	%
Age		
18	2	33%
19	2	33%
20	1	17%
22	1	17%
Gender		
Female	6	100%
Years spent competing		
7-8y	1	17%
9-10y	2	33%
10 + y	3	50%
Hour of training per week		
5 - 9h	3	50%
20 - 24h	3	50%
Highest Competition Level		
National	2	33%
International	4	67%

Table 2

Demographics of Coaches (c)

	n=13	%
Age		
21-30	3	23%
31-40	3	23%
41-50	3	23%
51-60	4	31%
Gender		
Female	7	54%
Male	6	46%
Swam Competitively		
Yes	11	85%
No	2	15%
Years Coaching		
5 years or less	2	15%
6 - 10y	2	15%
11-15y	3	23%
16-20y	1	8%
21-25y	3	23%
26-30y	1	8%
30 years or longer	1	8%
Hours Coached per week		
1-4h	2	15%
10-14h	6	46%
20-24h	2	15%
25+h	3	23%
Paid or Voluntary		
Paid	9	69%
Voluntary	4	69%
Coaching Badge Acquired		
Teaching Level 1	1	8%
Coaching Level 2	3	23%
Coaching Level 3	9	69%

4.4 Procedure

The interview guide began with introductory questions, seeking to understand the demographic of the participants and allow them to become more comfortable in the discussion. Both interview guides (see Appendix A and B) included questions about the interviewee's knowledge around the menstrual cycle, their lived experiences of the menstrual cycle, the coach-athlete relationship, experiences discussing menstruation within the swimming environment and current coach/athlete education. There was also a question added about the coronavirus pandemic, as it felt important to include the current global situation within the research.

Before the interview, participants received a written explanation of the study with a consent form that was to be completed and returned. All the participants were given the opportunity to ask any questions before the interview. It was re-emphasised to them that there were no right or wrong answers and that they did not have to answer any questions they did not feel comfortable doing so. They were also reminded that they could end the interview at any point.

Following introductions and questions that participants had prior to the study, all interviews lasted between 28.5 and 58 minutes (mean = 39 minutes), providing rich and meaningful data. There was a total of 12 hours, 55 minutes and 23 seconds of interviews recorded, which were subsequently transcribed and coded.

4.5 Data Analysis

The interview recordings were transcribed using the Microsoft Team's function and edited in verbatim as there were numerous errors in the digitally created transcripts. The data was then organised using qualitative data analysis procedures recommended by Miles *et al.*, (2014), using two major coding stages: first and second cycle coding. Both in Vivo and descriptive codes were used, which helped to point to themes and patterns within the raw data (*ibid*). An initial 134 primary codes from the coaches' interviews were formed with an additional 38 codes being generated from the athletes' interviews (See appendix C). There were 57 overlapping codes from both sets of transcripts. Subsequently, these codes were clustered using pattern coding. This helped create more meaningful units of analyses (*ibid*).

4.6 Limitations

Due to the methods used, there are limitations that are worth noting. Firstly, due to the recruitment process, there may have been a potential bias within the sample with coaches who feel more comfortable or strongly about the subject opting to participate. Secondly, due to ethical considerations, there were no athletes recruited who were under 18. Instead, athletes discussed past experiences meaning current under 18 athletes may have different experiences. Lastly, due to the use of Microsoft Teams, there was one interview that had several inaudible recorded answers.

5. Results

5.1 Knowledge and Experience

5.1.1. Knowledge of the menstrual cycle

There was a large spectrum of knowledge around the menstrual cycle amongst coaches and athletes. Most of the coaches discussed what they knew about the menstrual cycle, referencing side effects and how it affects their athletes, rather than the physiological process. This was similar for the athletes, who focused on their personal experiences.

Most of the coaches referenced the cycle as a *“twenty-eight-day process”* (Harry) and four coaches, two female and two male, made specific reference to the different phases and hormones present in the cycle, using the terms ‘luteal’ and ‘follicular’. However, only two of the athletes referenced the *“cycle”*, claiming they understood the basics such as *“your hormones change”* (Olivia). One of the most common aspects of the menstrual cycle that was brought up by coaches and athletes was that they were aware that *“girls all are affected differently”* (Eleanor, a).

Other than reducing training *“intensity”*, there was limited knowledge for what could be done to assist athletes who were negatively affected by their menstrual cycle. There was also a clear lack of knowledge about the impact that the menstrual cycle has on training and vice versa, other than some awareness of amenorrhea. The main focus was on the symptoms, side effects and experiences of athletes.

5.1.2. Experiences and side effects

A total of 29 codes relating to athletes experiences of the menstrual cycle were uncovered from the interviews. They were categorised into three themes; physical, psychological and social (see Table 3).

The most commonly mentioned physical codes (n=19) were fatigue (63%) and cramps (63%), psychological was mood changes (53%) and social was embarrassment (73%), closely followed by missing training/competitions (68%). Despite there being an overwhelming emphasis on the negative effects of the menstrual cycle. Of the 19 codes mentioned, there were three positive; strength, better performance and self-discipline.

When athletes were asked about positive effects, there were long pauses with most of them opting to pass the question. However, Charlotte (a), who initially passed the question, later said:

“I think a positive of it is it does kind of discipline girls as well. It gets them maybe thinking as well, more about, what they’re, taking care of themselves almost. Gives them a bit of a routine and discipline”.

A number of coaches found some athletes would regularly miss training, or leave the pool during training sessions when menstruating. However, this varied amongst clubs. Sarah (c) argued that there was *“only one girl”* who would miss training. For other clubs, it was a lot more common, with several coaches recognising parents as part of this problem. Ann (c) recognised that it can become *“self-perpetuating”* as *“parents will talk to other parents to find out what’s going on and it becomes a socially accepted norm”*. Izzy (a) argued that a consequence of athletes missing training was that they were not *“able to progress at the same rate as everyone”*.

5.1.3. Sources of menstrual health knowledge

There was a wide range of sources of knowledge (Table 3) including; school, personal experiences, speaking to relatives and speaking to a doctor. Notably missing from the sources of knowledge is coach education on the menstrual cycle.

The most common for all coaches was school education (69%). However, 100% of the female coaches referenced their own personal experience as a knowledge source. Hayley argued that she had learnt more from her own experience *“because it’s actually happened to you”*. The female coaches who referenced ‘anaemia’ and ‘iron levels’, had either experienced it or knew someone who had, meaning they knew what to look for.

All of the athletes had spoken to their sister/mum or both about the menstrual cycle. They had also all learnt about it in primary or secondary education as well as through their personal experience. Three athletes also sought out information, conducting their own research with two of them using the Fitr Woman App as a knowledge resource.

Table 3
Sources of knowledge around the menstrual cycle

	Coaches(n=13)	%	Athletes (n=6)	%
School	9	69%	6	100%
Further Education	4	31%	0	0%
Personal Experience	7	54%	6	100%
Over time (Life Experience)	3	23%	2	33%
Own Research	4	31%	3	50%
Speaking to friends	2	15%	2	33%
Speaking to Relatives	2	15%	6	100%
Speaking to Other Coaches	3	23%	NA	NA
Speaking to Athletes	1	8%	NA	NA
CPD/ Speaking to Doctor	4	31%	2	33%

5.1.4. Do coaches and athletes know enough?

There was a consensus amongst athletes and coaches that coaches were not knowledgeable enough on the menstrual cycle and ways to support their athletes. Athletes also felt they should also know more.

While some coaches felt confident discussing the menstrual cycle with their athletes, just over half expressed feeling comfortable but not confident. Some felt they could support their athletes emotionally but would be unable to give them any advice, or worried they would give wrong advice. Harry (c) stated: *“currently I'd be happy to try and help them and as I say, it's just that like I said, that the confidence around what I'm telling them is there”*.

The athletes argued that coaches did not know enough, and agreed that there *“was a lack of support”* (Charlotte) from coaches. However, it was suggested that it was not the fault of the coaches, as they had not been given sufficient education. Izzy argued:

“I think coaches probably don't know enough about it and how it will affect swimmers. But yer, you can't really expect them too if they haven't looked into it or kind of been taught it.”

Most of the athletes felt that they did not know enough about the physiological aspects of the menstrual cycle but felt that as they got older they had learnt coping mechanisms.

5.2 Stigma, Leaking and Embarrassment

5.2.1. Still Taboo?

Coaches and athletes suggested that knowledge levels and perceptions around the menstrual cycle are 'getting better' but that there is still stigma attached, especially around

coach-athlete discussions. Euphemisms were also used as a way of avoiding direct conversations more specifically about menstruation.

George (c) argued: *"it's societal, we're a much more open society now than we were when I first started [coaching]"*. However, a number of coaches claimed there is still limited discussions happening. Emma (c) described menstruation as something that is *"quite a secretive thing"* and Hayley (c) felt menstrual health was *"steered away from"* in coach education.

Most of the athletes felt that *"there's quite a stigma around"* the menstrual cycle, where *"people don't generally want to talk about it"* (Jess). This meant athletes, especially when they were younger, felt it was not okay to discuss the subject. Charlotte argued that: *"we never spoke about anything like that, it was never heard of"*. Euphemisms were used as a way of avoiding direct conversations and were not only used by athletes, but also by parents when speaking to coaches. They may say that their child was missing training due to *"ladies issues or something like that"* (Jason, c).

5.2.2. Leaking

An athlete leaking onto the poolside was described as one of the most 'embarrassing' things that could happen by coaches and athletes, despite it being something that happens *"a few times a year"* (Sarah, c). A fear of leaking and others knowing they were on their period had a number of psychological effects on the athletes.

The fear of leaking caused athletes to feel scared, paranoid, self-conscious, lose confidence and become more cautious, all of which could negatively affect their performance. Izzy said that when she started her period she remembered thinking: *"Oh god, I can't get out to go to the toilet because people will know I'm on my period, like the embarrassment."*

This affected her mentally and she argued:

"you always have that fear like, what if I leak or what if I, you know what I mean, during swimming... I always feel like I can't maybe push myself as far as I would."

Despite the fear of leaking being discussed by almost all the athletes, only three coaches acknowledge this and the possible effect this had on training. Mel (c), recognised that a female athletes *“focus might not be actually on what they were supposed to be trying to achieve”* because they may be too concerned *“about leaking or showing”*.

5.3 Relationships and Conversation

5.3.1. The coach-athlete relationship

The coach-athlete relationship was emphasised as a hugely important part of sporting experiences. It also has an effect on the openness of menstrual health discussions.

The better the relationship, the more open communication tended to be. One of the coaches Doug stated that:

“from looking at and whose, who communicates better about it [the menstrual cycle], is probably because there is a slightly better relationship there”.

The athletes agreed, stating:

“I’d definitely say I had quite a good relationship with a couple of the coaches so I would be able to talk to them about most things”. (Olivia)

George argued that the coach-athlete connection is the “most important” aspect of coaching and that *“the best coach for you is the best coach for you, there’s no gender label attached to that”*. However, when discussing the menstrual cycle, the gender of the coach may be a contributing factor. Some of the athletes felt that the *“female coaches would understand more”* (Jess). Eleanor agreed that she may have felt more comfortable speaking to a female but argued that *“it depends on the coach”*, arguing that she would feel comfortable speaking to her current male coach.

5.3.2. The Parents

Research has not previously highlighted the impact of the parents around communicating menstrual health within the sporting environment.

Some coaches found parents would ask them to speak to their children about menstrual health, whereas other coaches questioned whether parents may think they “*were overstepping the mark*” (Mel, c) if they discussed menstrual health. The parents could therefore be a support or a barrier when trying to educate and open a dialogue.

When athletes were ‘younger’ there were instances when discussions happened between coaches and parents, excluding the athlete whom it concerned. This was mainly concerning athletes missing sessions, however, it was also about poorer performance. George (c) said that if an athlete was struggling he “*initially had conversations with that girl’s parents, or mum rather, about it*”.

Several coaches identified the importance of making sure they “*educate parents*” because it is not just the coaches and athletes “*in that relationship*” (Mary). Tom (c) suggested that parents may “*have a different opinion on the topic*” and that the athlete’s education could be “*undermined*” if the parents were not educated as well.

5.3.3. Having the conversation

Over half of the coaches only discussed the menstrual cycle if an athlete approached them, or if they noticed a problem. Most athletes had spoken to their coach regarding their menstrual cycle when they got ‘older’ but often only ‘briefly’.

Harry (c) said that he had previously discussed the menstrual cycle with an athlete, but that “*perhaps the swimmer has begun that conversation*”. However, Suzie (c) found that young athletes felt more comfortable speaking to one of the male coaches in her club because he “*opened the conversation*”. Charlotte (a) argued that when she was younger she would have needed “*a coach to come over and prompt the conversation*” especially a male coach as she would not want to put them “*in a situation where they’d feel uncomfortable*”.

Menstrual health was often only approached by coaches when a problem was identified. Mary (c) claimed there was no regular approach meaning *“it’s not a proactive thing”*. Michael (c) also admitted that the menstrual cycle was *“not a topic that’s broached unless...[he sees] a swimmer not performing particularly well”*. There appeared to be a reactive approach from a number of the coaches.

The age of the athlete contributed to the confidence the athlete felt discussing menstrual health. Izzy (a) said: *“the older I got, it wasn’t more openly discussed, but you feel more comfortable going and talking about it”*. This was reiterated by a number of the athletes.

5.3.4. Results of having the conversation

The coaches who directly spoke with their athletes about the menstrual cycle all had positive outcomes. The athletes all argued that more education and open conversations would have helped them, especially when they were younger.

The coaches who spoke to their athletes did it to *“make them aware that they can talk if they feel comfortable”* (Doug) and let them know that *“the things that they were going through was normal”* (Sarah). Doug described the initial reactions from his athletes that included, *“silence”* and some of them *“going a bit red”*, but expressed that it helped *“open up lines of communication”* for future conversations.

During the COVID-19 lockdown, Suzie (c) ran an online menstrual education session, following her attendance at the Menstruation Research Network Workshop 3 (2020) and subsequent personal research. She found that when she did her online session *“the girls were very, very open about it, up for it”*, although, *“some of them were a bit wary at first”*. Similarly to other coaches who held sessions with their athletes, she said *“the feedback was really, really positive”* (Suzie, c).

The athletes agreed that there would have only been positive outcomes if coaches had discussed menstrual health with them when they were younger. They felt it would have *“made it a lot less, uhm, taboo and like unknown... just kind of like knowing that you’re not*

alone” (Kate). They claimed it would specifically have helped reduce negative psychological effects such as the embarrassment and feeling scared.

5.4 Developing Education

5.4.1. What coaches should know

The key aspects of the menstrual cycle that coaches and athletes felt should be included in education were, 1) symptoms, side effects and physiology 2) practical advice and implementation 3) understanding and support. A few coaches also stressed that menstrual health education should also be situated within the wider context, especially when focusing on developing athletes.

It was important to coaches that they were educated on symptoms and side effects specifically relating to sport. This was important for being able to support their athletes and help them *“with managing these side effects”* so it does not *“stop them from actually doing stuff”* (Suzie, c). This included advice on nutrition, menstrual products, recovery and Iron deficiency. Coaches were also concerned with the practical implementation for training. This included aspects such as loading, coaching styles, adapting sessions and addressing negative side effects.

The athletes focused specifically on wanting coaches to be able to better discuss the menstrual cycle as well as focusing on wanting their coaches to be more *“understanding”* (Jess). They did not want the coaches thinking that they were *“using it as an excuse”* but to see it as *“something that’s very real”* (Eleanor).

5.4.2. How should they learn this?

There were varying views on how the menstrual cycle should be incorporated into coach education. But there was an emphasis on the importance of discussion.

The coaches agreed that they should receive a form of menstrual health education. While CPDs would be useful for coaches *“to supplement”* (Mary, c) knowledge, there were concerns that *“people will just buy into what they think they need to know, rather than what they need to know”* (Jason, c). A number of the coaches, therefore, expressed that there is

“no reason you couldn’t put it as part of the level 2” (Ann) badge as Level 2 is *“sort of the first time you learn about physiological aspects anyway”* (Hayley).

Face-to-face learning was thought of as the best approach but coaches also highlighted the pros and cons of online and blended learning. The discussion aspect of learning was emphasised as the most important, as it allowed coaches to share experiences and learn from each other. Doug (c) argued that *“because it’s [menstrual health] such an open topic”* there is *“probably a whole range of experiences that people will have had that they can bring that open into a discussion”*. However, the coaches recognised that with technological advancements, discussions can take place over online platforms.

COVID 19

Most of the coaches enjoyed the huge number of online education sessions that were available to them during the COVID-19 lockdown. Sarah (c) argued that for some coaches *“being in remote areas they probably access more CPDs in the last five weeks that what they’ve done in the last five years”*, highlighting how online platforms had been more accessible. Harry (c) also argued that COVID has *“changed people’s thinking about how you can do things”*. Mary (c) agreed, claiming that people *“will all make better use”* of online video platforms.

5.4.3. Sharing the knowledge

There were varying views about the best way for coaches to communicate knowledge gained from menstrual health education. There were suggestions of formal or informal conversations, group or individual, with or without parents, and suggestions of what age this should be initiated. Several coaches and athletes also discussed the importance of older athletes helping younger athletes to open up.

Participants argued that speaking to athletes in a group setting enables the coach to share information to all of the athletes at once. Hayley (c) suggested a group setting would allow athletes to talk *“about it amongst themselves rather than like, adults speaking to them”*. Group conversations were also argued to be an opportunity to speak about menstrual

health more generally. However, Olivia (a) felt that she would have also liked it if her coach had spoken to her individually about it as it would have felt *“a bit more personal”*.

The athletes argued that if young athletes learnt about the menstrual cycle *“younger, it wouldn’t be as big a shock”* (Charlotte) and it would be *“normalized”* (Izzy). Coaches agreed that discussions and education sessions can be tailored to be age-appropriate. One of the ways this could be done, which was suggested by both coaches and athletes, was using older athletes role models. Izzy (a) argued that she *“got a lot of reassurance from talking to older swimmers about it [menstrual health]”*. Sarah (c) found that it helped the younger girls being able to *“see the older girls being open with [her]”*.

6. Discussion

The purpose of this study was to understand the current knowledge and stigma of the menstrual cycle within Scottish Swimming, how coaches and athletes communicate menstrual health and explore perceptions and views on introducing menstrual health education for coaches and athletes. This research suggests that there is a large spectrum of knowledge amongst coaches but most have a basic understanding of the menstrual cycle and the potential side effects. Despite this, it is not regularly addressed. There appears to be an overall lack of education regarding the subject, despite the menstrual cycle having negative effects on sporting performances.

When participants discussed what they knew about the menstrual cycle, coaches emphasised the physical implications. Whereas, athletes emphasised the psychological challenges of mood changes, anxiety, agitation and low confidence. All of these have mental health implications which have been highlighted in previous research (Findlay *et al.*, 2020; Brown *et al.*, 2020; Tingle and Vora, 2018). Athletes were more concerned that coaches may view physical effects, such as cramps, as an excuse. This was similar to Tingle and Vora’s (2018) research that highlighted how girls wanted their pain to be taken seriously. Studies have suggested that athletes are also concerned that there is nothing coaches can do to help (Armour *et al.*, 2020; Findlay *et al.*, 2020). This research suggests this is a legitimate concern, given that most of the coaches felt they would not be able to provide practical

advice. A number of them were, however, confident that they would be able to support their athletes emotionally, which for the athletes in this study was much more important than practical advice. It is therefore important that a holistic approach is taken by coaches (Sabock & Sabock, 2011) to ensure athletes feel supported.

Research suggests sporting environments have failed to recognise the menstrual cycle as a contributing performance factor despite it being highlighted as one (Armour *et al.*, 2020; Brown *et al.*, 2020; Romero-Moraleda *et al.*, 2019; Bruinvels *et al.*, 2016). Contrastingly, within this study, coaches appeared to be aware of the effects the menstrual cycle may have on the performance of their athletes. Despite the awareness, unlike other performance factors, such as nutrition, the menstrual cycle was not openly discussed or sufficiently included within coach education. This coincides with research that suggests only 13.7% of athletes speak about their menstrual cycle with their coach (Armour *et al.*, 2020). A contributing factor to the lack of discussion may be due to females and female bodies being seen as the “other” (de Haan & Knoppers, 2019; Oakley, 2005), despite coaches’ suggestions that swimming is a slightly female-dominated sport. Another factor may also be the associated stigma and taboo attached to menstrual health and discussions around it.

The presence of stigma and taboo has been consistently reported (Tingle & Vora, 2018; Chrisler, 2011) and is associated with feelings of embarrassment. Despite this, several participants felt that it is “*getting better*”. This was linked to broader cultural movements and suggestions that society is becoming more open. Leaking was still, however, still seen as the most embarrassing thing that could occur while menstruating. Despite this, only three coaches recognised the psychological impact this may have on the athletes. This study confirms the anxiety that a fear of leaking causes athletes can also make them more easily distracted (Brown *et al.*, 2020; Findlay *et al.*, 2020, Tingle and Vora, 2018; Stewart *et al.*, 2010). Brown *et al.* (2020) found the psychological impact of this was the same across numerous sports. However, in swimming the worry was exacerbated by having to get in and out of the water and bending over on the racing blocks. These actions resulted in a greater chance of leaking. The continued fear of leaking, lack of discussion and attempts to conceal menstruation suggests stigma and taboo around menstrual health is still present.

Foucault's "panopticism" (1991) suggests that an invisible 'gaze' secures that humans, through self-surveillance, adhere to social 'rules'. This study highlights that to be seen to successfully manage menstruation was to be able to successfully hide it and keep it 'secret'. Athletes continue to undergo self-surveillance and learn to discipline themselves to be able to conceal menstruation (Tingle & Vora, 2018). This may be one of the reasons that only 53% of coaches discussed cramps as a possible side effect of the menstrual cycle compared to 83% of the athletes. The large number of athletes who discussed it was unsurprising due to its high prevalence in women under 25 (71%) (Armour *et al.*, 2019). Similarly to Tingle and Vora's study (2018), athletes would often try to hide or mask their symptoms. This may also have been due to athletes being conditioned to see pushing through pain is part of the sport 'ethic' (Malcome, 2006). Due to the lack of open discussion around menstrual health and the present stigma attached to it, athletes internalise these social norms, hiding their menstruating bodies and re-confirming menstruation as something that should be kept "secret" (Emma, c) even if they are in pain. This normalisation and compliance of the athletes is consequently adhered to, regardless of their safety and or if it makes sense (Johns & Johns, 2000).

Although previous research has suggested that compared to female coaches, male coaches were less likely to ask athletes menstrual health questions (Kroshus *et al.*, 2014). This research found it not to be the case. Instead, it was the knowledge level that was the largest contributing factor that affected a coaches' likeliness to discuss menstrual health with their athletes. Similarly to other research, coaches with higher knowledge levels were more likely to discuss the menstrual cycle with their athletes (Brown *et al.*, 2020; Kroshes *et al.*, 2014). This was due to a lack of confidence felt by low knowledge coaches, a fear of giving athletes incorrect information and feeling unsure about how athletes and parents would react. This may also be due to menstrual health education in schools socialising individuals to view menstrual health as a 'sensitive subject' (Lee, 2009) as well as wider cultural perceptions.

The age of the athlete, their upbringing, how approachable the coach was, their relationship with their coach, the coaches' perceived level of knowledge and the athletes' perception of how much the menstrual cycle affected their performance were all key aspects as to whether an athlete would discuss their menstrual cycle with their coach. Despite gender

being cited as one of the main reasons as to why athletes would not discuss menstruation with their coach (Armour *et al.*, 2020; Findlay *et al.*, 2020), other reasons appeared to be more significant. Although several athletes expressed that they would initially feel more comfortable speaking to female coaches, the gender of the coach did not appear to be an issue once a male coach established their knowledge and willingness to discuss. The main reason for not wanting to speak to their male coach, consistent with other research, was a mutual embarrassment and fear that they would not understand (Armour *et al.*, 2020). However, as shown in this study, some male coaches may be more knowledgeable and willing to discuss the menstrual cycle than some female coaches.

The strength of the coach-athlete relationship impacted the openness of conversation around the menstrual cycle and vice versa. As research has suggested, it is important to increase the conversations around menstrual health between athletes and coaches (Brown *et al.*, 2020), especially as there is evidence that communication is a key aspect to successful outcomes in coaching (Jowett, 2017). The athletes in this study also argued that communication around the menstrual cycle demonstrated that their coaches cared and were invested in helping them to progress. Sabock and Sabock (2011) highlighted this as key to effective coaching. Athletes in this study also argued that they would respect coaches more if they openly discussed menstrual health and that it would help to strengthen the coach-athlete relationship. This is consistent with research that argues that the coach-athlete relationship is characterised by respect and appreciation for each other (Jowett, 2017).

One consistently reported element was that coaches only approached and discussed menstrual health when it was perceived to be having a negative impact. This reinforces the dominant discourse of the menstrual cycle being inherently negative (Burrows & Johnson, 2005). This may also mean that athletes who can effectively conceal issues, may not be given the assistance they need. Framing the menstrual cycle in a more positive light and openly discussing it may help girls and women to re-imagine menstruation as something that is not wholly negative (Fahs, 2020). The athletes in the study argued that open discussion would help to remove aspects of shame and embarrassment, as well as

potentially removing restrictions that menstruation has on girls' involvement in physical activity (Burrows & Johnson, 2005).

The findings in this study are consistent with Findlay *et al.*, (2020) who emphasise the need for coaches and support staff to initiate and normalise conversations surrounding the menstrual cycle. This may help athletes to feel more at ease. Coaches and athletes argued that this was especially important when athletes are younger. It is consequently the responsibility of coaches to ensure their athletes are educated around menstrual health (de Souza *et al.*, 1994). This research also suggests that it is also the responsibility of the National Governing Body to provide adequate training and education to enable their coaches to do this.

Something that has not emerged in other research, is the importance of parents, which may be due to the age of athletes previously focused on. This research has highlighted the large influence that parents have, specifically in relation to athletes missing training. While other research suggests that a fear of leaking was the largest contributing factor to individuals missing sport (Tingle and Vora, 2018), this research suggests that parents, menstrual products, HMB and physical pain (Brown *et al.*, 2020) were larger contributing factors. In line with other research, it was the athletes who felt prepared for menstruation did not miss training due to it, mostly had mothers who were open about menstrual health (Jackson, 2018). Mothers are still a common source of information for girls and can affect the openness of an individual discussing menstruation (Kissling, 2006). Therefore, additionally, to coaches and athletes benefiting from evidence-based education around the menstrual cycle (Armour *et al.*, 2020), it would also benefit parents.

Within the sporting paradigm, the 'gaze' (Foucault, 1991) is particularly present from coaches, who are in the privileged position of power, due to their claims of expertise, experience and wisdom (Johns & Johns, 2000). Because social norms and 'rules' are produced and reproduced, they can also be changed. Coaches' positions enable them to facilitate and create a space for the menstrual cycle to be openly discussed. However, as previous research has illustrated, awareness and an understanding of the menstrual cycle needs to improve (Findlay *et al.*, 2020; Armour *et al.*, 2020; Brown *et al.*, 2020) for this to

happen. Coaches, as well as athletes (Brown *et al.*, 2020), demonstrated a desire for menstrual health education. This highlights a shift within sporting environments, as it is now something that coaches are recognising and willing to address.

Incorporating menstrual health into the main education badges provides quality assurance that can be regulated (Lyle & Cushion, 2016). Nevertheless, this must be combined with continued professional development (Tingle and Vora, 2018). Although the coach educator plays a central role in educating (Lyle & Cushion, 2016), the coaches within this study expressed the importance and effectiveness of discussing experiences with other coaches. It is also worth noting that similar learning situations may result in utterly different outcomes for different coaches (Stodter & Cushion 2016). A variety of different learning scenarios may therefore be beneficial. This research also demonstrates the opportunity that technological advancements present in delivering educational opportunities for both coaches and athletes, allowing discussion opportunities in a cost-effective and accessible way.

6.1 Limitations

Limitations of this study should be considered. All of the participants within the study were white, over the age of 18, and without a disability. This study recognises that there are different cultural associations with menstrual health as well as physical differences that may present challenges that this study was unable to address. Due to the wide focus of the research, it was unable to go into detail about specific aspects and instead provides a more general overview.

7. Conclusion

This study is the first to explore coaches' experiences and understanding of the menstrual cycle and how they communicate it with their athletes. The results highlight the varying levels of knowledge held by coaches around menstruation and the variety of experiences. Although there may be a greater awareness from coaches around the impact the menstrual cycle has on athletes than research has previously suggested, most coaches did not feel confident in their knowledge or feel they could provide practical advice. These were highlighted as key reasons for them not broaching the subject. Despite suggestions and evidence that awareness around the menstrual cycle is 'getting better', stigma and taboo

associated with the menstrual cycle, specifically menstruation and visible blood, are still present and can be a barrier to participation. It is consequently important for coaches to openly discuss menstrual health with their athletes, especially athletes around the age of menarche, to help empower them and 'normalise' the menstrual cycle as well as build trust between the athlete and coach. In summary, it is important for coaches, athletes and parents, especially of young athletes, to receive support and sport-specific, evidenced-based menstrual health education, which should not just be a one-time event.

8. Recommendations

Practical Recommendations

The findings highlight a need for not only coaches and athletes to be given education around menstrual health but also athletes and parents, specifically of younger athletes. For coaches, this could be incorporated within current mainstream coach education, as well as CPDs (Tingle and Vora, 2018). For athletes and parents, this may include formal or informal conversations, which should also be a continuous process. Apps such as the Fitr woman app (<https://www.fitrwoman.com>) may also be a useful resource for both athletes and coaches and assist dialogue.

A key priority should be to increase discussion around menstruation within sporting environments. This may assist in reducing social, psychological and physical barriers, especially for younger athletes.

Research-based recommendations

Suggested areas for further research would be, a specific study exploring the impact of the gender of a coach when educating and discussing menstrual health with athletes. Another area may also be focusing on the community sporting level, as although menstruation is shown to have performance indicators, there is limited research around participation and drop-out rates relating to the menstrual cycle. Lastly, research exploring the experiences of BAME athletes and athletes with disabilities should be undertaken.

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