



## Managing menstruation while working in the Australasian ambulance service environment

Lisa Hobbs<sup>a,b,c,d,e,f,\*</sup>, Scott Devenish<sup>a,d,f</sup>,  
Louise Reynolds<sup>a,d,g,h</sup>, Anita Westwood<sup>b,c,d</sup>, Brianna Larsen<sup>b,c</sup>

<sup>a</sup> School of Nursing, Midwifery and Paramedicine, Faculty of Health, Australian Catholic University, Queensland, Australia

<sup>b</sup> School of Health and Medical Sciences, University of Southern Queensland, Australia

<sup>c</sup> Centre for Health Research, University of Southern Queensland, Australia

<sup>d</sup> Australasian College of Paramedicine, Australia

<sup>e</sup> Australian and New Zealand Mental Health Association, Australia

<sup>f</sup> Higher Education Academy, United Kingdom

<sup>g</sup> Safer Care Victoria, Australia

<sup>h</sup> La Trobe University, Australia

### ARTICLE INFO

#### Keywords:

Menstruation  
Paramedic  
Ambulance service  
Workforce planning  
Workplace inequity

### ABSTRACT

Ambulance service workplace demographic has become more feminized, therefore female-specific issues must be included in workforce planning, policies, and procedures. Ambulance personnel who menstruate, including women, trans, and non-binary paramedics who menstruate as well as undergraduate paramedicine students attending clinical placement, may face additional difficulties when managing their menstruation in the workplace. Research on menstrual health amongst individuals working in the ambulance service environment is limited, prompting this investigation into how those – ambulance service personnel or undergraduate paramedicine students – who menstruate, manage their menstrual cycle while performing workplace duties or completing clinical placements in the emergency ambulance [health] service workplace environment. To our knowledge, this is the first study to investigate, describe, and measure the impacts and experiences of people who menstruate while working for Australasian ambulance services. Participants in this study completed an anonymous online survey about their menstrual cycle and effects on their workplace performance. Results indicate those who menstruate whilst working in an ambulance environment are adversely impacted by their menstruation. This psychological safety, and health and wellbeing issue requires addressing both in research and workforce policy for the ambulance industry. The findings and discussion are informed by Foucauldian analyses of disciplinary power to illustrate how organizational practices regulate, normalize, and produce gendered bodies, determining the conditions under which they are either rendered invisible or made visible. As paramedicine continues to grow as a profession, and diversify, it is imperative that bodily difference is not treated as a private inconvenience but as a legitimate consideration of organizational responsibility. Addressing menstrual inequity is a matter of workplace gendered practices, dignity, wellbeing, justice, and basic human rights. The researchers recommend the ambulance industry/paramedic profession moves towards open discussions, education of the workforce, and the instigation of supportive workplace practices that have a positive impact on people who menstruate while working in the ambulance service environment.

### 1. Introduction

Ambulance services have traditionally been male-dominated, with a long history dating back to the European Christian Crusades and

religious order of 'Most Venerable Order of the Hospital of St John of Jerusalem' (St John) (Howie-Willis, 1983; Reynolds, 2008; Hobbs et al., 2024). Now, some ambulance services are reporting gender parity in undergraduate paramedicine programs and paid workforce

\* Corresponding author. Australian Catholic University, Brisbane Campus, 1100 Nudgee Rd, Banyo, QLD, 4014, Australia.

E-mail addresses: [lisa.hobbs@acu.edu.au](mailto:lisa.hobbs@acu.edu.au) (L. Hobbs), [scott.devenish@acu.edu.au](mailto:scott.devenish@acu.edu.au) (S. Devenish), [louise.reynolds@acu.edu.au](mailto:louise.reynolds@acu.edu.au) (L. Reynolds), [anita.westwood@utas.edu.au](mailto:anita.westwood@utas.edu.au) (A. Westwood), [brianna.larsen@unisq.edu.au](mailto:brianna.larsen@unisq.edu.au) (B. Larsen).

<https://doi.org/10.1016/j.socscimed.2025.118920>

Received 9 September 2025; Received in revised form 4 December 2025; Accepted 29 December 2025

Available online 29 January 2026

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demographics across the sector (Mausz et al., 2023; Hobbs et al., 2024). According to the latest registrant data 50.6 % of registered paramedics in Australia and 46 % of Te Kaunihera Manapou Paramedic Council registered paramedics in New Zealand identify as female (Paramedicine Board of Australia, 2024; Paramedic Statistics, 2021). Despite the changing female demographics, many female-specific issues remain concealed or taboo in ambulance workforce culture, planning, policies, and procedures (Boniol et al., 2019). There is a paucity of information surrounding management of menstruation symptoms and menstrual hygiene whilst working in the ambulance service environment operational (i.e., responding in an ambulance) and non-operational (i.e., management or office work or in an education facility). This study utilizes a Foucauldian Discourse Analysis (FDA) to examine how people who menstruate while working or undertaking a clinical placement in the ambulance service environment manage their menstrual cycle to accommodate work duties. As not everyone who menstruates identifies as female, utilizing gender-neutral pronouns or the term 'person who menstruates' where appropriate encompasses cis-gendered, non-binary or transgender menstruators.

A regular menstrual cycle length for menstruating individuals of reproductive age comprises two phases (follicular and luteal) separated by ovulation (Bernal and Paolieri, 2022; Wang et al., 2020). Throughout these phases estrogen and progesterone fluctuate substantially across each menstrual cycle (Bernal and Paolieri, 2022), which can physically and emotionally impact a person who menstruates (Kullik et al., 2024). Estrogen and progesterone are also a key factor in many physiological pathways in addition to reproduction, including thermoregulation, cognitive function, mood and regulation of the immune system (Kullik et al., 2024). The extent of the effects varies between individuals and symptoms can be diverse; however, common experiences reported by people who menstruate include anxiety, pain, irritability, fatigue, depression and dysmenorrhea (Kullik et al., 2024; Barrington et al., 2021). Additionally, female sex hormones can impact cognitive function and processes, including learning, working memory, and executive functions, however this is not yet fully understood (Bernal and Paolieri, 2022).

Working in the ambulance service environment is complex, dynamic, diverse and unpredictable in nature (Kearney et al., 2024; McCann, 2022), and is linked to increased potential for occupational injury, particularly for operational personnel (i.e., paramedics) (Kearney et al., 2024; Maguire and O'Neill, 2023). Additionally, people who menstruate may face workplace difficulties in relation to the management of their menstruation during rostered shifts (Sang et al., 2021). To provide a 24-h seven day a week emergency response, most ambulance service personnel work a rotational roster encompassing day, afternoon and night shifts, to meet the operational demands of the ambulance service and community. While not directly responding to an emergency in an ambulance, many support roles such as shift managers and emergency medical dispatch personnel often do shift work and are unable to take unscheduled breaks. Research demonstrates, working a rotational roster, including night shifts, is correlated with increased risk of stress, depression, fatigue, chronic diseases, and workplace accidents (Khan et al., 2020). When considering female reproductive health, shiftwork is correlated with adverse menstruation and reproductive conditions, such as ovulation being impacted by disruption to melatonin and circadian rhythms (Stock et al., 2019). Furthermore, menstruation can impact other aspects of health and wellbeing producing negative symptoms such as insomnia, anxiety and depression (Kullik et al., 2024), potentially putting people who menstruate and shiftwork at greater risk of adverse health outcomes.

There is a growing body of research in other fields, such as sport, the military and nursing, which measures impacts (perceived and directly measurable) of the menstrual cycle on performance. For instance, almost two-thirds of elite female-identifying athletes report their performance is adversely affected by their menstrual cycle (McNamara et al., 2022). Similarly, military research on how performing military roles may

impact the menstrual cycle has been conducted for over two decades (Chua, 2022; Hawkins and Booth, 2014). An example of this in military literature is the acknowledgement that menstrual symptoms may compromise active duty, operational readiness and deployment (Chua, 2022). In nursing literature, it is reported nurses may experience dysmenorrhea due to shiftwork, lifting and fatigue (Hu et al., 2023; Chang and Chang, 2021). Notable similarities exist between paramedicine and nursing in relation to the demanding nature of shiftwork including incidental overtime, physical strain, fatigue, heavy lifting and mental stress (Thompson, 2021). Emergency ambulance work has the added disadvantage of occurring in an uncontrolled and unscheduled environment. Additionally, akin to nursing, elite sport performance, and military work, paramedicine also requires high-performance and operational readiness (Pringle et al., 2024). These factors are known disruptors to menstrual cycle regularity and contribute to menstrual disorders (Hu et al., 2023; Chang and Chang, 2021) that impact the health of people who menstruate. However, to the authors' knowledge, there has been no literature investigating how the menstrual cycle may influence the work performance of menstruating paramedics and/or ambulance personnel.

Regardless of whether one chooses to accept, hide or control their menstruation, there are substantial implications on the physical, social and mental wellbeing of people who menstruate; therefore, menstrual health must be recognized as a significant contributor to the overall health of all menstruating persons (Barrington et al., 2021). Sang et al. (2021) proposes four key public health tenets relating to menstruation in the workplace. These are managing painful and leaky bodies, accessing adequate facilities, stigma, and managing workload. Period stigma refers to persist negative attitudes, beliefs, and/or taboos about menstruation stemming from cultural, social, and historical misconceptions, which consider menstruation shameful, unclean, or something to be hidden (Johnston-Robledo and Chrisler, 2020). Period stigma persists in society today and often leads to discrimination, lack of awareness and/or lack of support for people who menstruate (Boiko and Carrez, 2022; Johnston-Robledo and Chrisler, 2020).

Investigation into how people who menstruate while working or undertaking a clinical placement in the ambulance service environment manage their menstrual cycle to accommodate work duties is paramount. Thus, this study aimed to gain a discursively and power-knowledge informed understanding of the menstrual cycle experience and support offered for people who menstruate while working in the ambulance service environment, and the impact of lived experience of menstruation on work performance as reported by people who menstruate as they carry out work or clinical placement.

## 2. Methods

The application of FDA was chosen for this study because Foucault's concepts of governmentality, biopower and discipline clarify how Ambulance Services influence what is considered "normal" and "abnormal" bodily behaviour and how those regimes shape what workers can/should do with their bodies (e.g., conceal, control, or medicalize menstruation). Therefore, investigating menstrual management in an ambulance service context examines how organizational practices, clinical norms and occupational safety discourses regulate menstrual bodies (Khan and MacEachen, 2021), and enabled the research team to examine how working in the ambulance environment produces particular ways of managing menstruation (e.g., use of contraception to control bleed timing, concealment, and/or informal workarounds) (Phillips, 2023).

### 2.1. Participants

Participation was open worldwide to people who menstruate/d and names: Preparedness, Improvisation, and Placement in the ambulance service environment. The ambulance service environment is defined as

all areas of the workplace, including the operational environment; the communications centres; education and training environments; and, management, administrative and support settings (Iordache et al., 2025; Poranen et al., 2022; Lawn et al., 2020). Participants completed an anonymous online survey about their menstrual cycle and hormonal contraceptive history and how these factors impact or may impact, their workplace performance or clinical placement. Consent to participate was confirmed upon final submission of survey responses by each participant. A total of 171 Australasian participants opted into the study. The study received prior ethical approval (ETH2024-0096).

## 2.2. Measures

Data were gathered using 34 Likert-style and free-text questions through an anonymous online survey accessible via QR code. Survey questions were itemized under the following categories: 1) Participant demographics, 2) Menstrual cycle characteristics, 3) Hormonal contraception use, and 4) Experiences in the paramedic environment. Menstrual cycle characteristics and hormonal contraception use data will be reported in detail elsewhere in the peer-reviewed literature. Questions were developed based on previous literature investigating menstrual cycle impacts on work performance (e.g., Larsen et al., 2020; Schoep et al., 2019) and customized to be paramedic/ambulance audience specific. Questions centred around understanding how the operational and non-operational ambulance service environment may influence the experience of menstruation, including access to appropriate period products and facilities, impact/s of menstruation on internal experience (e.g., feelings of stress or embarrassment), and impact on work performance.

The research team conducted a pilot study of the first iteration of the survey, which was sent to female-identifying paramedics known to members of the research team, who completed the survey and provided extensive written and verbal feedback regarding the validity and comprehensibility of questionnaire items. Feedback from the pilot testing group informed survey amendments. The final survey took participants approximately 20 min to complete, depending on individual responses.

## 2.3. Procedures

The revised version of the survey opened to participants in June 2023 and closed in November 2024. Links were circulated via ambulance professional organizations, affiliations and forward snowballing, in accordance with ethical approval.

## 2.4. Analysis

Quantitative data were analysed using descriptive statistics. Qualitative responses were analysed via reflexive thematic analysis, following the methods of Braun and Clarke (2019). Table 1 highlights the steps undertaken in the study including creation of themes (Braun and Clarke, 2019).

## 3. Results

The study explored menstruation experiences among 171 Australasian ambulance personnel and undergraduate paramedicine students, highlighting the impact of menstruation when working in the ambulance service environment. Table 2 provides an overview of participants' roles and primary duties. Qualitative responses underwent reflexive thematic analysis guided by Braun and Clarke (2019), resulting in four overarching themes: **Personal**, **Physiological**, **Emotional Labour**, and **Workplace**, supported by multiple sub-themes (Table 3).

**Table 1**  
Steps undertaken in creating themes (Braun and Clarke, 2019).

Step	Description	Application to Open Questions
<b>1. Familiarization</b>	Immersing in the data to identify key points.	Co-authors read the open coded themes.
<b>2. Generating Initial Codes</b>	Systematically coding relevant features across the dataset.	Sub themes identified.
<b>3. Searching for Themes</b>	Collating codes into potential themes based on observed patterns.	Commenced generating relating to broader categories based on subthemes.
<b>4. Reviewing Themes</b>	Refining themes by checking against the dataset for coherence and relevance.	Team discussion to ensure alignment and refinement.
<b>5. Defining and Naming Themes</b>	Clearly defining each theme and determining its scope.	Team agreement of overarching themes.
<b>6. Producing the Report</b>	Writing up themes with supporting examples from the data.	Creating tables summarizing themes with direct references to subthemes.

**Table 2**  
Australasian participants' work environment.

Area of Employment/Undertaking Duties	%	n
<b>Operational Roles</b>		
Operational Paramedic/EMT	35.67 %	61
Student Paramedic (Ambulance Service Employee)	14.04 %	24
Management/Executive Officer (responding operationally)	1.75 %	3
Patient Transport Officer	1.75 %	3
Undergraduate Student Paramedic (attending clinical placement)	41.52 %	71
<b>Non-Operational Roles</b>		
Paramedic Education (i.e. Clinical Support Officer/Clinical Educator/University Lecturer)	3.51 %	6
Management/Executive Officer (not responding operationally)	1.75 %	3

### 3.1. Theme: personal

The theme of *Personal* (subthemes: Preparedness, Improvisation, and Hormonal Management) encompasses the individual and personal aspects of how participants manage menstruation whilst working in the ambulance service workplace. These aspects may be unique to an individual but generally have a broader level of shared experience.

#### 3.1.1. Preparedness

Approximately 75 % (n = 128) of participants actively prepare for un/expected menstruation in the ambulance service workplace. Participants were asked: How do you/did you actively prepare/plan for period management during shifts? Analysis of the responses revealed preparation methods including.

- Adequate Supplies and Packing Strategies:** Carrying pads, tampons, liners, menstrual cups, and period underwear; Keeping items in multiple locations: work bag, pockets, lockers; Emergency period products and medications; Spare uniforms for irregular cycles or heavy bleeding; and Wearing multiple products simultaneously (e.g., tampon + pad + period underwear).
- Pain Management:** Regular use of pain medication (e.g., Panadol, Nurofen, Naprogesic, ibuprofen, Buscopan); Prescription medication (e.g., tranexamic acid, codeine, tramadol); Heat therapy: stick-on heat packs, hot water bottles, TENS machines; and Doctor visits for menstrual-related pain support.
- Anticipation and Planning:** Using menstrual tracking apps; Wearing products pre-emptively; Strategic scheduling (e.g., shift swapping or skipping periods with contraception); Packing spare clothes, towels in case of leaks or long shifts; and Planning toilet access during shifts.

**Table 3**  
Australasian qualitative survey responses thematic analysis.

Overarching Theme	Personal	Physiological	Emotional labour	Workplace
Subtheme/s	<ul style="list-style-type: none"> <li>• Preparedness</li> <li>• Improvisation</li> <li>• Hormonal Management</li> </ul>	<ul style="list-style-type: none"> <li>• Menstrual Discomfort and Symptoms</li> <li>• Pain Management</li> </ul>	<ul style="list-style-type: none"> <li>• Embarrassment and Self-Consciousness</li> <li>• Anxiety and Distraction</li> <li>• Support and understanding</li> </ul>	<ul style="list-style-type: none"> <li>• Limited access to facilities</li> <li>• Impact on Job Performance</li> <li>• Workplace Culture</li> <li>• Operational Constraints</li> <li>• Moving Forward</li> </ul>

4. **Having Menstrual Product Preferences:** Shift from tampons to menstrual cups due to longer wear times; Preference for period-proof underwear; Use of backup layers (e.g., underwear + pad); and Avoidance of tampons when unsure about bathroom access.
5. **Workplace and Cultural Issues:** Concerns over being judged as “weak” or “bludging” for taking sick leave; Fear of stigma for calling in sick due to menstruation; Embarrassment over leaks or visible items (e.g., tampons falling out of pockets); and Pressure to continue working despite severe pain or symptoms.
6. **Consideration of Irregular Cycles and Medical Conditions:** Polycystic Ovary Syndrome and endometriosis leading to unpredictable menstruation; Skipping periods via contraceptives to avoid work impacts; and Persistent premenstrual syndrome (PMS-like) symptoms despite not menstruating (e.g., post-menopause or contraceptive suppression).
7. **Personal Hygiene and Comfort:** Baby wipes, body sprays, and change of underwear/clothes; Showering mid-shift; and Planning for managing discharge or breakthrough bleeding.
8. **Support for Others:** Carrying extra supplies; and Shared supplies.

3.1.2. *Improvisation*

Twelve percent (12%) of participants reported they had utilized a pad from the trauma kit/ambulance and, 58% reported, utilizing a large amount of toilet paper to manage menstrual bleeding until they could access period products. Example qualitative response received to the question “Have there been instances during a shift when the inability to access sanitary items has resulted in utilizing a pad from the trauma kit/ambulance until able to access sanitary items”:

“Only once or twice, prefer not using ambulance ones as they’re too bulky” – PARA122 - Operational Paramedic/EMT (**Theme: Personal – Improvisation**)

3.1.3. *Hormonal Management*

Over half (56%) of Australasian participants utilize hormonal contraception (HC). Participants were asked why they use HC, and provided a variety of reasons including: to regulate their menstrual cycle; to assist in the relief of headaches, PMS and/or painful periods; to decrease menstrual blood flow; to avoid pregnancy and to make working in the ambulance environment easier.

3.2. *Theme: physiological*

The *Physiological* theme (subthemes: Menstrual Discomfort and symptoms, and Pain Management) incorporates physical impacts of menstruation and HC use in the ambulance service environment.

3.2.1. *Menstrual cycle and symptoms*

Naturally cycling participants (i.e., not current hormonal contraceptive or copper IUD users; n = 72) reported their typical menstrual cycle length in days (i.e., the number of days from the first day of a period to the start of the next period) as ranging from twenty-two (22) days or less, to maximum thirty-six (36) days. The most reported typical MC lengths were 29–31 days (n = 21; 29.2%) and 26–28 days (n = 20; 27.8%), followed by 23–25 days (n = 9; 12.5%), 32–34 days (n = 6; 8.3%) and >36 days (n = 6; 8.3%). Only two naturally cycling

respondents (2.8%) selected ‘22 days or less’. One respondent (1.4%) reported having a 35–36-day cycle, four (5.6%) respondents selected ‘unsure – I do not track my period’, and three (4.2%) selected ‘N/A – I do not menstruate’. The three most common side-effects associated with menstruation were pain, physiological changes, and period leak. Ninety-one percent (91%) of participants have experienced pain, seventy-seven percent (77%) have experienced physiological changes in their body, and sixty-six percent (66%) have experienced period leak. Descriptive statistics summarizing participant responses to the question “Have you experienced any of the following whilst menstruating at work/on clinical placement?” are reported in [Table 4](#).

One qualitative response regarding how impact of limited access to period products on menstruation included:

“Long time on scene with no access to toilet. Period leaked onto inside of pants (Overfilled menstrual cup)” PARA116 - Undergraduate Student Paramedic (attending clinical placement) (**Theme: Physiological – Menstrual Discomfort and symptoms**)

Experiences of visible period leak were shared by fourteen percent (14%) of participants. Qualitative response examples include:

“Delayed on scene ... with no access to a bathroom or inability to leave a patient for a bathroom break. Unable to change causing leak ....Visible to others covered with jacket around waist and other instances not visible. Delayed scene times when working alone has been the biggest cause for these issues.” PARA174 - Operational Paramedic/EMT (**Themes: Physiological – Menstrual Discomfort and symptoms; Workplace – Limited access to facilities; Emotional Labour – Embarrassment and Self-Consciousness**)

“Heavy bleeding, went through tampon and pad within an hour - numerous occasions” PARA83 - Operational Paramedic/EMT (**Themes: Physiological – Menstrual Discomfort and symptoms; Workplace – Limited access to facilities**)

The subtheme of Menstrual Symptoms and Discomfort focused on physiological experiences of pain and/or discomfort, and subsequent impacts for participants menstruating whilst working in the ambulance service environment. As pain is a subjective experience ([Armour et al., 2020](#)), participants could add descriptors/comments to individualize responses. Ninety-one percent (n = 156) of Australasian participants reported experiencing pain and/or discomfort whilst menstruating in

**Table 4**

Participant experiences whilst menstruating at work/on clinical placement (NB. Participants could also leave qualitative comments via the free-text box).

Participant Experiences	%	n
Pain/discomfort	91.23%	156
Physiological changes (i.e., tender breasts, swelling, bloating, feeling faint, lightheaded, syncope, migraines, back pain, pimples, lethargy)	78.36%	134
Period Leak	66.67%	114
Self-consciousness	64.91%	111
Noticed alteration in your emotional responses	47.35%	81
Odour (actual and/or perceived)	38.6%	66
Received unwanted comments regarding your menstruation from: a coworker or patient or bystander or allied professional	4.68%	8
Not relevant to me	3.51%	6
Other (please specify)	1.75%	3

the ambulance environment. Further subthemes emerged from the data including descriptors of methods/strategies to mitigate incidence and severity of pain and/or discomfort, and impact/s of pain and/or discomfort on participants whilst working in the ambulance environment. Example responses:

“I get bad cramps before and during the beginning of my period and I struggle to work through the pain at times” – PARA139 - Undergraduate Student Paramedic (attending clinical placement) (**Theme: Physiological – Menstrual Discomfort and symptoms**)

### 3.2.2. Pain and management

When people working in the ambulance service environment are experiencing menstrual discomfort and/or symptoms whilst undertaking their duties, it can impact their actual or perceived ability to perform at their optimum level. The participants in this study reported impacts of pain and/or discomfort while performing their work duties. Participant experiences included:

“Headaches non-responsive to OTC medication means it was difficult to focus on my work” – PARA121 - Operational Paramedic/EMT (**Theme: Physiological - Menstrual Discomfort and symptoms**)

“Almost asked my mentors if I could use some paracetamol from the ambulance to assist with pain as I ran out of my pain relief” – PARA196 - Undergraduate Student Paramedic (attending clinical placement) (**Theme: Physiological - Menstrual Discomfort and symptoms**)

While there may be instances of staff or students on clinical placement needing/choosing to utilize sick leave as a strategy to manage negative impacts of menstruation in the workplace; most participants (86 %) implement other approaches, (i.e., pain management via over-the-counter medication, heat packs and altering body position) to enable them to continue working. To facilitate working in the ambulance environment whilst experiencing menstrual pain and/or discomfort, participants shared pain management strategies used, which spanned varied levels of complexity, from tolerating pain in the moment, to opting for surgical interventions to help their pain management:

“Carrying a hot water bottle” – PARA57 - Student Paramedic (Ambulance Service Employee) (**Theme: Physiological – Menstrual Discomfort and symptoms**)

“Had to stop moving and ride the wave of pain” – PARA105 Student Paramedic (Ambulance Service Employee) (**Theme: Physiological – Menstrual Discomfort and symptoms**)

“I have had 3 endometriosis excision surgeries” – PARA143 - Operational Paramedic/EMT (**Theme: Physiological – Menstrual Discomfort and symptoms**)

### 3.3. Theme: emotional labour

*Emotional Labour* focused on psychological impacts participants face when menstruating in the ambulance environment (Subthemes: Embarrassment and Self-Consciousness, Anxiety and Distraction, and Support and Understanding). Participant responses relating to this theme provided strong evidence of the work culture where participants felt their menstruation must be hidden and controlled. These feelings of taboo, impact their work experiences.

#### 3.3.1. Embarrassment and self-consciousness

Sixty-four percent (n = 110) of participants stated they have experienced self-consciousness when menstruating and working in the ambulance service environment. Thematic analysis of qualitative comments also revealed experiences of embarrassment. Example responses

include:

“Yes, embarrassment, being judged by others, thinking about if anyone else can see you leaking or see the giant trauma pad stuffed in your pants, uncomfortable.” – PARA83 - Operational Paramedic/EMT (**Theme: Emotional labour – Embarrassment and Self-Consciousness**)

“I have been extremely self conscious, ...I had irregular bleeding. I used the bathroom between every single job, and lied about the reason why when I had to use a trauma pad because I did not have any sanitary items. I was worried you could see the bulkiness of the trauma pad through my pants.” – PARA192 - Operational Paramedic/EMT (**Theme: Emotional labour – Embarrassment and Self-Consciousness**)

“Blokes don't understand!” – PARA122 - Operational Paramedic/EMT (**Theme: Emotional labour – Embarrassment and Self-Consciousness**)

#### 3.3.2. Anxiety and distraction

This subtheme encompasses a vast range of participant experiences, including feeling ashamed about menstrual needs, worry and concern about visible period leaks or stains, discomfort discussing with male colleagues, concerns about odour, difficulties accessing bathrooms and/or insufficient time between calls to tend to menstrual needs. Participant responses include:

“I was with an all male crew, .... I found it uncomfortable and difficult to focus on what I was doing because I was so concerned about if I had “leaked” through my temporary toilet paper solution.” – PARA195 - Undergraduate Student Paramedic (attending clinical placement) (**Theme: Emotional labour – Anxiety and Distraction**)

#### 3.3.3. Support and understanding

Participants experienced varying levels of empathy from supervisors and colleagues, some were positive, however participants indicated discomfort discussing menstrual needs with male colleagues, feeling isolated in male-dominated work environments, and/or reluctance to request accommodations for menstrual needs. Participant responses included:

“I had to ask other student friends if they were at a particular hospital so I could get a pad” – PARA92 - Undergraduate Student Paramedic (attending clinical placement) (**Theme: Emotional labour – Support and understanding**)

“A mentor to grab me a sanitary pad from my bag in the vehicle.” – PARA117 - Undergraduate Student Paramedic (attending clinical placement) (**Theme: Emotional labour – Support and understanding**)

### 3.4. Theme: workplace

The *Workplace* theme (subthemes: Limited access to facilities, Impact on Job Performance, Workplace Culture, Operational Constraints, and Moving Forward) provided the largest amount of data and qualitative responses from participants. Results indicate menstruating individuals in ambulance services face multiple challenges. Participants shared a range of negative experiences, including pain, discomfort, period leaks, odour, self-consciousness, receiving unwanted comments from co-workers, patients, bystanders, or allied professionals, alterations in emotional responses, and physiological changes (see [Table 4](#)).

#### 3.4.1. Limited access to facilities

Participants were asked if there had been instances during a shift when inability to access period products/menstrual needs had impacted

their work/placement duties, and what had occurred in these instances. Participant responses provide a great deal of insight into the impacts of limited access to menstrual needs when working in the ambulance service environment, and they described instances where lack of access to period products affected their work. Almost one third ( $n = 55$ ) of participants reported experiencing difficulty responding to their menstruation needs whilst working in the ambulance service environment; and had used other items (i.e. toilet paper/trauma pads from the ambulance) until they were able to purchase/source appropriate period products, including asking someone else to obtain period products for them because they were unable to leave the bathroom. Seventy percent (70 %) of participants reported they have worked in the ambulance service environment with period leak (not visible to others). Fourteen percent (14 %) reported experiencing visible period leaks, and forty-one percent (41 %) of participants reported having to ask another person for period products whilst working in the ambulance service environment.

Ninety percent (90 %) of participants stated they have had difficulty accessing a bathroom with a sanitary disposal unit while on-shift. While eighty-three percent (83 %) of participants confirmed sanitary disposal units are available in their workplace, this still means almost one in five people surveyed do not have access to a sanitary disposal unit in their ambulance service workplace. Participant responses, provide insight into some workplace implications and impacts of menstruation.

“... Making it more acceptable to stop to use the bathroom whilst on the way to a job regardless of if it is a [case requiring an urgent or non-urgent response]. The requirement to sometimes go 3hours + without the use of a toilet is absurd. In my organisation management and the overall culture would not tolerate a request to use the bathroom if on a urgent lights and sirens response and some less urgent cases, where a lights and siren response is not necessary – PARA37 - Operational Paramedic/EMT (**Theme: Workplace – Limited access to facilities**)

“As a flight paramedic it is often impossible to access appropriate facilities to change or dispose of sanitary items on long primary jobs.” PARA134 - Operational Paramedic/EMT (**Theme: Workplace – Limited access to facilities**)

#### 3.4.2. Impact on Job Performance

Participants shared a myriad of experiences about how menstruation can impact job performance, particularly if the workplace and/or workplace culture is less supportive. In addition to feeling stress relating to managing their period during long shifts, participants reported times of reduced concentration and focus on patients due to dealing with sitting for long transports and/or modifying their physical movements or positions in confined spaces. Additionally, some participants reported concerns about diminished confidence and long-term career impacts. Almost one in ten (9 %) participants experienced interruption of duties due to menstruation, and seven percent (7 %) had terminated their shift to enable them to obtain period products or manage their menstruation.

“Not wanting to sit down in case period has leaked through/checking seat after having to sit down for any transfer of blood. Not wanting to engage/talk to peers/patients to avoid them seeing period leakage” PARA37 - Operational Paramedic/EMT (**Theme: Workplace – Impact on Job Performance**)

“... had to use patients' toilets ..., had breakthrough at a status 2 patient and delayed transport as I was bleeding down my legs. Had all the protection I could but after no break for 5 hours nothing can contain the bleeding. Yes, it affects my work, I don't want to bend over, lift, sit on a seat. I can't concentrate on anything else it is awful, and I dread going on shift when my period is heavy.” PARA49 -

Operational Paramedic/EMT (**Theme: Workplace – Impact on Job Performance**)

“Probably 3 times in my career due to needing a new uniform.” – PARA143 - Operational Paramedic/EMT (**Theme: Workplace – Impact on Job Performance**)

#### 3.4.3. Workplace Culture

Participants shared experiences about disclosing menstruation-related needs in the ambulance service workplace. One-fifth (20 %) reported disclosing their need for period products to their work-partner/paramedic crew, while smaller proportions disclosed to the Communications Centre (8 %) or direct supervisor (8 %). Notably, 19 % of participants reported choosing to make excuses to leave their post/duties/placement to access period products, indicating discomfort, stigma or barriers to openly discussing menstruation needs in the ambulance service environment. Qualitative responses included:

“got into trouble for being inappropriate in the workplace for changing into a spare pair of pants while my pants were in the dryer after cleaning the blood off” PARA 83 - Operational Paramedic/EMT (**Theme: Workplace – Workplace Culture**)

“... impact my performance due to embarrassment since I am a student, especially as it would seem as though I am unprepared for shift. Moreover, I would feel ashamed if it meant an extended break had to be taken.” PARA 95 - Undergraduate Student Paramedic (attending clinical placement) (**Theme: Workplace – Workplace Culture**)

#### 3.4.4. Operational Constraints

Participants reported operational constraints impacting them when they are menstruating, including Long shifts and/or unscheduled shift-extensions/overtime, Uniforms not being considerate of female bodies (i.e., colour might show staining/leaks, tight restrictive uniform), and gaps in employer policy and/or procedure. Qualitative responses included:

“... I feel as though some workplaces including in the paramedic state services don't view or believe that having your period is a 'valid excuse' for calling in sick to work and can be seen as being 'weak' or 'bludging'.” PARA 47 - Undergraduate Student Paramedic (attending clinical placement) (**Theme: Workplace – Operational Constraints**)

#### 3.4.5. Moving Forward

While many participant responses were orientated towards challenges they have experienced, it is important to note that participants also expressed a desire to 'move forward'. Suggestions from participants included not wanting allowances for normal body function, however something as simple as a radio call sign to indicate that paramedics required a bathroom break would be beneficial regardless of gender or menstruation. Additionally, it would be appreciated if more leave were available to use when managing menstruation related symptoms/conditions. Qualitative comments included:

“It's not something that is spoken about enough and I feel many women experience struggles and barriers in their professional life due to periods. If we normalise it more then maybe it can be more easily managed as we won't feel like we have to hide or pretend everything is ok.” PARA196 - Undergraduate Student Paramedic (attending clinical placement) (**Theme: Workplace – Moving Forward**)

“Small kit in each ambulance for crew for moments caught off guard is a great idea. Access to additional sick leave to cover days where significant pain from menstruation affecting work abilities”  
 PARA180 - Operational Paramedic/EMT (*Theme: Workplace – Moving Forward*)

Within the survey, participants were asked if access to emergency period products (i.e. small bag containing pads/tampons) in their work environment, would be beneficial. Almost all (93 %) respondents said “yes”. Only forty-two percent (42%) of participants identified as undergraduate paramedicine students, who incur substantial costs such as accommodation and travel associated with attending mandatory clinical placement, known as placement poverty. Therefore, of particular note, salaried ambulance personnel who menstruate highlighted emergency kits would assist with issues around providing dignity and discretion when requiring period products unexpectedly.

#### 4. Discussion

This study offers an important contribution to the body of research concerning menstruation within paramedicine, a field comprised of intense operational demands, historically shaped by masculine norms. To the authors' knowledge, this is the first study asking people who menstruate if their menstruation has impacted their ability to perform their role in the ambulance environment. The authors contend that stigma related to menstruation when viewed utilizing an FDA lens assists in the explanation of how discourse maintains stigma (i.e., silence and embarrassment) or alternatively constructs menstruation as an industrial issue requiring organisational solutions (e.g., development of policies to include additional sick or menstrual leave, and provision of period products in the workplace). Furthermore, we suggest this is directly relevant to workplace menstrual policy research (Olson et al., 2022). The voices of menstruating ambulance service personnel and undergraduate paramedicine students undertaking clinical placement reveals a complex intersection of physiological experiences, emotional labour, and influence of organisational culture; where menstruation is often rendered invisible or treated as a disruption to the idealised paramedic body type, which is generally presumed to be neutral, unencumbered, and always operationally ready for service. Additionally, the study' findings align with existing literature about menstruation and workplace experiences (Campbell, 2022; Barrington et al., 2021), including difficulty accessing period products; period poverty, stigma and financial impact of managing menstruation; dissatisfaction with workplace menstrual management practices; psychological impact on individuals feeling they had failed to manage their menstruation discreetly and/or hygienically, resulting in period leak; physical symptoms, particularly pain, was frequently linked to negative experiences.

Research demonstrates side effects of pain are vast and varied, including inactivity, strain on relationships, reduced intimacy/difficulty having sex, work absence/lack of productivity, day to day functioning, financial strain, impact on ability to care for/play with children, change in eating patterns, sleep disturbances, poor mental health, depression, anxiety, and reduced independence (Chronic Pain Australia, 2024; Victorian Department of Health, 2025). Participants reported experiencing pain/cramping similar to broader trends in chronic pain, aligning with national data about women's pain. It is estimated that 72.9 % of people who experience chronic pain, feel their pain was ignored/dismissed by healthcare professionals (Chronic Pain Australia, 2024). Almost 80 % of participants in the National Pain Survey identify as female (Chronic Pain Australia, 2024). The Inquiry into Women's Pain (2025) report shows that menstrual and hormonal conditions, pregnancy and childbirth complications, and sexual and reproductive health issues significantly affected around 40 % of respondents, with nearly 90 % reporting they experience pain lasting more than a year.

The management of menstrual pain in healthcare workers is identified in the literature as a matter of public health concern (Sang et al., 2021; Hennegan et al., 2020). As indicated in Table 4, ninety-one percent (91 %) of participants reported continuing to undertake work/clinical placement whilst in pain and/or discomfort during menstruation. Worldwide, many women endure discomfort/pain while menstruating in the workplace (Hennegan et al., 2020). However, results of this study appear to exceed the averages of 13–15 % reported in the literature (Hennegan et al., 2022; Schoep et al., 2019).

It is estimated people who menstruate will have occasionally experienced difficulty accessing period products (Duvivier, 2022). This experience may become exacerbated and have numerous negative effects when working in the ambulance service environment. The dominant participant narratives emerging from this study speak not only of physical discomfort but of labour required to manage their bodies discreetly in environments that lack adequate facilities and/or cultural acceptance. Menstruation is a natural part of life for most people who have a uterus and has been referred to as something “that one must accept, rather than hide or control” (Delaney et al., 1988, 133). The sub-theme of “*improvisation*” illustrates the persistent expectation that menstruating bodies must adapt, rather than workplaces being designed to accommodate embodied difference. Participants' descriptions of using trauma pads or large quantities of toilet paper when caught without period products underscore a normalized austerity, where ‘making do’ becomes a professional skill, rather than an organizational failing.

Despite subliminal messaging from commercial advertising of period products suggesting menstruation should be concealed, discrete and a private affair (Koskeniemi, 2023), people who menstruate experience period leak, sometimes visible to others. Even the language used is important; using the words ‘sanitary’ and ‘hygiene’ instead of ‘period’, ‘menstruation’ or ‘menstrual’ reinforces negative stigma (Campbell et al., 2022). The management of menstruation in the workplace is not limited to accessibility of products and facilities; it is deeply tied to social stigma, expectations of emotional self-regulation, and professional credibility (Sang et al., 2021). This is evident in how participants described the emotional calculus involved in disclosing need of period products, which was often framed as ‘asking for help’ or ‘making an excuse’ to leave. The discomfort of disclosure, particularly to supervisors or male colleagues, reveals a tension between professional identity and embodied reality. Particularly considering that within the paramedicine discipline/profession, where urgency and uninterrupted performance are valorised, menstruation becomes a source of vulnerability; a literal and metaphorical leak which must be concealed. Many participants reported incidents of visible period leaks, emotional distress, and even terminating shifts due to limited access to period products. These experiences are not just personal inconveniences; they illustrate organizational failings disproportionately affecting employees who menstruate. The absence of consistent access to sanitary disposal units, emergency menstrual kits, and private bathroom facilities, signals an institutional neglect of menstruating workers, reinforcing menstruation as a personal issue and a professional liability.

The research findings also bring into focus how emotional labour intersects with menstrual management (Sang et al., 2021). Drawing on Hochschild's (1983) concept, many participants expressed the need to manage their own discomfort and embarrassment, while simultaneously presenting as composed and unaffected. The duality of this burden is compounded by a workplace culture that remains implicitly masculinized, where taking a break, even for basic bodily needs, can be subject to being framed as lack of commitment, or weakness (Hennegan et al., 2023). The emotional toll of “pretending everything is fine” or using euphemisms to mask menstruation-related needs reflects persistent gendered norms around ‘acceptable’ professional behaviour.

Given the transition from a paramilitary masculine workforce to

gender parity, some workplace culture nuances must be considered. There is conjecture in the literature surrounding if disclosing you have your period is taboo or shameful (Chua, 2022; Koskenniemi, 2021). It could be argued, as healthcare professionals, ambulance personnel and undergraduate paramedicine students should not have to feel shame discussing their own menstruation, since they at times, ask patients about menstruation and menstrual health. An expectation of healthcare professionals is the ability to establish rapport and build trust with people from all walks of life (English et al., 2022). This assists in eliciting pertinent information to inform clinical decision making. As such, it is reasonable to assume people working in healthcare roles who do not menstruate, should be able to discuss menstruation with patients and non-patients (i.e., colleagues or employees).

Moreover, the participant narratives reveal a disconnect between the professional values of care and empathy expected from paramedics, and the care (or lack thereof) extended to their own bodily needs. Participants' reflections, such as "Blokes don't understand" or having to fabricate reasons to access a toilet, demonstrate the enduring gendered divide in workplace empathy and understanding. This is particularly salient in a healthcare context where ambulance service personnel are expected to sensitively address the reproductive and menstrual health of patients yet may find little support when navigating these realities themselves. Workplace expectations described by participants reflect what Koskenniemi (2023) critiques as the "sanitized menstruating subject" a professional who bleeds invisibly, silently, and without disruption. This construction not only erases embodied experiences but also places the burden of adaptation solely on the menstruating individual. Participant accounts in this study echo broader feminist critiques of workplace structures that marginalize reproductive bodies and reinforce a model of professionalism based on disembodied masculinity (Boiko and Carrez, 2022; Johnston-Robledo and Chrisler, 2020).

This study raises critical questions about disclosure and power. While some participants reported supportive responses from colleagues, others chose not to explain their needs or feared negative judgement. The need to navigate these conversations carefully, or avoid them altogether, demonstrates how menstrual stigma continues to shape professional interactions, even in healthcare environments. That only a minority of participants felt comfortable disclosing their needs to colleagues illustrates how power relations and gender norms continue to influence who feels entitled to care and accommodation.

Finally, the findings point to the potential utility and participant endorsement for practical interventions such as emergency period product kits. The overwhelming support for these kits reflects a need for more proactive and inclusive workplace policies that centre embodied diversity. While such interventions are not a panacea, they do offer a tangible step toward acknowledging the bodily realities of menstruating paramedics and promoting menstrual equity in paramedicine.

#### 4.1. Recommendations

Having established workplace inequities relating to menstruation in the ambulance service environment is an issue of workplace equity, psychological safety, health and wellbeing, it therefore requires addressing in the research and within industry. Notably, most research into the effects of menstruation on health and wellbeing are focused on the experiences of adolescent females and not adults in the workplace (Hennagan et al., 2020) nor in the ambulance workplace. People who menstruate in the ambulance workplace feel their menstrual cycle affects their work performance, and their employer has a duty of care to support and accommodate them in the workplace. This study brings to light opportunities for improvement. The research team strongly recommend the ambulance industry/paramedic profession moves forward to open discussions, educating the workforce and instigating supportive practices that have a positive impact on all ambulance service personnel, including those who menstruate.

#### 4.2. Limitations

The research team acknowledges some limitations including sample size and voluntary participation. Additionally, data was insufficient to enable analysis of differences according to the role performed by participants (i.e., operational paramedic vs communications officer). Another limitation was that the survey tool, while pilot tested with experienced paramedics, did not undergo a full validation process; future research should look to develop a valid and reliable tool to measure the impact of menstruation for paramedic personnel.

#### 5. Conclusion

The literature defines the field of paramedicine as a domain of practice and healthcare profession currently developing its research profile, focusing mainly on technical, clinical, and decision-making skills (Spencer-Goodsir et al., 2022). As such, a dearth of research about female paramedics exists (Hobbs et al., 2024; Hobbs, 2023; Alobaid et al., 2020). Menstruation is a sex-specific experience that can place a considerable amount of stress on the body (Phillips and Wilson, 2021). This is the first study to investigate, describe and measure the impacts and experiences of people who menstruate in the ambulance service environment. This study highlights a shared responsibility exists between employees and industry to talk about menstruation in the ambulance service environment; and addresses a gap in the paramedic literature about whether people who menstruate, while working in the ambulance service environment feel that their menstrual cycle affects their work performance, and whether their workplace supports their needs surrounding menstruation.

#### Data availability statement

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

#### CRediT authorship contribution statement

**Lisa Hobbs:** Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Software, Validation, Visualization, Writing – original draft, Writing – review & editing. **Scott Devenish:** Formal analysis, Investigation, Methodology, Writing – review & editing. **Louise Reynolds:** Formal analysis, Investigation, Writing – review & editing. **Anita Westwood:** Conceptualization, Formal analysis, Writing – review & editing. **Brianna Larsen:** Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

#### Acknowledgments

The authors would like to acknowledge the people who participated in this study.

#### Data availability

Data will be made available on request.

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Fellow of the Australasian College of Paramedicine and Safer Care Victoria Chief Paramedic Officer. Her extensive paramedic career spans operational and non-operational roles before transitioning to the higher education sector. Her academic career spans vocational training, undergraduate, and postgraduate programs in Australia, UK and South-East Asia. LinkedIn: <https://www.linkedin.com/in/louisereynoldsphd/> Twitter/X: <https://twitter.com/DrLouReynolds>

Anita Westwood is a registered paramedic, Lecturer in Paramedicine at the University of Tasmania and a member of the Australasian College of Paramedicine. Anita has over 10

years' experience in the tertiary sector and has worked operationally as a Critical Care Paramedic. Anita is currently completing a Masters in Public Health at the University of Melbourne specializing in gender equity.

Dr Brianna Larsen (PhD) is a Senior Lecturer of Sport & Exercise at UniSQ and member of the Australian Institute of Sport's Female Performance and Health Initiative Research Reference Group. She has a substantial track record in the field of occupational exercise physiology and has gained national recognition and media attention as a subject matter expert on the menstrual cycle and exercise performance.