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RESEARCH ARTICLE

Breaking the silence: the unexplored impact of perimenopause and menopause symptoms of female equestrians

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ABSTRACT

Understanding the impact of menopause (M) and perimenopause (P) symptoms with female equestrians is crucial as it not only affects participation but their overall well-being. Yet, there is limited research in this area, thus this study explored the P and M symptoms on rider participation. $n = 1{,}629$ female participants from a range of equestrian disciplines aged between 21 and 73 years of age ($x \pm s$; age = 51.86 ± 14.95 years) who were within or beyond P or M were recruited and completed an online questionnaire. Descriptive statistics and thematic coding were used for further analysis and interpretation. Key themes included: (1) Physical health changes, including joint pain (74%) and weight gain (66%). (2) Mental Health and emotional well-being, with sleeplessness (74%), anxiety (78%), and a loss of confidence (76%). (3) Riding confidence, with a decrease in riding confidence (75%). (4) Support and awareness suggested there was a lack of support within the female equestrian community. Finally, (5) Hormone Replacement Therapy alleviated symptoms that interfere with riding and daily life. The P and M experience for female equestrians is complex and can negatively impact participation, proactive awareness for riders and coaches can better support this life stage.

KEYWORDS

Menopause; perimenopause; equestrian; performance; female

Introduction

Menopause is a natural biological process that marks the end of menstrual cycles typically occurring in women in their late 40s to early 50s [1,2]. Menopause is reached after 12 months without menstruation and brings significant hormonal changes in the years leading to this event, notably decreases in natural levels of oestrogen, progesterone, and testosterone [3–7]. Menopause and more importantly its symptoms, have attracted greater attention within Britain over the past decade with the media increasing awareness [8], with the life stage being given greater consideration within the workplace [9]. The narrative surrounding menopause regularly focuses on negative aspects linked to female behaviour and dysfunction, thus potentially creating stigma around the topic with the casting of '*the menopausal woman*' as Goffman's 'dangerous other' [2,10]. Although for many women, menopause can be a positive experience, as McCall and Potter [8] describe the life stage as a '*second spring*'.

Despite the large number of publications on the perimenopause and menopause life stage and increased awareness by employers and media focus, menopause and perimenopause remain under theorised and poorly understood in the general context of women in sport, especially sex integrated sports with historically male-dominated origins such as equestrianism [11–13]. In such spaces, female athletes might consider strategies to mask symptoms to ensure consideration and selection on equal merit and not be tarred by latent menopausal stigma [14–16]. Within equestrian performance, the rider is required to be physically and mentally capable of communicating with their horse to create a harmonious partnership based on trust. This relies on a unique dyadic relationship between two sentient beings, where an issue with either part can influence the whole [17, 18].

As symptoms are very individual and can potentially impact rider ability and given the individual nature of symptoms, each rider might be impacted very differently, and some not at all [19–22]. By understanding the impact of menopause on females in equestrian sport is crucial, as Perz [19], Nelson [23], Martínez-Jauand *et al.* [24] and Rees et al. [25] claim that it affects not only physical performance due to physiological changes but

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also psychological well-being. Therefore, there is a need to research further, where this study aimed to explore the multifaceted effects of perimenopause and menopause on female equestrians, encompassing physiological, psychological, and cognitive domains. The significance of this research lies in its potential to broaden the knowledge base for all female equestrians, inform pathway and coaching strategies, and improve support systems for perimenopausal and menopausal riders, and ultimately contributing to even greater longevity of female equestrians' careers.

Methods

Participants and recruitment

$n = 1{,}629$ females aged between 21 and 73 years of age ($x \pm s$; age = 51.86 ± 14.95 years) from a broad range of equestrian disciplines (showjumping, eventing, dressage, carriage driving, vaulting, mounted games, polo/polocrosse, racing team chasing, endurance, hunting, TREC, Western, working equitation, showing) were recruited and believed to be experiencing, or had experienced, perimenopause or menopause. Recruitment of participants were made via several equestrian National Governing Bodies (British Equestrian, British Dressage, British Showjumping, British Eventing, Endurance GB, and British Horse Society) and organisations British Equestrian Level 4 coaches, The Society of Master Saddlers, The Well HQ, British Dressage Unofficial Member Forum, Equestrian retail business Classic Dressage, and Freedom Saddlery and Equestrian Trade News being shared on Facebook, email, text message and word of mouth. This research investigated the female equestrian rider experience whilst going through the perimenopause and menopause with a statistically powerful sample size of $n = 1{,}629$ females aged between 21 and 73 years of age.

Ethical considerations were undertaken to ensure compliance with research protocols at the University of Gloucestershire. All participants were allocated numbers to protect their identity. Right to withdraw and informed consent were read and agreed to prior to proceeding, which included a supporting statement concerning potential psychological distress that may occur resulting from their personal reflection of their experiences and symptoms. Data were stored on a password-protected computer, ensuring confidentiality during and after data collection and align with GDPR guidelines.

Procedure

Given the individual nature of menopause experiences and the potential psychological distress that may occur by reflection of their personal experiences and symptoms, the design of a questionnaire needed to accommodate these sensitive issues. The online non-validated questionnaire was designed to avoid any discernible bias by using Survey Monkey (2024), thus enabling the use of a Likert Scale, which provided 5 possible responses across a range of positive to negative, a technique developed by Likert [26] to measure attitudes [27,28]. The questionnaire consisted of 5 sections, including, (i) a welcome and consent (ii) equestrian biography and discipline (iii) specific menopause experience(s) in terms of physiological, psychological and emotional symptoms (iv) the impact of these symptoms in relation to riding confidence, competing, and being coached and finally (v) sought further insight as to their experience(s) participating in coaching and competition during this life stage. The questions in the latter section invited open-free format responses so that participants could share their experience(s) in greater detail. It is important to note that terminology used within the questionnaire was considered, particularly with the use of symptoms. For example, participants may not understand medical terminology such as vasomotor symptoms or somatic symptoms, but hot flushes and joint pain may be considered easier to understand. A pilot was conducted on $n = 3$ participants to mitigate against errors and reduce bias.

Data collection

A Survey Monkey online questionnaire was disseminated via equestrian social media platforms from 6 December 2023 to 22 December 2023. Due to the statistically powerful sample size of $n = 1{,}629$ participants, a decision was made to close within the small window of accessibility.

Data analysis

Numerical data were statistically analysed using Microsoft Excel including averages, range and standard deviations, and converted into figures and tables for illustrative purposes with student *t*-Test and *P* values (statistical significance was set at $P = < 0.05$) applied. Data from reflexive thematic analysis from the open ended questions were used to determine perceptions of their attitude and experiences to riding, competing, and being coached both before and during the menopause life stage.

Results and discussion

Responses from the questionnaire were summarised into 3 key themes (i) The female equestrian rider

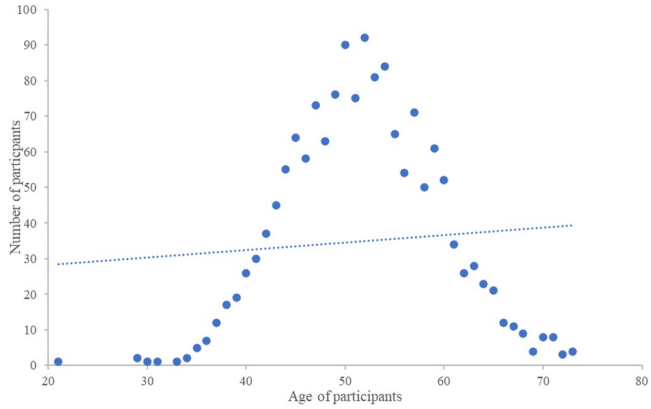

Figure 1. Age distribution of participants $n = 1561$.

experience whilst going through peri/menopause (ii) The specific challenges faced by a female equestrian and barriers to continued participation within equestrian sport and (iii) The female rider's perception of coach understanding and awareness of the peri/menopause experience and how it impacted their attitude to being coached. Figure 1 illustrates the age distribution of participants.

Theme 1: female equestrian rider experience whilst going through peri/menopause

To understanding the female equestrian rider experience, reflexive thematic analysis was undertaken, and 5 areas of experiences were identified. Firstly, physical discomfort and health changes: Participants reported issues such as fatigue and exhaustion (71%), joint pain and physical discomfort (74%), weight gain (66%), and decreased physical strength (71%) affect riding ability and enjoyment ($P < 0.01$). Some participants also experienced significant symptoms like heavy bleeding (31%) unexpected bleeding (28%) and urinary incontinence (39%), affecting their confidence and ability to ride, compete and be coached comfortably (75%) ($P < 0.01$). Secondly, mental health and emotional well-being: Participants stated that peri/menopause symptoms significantly impacted their mental health, leading to sleeplessness (74%), anxiety (78%), and a loss of confidence (76%) ($P < 0.01$). Riding and being around horses, however, offered a mental health respite for many, providing a sense of freedom, joy, and emotional support. Thirdly, changes in riding confidence and ability: 75% of participants reported a decrease in riding confidence, particularly around jumping and faster work, that was attributed to fears of injury and a longer healing process ($P < 0.01$). 50% adjusted their riding activities, opting for less risky disciplines, reducing the intensity of their riding younger or more spirited horses. Fourth, support and awareness: There is a noted lack of discussion and support regarding menopause within the equestrian community. Greater awareness, understanding, and open conversations are desired to help women navigate this life stage without feeling isolated or unsupported. Finally, Hormone Replacement Therapy (HRT) and management strategies: HRT has been beneficial for some, alleviating symptoms that interfere with riding and daily life. Others mention the importance of finding empathetic coaches, adjusting their riding practices and leaning on supportive networks within the equestrian community. One participant suggested that '… *horses have stayed in my life throughout & at times have helped get me through the menopause!*' Participant 829.

These 5 areas that highlight the complexity of the menopause experience for female equestrians. Despite the challenges, many find solace and strength in their connection with horses, underscoring the therapeutic value of equestrian activities during this transitional period [29,30]. Conversely, it is important to recognise that some participants claimed not to have suffered physical, psychological, or cognitive symptoms which impacted their involvement in equestrianism. There could be many underlying reasons appertaining to these responses. It may have been the genuine perception of the participant that they had not had any adverse effects, conversely, it could be that they were being stoic or have a fear of stigmatism and the medicalisation of what is a natural transition [31–33]. Yet, some participants, believed themselves to be symptom free and the questionnaire prompted realisation that symptoms occurring at this time of life may have been attributed to menopause.

Porter et al. [34] conducted research questioning $n = 8000$ women and concluded that 57% experienced one or more of 15 prelisted symptoms, with 22%

finding symptoms problematic, impacting quality of life. Ussher et al. [35] found that 25% of master's swimmers perceived menopause to be detrimental to their swimming performance and participation, with weight gain and sleeplessness being major factors having a negative effect. By comparison, this research aimed to better understand the female equestrian experience of the climacteric, particularly those who perceived themselves to be negatively impacted. The results of diminished confidence, reduced motivation to ride and compete, echoed the results from Ussher et al. [35]. Almost 80% of female equestrians agreed or strongly agreed that at least one or more symptoms had impacted their enjoyment of riding, with 9% in disagreement ($P < 0.05$). These are more significant than the findings from Ussher et al. [35] and Porter et al. [34], and could be due to the associated costs of the sport or simply due to the physicality and daily effort required to be involved in the sport of equestrianism and owning horses.

Theme 2: specific challenges faced and barriers to continued participation within Equestrian sport

A total of $n = 1{,}629$ individuals participated in the study, representing a broad representation across equestrian disciplines. The sample comprised of dressage riders ($n = 1{,}077$), pleasure riders ($n = 1{,}040$), show jumpers ($n = 718$), eventers ($n = 533$), hunters ($n = 306$) those involved in showing ($n = 207$) and endurance riders ($n = 199$). This diverse participation highlights both the extensive reach of the study and the robustness across key areas of the equestrian community. Over 90% of participants had ridden for more than 20 years, and 75% rode between 2 and 6 times a week, $n = 251$ participants rode 6 or more times a week. Results concluded that participation in eventing and showjumping almost both reduced by half with participants no longer participating in these disciplines – having done so earlier in their life as an adult. These are perceived the riskier disciplines, and increased anxiety and confidence loss was given as a key reason for retiring from these disciplines. Unexpected menstruation, heavy menstruation, or urinary leakage were frequently cited as symptoms impacting participation in a female equestrian within the climacteric life stage. The preference not to compete increased from 1 rider in 10 to 1 rider in 4 once within the life stage, with over 75% of participants suggesting their riding confidence level having reduced.

Physiological symptoms

Figure 2 illustrates a broad range of symptoms experienced by female equestrians, with joint and muscular pain (74%, $n = 251$) being the most prevalent, particularly of the hip joints, hands and fingers. This pain, whilst riding and performing horse care duties, can make both difficult. Participant 36 reinforces this by claiming, '*Exhaustion and joint pain were big contributors to stopping riding, which I only did 18 months ago*' (see Figure 2).

Hot flushes impacted 68% participants when riding and made them feel very uncomfortable with increased body temperature and excessive perspiration, followed by feeling cold after they have ridden. Weight gain was reported at 66% of symptoms experienced, which some participants commented on their concern for their horse, and anxiety at being too heavy for them with the weight increase. Understandingly, there is heightened awareness as to the welfare of the ridden horse and combined with female rider weight gain may be impactful in terms of motivation [36,37]. Monteleone et al. [38] suggested that although there have been numerous scales and measures of symptoms to ascertain the

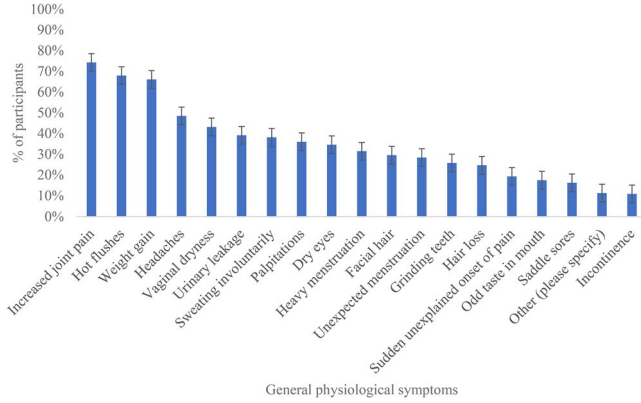

Figure 2. General physiological symptoms experienced by female equestrians.

most frequent, few are validated, reliable or standardised. Jacobs et al. [39] argued that lifestyle variables impact menopause symptoms that affect quality of life, such as working or being active. It is therefore not possible to compare these results against a standardised symptom scale as it is so individual. Given that equestrian is a physically demanding sport, which necessitates activity for the basic care as well as the physical act of riding, this research argued against the theory put forwards by Elavsky and McAuley [40] that being physically active may reduce perceived severity of menopausal symptoms. The response rates of participants ($n = 1{,}213$) who have experienced quite severe symptoms contradict this notion, whereby, their stoicism to still be riding and caring for their horses may be connected to the therapeutic benefits of being with horses [41,42].

Sudden and unexpected menstruation whilst riding/competing can be distressing. Within the past 12 months, the rule to permit dark breeches in acknowledgement of female concern of unexpected menstruation has been relaxed [43]. Participant 442 recalled that, '*Having flooded publicly mid-test at an Area Festival I was mortified*'. When riding during winter months, it is usual to wear several layers of clothing to keep warm, but sudden and extreme body temperature increases are a symptom of menopause, although wearing too many layers can cause discomfort. Therefore, when riding, it can be problematic removing layers without dismounting from the horse, which is not always practical, so base layer clothing can become damp from body sweat and when body temperature returns to normal, this can continue to create discomfort from wearing damp under clothing. The physical effort of riding and performing horse care duties requires a degree of physical fitness. Physical fatigue, tiredness and exhaustion will make these activities more challenging, especially during bad weather, where Participant 189 stated, 'I *just don't have energy and strength that I had for riding before menopause*'.

Genitourinary symptoms are common during menopause, and conditions such as incontinence and urinary discomfort are frequently cited as factors that affect participation in day-to-day equestrian activities, often resulting in physical soreness. It can be distressing, especially if there are no toilet facilities, or a leakage that occurs that goes through clothing. Participant 751 claimed that '*Incontinence and leaking has had the biggest impact on wanting to ride. Embarrassment of leakage or wearing pads is hard*'. Vulvovaginal atrophy is a known symptom of menopause caused from decline in oestrogen production, and riding astride a horse can cause friction and subsequent extreme pain during and after riding. This can be an embarrassing symptom to highlight, although participant 954 raised this notion, suggesting it might be related to menopause, claiming '*My lady parts become badly cut from friction in the saddle, maybe my skin is thinner these days?*'. It is important to recognise that other athletic populations for whom a seated position is a fundamental requirement, such as cyclists, may also be impacted by this issue. Other symptoms, such as tiredness and fatigue, may impact the onset of headaches and migraines, with almost half of the participants stating this symptom. Other symptoms may also impact this, such as lack of sleep supported by Bonanni et al. [44], Proserpio et al. [45], and Sands-Lincoln et al. [46]. Overall, the physicality of riding and caring for horses is extensive compared to other sports, as suggested by Williams and Tabor [47]; thus, coping with unwanted physical symptoms can cause additional barriers for female equestrians to participation and perform.

Psychological/psychosocial symptoms

Psychological symptoms such as loss of confidence and anxiety were the most common psychological symptoms experienced by participants, with 78% response ($n = 468$) as shown in Figure 3. Participants supporting these results are by highlighting the issue, and for some, this was seen as a temporary symptom, and are in line with research by Ussher et al. [35].

Given the nature of riding and horses being sentient beings, a lack of confidence from the rider can negatively impact performance in competition and training. Participant 771 stated that, *'I'd not thought about menopause being a factor in my loss of confidence until this survey'*, whilst Participant 339 summed up her experience as, *'Fear. Absolute fear. Like a novice again'*. Results also found that sleeplessness (74%) and exhaustion (71%) were the next most frequently experienced symptoms, with mental tiredness, fatigue and exhaustion consolidated as one symptom and perceived by 24% of female equestrians as most impactful on their sport. It is important to observe that these are potentially linked symptoms and could be causal by sleeplessness. Definitions were not prescribed; what one participant perceived as tiredness, whereas another may perceive as exhaustion. Lack of motivation and lack of drive were regularly commented on by participants, and in line with the work of Ussher et al. [35], with Participant 554 claiming that, '*the menopause has had a massively negative impact on my drive and enthusiasm for life*'.

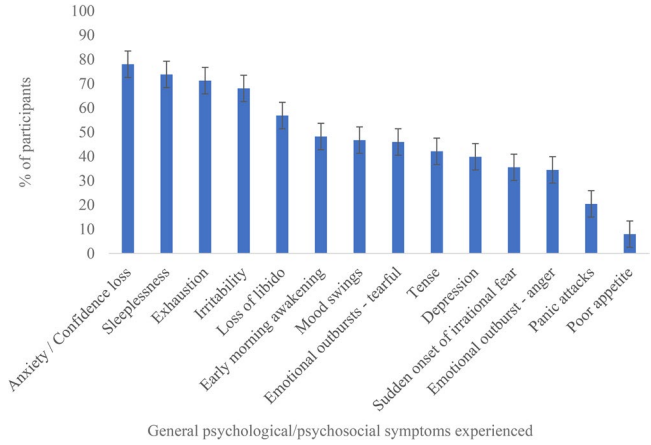

Figure 3. General psychological/psychosocial symptoms experienced by female equestrians.

Cognitive symptoms

One of the reported effects of cognitive symptoms general experiences during peri/menopause, is a reduction in processing and recalling information, which has been suggested by William *et al.* (2022), that it could be linked to physical symptoms such as fatigue and exhaustion. Results indicated that brain fog ($n = 301$, 80%), forgetfulness ($n = 156$, 73%), and poor concentration ($n = 110$, 72%) were reported as being the most frequently experienced symptoms. Memory loss ($n = 81$, 54%), inability to focus under pressure (41%), and falling asleep or needing to (39%) also featured prominently. Participant 405 cognitive issues were described as, '*the idea of competing much more overwhelming and stressful than previously…find it much harder to remember dressage tests*'.

Cognitive issues feature highly with female equestrians and could potentially be linked to a loss of motivation to compete. Equally 'lack of focus' could potentially be dangerous in a riskier discipline such as eventing. When asked about any impact on participation of riding during this life stage, 21% continued to ride regardless and 32% said it did not impact their desire to ride. 80% ($n = 1{,}092$) of participants agreed with the statement that one or more symptoms has at some time affected my enjoyment of riding and only 9% disagreed. Just over 35% stopped riding completely, temporarily or adapted their riding activity. Responses suggested for some riding was a way of helping menopause symptoms and being with horses having therapeutic value [29,30]. Furthermore, ($n = 945$) 71% stated that one or more of the symptoms affected participants' confidence in competing, where participant 1267 claimed that '*I didn't stop riding but became more anxious about certain things like going to clinics and competing* and participant 460 stated, '*having previously jumped 1.25 I now can't jump really at all*'. Participant 461 described '*This year I've lost all desire to ride…This is so unlike me, I was riding three every day for 5 days a week previously. I feel lost*'. Given the pressure of competitive riding, and the responses regarding anxiety and confidence symptoms,

Theme 3: the female rider's perception of the coach understanding of the peri/menopause experience

50% of the participants who were coached by a female believed their female coach created an environment where they felt they could speak openly about symptoms, whereas with male coaches this number reduced to just over 10%. Willingness to speak openly during a coaching session about symptoms was directly influenced by the gender of the coach and the likelihood of mentioning symptoms with a male coach compared to a female coach was significantly reduced. This would suggest there is work to do to raise coach awareness, with male coaches, perhaps through CPD training. When asked about the impact symptoms have had on enjoyment of coaching sessions, over 60% of participants agreed that their coaching sessions had been negatively impacted. Coaches still have some way to go to be more empathetic with their students and perhaps have greater understanding and awareness of the experiences the rider might be going through. 1 in 3 participants had stopped being coached for a variety of reasons. For example, participant 301, stated, '*I have cut down on lessons and competitions due to urinary leakage. Very embarrassing*'. It is important to note that not all equestrians are coached and there was some acknowledgement that confidence issues have been helped by a coaching session. Weight gain was frequently mentioned as a

reason to stop riding and being coached. Comments made by participants suggest there is scope for coaches to be more rider centred, acknowledging the issues and providing sessions to support female equestrians. Further responses suggest that an empathetic coach can be viewed as a positive step to managing menopausal symptoms affecting confidence and anxiety and proactively keeping female equestrians participating.

Conclusion

This research investigated the female equestrian rider experience whilst going through the perimenopause and menopause with a statistically powerful sample size of $n = 1{,}629$ females aged between 21 and 73 years of age. Most female equestrians encountered challenges during the climacteric, which can negatively impact their participation and performance. Physical, psychological, and cognitive symptoms varied according to the individual, but key symptoms impacting participation in equestrian sports emerged from within the data, these being anxiety and confidence loss, musculoskeletal pain, and brain fog. Some symptoms suffered had not been previously linked to menopause. The inquiry as to female riders' perception of coach understanding of the perimenopause and menopause experience gave rise to concerns around coach empathy and awareness of the life stage. There is a perception of a lack of support regarding perimenopause and menopause within the equestrian community. These results suggest women need proactive management to help navigate this life stage, with the importance of finding empathetic coaches suggesting they have a strong role to play from both a participation and performance perspective. Thus, keeping women active in sport for longer is a key government target and this research could inform both women and sporting bodies of the key challenges faced and barriers to continuing being involved in sport whilst experiencing the perimenopause and menopause.

To conclude, the life stage could be viewed as simply part of the ageing process, a transitionary and temporary period. Yet evidence suggests that some women are reluctant to view peri/menopause as the source of the symptoms and challenges they encounter during this life stage. Some women, however, may choose to downplay their symptoms to mitigate possible career repercussions and preserve a sense of equality and competitiveness within the sex-integrated equestrian field. Female equestrians are physically active due to the work involved in caring for the horse and invest time and financially on a horse's wellbeing. This commonality may be the reason why the symptomatic impact on their participation and performance is felt more acutely. Given the positive benefits of therapy with horses, it is interesting that the results still show a more adverse perception of symptoms. However, given the physical and mental attributes required to be involved in equestrianism, and the impact symptoms have on the rider physically, psychologically and cognitively, it is perhaps of no surprise that these peri/menopause symptoms create a barrier to the enjoyment.

Ethical approval

Ethical approval was granted by the University of Gloucestershire Research Ethics Panel; Guarantor – The guarantor (SB) is willing to take full responsibility for the accuracy and appropriateness of the reference list.

Author contributions

Contributorship is by Stephanie Bradley (main author) and Dr Claire Mills (editor).

Disclosure statement

No potential conflict of interest was reported by the author(s).

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