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Review article

Menopause and healthcare professional education: A scoping review

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ABSTRACT

Objectives: There has been a growing discourse regarding menopause, but despite this growth there is little education on this important topic across health professions. This scoping review provides a comprehensive synthesis of how menopause is represented in health professions' education literature, to inform future pedagogy and practice.
Design: A scoping review using the framework developed by Arksey and O'Malley (2005).
Methods: In the scoping review, only empirical studies were considered and only those published in the English language were included. Four databases were interrogated using a variety of search terms, including menopause, healthcare, medical and education.
Results: Twelve studies were included and mapped independently by the authors onto the internally developed data-extraction tool. Insights into how menopause is understood in educational terms and how it is taught within health professions' education were gained, specifically in relation to knowledge, language used, and learning and educational gaps.
Conclusion: The review establishes how menopause is understood in educational terms and how it is taught within health professions' education, and develops an understanding of the pedagogy of menopause. There is an urgent need for menopause to be included in mainstream curricula and for an appropriate pedagogy that acknowledges the complexity of the topic, to achieve excellence in education across health professions' education. There is a broader perspective in addressing the challenges for health professions' education in terms of the prioritisation and pedagogy of women's health.

1. Introduction

Menopause has attracted much media attention over recent years, with more menopausal women in work, stories of women not being listened to, combined with fear of both prescribing and taking hormone replacement therapy (HRT). In the UK, we are now starting to recognise women's health as a priority [1] and as women's life expectancy reaches 82.9 years [2], women will live for many decades after they have experienced menopause with the associated potential impact on their later life health. Menopause is not something that only affects older women; although usually affecting women between the ages of 45 and 55, some women become menopausal in their thirties or earlier [3]. Considering this with the rise in workforce participation among those experiencing menopause [4] it provides compelling economic reasons for investing in menopause care.

Menopause is often referred to as a taboo topic, associated with feelings of shame [5]. Graugaard [6] identifies 'two-way taboos' where neither healthcare professions nor patients initiate conversations around a subject, however the key to excellence in care is shared understanding and language. The discourse around menopause is a symptom of wider issues in women's health, with lack of understanding of physiology, treatment options and impact on some women. The British Menopause Society set out its vision for menopause care in the UK [7]. As part of their approach, they champion a 'well-educated healthcare professional workforce' that 'not only has the basic understanding and awareness of how menopause affects women but also the optimum skill mix to cater for a wide population demand' [7]. With this focus, our intention was to complete a scoping review of empirical literature to establish how menopause is understood in educational terms and how it is taught within health care professions education with a view to developing understandings of the pedagogy of the menopause.

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2. Methods

We used the five-step framework developed by Arksey and O'Malley [8], updated by Levac et al. [9] to conduct the scoping review. This approach is suited our research questions; we wanted to identify the nature and extent of the research evidence [10] and it is methodologically rigorous and allows us to be transparent, permits replication of our search strategy and confirms reliability in our findings. The five stages are: 1: identifying the research questions, 2: identifying the relevant studies, 3: selecting studies to be included, 4: charting the data and 5: collating, summarizing and reporting the results.

2.1. Identifying the research question

This scoping review had two objectives. It aimed to establish how menopause is understood in educational terms and how it is taught within healthcare professional education.

Our research questions were developed through a consultative process which included both authors, following this all potentially relevant studies were identified by conducting an extensive search of the literature based on a set of inclusion and exclusion criteria.

2.2. Identifying the relevant studies

We identified our search terms as menopause (menopaus*), perimenopause (perimenopaus*), curriculum, curricula, medicine (medic*), education, medical education, clinical education, health professional education, health(care) professional, doctor, nurse, postgraduate, undergraduate and training. The authors independently ran searches on OVID Medline, Scopus, Web of Science and Eric in April and May 2021. A hand search was completed of key education journals and of reference lists of studies that were selected. Any duplicates were removed. We chose to only include studies that were empirical so review, opinion pieces and abstracts were not included.

2.3. Exclusion criteria

Articles that were opinion pieces, conference abstracts and reviews were excluded. We included only articles published in the English language.

2.4. Selecting the studies to be included

To select studies for inclusion we used an iterative approach; the authors independently reviewed all titles and abstracts of all citations. To facilitate calibration, the authors met 3 times with the first meeting focused on developing a shared understanding of the selection criteria. In subsequent meetings any discrepancies were discussed, and a comparison of selected citations completed.

2.5. Charting the data

A data extraction sheet was developed consultatively, guided by the research questions. Each study was again reviewed independently by the authors, any discrepancies were discussed, and a conclusion reached by the two authors.

The data extraction sheet included key data: publication year, publication type, country, aims and purposes of the research, population size and sample (if applicable), methodology and method, intervention type comparator and details of these (if applicable). Outcomes and key findings that related to the scoping review questions were also included.

The data was independently thematically analysed using the framework developed by Braun and Clarke [11,12] as we searched patterns, similarities and contradictions across the data in relation to our research questions. The aim of the review was to synthesise the emerging data, rather than assess the quality of individual articles and as such study quality was not assessed.

The results are presented below.

2.6. Collating, summarizing and reporting the results

Title and abstract screening identified 758 articles for full-text screening.

5 articles were eligible for inclusion in the review.

A further 7 articles were included via backwards and hand searching.

In total, 12 articles were included (see Fig. 1).

3. Results

All studies (see Table 1 for summary) were from high income countries with the majority (n = 8) from the USA and the remainder from Australia (n = 1), UK (n = 1), New Zealand (n = 1) and China (n = 1). All studies concerned doctor education and did not focus on wider healthcare professions education.

Nine articles were concerned with postgraduate training or continuing medical education [13–21] and 2 with undergraduate medical education [22,23]. One article concerned textbooks [24].

Data collection methods were varied; five used survey methods, one included self-reported assessments [13,15,17,18,21], 1 considered Foucauldian discourse analysis [24], one considered a cross sectional analysis of data from the ReCEnT cohort study [14] and one considered pre and post session knowledge tests [19]. The focus of two articles was evaluation of the educational strategy used to teach about menopause [20,23].

Our data synthesis considers three concepts: (1) understanding knowledge; (2) learning and educational gaps (3) language. We present these concepts below and specify how they map to the review objectives.

3.1. Understanding knowledge

All articles recognised the importance of understanding menopause and significant knowledge gaps as a barrier to providing optimal care to women. Christensen et al. [13] and Kling et al. [17] report discomfort from doctors in both topics related to menopause and with levels of knowledge and treatment around the menopause and sequelae. Kling et al. [17] considers whether there is a reluctance to offer HRT due to outdated understanding of the perceived risks or an avoidance of unfamiliar and so uncomfortable clinical issues. Only 12 of 177 respondents felt adequately prepared to manage women experiencing the menopause [17]. In some articles over 90 % of trainees felt unprepared to deal with menopause despite this being a transition that half the population will experience [17].

The knowledge of and nature of training for menopause management was evaluated by Kling et al. [17]. They consider a medical model, and do not discuss holistic care; within this study there is no consideration of impact on the woman or her quality of life.

Menopause is portrayed as failure and the precursor to disease according to the Foucauldian discourse analysis of textbooks by Reid et al. [23]. Women's bodies are represented as reproductive systems that then 'fail' are 'infantile' and 'easily damaged' therefore constructing the 'normal' female as young and reproductive. In addition, menopause is presented as 'solid' and 'factual'. We know menopause is experienced in a multitude of ways, so need to challenge this narrative and the biomedical approach to understanding the menopause as it is too simplistic, giving rise to the notion that unless you are young and reproductively able, you are worthless.

3.2. Learning and educational gaps

This review found self-reported feelings of inadequacy when it comes to discussing menopause and a need for training on different approaches, including developing learning around HRT. Shinnick et al.

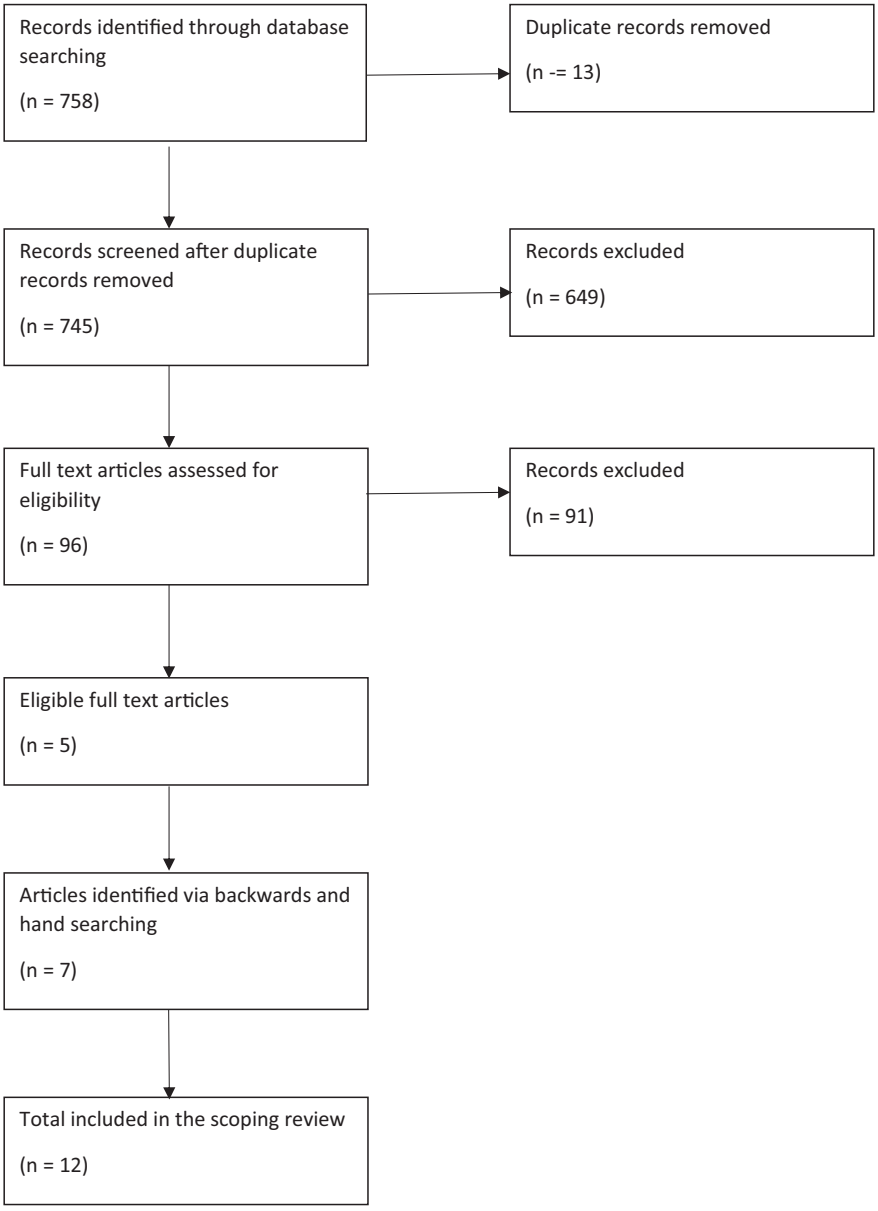

Fig. 1. Flowchart of search strategy.

[20] identified that residents' self-reported low confidence in managing menopause basics and even fewer had confidence in the use of HRT.

Kling et al. [17] report that 20.3 % of residents in family medicine had no menopause lectures, with less than 7 % feeling adequately prepared to manage menopause. Similarly, De Giovanni et al. [14] in a cross -sectional survey of GP Registrars found they sought more assistance with menopause interactions than any other problem, indicative of a need for further teaching on this challenging area of practice.

There is no doubt doctors believe menopause to be an important topic in women's health but there is a distinct lack of education about and exposure to menopause within clinical practice and this leads to discomfort in discussing it [21]. Christiansen et al. [13] sought to consider the current teaching of menopause in Obstetrics and Gynaecology (O&G) residency programmes; 67 % of those surveyed stated they did not adequately understand HRT. More concerning is that with qualified healthcare professionals, almost half of those asked had not received menopause management training or were not familiar with it [18].

Studies of the teaching of menopause within undergraduate medicine are few. Schnatz and Marakovits [22] surveyed third year medical students and asked them about their exposure to common clinical events in O&G with 95 % stating they had experienced routine gynaecology, 83 % urinary tract infections but only 60 % recollected menopause.

This reflects medical students' perceptions of their exposure to menopause but the difficulty is knowing whether students are being formally taught about menopause, whether they recognise implicit teaching about menopause (seeing a patient with menopausal symptoms in a clinic, for example) but not recollecting these sessions or are they not being taught about menopause.

Medical students demonstrated discomfort in managing menopause [23]. They were utilising a telemedicine format when engaged in remote learning about menopause with simulated patients. Half were unable to identify one appropriate strategy for management of menopausal symptoms. The students did, however, rate the learning experience highly, appreciating the introduction of the topic, indicating students are wanting to explore these discussions with patients but are not equipped to do so.

Table 1
Summary of articles included in the scoping review.

Author and year	Country of study	Aim and method	Key findings
Christensen et al. [13]	USA	Aimed to understand how menopause is taught in US residency programmes. A survey was used to gather information from providers.	Some residency programmes do not fulfill the educational goals of their residents in menopause medicine. A curriculum would be beneficial for increasing knowledge and clinical experience on menopause issues.
De Giovanni et al. [14]	Australia	Aimed to investigate the prevalence and associations of GP trainees' management of women with menopause-related symptoms. They used a cross-sectional analysis from the Registrar Clinical Encounters in Training (ReCEnT) cohort study, considering more than 1200 interactions.	GP trainees seek more assistance and further knowledge about menopause compared with other problems. They find the area particularly challenging and could benefit from further education regarding managing menopause
Gleser [15]	UK	The aim of this study was to explore and compare the views, attitudes and practices of specialist trainee doctors in cSRH and O&G in relation to the sexuality and sexual healthcare of (peri) menopausal women.	Both study groups had positive attitudes towards sexuality and sexual healthcare of mid-life and older women. However, community SRH trainees had significantly more confidence in dealing with psychosexual problems and perceived significantly less barriers to deliver comprehensive menopausal care compared to their mainly hospital-based gynaecological colleagues
Jiang et al. [16]	USA	The purpose of this study was to assess the effectiveness of a menopause clinic to enhance trainees' medical knowledge.	Menopause clinics can add to resident physician knowledge about menopause-related matters. There was no correlation with numbers of clinics attended. Menopause clinics may help educate future physicians in their ability to care for postmenopausal women.
Kling et al. [17]	USA	Aimed to evaluate the knowledge of and nature of training for menopause management in postgraduate residents. Data collected by anonymous survey.	Family medicine, internal medicine, and obstetrics and gynaecology residency trainees recognise the importance of training in menopause management, but important knowledge gaps exist. Investing in the education of future clinicians to provide evidence-based, comprehensive menopause management for the growing population of midlife women is a priority
Lin et al. [18]	China	This study aimed to understand the attitudes of health-care professionals towards menopause management as well as the knowledge/ teaching they received regarding about this topic during their training. That data was collected using an anonymous survey.	This survey indicated that healthcare professionals have some knowledge regarding menopause management but gaps remain. To manage the growing menopausal population in China, creating more in-depth educational menopause management training programmes is necessary
Ng et al. [19]	USA	This study was developed to improve residents' confidence in managing women's health. In response to a needs assessment which highlighted residents' dissatisfaction with the current curriculum, the authors developed and assessed a structured curriculum to improve residents' knowledge and confidence in addressing geriatric women's health.	Learning about the menopause increased confidence among residents in addressing this topic.
Niland & Lyons [24]	New Zealand	The study examined international medical student textbooks as sites of current biomedical knowledge, communicated for a new generation of health professionals. The authors undertook a Foucauldian discourse analysis on eight widely-used, international medical textbooks across physiology, pathology and pharmacology subject areas to identify the ways in which menopause and HRT are portrayed.	This study suggests that bio-social understandings of menopause and HRT, and their medical uncertainties, need to be addressed in medical curricula to ensure that doctors engage with midlife women in appropriate and positive ways, especially given the increased call for women's involvement in decision-making at this time.
Reid et al. [23]	USA	The aim of this study was to introduce medical students the diagnosis and treatment of menopausal symptoms and the process of conducting a telemedicine visit. Encounters were conducted with standardised patients and data collected via encounter feedback and session evaluations.	While medical students demonstrated discomfort with both managing menopause and using a telemedicine format, this SP case provided an opportunity for them to practice both skills in a safe learning environment.
Schnatz and Marakovits [22]	USA	This study aimed to identify the percentage of students who thought that they were exposed to the clinical management of menopause compared with other obstetrical and gynaecological procedures and topics. The authors used a	As the number of menopausal women and the demand for physicians with expertise in the clinical management of menopause is increasing, exposure of medical students to menopause management may increase awareness,

(*continued on next page*)

Table 1 (*continued*)

Author and year	Country of study	Aim and method	Key findings
		survey designed to collect data about the educational experience.	interest, and the selection of this subspecialty as a career option.
Shinnick et al. [20]	USA	The aim of this study was to evaluate residents' retention of menopause-based knowledge immediately after, and 3 months after completion of, self-administered modules that varied by menopause-related topic and delivery format.	Participation in this specialised menopause curriculum led to short-term increases in objectively assessed menopause-related knowledge. Tailoring self-administered learning modules to learning styles did not, however, effectively enhance overall knowledge retention on 3-month follow-up, though comfort in managing menopause remained increased
Shrivastava et al. [21]	USA	The aim of the study was to assess and improve WH education in a large academic community-based IM residency programme. Residents were surveyed on areas they felt they'd had insufficient education.	The residents identified 13 of 34WH topics that were critically important to their training. Of these, residents believed they had insufficient clinical exposure to several topics including managing menopause. Residents identified osteoporosis as their single greatest learning need. A series of workshops were developed to remediate these topics although menopause was not considered.

Interestingly, several papers focused on the method of teaching delivery rather than the actual menopause session content. Shinnick et al. [20] found that designing learning modules according to learning styles was not necessary. This is unsurprising, we know that varied delivery and right method for content are important factors when developing educational sessions, which must be constructively aligned [25]. Ng et al. [19] utilised a jigsaw method to enhance medical residents' knowledge and attitudes in 'managing geriatric women's health' finding this was effective in increasing knowledge and confidence. Reid et al. [23] focused on the utilisaton of a telemedicine format. There was a consensus by those participating that they appreciated the teaching but there was little or no evidence of effectiveness.

Where teaching about menopause did occur, it was received positively. Shinnick et al. [20] evaluated knowledge retention immediately post and 3 months post completion of self-administered modules that varied by menopause related topic and format of delivery. Unsurprisingly, they found that knowledge increased immediately after the teaching session but had returned to base line 3 months later. This is reflected by Jiang et al. [16] who report that rotations to menopause clinics may help educate future physicians in their ability to care for post- menopausal women. The importance of training is recognised in all the studies considered here.

3.3. Language

We need to challenge the language used within the literature in relation to menopause. Ng et al. [19] uses language such as 'geriatric women's health workshop' that aims to address menopause within the geriatric women's health curriculum. Gerontology is the study of ageing including biologic, sociologic and psychologic care, most women to do not need specialist geriatric care until 75 or 80 years of age [26], however the average age of menopause is 51 [27] with many people experiencing at times quite debilitating symptoms in their forties or earlier [28]. Jiang et al. [16] discuss the care of postmenopausal women but many women also need care through the perimenopause.

This way of considering women and menopause is exacerbated by academic books. Niland and Lyons [24] discourse analysis of medical textbooks found menopause presented in negative ways, using an outdated representation of the medical model, having the language of 'failure' which reinforces the notion that menopause is a problem that can be fixed and thereby contributing to the narrative around menopause as a negative.

Gleser [15] describes more O&G trainees in their study were likely to refer women to specialist psychosexual services. The reason for this is two-fold, firstly, a lack of time for discussion within the consultation and secondly because of the perceived unease from their patient at this type of conversation, poor coverage of the topic in their curriculum, lack of training in how to approach and treat post reproductive sexual problems and lack of knowledge about local referral pathways. Not having the right language to discuss menopause means we as educators are failing our doctors and we are all failing our patients when they come to us with their menopause problems.

4. Discussion

To the authors' knowledge, this is the first scoping review to synthesise the empirical literature focusing on how menopause is understood in educational terms, and secondly how it is taught within healthcare professional education.

There has been recent surge in the narrative within society about menopause but little dialogue in medical schools and in the postgraduate curriculum. We need to think about when learning should start and make sure it is considered at every stage of training and through continuing professional education (CPD). In addition, the papers within this scoping review refer to doctors' education and not other healthcare professions. We question whether menopause is taught, for example in undergraduate nursing curricula as this is not reported in the literature but would seem important.

There is a disappointing paucity of taught menopause content reported across medical education. Most studies centre on postgraduate education, be that during specialty training or with qualified health professionals in practice. We believe learning about menopause should start earlier and question if medical schools should prioritise menopause as a central concept to be taught throughout the curriculum, especially as menopause is now part of the sex education curriculum taught in UK secondary schools [29]. The importance of training is recognised in all the studies considered here. There is a need to invest in education to provide evidence-based menopause management as a priority to improve women's lives and to allow them to contribute to the workforce [30]. Education needs to include undergraduate medical students and postgraduate doctors in such specialties as, but not limited to, O&G and general practice.

There is a desire from doctors to receive teaching about menopause [19,20,23]. Where teaching about menopause did occur, it was received positively however there appears to be a disconnect between teaching and knowledge retention. We know we need to use knowledge and skills in order to retain them, there is truth in the old adage 'if you don't use it, you lose it'. There is a considered literature around knowledge retention/decay [31], skill retention is a critical concept within patient safety [32]. We regularly review and refresh clinical skills so why not integrate training and CPD for menopause into curricula.

Considering Niland and Lyons [24] Foucauldian discourse analysis of textbooks, the knowledge is presented as factual and solid, yet we know perimenopause and menopausal experiences, signs and symptoms and

the resultant impact vary [34]. The way menopause is presented in textbooks and taught is too simplistic. This very basic way of thinking about menopause does not allow for flexibility in discussions with women or in the management of menopause. There is both implicit and unintended learning in any curriculum so the message needs to be clear with development of critical thinking skills and creation of links, for example the links between urinary tract infections and menopause. We consider that a different pedagogical approach to menopause across medical education is required. Menopause needs to be taught through discourse, interaction and collaboration with a holistic approach. Teaching about menopause needs to consider the impact on the individual, their personal and working life and not only consider medical management, for example, inappropriate use of antidepressants to manage symptoms, or HRT, which is routinely felt by women to be underused [27].

There is an urgent need to re-consider how women's health is represented. Female doctors were more likely to diagnose menopause and indicate that training is important. This is part of a wider issue, to recognise women's health as a priority [34]. Menopause needs to be reframed in education as a transition that affects half of the population.

We need to challenge the societal view of menopausal women as '*old crones*'. This can start with the language we, as healthcare professionals, use. Already we see inappropriate language used within the literature in relation menopause [19,24]. The use of 'geriatric women' in relation to menopause is not acceptable or helpful. As the average age of menopause is 51, and with many people symptoms in their forties or earlier [28] using the term geriatric care does not seem reasonable. As educators we must role model use of, not just un-biased language, but positive language in women's health and menopause education to change this narrative and educate everyone, not just new professionals, on the importance of language in education.

We need to consider who is taught with regards to menopause and where the best place for this teaching is in their learning journey. How can we as educators address the 'discomforts' in discussing topics related to menopause. We believe this is not taught as it is not seen as important, a significant indicator of a wider issue around women's health in general not being prioritised and older women seeming even less important. We know that 4.3 million women aged 45–60 are in the workforce [35], the economic value of this and that employment tribunals citing menopause have risen from 5 in 2018 to 10 in the first six months of 2021 [36], in addition to this, issues of intersectionality makes this a topic which requires urgent consideration, starting with healthcare professional education.

We consider if there is an issue in the demedicalisation of menopause post the Women's Health Initiative combined trial results in 2002 [37]. Preceding this, HRT was generally viewed as safe and effective in symptom control and chronic disease protection. We recognise menopause as a natural transition which does not require pathologising however, it is not always an easy transition, and some have been left to suffer debilitating symptoms without appropriate care. There needs to be prioritisation of educational provision to healthcare professions and those who are experiencing menopause, of relevant up to date information and care, so people are enabled to choose the best care for them.

The time to act is now, menopause is not just a women's issue but there is an urgent need to prioritise women's health, in particular around menopause. We propose a fresh pedagogical approach that straddles all undergraduate healthcare curricula and through appropriate postgraduate and CPD education. We call for the narrative around menopause to change by equipping professionals with the language, correct contemporary knowledge and skills to enable them to have positive conversations with women, without embarrassment, so they are enabled to make informed choices about their menopause and individual circumstances. Our educational goal is for menopause to be taught through discourse, interaction and collaboration with peers, experts and utilising patient stories and experiences to develop an unbiased language. As menopause is complex, education needs to consider not only symptom management but also the impact on the individual, their personal and working life.

4.1. Limitations to the study

One limitation of this study is that it exclusively considers empirical research. This focus was taken as consideration of the pedagogy of menopause is a new concept in health professions education. We wanted to review the evidence related to menopause education for all health professionals as a start. The paucity of research in this area means further work on how menopause and other women's health topics are taught and understood is essential.

5. Conclusion

Menopause and concurrent lack of understanding of physiology, treatment options and impact on some women is reflected in educational discourse. Our goal was to establish how menopause is understood in educational terms and how it is taught within health care professions education with a view to developing understandings of the pedagogy of menopause. Much can be learned from this review regards health professions education in terms of both the need to change language and attitudes to represent the reality of (peri) menopause and an urgent need for menopause to be included in mainstream curricula so contemporaneous information and understanding of treatment options is taught and allows individuals to broach difficult topics. We require an appropriate pedagogy that acknowledges the complexity of menopause to achieve excellence in education across undergraduate and postgraduate curricula and in the continuing professional development of health professionals. We argue we offer a broader perspective in addressing the challenges for health professions education in terms of prioritisation and pedagogy of women's health per se, as lack of education about menopause is symptomatic of a wider issue regarding lack of emphasis on women's health.

Contributors

Barbara E Macpherson participated in data collection and drafting and editing of the paper.

Naomi D Quinton participated in data collection and drafting and editing of the paper.

Both authors saw and approved the final version and no other person made a substantial contribution to the paper.

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Declaration of competing interest

The authors declare that they have no competing interest.

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