Full Title: A human rights assessment of menopausal women's access to age and gender sensitive non-discriminatory healthcare in prison.

Running Title: Menopause management and women's right to healthcare in prison

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Abstract

Importance and Objective: Women represent about 6% of the global prison population of 11 million. The female prison population has increased significantly in the past decade. Where attention is devoted to women's unique sexual and reproductive health needs in prison, this is largely focused on menstruation management and ante/post-natal care. There is no explicit guidance regarding imprisoned menopausal women's healthcare in the United Nations (UN) normative standards of detention (Mandela Rules, Bangkok Rules). A human rights assessment of menopausal women's access to age and gender sensitive non-discriminatory healthcare in prison since 2010 was conducted.

Methods: Arksey and O'Malley's scoping review methodology was adhered to. A systematic search was conducted using detailed MESH terms on CINAHL, Medline, Pubmed, ProQuest Central, PsycInfo, Scopus and Web of Science. All published material in the English language in the timeframe of 2010-2022 was collated (n=268). 14 duplicates were removed. 234 were excluded after title and abstract screening, with 5 records remaining. Hand searching yielded an additional 11 records. 16 records were charted and analyzed thematically using a human-rights lens. Themes were: *Environmental conditions and menopausal sequelae; gender sensitive non-discriminatory free healthcare; evidence based age/gender sensitive prison health policies;* and *medical insensitivity and incompetencies in menopausal care.*

Discussion and Conclusion: Menopausal women have the right to the underlying environmental determinants of health in prison; and rights to non-discrimination and equivalence of care; essential medicines; medical care and treatment; preventive health services, and participation in the generation of prison policies and support initiatives. The lack of visibility regarding their health needs in policies and healthcare provisions is reflected in the realities of life in prison, with glaring gaps in the practical medical and lifestyle supports of menopause. Further research is warranted to inform evidence based prison reforms to improve quality of life of older women in prison.

Keywords: Detention, women, menopause, incarceration, healthcare, Bangkok Rules

Introduction

Nearly three quarters of a million women and girls are imprisoned across the world.[1] Whilst they make up a small minority of the 11 million people in prisons globally; since 2010, the female prison population has increased by 17% compared to an overall increase of 8%.[1] This increase has not been uniform across all regions and has been particularly marked in certain parts of the world, especially Asia and Oceania where the number of women in prison has increased by around 50%. In contrast, in Europe, the number of imprisoned women has fallen.[1] Although women are a small proportion of the overall total of imprisoned people, imprisonment (often due to poverty related crimes) has a disproportionately negative impact on them and on their families.[1-3] This disproportionate impact centres on the devasting effects on poverty, stigma, trauma and untreated mental illness, the maternal-child bond for those with children, with increased risks of child welfare involvement, generational and cyclical effects of parental incarceration and foster care placement of children, homelessness and later offending rates in their children. Given the clear relationship between socioeconomic inequalities and health, it is not surprising that the health of imprisoned women is poorer than that of the population in general and of imprisoned men. Furthermore as a minority in a system built by and for men, their needs are often neglected.[1] Imprisoned women have higher rates of sexually transmitted infections, viral hepatitis, human immunodeficiency virus (HIV), and tuberculosis than both the general population and imprisoned men, and they are disproportionately affected by trauma, self-harm, substance abuse and serious mental illness.[4–9] Their sexual and reproductive health needs remain poorly researched and ill-resourced in prison systems in many countries, with healthcare largely focused on pregnant and breastfeeding women and infants, and with many continuing to neglect women's needs around menstruation.[10–12]

Standards of detention and human rights

Positive obligations regarding human treatment and right to health of women in prison are provided for in the international treaties which include the World Health Organization (WHO) Constitution[13]; the Universal Declaration of Human Rights[14]; the 1966 International Covenant on Economic, Social and Cultural Rights[15]; the International Covenant on Civil and Political Rights (ICCPR)[16] and the 1979 Convention on the Elimination of all Forms of Discrimination against Women.[17] The Convention against Torture and Other Cruel, Inhumane or Degrading Treatment or Punishment creates further binding obligations on States not to ill-treat those deprived of their liberty, and recognises that inadequate health care can contribute to situations which fall within the scope of the term *"inhuman and degrading treatment."*[18] The United Nations (UN) Principles of Medical Ethics, WHO and World Medical Association (WMA) declarations all mandate the rights of prisoners to humane treatment and appropriate medical care.[19–21]

In 2010 the promulgation of the nonbinding or *'soft law'* UN Rules for the Treatment of Women Prisoners and Non-custodial Measures for Women Offenders (the *Bangkok Rules*)[22] was an important milestone in recognising the gender-specific needs of women in criminal justice systems globally. These

Rules supplemented the normative standards provided in the UN Standard Minimum Rules for the Treatment of Prisoners (the *Nelson Mandela Rules*)[23] and the UN Standard Minimum Rules for Non-custodial Measures (the *Tokyo Rules*).[24] States however have discretion in defining humane treatment and adequate medical care in prisons.[25] Adoption of these Rules has been variable globally and there is current evidence which documents empirical and UN treaty body reporting of the continued violations of the fundamental rights of women deprived of their liberty in 55 countries, particularly as it relates to right to health and access to gender sensitive healthcare, and the protection of women from all forms of custodial violance.[12]

Menopause in prison

Little is known about the experiences of older incarcerated women, who constitute a small but growing proportion of imprisoned women.[1] A particular concern is how and to what standard the management of the menopause occurs in prison. There is no explicit guidance regarding incarcerated menopausal women's healthcare in the UN normative standards of detention (*Mandela Rules, Bangkok Rules*). Menopause is defined as the permanent cessation of menstruation resulting from the loss of ovarian follicular activity, and diagnosed retrospectively following 12 months of amenorrhea, for which there is no other cause (average age 51 years).[26] The perimenopause, the years leading up to the menopause, is characterised by irregular periods and a number of physical, sexual, vasomotor, and psychological symptoms.[27] Psychological issues include poor memory and concentration, depression, anxiety, irritability, and a high level of distress. The symptoms of the menopause can contribute to a considerable reduction in women's quality of life.[28]

Given the increasing global population of older imprisoned women and the importance of national and international standards of detention and human rights for these women, we conducted a human rights assessment of menopausal women's access to age and gender sensitive non-discriminatory healthcare in prison since 2010.

Methods

The scoping method closely adhered to Arksey and O'Malley's framework[29–31] and was conducted by an experienced research team consisting of two physicians and one prison health and human rights expert, two of which were qualified to doctoral level. A systematic search for literature was conducted in May 2022 on CINAHL, Medline, ProQuest Central, PsycInfo, PubMed, Scopus, and Web of Science. The search was not limited to peer reviewed journals and included grey literature. Citations were managed using the bibliographic software manager EndNote. See Table 1.

Insert **Table 1: Search and special terms** here

All published material in the English language in the timeframe of 2010-2022 which explicitly referred to provision of menopausal management in prison was collated (n=268). Fourteen duplicates were removed and 234 were excluded after title and abstract screening, with five records remaining. Hand searching yielded an additional 11 records. See Figure 1.

Insert **Figure 1: PRISMA Flowchart** here

A spreadsheet was generated to facilitate charting by author one (author and year of publication, location, aim, method, result and conclusion) with support from authors two and three to ensure that no useful information was dismissed, by collecting and grouping key idea of information from each record to generate themes, and extracting multifaceted perspectives. 16 records were charted and analyzed thematically.[32] See Table 2.

Insert **Table 2 Charted Studies** here

Four key themes emerged: *Environmental conditions and menopausal sequelae; gender sensitive non-discriminatory free healthcare; evidence based age/gender sensitive prison health policies;* and *medical insensitivity and incompetencies in menopausal care.* See Table 3.

Insert **Table 3 Summary of Themes** here

Information was subsequently assessed using a human-rights lens pertaining to the right to health of menopausal women is based on access to age and gender sensitive, non-discriminatory and free health care in detention equivalent to that in the community, and an environment conducive to adequate health, during menopause (*Bangkok Rules* 5, 6, 8, 10, 12, 13, 16, 17, 33, 35).[22] See Table 4.

Insert **Table 4 Bangkok Rules relevant to menopausal health in prison** here

Discussion and Observations

The final data set (n=16) consisted of a broad range of methodologies based on consultations, prison inspections and prescribing/chart data with qualitative studies using interviews with women in prison and healthcare providers (United States (US), Brazil, Canada, New Zealand) (n=5)[33–37]; mixed method studies with women who experienced incarceration and healthcare providers (US, Canada) (n=3)[38–40]; global reviews/opinion pieces (n=2)[41,42],and US based social legal reviews (n=1)[43] and editorials (n=3)[44–46]; and secondary analysis of data (US, United Kingdom UK) (n=2).[47,48]

Environmental conditions and menopausal sequelae

Despite the observed increases in numbers of older women in prisons globally, and whilst menopause was described as a unique and yet common health issue within the detention space, documentation around detention conditions experienced during menopause in prison remain under explored.[33–35,39–42] The assessment reveals a violation of *Bangkok Rule* 5; *"accommodation of women prisoners shall have facilities and materials required to meet women's specific hygiene needs, including sanitary towels provided free of charge."*[22] Women's experiences of menopausal symptoms were observed to be particularly uncomfortable within detention spaces.[34,42,46] Menopausal sequelae are all typically exacerbated by prison conditions (and by a lack of health support).[35,41] Common symptoms requiring both medical and general health related supports in prisons included insomnia, hot flushes, night sweats, vaginal bleeding, urinary incontinence, lower bone density, fatigue and mood changes.[34,35,41,42,44] Global reviews/opinion pieces[41] and qualitative studies in the US[34] reveal that the prison environment exacerbated menopausal symptoms pertaining to sufficient ventilation and access to outside air and

space. The lack of access to basic health provisions (menstrual hygiene products, clothes, underwear, bedding) was documented at the global level, Canada and in the US.[34,36,39,41,46] Menopausal women in a US study reported having to purchase additional blankets and mattress for their hygiene at personal costs.[33] An inspection in New Zealand reported that whilst pregnant women could ask for a second mattress, menopausal (and detoxing) women were not aware of the opportunity to request changes in bedding.[37] Quote from menopausal women incarcerated in the US[34] illustrate the challenges and consequences *"If I could have just cooled down a little bit, perhaps it would not have been so bad"* and "*My mental health deteriorated, I had no control."* (p2)

Gender sensitive non-discriminatory free healthcare

Prison system failures to consider the needs of older women and to provide for adequate menopause management are frequently documented across the sources.[33,34,36,39–42]Complexities of menopause and co-morbid health of women living in detention settings is ill considered (psychiatric illness, drug dependence, prior trauma).[45] Global reviews/opinion pieces observed the lack of life-course appropriate information, mental health supports, pharmacological and lifestyle interventions for detained menopausal women, and underscored the need for effective personalized management of menopause in prison.[41,46] Critical prison failures center on the lack of medicines, denial of and lack of access to free age and gender specific care equivalent to that in the community, and to lifestyle interventions, causing considerable distress (contra *Bangkok Rules* 6,8, 10, 16). Lack of supply of therapy drugs, denial of healthcare and unavailability of medical care for menopausal women due to restricted opening hours, and costs of treatment are documented in global reviews/opinion pieces,[41,42] US based surveys,[40] mixed method studies[39] and editorials.[45] In 2014, a woman in a US prison[40] said; *"We do not have money to go to medical all the time that we really need to. It takes three days to work to pay for this."*(p365) This was reiterated again in 2020 in another US[34] study; *"They would dock from my pay, they would take 3 dollars from 7 dollars I get each week if I went to medical. So, I never went back to medical for it [menopause]."*(p2) Transport logistics impeding access tertiary care was reported by prison health professionals in one US study.[33] A secondary analysis of dispensing data in the US documented women's lack of access to hormone therapy (HT), with less than 15% of women in prison prescribed any kind of menopausal management and only 3.6% of menopausal women in prison received oestrogen therapy.[47] *"Patient Care"* in New York provides hormone medication for imprisoned menopausal women to manipulate menstrual irregularity.[43]

Evidence based age/gender sensitive prison health policies

Appropriate health policies and pharmacological and lifestyle practices to manage menopause in prison remain under developed.[34–36,39,41,45,48] US focused editorials and socio-legal reviews in particular underscore the need for evidence-based policies, prescribing guidance and health care recommendations to support menopausal women in prison.[43–46] Examples include the recommendation to reform and bring New York's policies in line with legal, medical, and international standards[43] and the need for evidence based prescribing of menopause management in US prisons.[44] Policies and pathways to support

continuity of menopausal care spanning prison and community reinsertion warrants improvement[38,41] The Women's Health Clinic (WHC) in Canada helped the continuity of treatment as it assisted the transition gap between in prison and community during the release[38]:

Participants in a different Canadian consultation[36]; *"described menopause as an overlooked area of reproductive health."* (p38) This view is supported by prison health care professionals themselves in the US.[33] In the UK, health promoting prisons with screening programs for communicable and non-communicable diseases, including sexual health services were described during inspection reviews as supporting healthy lifestyles among older women, despite a lack of strategic approach to health promotion and omitting menopause specific care.[48] US healthcare providers suggested that preferred housing unit (PHU) or age-segregated housing could help older women in prison to access healthcare to meet their unique health needs including menopause care more conveniently, and could potentially enhance older persons' quality of life.[33]

Medical insensitivity and incompetencies in menopausal care

It is vital that prison systems operate with skilled healthcare providers who are understanding and knowledgeable to address the unique health and often co-morbid needs of menopausal women.[33,35,36,38,40,42,45–47] Menopausal women have a right to access competent, qualified medical care in prison (*Bangkok Rule* 13; "*Prison staff shall be made aware of times when women may feel particular distress, so as to be sensitive to their situation and ensure that the women are provided appropriate support."* [22]Many reported on prison staff insensitivity toward menopausal women and the denial of care, the sanctioning of those unable to wear uniforms correctly, and including the lack of choice around gender of the clinician treating them.[34,39,40] A menopausal imprisoned woman in the US[34] shared that: *"If you are not dying, they will not do anything…with regards to menopause, they just said 'you will get through it"* (p2) Several US studies reported on lack of menopause specific competency of prison based medical professionals.[34] Both global reviews/opinion pieces and qualitative studies in the US observe how healthcare providers in prison fail to communicate social and health information to support distressing menopause-related symptoms.[34,41] Empathy expression such as verbally comfort, hugging and holding hands was observed to be restricted in a US prison.[33] Women living prison narratives in the US include; *"It's hell going through menopause here. . . . I would like for the doctors and nurses to take the issue more seriously."*[39](p172) and described nurses dismissing their concerns, refusing to provide information and schedule doctor appointments; *[NURSE] "Everybody gets menopause. Join the club."* And "*Why are you here? There is nothing wrong with you."*[39](p172) In Canada, the establishment of Women's Health Clinic (WHC) enhanced comprehensive and gender-specific care capability by encouraging healthcare providers to be more understanding and enabling them to provide multiple and holistic health services.[38]

The Bangkok Rules provide that *"all staff assigned to work with women prisoners shall receive training on the gender specific and human rights of women prisoners"* (Rule 33) and *"shall be trained to detect mental health-care needs .. to offer assistance by providing support and referring such cases*

to specialists." (Rule 35). Schach et al[41] observed the need for prison systems to allocate funding to support staff training in providing care to menopausal imprisoned women. Training is recommended to support the achievement of an age and gender sensitive, and trauma informed approach to prison health care,[35,36,38,39,42,46,47] garners trust[38], and one which does not dismiss or ignore the requests of menopausal women for support.[34,40,41]

Conclusions

At the time of submission, Lancet published an *Editorial* underscoring the need for societal change of attitudes toward menopause.[49] Our investigation highlights the continued lack of sufficient resourcing of gender and age sensitive healthcare programming in prisons. We recognise that in many countries medical funding models in prisons differ, with the majority of countries funding prison health from the Ministry of Justice portfolios, and not that of Ministry of Health, and that in many countries healthcare is provided by private companies.

Women's experiences of and ability to manage menopausal symptoms are however particularly difficult in prison conditions. The prison system particularly fails to consider and provide for the needs of older women. Menopausal women have the right to an environment which does not damage their health in prison; and rights to non-discrimination and equivalence of care; essential medicines; medical care and treatment; preventive health services, and participation in the generation of prison policies and support initiatives. However it seems as if these rights are not recognized. There is no explicit guidance regarding peri and menopausal women's healthcare in the UN normative standards of detention (Mandela and Bangkok Rules). The lack of visibility regarding incarcerated menopausal women's health rights in prison policies and healthcare responses is reflected in the difficult realities of life for older women in prison. Their unique health needs in prison are largely unmet, with glaring gaps in the practical medical supports of both peri and menopausal women. Imprisoned people are entitled to the same standard of healthcare as they would receive in the community – the principle of 'equivalence of care'. The standards of menopausal care in prison should be the same as those in the community (see Table 5). In addition to these guidelines relating to the diagnosis and treatment of imprisoned women, prison staff need to ensure that these women have access to appropriate clothing and bedding, and that environmental factors such as poor ventilation and overcrowding, do not aggravate menopausal symptoms.

Insert **Table 5 Standards of menopausal healthcare** here

Increasingly the failings in provision for menopause care in the community are being recognized and the menopause is increasingly recognized as a chance to implement preventive strategies to enable women to live longer and healthier lives [49]. This opportunity should also be seized for imprisoned women where the health gains are likely to be even greater for the individual. Further research with both imprisoned women and prison staff (both healthcare and custodial) is warranted to

raise awareness, inform evidence based policies and practices to improve quality of life of older women in prison.[33,41,47]

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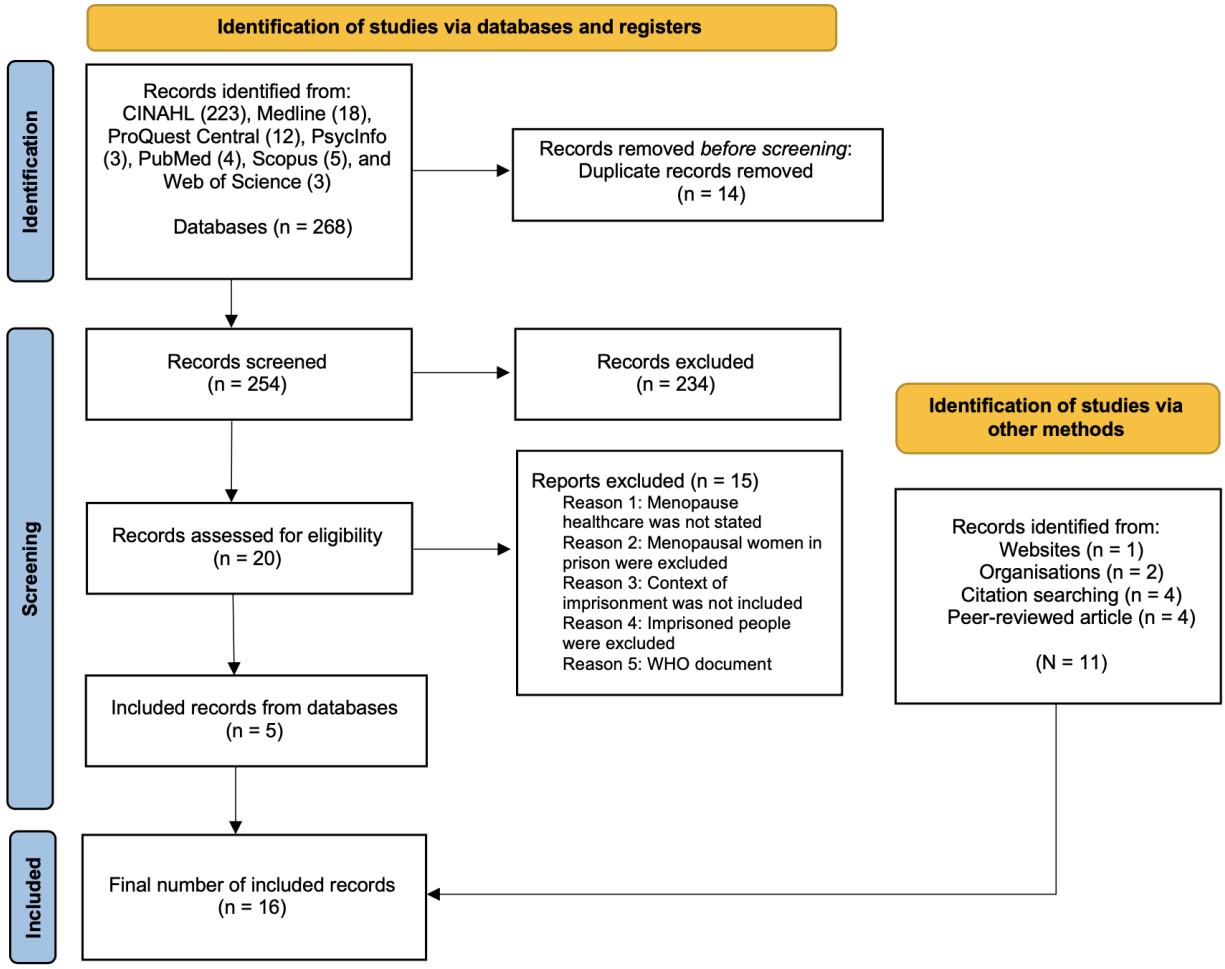
53. Academic Committee of the Korean Society of Menopause, Lee SR, Cho MK, et al. The 2020 Menopausal Hormone Therapy Guidelines. *J Menopausal Med*. 2020;26(2):69-98. doi:10.6118/jmm.20000

Figure 1: PRISMA Flowchart



Legend: PRISMA, preferred reporting items for systematic reviews and meta-analyses; CINAHL, Cumulative Index to Nursing and Allied Health Literature. Figure 1 shows the flow of study identification and selection. The original database search resulted in 268 records from seven databases. Fourteen duplicates were removed, and 234 records were excluded after title and abstract screening. 15 from 20 records were removed after the assessment for the eligibility by screening the full-text articles for the following reasons; menopausal healthcare was not stated, menopausal women in prison were excluded, context of imprisonment was not included, imprisoned people were excluded, and WHO document. This process left the remaining 5 records. An additional 11 records were identified from other sources including citation searching, leaving 16 records were included for charting and thematical analysis.

Tables

Table 1: Search and special terms

Search terms		
Key word	Alternative	
Menopause	Menopaus* OR perimenopau* OR "post menstru*" OR "Vasomotor symptom*" OR "hot fl*" OR "menopaus* symptom*" OR "climacteric"	S1
Prison	prison* OR imprison* OR incacerat* OR inmate* OR detain* OR convict* or jail* OR carceral OR "pre-trial detention" OR detention OR "immigra* detention" OR custod*	S2
Healthcare	"health care" OR healthcare	S3
	S1 AND S2 AND S3	

Key word	Alternative
Menopause	Menopaus* OR perimenopau* OR "post menstru*" OR "Vasomotor symptom*" OR "hot fl*" OR "menopaus* symptom*" OR "climacteric"
Prison	prison* OR imprison* OR incacerat* OR inmate* OR detain* OR convict* or jail* OR carceral OR "pre-trial detention" OR detention OR "immigra* detention" OR custod*
Healthcare	"health care" OR healthcare
Special terms	
MeSH	• Menopause, perimenopause, postmenopause • Jails, Prisoners, Prisons • Health facilities, Health services
CINAHL Subheading	• Menopause, postmenopause, perimenopause • Prisoners, correctional facilities • Health facilities, health services

Table 2 Charted Studies

Aim	Method	Result	Conclusion
Opinion pieces, Reviews and Editorials (n=6)			
Schach E, Kothari J, Perkiss E, et al. Symptomatic menopause: additional challenges for incarcerated women. *Maturitas*. 2021;150:37-41. doi:10.1016/j.maturitas.2021.05.009 [41]			
To review existing menopause health management for imprisoned women	Global review/opinion piece	Although there is an increase of older women in prison, there is a lack of health information, sufficient assessment, emotional and education supports, and personalised treatment (medical and nonmedical) for menopausal inmates. Menopausal sequelae are typically exacerbated by prison conditions and by a lack of health support.	It is important for prison healthcare systems to specifically recognise and include menopausal inmates' unique health needs. Further staff training and research to improve healthcare for incarcerated menopausal women is warranted.
Grammatikopoulou MG, Lampropoulou MA, Milapidou M, Goulis DG. At the heart of the matter: cardiovascular health challenges among incarcerated women. *Maturitas*. 2021;149:16-25. doi:10.1016/j.maturitas.2021.05.002 [42]			
To discuss the cardiovascular disease (CVD) risk factors and mediators which enhance the risk of CVD among incarcerated women	Global review/opinion piece	Several factors were identified as mediators of CVD including incarceration- and health-related. Incarceration-related: Incarcerated women experienced inadequate menstrual hygiene which could highly affect inmates who experience perimenopause bleeding. There were various barriers to access healthcare in prison such as delay and/or delay the treatment and a limited working hours (only on weekdays from 9am to 3pm). Health-related: Although menopause does not increase the CVD risk directly, it increases the risk of weight gain, and exacerbates depression which multiples CVD risk. Diabetes mellitus and hypertension are common health comorbidities which increase the CVD risk.	Importantly, specific health services for menopause-related issue in prison remains unclear. The study enlightens the need of carceral healthcare reform and gender-specific healthcare, including menopause care. Frequent screening and lifestyle intervention should be initiated and applied universally to ensure health for all.
Walsh CM. Inadequate access: reforming reproductive health care policies for women incarcerated in New York state correctional facilities. *SSRN Electronic Journal*. 2016;50(1):45-95. doi:10.2139/ssrn.2778668 [43]			
To examine New York State policies addressing reproductive healthcare for incarcerated women	Socio Legal Review	Health services for imprisoned menopausal women were considered under gynaecological examination and contraception section. Legal, medical, and	New York's policies for incarcerated women are relatively sub-standard as they failed to recognise the unique

		international standards specifically addressed the access to hormone medication as HRT	health needs such as specific detail of treatment for imprisoned menopausal women.
Friedman SH, Tamburello AC, Kaempf A, Hall RCW. Prescribing for women in corrections. *J Am Acad Psychiatry Law*. 2019;47(4):476-485. doi:10.29158/JAAPL.003885-19 [44]			
To discuss the prescribing needs of incarcerated women in the US.	Editorial	The number of aging women detainees has increased. Approximately 30% of women detainees reported that menopause was a common health concern. As menopause inmates may hold several comorbidities, drug-drug interaction is potentially of concern. Importantly, there was no standard guideline available for menopause care, including HRT in prison.	The treatment for imprisoned women is complex, especially when involving with comorbidities. Prescribing for women in prisons requires special consideration and should be informed by extant evidence.
ɔn S. Health issues of incarcerated women in the United States. *Ciência & Saúde Coletiva*. 2016;21(7):2051-2060. doi:10.1590/1413-81232015217.05302016 [45]			
To provide a summary of health concerns about incarcerated women in the US.	Editorial	Health care within prisons in the US is typically insufficient to meet the medical and psychological needs of imprisoned women. Health services are often of low quality, especially in the areas of reproductive medicine. Mental illness, substance abuse, a trauma history, and sexual victimization while incarcerated compound adjustment to prison life.	In the US., imprisoned women's specific health needs are often unmet. There is a lack of gender equity and sensitivity within the prison system. Public health services should integrate with prison health services to improve inmates' health.
Knittel A, Ti A, Schear S, Comfort M. Evidence-based recommendations to improve reproductive healthcare for incarcerated women. *International Journal of Prisoner Health*. 2017;13(3/4):200-206. doi:10.1108/IJPH-07-2016-0031 [46]			
To describe standards for evidence-based reproductive healthcare for incarcerated women in the US.	Editorial	Among five domains of recommendations, one was about menstruation-related. Menopause was reported a common health concern among incarcerated older women as physical and emotional symptoms could be exacerbated. To improve these concerns, it was suggested that imprisoned women must be provided the following: 1. Clean undergarments 2. Sufficient sanitary pads	There is the need to adopt national and international guidelines in providing gender-specific health needs for women detainees. Therefore, rigour evaluation of policy changes and implementation is needed within in criminal justice system.

		3. Access to healthcare providers for the menstrual abnormalities and menopause symptoms	
Primary research: Qualitative studies (n=5)			
Barry LC, Adams KB, Zaugg D, Noujaim D. Health-care needs of older women prisoners: perspectives of the health-care workers who care for them. *Journal of Women & Aging*. 2020;32(2):183-202. doi:10.1080/08952841.2019.1593771 [33]			
To gain insight into the unique needs of older women inmates by eliciting the perspectives of the correctional health care providers who care for them in the US.	Focus group using a semi-structured interview guide with 10 female healthcare providers in prison	Insufficient mattress and beddings which affected inmates with perimenopausal bleeding. Sometimes inmates were asked to pay for more blankets. Transportation hindered older female inmates to access health services. Interpersonal relationship issues was raised. They revealed the rules which prohibited empathy as a restriction of a hug, hand holding or verbally comfort, so-called *"undue familiarity".*	Correctional healthcare workers' insights can provide guidance regarding how to optimize the health of the older women inmates. Healthcare providers suggested that separate housing units (e.g. prefeed housing unit (PHU)) could enable them to address unmet healthcare needs, and enhance quality of life.
Jaffe EF, Palmquist AEL, Knittel AK. Experiences of menopause during incarceration. *Menopause*. 2021;28(7):829-832. doi:10.1097/GME.0000000000001762 [34]			
To explore the experience of menopause women in imprisonment in the US.	Interviews with four women who experienced menopausal symptoms in incarceration.	Menopausal women were forced to live with no air conditioning while experiencing hot flashes and night sweating. Besides, there was not sufficient sanitary pads for heavy bleeding. Several challenges to managing menopausal symptoms were reported (denial of care, cost, lack of staff competency). There was a scarcity of health support and information from providers for menopause-related distress. Women detainees did not recognise menopausal symptoms. Menopausal detainees who rolled up their sleeves and trousers to relieve hot flash symptoms were sanctioned.	Critical gaps in access to menopause-related resources and medical care. Menopausal imprisoned women experienced several barriers to access health services which equally inhumanely devastate autonomy and dignity. Policy and practice changes should address menopause-related needs of women in prison.
dos Santos R, Pereira A, Alves V, dos Santos M, Rodrigues D, Marchiori G. Health status of climacteric women in the prison system. *Cogitare Enfermagem*. 2017;22(1):1-7. doi:doi.org/10.5380/ce.v27i0 [35]			
To identify sign and symptoms that affected the health of incarcerated menopausal inmates in Brazil.	Interview 4 women who experienced menopause symptoms in incarceration.	Experiencing menopause in prison was uncomfortable. Several adverse health problems were reported such as sadness, tiredness, changed sleeping pattern, and stress. Underlying health conditions included diabetes, osteoarthritis and	Incarcerated menopausal women experienced barriers to access health services, and limited right to health. It was recommended that healthcare providers should be more humanised

		asthma. These health problems are related to menopause which require HRT for treatment.	in providing health services. Lastly, development of appropriate public health policies for women inmates should be prioritised.
Paynter M. *Reproductive (in)Justice for Women in Canadian Federal Prisons*.; 2021. Accessed May 9, 2022. https://johnhoward.ca/blog/reproductive-injustice-in-canadian-federal-prisons-for-women/[36]			
To understand incarcerated women's reproductive health experiences, knowledge and needs. There is little research examining the reproductive health of people incarcerated in prisons for women in Canada.	Workshops with 12 detainees	The Correctional Service Canada (CSC) is responsible in providing health services for inmates, however, women inmates' reproductive health has never been studied. Participants shared considerable difficulties to access care for menopausal symptoms. There was a difficulty to access sanitary products.	Health professional students and workers should receive training. Prison staff should be familiar with guidelines for reproductive health. Better understanding of inmates' reproductive health experience, knowledge and needs is needed.
Office of the inspection. *Thematic Repot: The Lived Experience of Women in Prison*.; 2021. Accessed May 20, 2022. https://inspectorate.corrections.govt.nz/reports/thematic_reports/thematic_report_the_lived_experience_of_women_in_prisons[37]			
To examine the needs of women in prison. To examine if women inmates are being treated in the manner of fair, safe, secure and humane To observe and recommend gender-responsive and trauma informed management.	Thematic inspection Report Routine inspection and 68 interviews with women in prison. to women's prison in 2020.	Care for menopausal women was specifically stated within prison policy regarding that bedding provision should be provided more regularly, especially to women undergoing the menopause. There is insufficient availability of clothing, bedding and hygiene products. New detainees are assessed for immediate healthcare needs but there is no specific assessment for menopause.	Experts agreed on the need for gender-responsive practices to be informed in prison. Correction should consider gender-specific needs and ability to access essential items for women detainees.
Primary research: Mixed Method (n=3)			
Besney JD, Angel C, Pyne D, Martell R, Keenan L, Ahmed R. Addressing women's unmet health care needs in a Canadian remand center: catalyst for improved health? *Journal of Correctional Health Care*. 2018;24(3):276-294. doi:10.1177/1078345818780731 [38]			
To explore incarcerated women's health and whether a Women's Health Clinic improved care within this vulnerable population in Canada.	Mix-methods (1) Retrospective chart review n=109 (2) Focus group semi-structured interviews (11 incarcerated women and 6 healthcare providers)	There was a lack of access to comprehensive and gender-specific health services during imprisonment, though detainees and healthcare providers suggested these services should be provided. Mistrust was developed from negative experience while seeking care in the past, and providers' lack of professionalism and respect. WHC improved access to comprehensive and gender-specific services. It enhanced providers'	WHC has proved that specific health needs could be addressed, and ability to access comprehensive and gender-specific health services was enhanced. Larger implementation of WHC would be beneficial for women inmates during imprisonment and releasing transition period and could reduce health inequalities between male and

		knowledge, skill and empathy in providing care. WHC was beneficial for the treatment continuity during releasing transition gap between in prison and community.	female detainees. This study provided a benchmark foundation to develop healthcare services for women within criminal justice system in Canada.
Kraft-Stolar K. *Reproductive Injustice: The State of Reproductive Health Care for Women in New York State Prisons*.; 2015. Accessed May 20, 2022. https://static.prisonpolicy.org/scans/Reproductive-Injustice-FULL-REPORT-FINAL-2-11-15.pdf [39]			
To report on reproductive health care in the New York State Department of Corrections and Community Supervision.	Interviews with 950 incarcerated women, 20 visits to prisons housing women, 1,550 surveys, and reviews of medical charts items.	The study revealed a shockingly poor standard of care, the routine denial of basic reproductive health and hygiene. Although menopause is a special health issue in older women inmates, there are neither medical or non-medical recommendations for menopausal treatment. Many women were dismissed and denied healthcare appointments. Menopausal imprisoned women suggested that information and emotional support would help them to tackle menopause symptoms.	DOCC's policies should be revised and included specific treatment information for imprisoned menopausal women. Additionally, healthcare providers should be trained for age- and gender-specific care for older women inmates including menopause-related symptoms, and adequate health information should be provided.
Aday R, Farney L. Malign neglect: assessing older women's health care experiences in prison. *Journal of Bioethical Inquiry*. 2014;11(3):359-372. doi:10.1007/s11673-014-9561-0 [40]			
To explore incarcerated aging women's perception of healthcare policy in the carceral system in the US.	Survey with quantitative and open-ended questions (n=327)	30% of participants reported that menopause was a health concern. They suffered from mental, emotional, physical health problems during imprisonment. There were financial and healthcare providers barriers to healthcare.	Inmates have a right to access appropriate care for their unique health needs. With older women having the greatest need for health care, an age- and gender-sensitive approach is advised.
Secondary data review (n=2)			
Jaffe E, Rosen D, Palmquist A, Knittel AK. Menopause-related medication use among women age 45-75 experiencing incarceration in North Carolina 2015-2016. *International Journal of Prisoner Health*. 2022;18(2):176-184. doi:10.1108/IJPH-07-2021-0068 [47]			
To estimate the prevalence of individuals receiving hormone therapy for menopause management and the prevalence of underlying conditions that may constrain options for pharmacologic menopause management in the US prison context.	Retrospective review of prescription dispensed relevance to menopause management aged 45-75 (n=283)	Many women over 45 experiencing incarceration are living with health conditions that may complicate menopause symptom management with hormone therapy. Medication use by healthcare providers should consider comorbid health conditions which may constrain the management of menopause. Unfortunately, there was an absence of health services for menopause in prison, thus	There was a considerable pharmacological challenge between menopause management and treatment for other underlying conditions. Thus, healthcare providers should concern about other comorbidities to ensure appropriate care. Future research must examine the

		comprehensive and treatment programmes for menopause detainees should be commenced.	prevalence of menopause-related symptoms as well as access to and quality of comprehensive menopause management in prisons.
Woodall J, Freeman C, Warwick-Booth L. Health-promoting prisons in the female estate: an analysis of prison inspection data. *BMC Public Health*. 2021;21(1):1582. doi:10.1186/s12889-021-11621-y [48]			
To assess levels of health promotion in female prisons using prison inspection reports of women's prisons in England and Wales.	Review of inspection reports (n=13)	There was often an absence of a strategic approach to health promotion. Several health promotions in prisons were reported by inspectors such as healthy lifestyle by exercise and eating habit. Thirteen inspections reported that health screening programme for blood-borne viruses, cancer and hepatitis health screening programme were provided. Although sexual health support was available in the most of institutions, a very limited number of inspections found health services were provided for menopausal inmates. Besides, there was a paucity of health-related information available in some institutions.	Greater focus on the health promotion needs of women in prison is recommended. Health promotion often focused on male inmates, whereas female has been excluded which led to several challenges. Excellent sexual and reproductive health services do exist but high quality provision is not consistent and depends on prison. In developing health promotion in prison, more sensitive policy and practice should be commenced.

Table 3 Summary of Themes

Theme	Summary Points
Environmental conditions and menopausal sequelae	Violations of *Bangkok Rule* 5 relating to accommodation and environmental determinants of health (meeting women's specific health and hygiene needs) Menopausal symptoms (insomnia, hot flushes, night sweats, vaginal bleeding, urinary incontinence, lower bone density, fatigue and mood changes) are uncomfortable and exacerbated in detention spaces due to: • Lack of sufficient ventilation, access to outside air and space. • Insufficient basic health provisions (menstrual hygiene products, clothes, underwear, bedding)
Gender sensitive non-discriminatory free healthcare	Failure of prison systems to consider needs of older women and provide for adequate menopausal care. Complexities of menopause and co-morbid health of women living in detention settings is ill considered (psychiatric illness, drug dependence, prior trauma). Lack of life-course appropriate information, mental health supports, pharmacological and lifestyle interventions, supply of therapy drugs, denial and cost of healthcare and unavailability of medical care due to restricted clinic opening times (contra *Bangkok Rules* 6,8, 10, 16).
Evidence based age/gender sensitive prison health policies	Appropriate health policies and pharmacological and lifestyle practices to manage menopause in prison remain under developed. Need for evidence-based policies, prescribing guidance and health care recommendations to support menopausal women in prison. Policies and pathways to support continuity of menopausal care spanning prison and community reinsertion warrants improvement. Preferred housing unit (PHU) or age-segregated housing could help older women in prison to access healthcare to meet their unique health needs and improve quality of life.
Medical insensitivity and incompetencies in menopausal care	Menopausal women have a right to access competent, qualified medical care in prison (*Bangkok Rule* 13). Reports of prison staff insensitivity toward menopausal women and the denial of care, the sanctioning of those unable to wear uniforms correctly, and including the lack of choice around gender of the clinician treating them. Lack of menopause specific competency of prison based medical professionals and prison system failure to fail to communicate social and health information to support distressing menopause-related symptoms. Need for prison systems to allocate funding to support staff training in providing care to menopausal imprisoned women (*Bangkok Rules* 33,35)

Table 4 Bangkok Rules relevant to menopausal health in prison

Rule 5: The accommodation of women prisoners shall have **facilities and materials required to meet women's specific hygiene needs, including sanitary towels** provided free of charge and a regular supply of water to be made available for the personal care of children and women, in particular women involved in cooking and those who are pregnant, breastfeeding or menstruating. **Rule 6:** The health screening of women prisoners shall include comprehensive screening to **determine primary health-care needs**, and also shall determine: (b) Mental health-care needs, including post-traumatic stress disorder and risk of suicide and Self-Harm;(c) The reproductive health history of the woman prisoner, including current or recent pregnancies, childbirth and any related reproductive health issues **Rule 8:** The right of women prisoners to **medical confidentiality**, including specifically the right not to share information and not to undergo screening in relation to their reproductive health history, shall be respected at all times **Rule 10:** (1). **Gender-specific health-care services at least equivalent to those available in the community** shall be provided to women prisoners. (2). If a woman prisoner requests that she be examined or treated by a woman physician or nurse, a woman physician or nurse shall be made available, to the extent possible, except for situations requiring urgent medical intervention. If a male medical practitioner undertakes the examination contrary to the wishes of the woman prisoner, a woman staff member shall be present during the examination. **Rule 12: Individualized, gender-sensitive, trauma-informed and comprehensive mental health care** and rehabilitation programmes shall be made available for women prisoners with mental health-care needs in prison or in non-custodial settings **Rule 13:** Prison staff shall be made aware of times when women may feel particular **distress, so as to be sensitive to their situation** and ensure that the women are provided appropriate support. **Rule 16:** Developing and implementing strategies, in consultation with **mental health-care and social welfare services**, to prevent suicide and self-harm among women prisoners and providing **appropriate, gender-specific and specialized support** to those at risk shall be part of a comprehensive policy of mental health care in women's prisons. **Rule 17:** Women prisoners shall receive education and information about preventive health-care measures, including on HIV, sexually transmitted diseases and other blood-borne diseases, as well as **gender-specific health conditions**. **Rule 33:** (1) All staff assigned to work with women prisoners shall receive training relating to the **gender-specific needs and human rights** of women prisoners. (2). Basic training shall be provided for prison staff working in women's prisons on the main issues relating to women's health, in addition to first aid and basic medicine. **Rule 35:** Prison staff shall be trained to detect **mental health-care needs and risk of self-harm and suicide** among women prisoners and to offer assistance by providing support and referring such cases to specialists

Table 5 Standards of menopausal healthcare in prison

The American College of Obstetricians and Gynecologists: Practice Bulletin Number 141 (2014)[50-51]	Vasomotor and vaginal symptoms are known as 'cardinal symptoms' in menopausal symptoms. This document provides guidelines for the treatment of these cardinal symptoms. Vasomotor symptoms are the commonest physical manifestations in the menopause.. The hormone treatment for vasomotor symptoms could be either oral or transdermal form of estrogen alone or estrogen with progestin, or so-called 'systematic hormone therapy'. Although there is evidence of benefit with the use of hormone therapy, their risks and benefits must be discussed with menopausal women, including the increased risk of thromboembolic and breast cancer and reduced risk of bone fracture and colorectal cancer. Discontinuation might induce recurrent of vasomotor symptoms. Non-hormonal medication such as anti-depressants agents (selective serotonin reuptake inhibitors (SSRIs) and serotonin and norepinephrine reuptake inhibitors (SNRIs)), anti-hypertensive agent (Clonidine) and anti-convulsant agent (Gabapentin) can also be used to relieve vasomotor symptoms. There are also alternative options to relieve vasomotor symptoms such as acupuncture and behavioral and lifestyle changes but the evidence of benefit is not strong. Hormone therapy (estrogen) has proved to alleviate the symptoms of vaginal symptoms.
NICE guideline [NG23]: Menopause diagnosis and management (2015)[52]	The guideline suggests that laboratory and imaging tests are not recommended to make menopausal diagnosis in women aged over 45 years. The only exception of FSH (follicle-stimulating hormone) test is for women aged 40-45 years with menopausal symptoms. Amongst women aged over 45 years, vasomotor symptoms and irregular period, and the absent of menstrual period for at least 12 months are criteria to make diagnosis. Health information and advice should be given to menopausal women such as stages of menopause, common symptoms, diagnosis, general healthcare and type of treatment, and benefits and risks of menopausal treatment. Regarding the treatment, several options of the treatment should be discussed with menopausal women: hormone therapy, non-hormonal and non-pharmaceutical. Individuals who experience vasomotor and psychological symptoms should be offered hormone therapy. SSRIs and SNRIs, or clonidine are alternative options but should not be used at the first-line option for vasomotor symptoms. The treatment should be followed up every 3 months and then annually. Long-term risks from hormone therapy should be discussed such as venous thromboembolism. In special circumstances, such as women who experienced menopause due to medical or surgical treatment, women should be referred to experts in menopause.
The 2020 Menopausal Hormone Therapy Guideline: South Korea (2020)[53]	The guideline from South Korea suggested that history taking, physical examinations, blood test, discussion of indications and contraindications should take place before starting hormone therapy for menopausal women. Blood tests of liver function, kidney function, red blood cell, sugar and lipid should be performed. Mammogram, bone mineral density (BMD) and pap smear should be undertaken. The following optional examinations should be considered individually: thyroid test, breast ultrasound and endometrial biopsy. The prescription of hormone therapy should not be started because of laboratory test (hormone level) but

	menopausal symptoms such as vasomotor symptoms should be used as an indication to start hormone therapy. Regarding health information, this information should be informed to menopausal women. Hormone therapy could reduce the risk of coronary artery disease, cerebral stroke, colorectal cancer. However, it was found to increase the risk of venous thromboembolism and breast cancer. Additionally, hormone therapy could prevent Alzheimer's disease and osteoporosis.