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Racial/Ethnic Disparities in the Diagnosis and Management of Menopause Symptoms among Midlife Women Veterans

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Abstract

Objective: Racial/ethnic disparities in menopause symptoms and hormone therapy management remain understudied among women served by the Veteran's Health Administration (VA), despite the unique racial/ethnic diversity of this population. Thus, we determined racial/ethnic disparities in medical record-documented menopause symptoms and prescribed menopausal hormone therapy among women veterans.

Methods: We conducted cross-sectional analyses of national VA electronic health record data from 2014–2015. We used logistic regression models to compare medical-record documented menopause symptoms and treatment (e.g., vaginal estrogen or systemic hormone therapy) by self-identified race/ethnicity, adjusting for age, body mass index, and depression. Models examining hormone treatment were adjusted for menopause symptoms.

Results: Among 200,901 women veterans (mean age 54.3, SD 5.4 years; 58% non-Hispanic/Latinx White, 33% non-Hispanic/Latinx Black, 4% Hispanic/Latinx, and 4% other), 5% had documented menopause symptoms, 5% were prescribed vaginal estrogen, and 5% were prescribed systemic hormone therapy. In fully-adjusted multivariable models, non-Hispanic/Latinx Black women veterans had lower odds of documented menopause symptoms relative to non-Hispanic/Latinx White women (OR 0.82, 95% CI: 0.78–0.86). Moreover, non-Hispanic/Latinx Black women (OR 0.74, 95% CI: 0.70–0.77), as well as Hispanic/Latinx women (OR 0.68, 95% CI: 0.61–0.77), had lower likelihood of systemic hormone therapy prescription. Hispanic/Latinx women had higher odds of vaginal estrogen prescription (OR 1.12 95% CI: 1.02–1.24) than non-Hispanic/Latinx White women. Non-Hispanic/Latinx Black women had lower likelihood of estrogen use (OR 0.78 95% CI: 0.74–0.81) than non-Hispanic/Latinx White women.

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Conflicts of Interest:

The authors have no other conflicts of interest to declare.

Disclaimers:

The content is solely the responsibility of the authors and does not necessarily represent the official views of the Department of Veterans Affairs.

Preliminary findings from this research were presented at the 2019 VA HSR&D National Conference (Washington, D.C., October 29–31, 2019).

Conclusion: Despite evidence suggesting higher menopause symptom burden among Black women in community samples, documented menopause symptoms and hormone therapy were less common among Black, compared to White, women veterans. Additionally, Hispanic/Latinx women veterans had lower odds of prescribed systemic menopause therapy and yet higher odds of prescribed vaginal estrogen, despite no difference in documented symptoms. These findings may signal important disparities in symptom reporting, documentation, and/or treatment for minority women veterans.

Keywords

race; ethnicity; disparities; Black; Hispanic; Latinx; medical record; hormone therapy; vasomotor; genitourinary

Introduction

An estimated 50–80% of women transitioning through menopause report vasomotor symptoms (VMS), including hot flashes and night sweats, and/or genitourinary symptoms, including vaginal dryness and impaired sexual function.^{1,2} Women vary widely in their subjective experience of symptom severity and bother as well as management of these symptoms. Community-based studies among U.S. women have pointed to racial/ethnic disparities in menopause symptom experience and engagement with treatment.^{3–5} For example, Black women consistently self-report more bothersome and severe VMS, and Hispanic/Latina women are more likely to self-report both VMS and genitourinary symptoms, compared to non-Hispanic/Latinx White women.^{6–9} However, previous research has suggested that White women are more likely to view menopause symptoms as a medical condition, to have greater knowledge about hormone therapy, and to engage more frequently in treatment-seeking and pharmaceutical interventions for menopause symptoms than their racial/ethnic minority peers.^{4,10,11}

Racial/ethnic disparities in menopause symptom experience and treatment engagement may impact the management of menopause in health care settings. The Veterans Health Administration (VA), the largest national health care system in the country, provides a unique opportunity to examine how provider reporting and management of menopause symptoms may differ among patients of racial/ethnic subgroups. Women represent a substantive, ethnically diverse, and rapidly growing group of patients receiving VA services (approximately 7.5% in 2015 and projected to increase 0.6% yearly).¹² Almost half of women veterans are 45 years and older, and likely to have entered the menopause transition.^{12,13} Furthermore, racial/ethnic minority women are highly represented within this age group, with Black women making up 34% and Latinx women making up 16% of midlife women veterans.¹² In contrast to non-veteran minority women, all minority women veterans have access to healthcare through the VA allowing examination of racial disparities among women who have some level of access to care. The VA is committed to becoming a leader in addressing health disparities and achieving equitable healthcare and health outcomes among vulnerable populations, including women veterans. There are known barriers to menopause care in the general population¹⁴, including limited discussion of bothersome sensitive symptoms between providers and their patients.¹⁵ However, very

little is known about the experience or clinical management of menopause symptoms among women veterans who seek VA care.

Without better clinician knowledge of symptom experience, racial/ethnic minority women may experience poorer treatment of bothersome symptoms that negatively impacts their quality of life. The goal of the present study was to examine medical record-documented menopause symptoms and menopausal hormone therapy prescribed among a multi-racial/ethnic national sample of midlife women veterans. We aimed to better understand whether racial/ethnic disparities in documented symptoms and prescribed treatment are present within the VA healthcare system and if so, how they compared to those seen in community samples.

Methods

Data Source

Data for this cross-sectional study were obtained from the VA Corporate Data Warehouse, which contains VA visit dates and associated *International Classification of Diseases, Ninth Revision Clinical Modification (ICD-9-CM)* diagnostic codes derived from electronic medical records generated during VA-based clinical visits. The study sample was composed of women veterans 45 to 64 years with at least one outpatient encounter at any VA in the United States in 2014 and/or 2015. This age range was selected to be comparable with midlife age categorization and represent the age range in which menopause symptoms are most commonly reported.⁸ The study was approved by the Institutional Review Board (IRB) of the University of California, San Francisco and the Research and Development Committee of the San Francisco VA Health Care System.

Variables

Demographic and health-related covariates were obtained from VA medical records in fiscal year (FY) 2014–2015 and selected due to known associations with VMS, genitourinary symptoms, and menopausal hormone therapy.^{16–18} Age on January 1, 2014, based on the birth date documented in the medical record, was analyzed as a continuous variable. Race was categorized as patient self-identified White, Black, other, or missing, based on VA medical record documentation¹⁹. Several race categories, which included Asian American and Pacific Islander American Indian, or Multi Race, were combined in the “other” category. Each comprised 1% of the overall sample. Ethnicity was categorized as Hispanic/Latinx or non-Hispanic/Latinx. Depression was defined as the presence of ICD-9 codes indicating depressive disorder on more than one encounter in the observed period¹⁹.

Menopause symptoms were assessed by data abstraction from medical records, and identified by menopause-related diagnoses indicated by International Classification of Diseases (ICD)-9-CM codes (627.2, 627.3, 627.4, 627.8, 627.9; see Appendix, Supplemental Digital Content 1, for corresponding diagnoses) at two or more VA clinical encounters during the observed period. While not exhaustive, this approach may allow for detection of symptoms that are considered severe enough to warrant discussion and documentation by a VA healthcare provider. Menopausal hormone therapy was identified as

“present” or “not present” from pharmacy records and included if prescribed at least once in FY2014–2015. Expert clinician review (A.J.H.) was used to distinguish hormone therapy preparations primarily used for menopause symptom management from those used for other indications (e.g., contraception, gender-affirming hormone therapy) based on hormone type and dosing as well as FDA-approved indication, and to distinguish systemic versus vaginal menopausal hormone therapy.

Statistical analyses

Key variables and covariates in the sample were summarized using descriptive statistics, including frequencies and percentages for categorical data and means and standard deviations for continuous data. Multivariable logistic regression models were used to compare documented menopause symptoms and prescribed menopausal hormone therapy by race/ethnicity. All models were adjusted *a priori* for age, body mass index (BMI), and depression due to known influence on menopause symptomology and experience²⁰. Models with hormone therapy as the outcome were also adjusted for the presence of menopause symptoms. All analyses were performed using SAS 9.4 (SAS Institute Inc, 2013, Cary, NC) and Stata 14 (StataCorp, 2015, College Station, TX). Reported *p*-values are two sided, and *p* < .05 was considered statistically significant.

Results

The final study sample was composed of 200,901 midlife women veterans (mean age: 54.3 ± 5.4 years). The sample included 57.8% non-Hispanic/Latinx White, 32.5% non-Hispanic/Latinx Black, 4.2% Hispanic/Latinx, and 3.7% “other”, with approximately 6.0% of the sample of women missing a race descriptor (Table 1). Among these women, 5.2% had menopause symptoms documented in the medical record, 5.1% were prescribed systemic hormone therapy, and 5.0% were prescribed vaginal estrogen. Overlap between documented menopause symptoms and hormone therapy was minimal; only 30% of women prescribed systemic and 22% of women prescribed vaginal estrogen had menopause symptoms documented in the medical record. A significant proportion of the overall sample was overweight (25%) or obese (41%), 24% were smokers, and 13% were diagnosed with depressive disorders.

In multivariable analyses adjusted for age, BMI, and depression, non-Hispanic/Latinx Black women had lower odds of having medical record-documented evidence of menopause symptoms compared to non-Hispanic/Latinx White women (odds ratio [OR] 0.82, 95% confidence interval [CI] 0.78–0.86, *P* < 0.001).

In fully-adjusted model, including adjusting for menopause symptoms, both non-Hispanic/Latinx Black (OR 0.74, 95% CI 0.70–0.77, *P* < 0.001) and Hispanic/Latinx (OR 0.68, 95% CI 0.61–0.77, *P* < 0.001) women had lower odds of systemic hormone therapy treatment compared to non-Hispanic/Latinx White women. Similarly, non-Hispanic/Latinx Black women had lower odds of vaginal estrogen therapy compared to non-Hispanic/Latinx White women (OR 0.78, 95% CI 0.74–0.81, *P* < 0.001). In contrast, Hispanic/Latinx women had higher odds of vaginal estrogen treatment compared to non-Hispanic/Latinx White women (OR 1.12, 95% CI 1.02–1.24, *P* < 0.05).

Discussion

In this national sample of midlife women veterans we provide new evidence of substantive racial/ethnic disparities in both medical record-documented menopause symptoms and hormone therapy management. Relative to non-Hispanic/Latinx White women, non-Hispanic/Latinx Black women had lower odds of both medical record-documented evidence of menopause symptoms and prescribed hormone therapy. Hispanic/Latinx women had lower odds of medical record-documented systemic hormone therapy, but higher odds of vaginal estrogen treatment. Improved understanding of the reasons for racial/ethnic disparities in the documentation and/or management of menopause symptoms in the VA setting represents an important area for future investigation.

Past epidemiologic or community-based studies have found variation in self-reported menopause symptom experience by race/ethnicity, which could reflect differences in symptom experience or reporting.^{7,15} To our knowledge, these patterns have not been previously examined with menopause symptoms documented in the medical record, which affords examination of large clinical populations of women with severe and bothersome symptoms and the extent to which symptoms are captured during clinical encounters. In contrast to the current findings, prior community-based studies have observed greater prevalence of self-reported VMS among Hispanic/Latina women and Black women, as well as more severe²¹ and bothersome²² VMS among Black women, relative to White women and independent of known risk factors.^{6,7,23} Previous studies have also observed higher prevalence of self-reported genitourinary symptoms among Hispanic/Latina women.²³ Although Hispanic/Latina women were no more likely to have documented menopause symptoms in the current study, and genitourinary symptoms were not specifically identified, these patterns may be reflected in the higher odds of vaginal estrogen treatment that we observed for this group.

Overall, it is unclear if the observed racial/ethnic disparities in documented menopause symptoms are related to group differences in menopause symptom experience, reporting, or documentation. While it is possible that minority women veterans experienced fewer or less bothersome symptoms, it is also possible that there is less patient-provider communication regarding menopause symptoms among minority women veterans. Finally, these results, or lack of patient-provider communication about symptoms, could be attributed to other unmeasured factors such as systemic racism that may influence providers information-seeking and prescribing patterns.²⁴

Largely consistent with the current study, prescribed menopausal hormone therapy has been shown to be more common among White women compared to Black and Hispanic/Latina women in previous studies.^{5,17,25} However, most prior studies in this area examined data prior to known changes in prescribing patterns following the release of initial reports from the Women's Health Initiative (WHI) in 2002.²⁶ Previous work in the VA setting has shown a greater likelihood of menopausal hormone therapy discontinuation after the WHI²⁷ and continued lower odds of menopausal hormone therapy treatment among Black and Hispanic women veterans.¹⁷ The current findings build on this work by providing more recent

estimates, including assessment of medical record-documented menopause symptoms, and distinguishing between vaginal estrogen and systemic hormone therapy.

Although questions remain about the cause of the racial/ethnic disparities observed in the current study, the results highlight several important clinical implications. Reducing barriers to menopause-related care is important, due to the direct beneficial impact of appropriate care on quality of life and health outcomes. Improving provider's communication around menopause-related care may enhance disclosure from patients and promote shared decision-making for menopause symptom management. Striving for a more equitable and inclusive healthcare system by improving public health education around menopause symptoms and treatment and easing the burden of symptom reporting may even reduce overall health disparities among minority women.

There are several limitations to interpretation of the current study. Race/ethnicity is difficult to accurately categorize from VA medical record data due to the large number of individuals labeled as "Other" or Unknown". It is notable that both the "Other" and "Missing" race groups demonstrated similar differences from non-Hispanic/Latinx White women in menopause symptom, vaginal estrogen, and systemic hormone therapy documentation in the medical record. In fact, patterns of menopause symptom, vaginal estrogen, and systemic hormone therapy documentation closely resembled those in the non-Hispanic/Latinx Black women and Hispanic/Latinx groups, which may reflect inadequacy of the current racial classification system in capturing race identity.

Insufficient discussion of menopause symptoms, as well as ICD-9 coding, may factor into the low prevalence of documented menopause symptoms observed in this population. ICD-9-based measurement of menopause symptomatology likely underrepresents the true rates of diagnoses or symptom experiences and these may be infrequently discussed and/or documented in the VA setting. Available codes also primarily provide broad categorization of menopause symptoms, with limited ability to differentiate between VMS, genitourinary symptoms, and other types of menopause symptoms. Gender and racial/ethnic identity of healthcare providers have been shown to influence symptoms reporting, hormone therapy prescription, and overall quality of care^{28,29}. Clinician demographics may also significantly impact the discussion of menopause symptoms in the VA setting, and availability of women or minority providers differs vastly across VA sites³⁰. However, we are unable to assess clinician demographics in the current data. Diagnostic and pharmacy data were limited to VA records, and we cannot account for any diagnoses or prescriptions received outside of the VA system. Although we included BMI and depression as covariates in our analyses, both of which have well-established relationships with menopause symptoms, we did not control for the influence of other important health factors which have been reported to influence menopause symptoms in a population of women veterans, including smoker status, diabetes diagnosis, and hysterectomy³¹. A more thorough evaluation of comorbidities, which may influence menopause symptomatology and appropriateness of hormone therapy use, could help to further understand racial/ethnic differences in menopause symptomatology and prescribing decisions.

Despite these limitations, this study has important strengths. We examine menopause symptoms and both vaginal and systemic menopausal hormone therapy in a large, nationally representative sample of midlife and older women veterans. The relevance of this question to the VA and our ability to examine racial/ethnic disparities in documented symptoms and menopausal hormone therapy treatment is enhanced by the high representation of Black and Hispanic/Latinx women in this population.¹⁷ Furthermore, medical record-documented data provides real-world representation of documented symptoms and prescribing patterns. Little is known about hormone therapy prescribing behaviors among VA providers, but a recent study suggests there may be low levels of clinician adherence to published prescribing guidelines.³² Future research should focus on understanding patient-provider communication and shared decision-making regarding menopause symptomology, as well as resources for extending education regarding the current standards of menopause treatment among VA providers.

Conclusion

In this national sample of midlife and older women veterans enrolled in VA care, evidence of fewer medical record-documented menopause symptoms and lesser odds of prescribed menopausal hormone therapy among minority women veterans may reflect important racial/ethnic disparities in the discussion, documentation, and/or management of menopause symptoms. The current findings may inform comprehensive gender-sensitive care and care for racial/ethnic minorities both within and outside of VA settings.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1.

Sample characteristics

	Total Sample (200,901)	Women with Menopause Symptoms (n=10,501) ^b	Women Using Systemic HT ^b (n=10,207)	Women Using Vaginal Estrogen (n=9,996)
Age (mean, SD)	54.3 (5.4)	55.0 (4.8)	54.3 (5.1)	56.0 (4.8)
Race/Ethnicity				
Non-Hispanic White	116,128 (57.8%)	6,616 (63.0%)	6,615 (64.8%)	6,541 (65.4%)
Non-Hispanic Black	65,215 (32.5%)	2,941 (28.0%)	2,746 (26.9%)	2,573 (25.7%)
Hispanic/Latinx	8,466 (4.2%)	472 (4.5%)	354 (3.5%)	495 (5.0%)
Other ^a	7,420 (3.7%)	377 (3.6%)	326 (3.2%)	372 (3.7%)
Missing	12,138 (6.0%)	567 (5.4%)	520 (5.1%)	510 (5.1%)
Body Mass Index				
Underweight/normal (<25 kg/m ²)	34,583 (17.2%)	2,465 (23.5%)	2,038 (20.0%)	2,259 (22.6%)
Overweight (25–29.9 kg/m ²)	49,622 (24.7%)	3,204 (30.5%)	2,938 (28.8%)	2,935 (29.4%)
Obese (30+ kg/m ²)	81,907 (40.8%)	4,061 (38.7%)	4,175 (40.9%)	3,885 (38.9%)
Missing	34,789 (17.3%)	771 (7.3%)	1,056 (10.4%)	917 (9.2%)
Depression	25,262 (12.6%)	1,596 (15.2%)	1,759 (17.2%)	1,743 (17.4%)

Abbreviations: HT = hormone therapy, kg = kilogram, m = meter, SD = standard deviationa.

^aRace categories that were collapsed in the “Other” group each comprised 1% of the overall sample and includes mixed race, Asian, Native Hawaiian and Pacific Islander, and American Indian or Alaska Native.

^bMenopause symptoms were assessed by data abstraction from medical records and identified by menopause-related diagnoses indicated by International Classification of Diseases (ICD)-9-CM codes at two or more VA clinical encounters during the observed period. Menopausal hormone therapy was identified from pharmacy records and included if prescribed at least once in fiscal year (FY)2014–2015.

Table 2.

Associations between race/ethnicity, documented menopause symptoms, and prescribed menopausal hormone therapy

Race/ethnicity	Menopause Symptoms ^a		Systemic Menopausal Hormone Therapy ^a		Vaginal Estrogen	
	N (%)	OR, 95% CI	N (%)	OR, 95% CI	N (%)	OR, 95% CI
Non-Hispanic White	6,616 (5.70%)	Referent	6,615 (5.70%)	Referent	6,541 (5.63%)	Referent
Non-Hispanic Black	2,941 (4.51%)	0.82 (0.78–0.86) *	2,746 (4.21%)	0.74 (0.70–0.77) *	2,573 (3.95%)	0.78 (0.74–0.81) *
Hispanic/Latinx	472 (5.58%)	0.99 (0.90–1.09)	354 (4.18%)	0.68 (0.61–0.77) *	495 (5.85%)	1.12 (1.02–1.24) **
Other	377 (5.08%)	0.89 (0.80–0.99) **	326 (4.39%)	0.75 (0.67–0.84) *	372 (5.01%)	0.94 (0.85–1.05)
Missing	567 (4.67%)	0.85 (0.77–0.93) *	520 (4.28%)	0.81 (0.73–0.89) *	510 (4.20%)	0.81 (0.73–0.89) *

Row percentages (% within racial/ethnic category) presented. N(%) = row percentage. OR = odds ratio. CI = confidence interval.

Multivariable models adjusted for age, body mass index, and depression. Models with hormone therapy outcomes also adjusted for menopause symptoms.

* p<.001

** p<.05

^a Menopause symptoms were assessed by data abstraction from medical records and identified by menopause-related diagnoses indicated by International Classification of Diseases (ICD)-9-CM codes at two or more VA clinical encounters during the observed period. Menopausal hormone therapy was identified from pharmacy records and included if prescribed at least once in fiscal year (FY) 2014–2015. Race categories that were collapsed in the “Other” group each comprised 1% of the overall sample and included mixed race, Asian, Native Hawaiian and Pacific Islander, and American Indian or Alaska Native.