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Veterans Health Administration Screening for Military Sexual Trauma May Not Capture Over Half of Cases Among Midlife Women Veterans

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Abstract

Background: Approximately 1 in 3 women veterans endorse military sexual trauma (MST) during Veterans Health Administration (VHA) screening. Higher rates have been reported in anonymous surveys.

Objective: We compared MST identified by VHA screening to survey-reported MST within the same sample and identified participant characteristics associated with discordant responses.

Methods: Cross-sectional data were drawn from an observational study of women veterans aged 45–64 enrolled in VHA care in Northern California, with data from mail- and web-based surveys linked to VHA electronic health records (EHRs). Between March 2019 and May 2020, participants reported sociodemographic characteristics, current depressive (Patient Health Questionnaire-9) and posttraumatic stress (PTSD checklist for DSM-5) symptoms, and MST (using standard VHA screening questions) in a survey; depression and posttraumatic stress disorder diagnoses (ICD-10 codes) and documented MST were identified from EHRs. Associations between sociodemographic characteristics, mental health symptoms and diagnoses, and discordant MST reports (EHR-documented MST vs. MST reported on survey, not in EHR) were examined with multivariable logistic regression.

Results: In this sample of midlife women veterans ($n = 202$; mean age 56, SD = 5), 40% had EHR-documented MST, and 74% reported MST on the survey. Sociodemographic characteristics, mental health symptoms, and diagnosed depression were not associated with discordant MST responses. Women with an EHR-documented PTSD diagnosis had fivefold higher odds of having EHR-documented MST (vs. survey only; odds ratio 5.2; 95% confidence interval 2.3–11.9).

Conclusions: VHA screening may not capture more than half of women who reported MST on the survey. VHA screening may underestimate true rates of MST, which could lead to a gap in recognition and care for women veterans.

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Military sexual trauma (MST) is defined as sexual assault or threatening sexual harassment during military service (Levin, 2021; U.S. Government, 2011). MST has been increasingly recognized as an important public health concern in the U.S. military and veteran population disproportionately affecting women, with potentially lasting adverse physical and psychological health consequences (Kimerling, Gima, Smith, Street, & Frayne, 2007). In 1999, the Veterans Health Administration (VHA) implemented a universal screening protocol for MST to increase identification and connection to resources for MST-related conditions (Kimerling, 2018). According to this protocol, patients receiving VHA care must be screened for MST by clinical staff at least once using standardized screening questions (U.S. Department of Veterans Affairs, 2021). In 2010, adherence to universal screening was already approaching 97% in VHAs nationwide (Hyun, Kimerling, Cronkite, McCutcheon, & Frayne, 2012); however, evidence suggests that current screening for MST may not be capturing true rates among women veterans (Blais, Brignone, Fargo, Galbreath, & Gundlapalli, 2018; Kimerling et al., 2007).

MST exposure may be underreported or underdocumented in VHA-based screening (Andresen & Blais, 2019; Skinner et al., 2000; Wilson, 2018). Based on national VHA data, an estimated 1 in 50 men and 1 in 3 women veterans have a positive MST screen in the electronic health record (EHR) (Military Sexual Trauma Support Team, 2019); however, as many as 70% of women veterans report MST in anonymous surveys (Gibson, Gray, Katon, Simpson, & Lehavot, 2016). This discrepancy could have important health implications, as positive screening results are linked to access to resources in the VHA to address MST (Kimerling et al., 2007). Several hypotheses for this discrepancy have been raised, including discomfort and distrust with providers and/or the VHA (Blais et al., 2018; Kelly, 2021). Feelings of shame, guilt, and self-stigma related to sexual assault can also decrease help-seeking behaviors and disclosure (Andresen & Blais, 2019; Burns, Grindley, Holt, Manski, & Grossman, 2014). Further, veterans may choose not to endorse MST in screening because of concerns about confidentiality and privacy, documentation of MST in the medical record, provider characteristics or gender preferences, and avoidance of emotionally distressing conversations (Street et al., 2021; Turchik, Bucossi, & Kimerling, 2014). Disclosure may vary by age, service era, or race and ethnicity, prompting questions about whether MST among certain sociodemographic groups is not being captured by current screening (Bovin et al., 2016; Gibson et al., 2016).

In addition, it is important to understand whether mental health conditions, such as PTSD and depression, are linked with underdisclosure of MST in VHA settings. Rates of PTSD and depression are high among veterans with a positive MST screen in the EHR (Hankin et al., 1999; Yaeger, Himmelfarb, Cammack, & Mintz, 2006), and women veterans are more likely to experience co-occurring PTSD and depression (Gilmore et al., 2016). Individuals with PTSD and depression have greater difficulty disclosing trauma history and may avoid disclosure particularly when dealing with self-blame or negative social responses (Bedard-Gilligan, Jaeger, Echiverri-Cohen, & Zoellner, 2012; Quigley, Wen, & Dobson, 2017; Ullman, Townsend, Filipas, & Starzynski, 2007). This avoidant coping and fear of negative social reactions may contribute to differences in MST reporting. Avoidance is also associated with poorer recovery among survivors of sexual violence (Ullman, 1996; Valentiner, Foa, Riggs, & Gershuny, 1996). Furthermore, delayed disclosure of sexual

violence has been associated with higher rates of PTSD and PTSD symptoms (Saunders, Villepontaux, Lipovsky, Kilpatrick, & Veronen, 1992; Ullman, 1996, 2007). Understanding if current VHA screening for MST is not capturing patients with mental health comorbidity would give insight into improving care for a high-risk population.

More than half of the women who receive VHA care are 45 years and older, and there is growing evidence that MST exposure is common among women in this age group (Gibson et al., 2016, 2020). Midlife women may be unique in their range of military service eras, the time since they served in the military, and changes in military roles or cultural attitudes about MST during their time in service. These factors may influence how and when they report their experiences of MST. Among midlife women, menopause and aging-related health concerns could also result in a distinct impact of MST that is associated with poorer health and well-being relative to their younger peers (Gibson et al., 2016; 2019; 2020; Murdoch & Nichol, 1995). The possibility for preventing such clinical manifestations further highlights the importance of accurately identifying and addressing MST in this understudied population.

In this study, we compared rates of MST captured by VHA screening as documented in the EHR to rates of MST reported by mail or web-based survey in the same sample of midlife women veterans. We examined discordant reporting patterns by sociodemographic and mental health characteristics. We hypothesized that women not captured in VHA screening may be older and belong to minoritized racial or sexual orientation groups, due to possible increased barriers to care and discomfort in the VHA setting. We also explored whether women not captured in VHA screening had underrecognized mental health comorbidity.

Methods

Sample

Data were drawn from a cross-sectional study of midlife women veterans' health conducted March 2019–May 2020. Eligible participants were cisgender women veterans, 45–64 years old at the time of recruitment, with at least one clinical encounter in one of three VHA Health Care Systems in Northern California (San Francisco, Palo Alto, Martinez) the previous two years, and no current diagnoses of dementia or active psychosis. Potential participants were mailed information packets about study participation, as well as an “opt-out” postcard. Telephone follow-up was conducted 2 weeks after mailing for those who did not return either signed consent forms or opt-out postcards during that period. Once enrolled, participants were mailed survey questionnaire packets or emailed a link to complete the same packet online. The survey data were linked to data in the EHR. Participants provided written informed consent. The study was approved by the institutional review board of the University of California, San Francisco and the San Francisco VA Research and Development Committee.

Measures

Survey data collection—Participants self-reported age, race and ethnicity, educational attainment, sexual orientation, and military service era. We surveyed participants' race and

ethnicity according to the U.S. Department of the Interior Office of Diversity, Inclusion and Civil Rights (U.S. Department of the Interior, 1997). We collected data on race and ethnicity to evaluate for potential health disparities and inequities in the health of midlife women veterans. Although race and ethnicity are similar social constructs, we did not merge the terms due to the different subcategories within them (Flanagin, Frey, Christiansen, & AMA Manual of Style Committee, 2021). Depressive symptoms were measured using the Patient Health Questionnaire-9 (PHQ-9), with clinically significant symptoms defined as scoring 10 or above (Kroenke, Spitzer, & Williams, 2001). PTSD symptoms were assessed using the Posttraumatic Stress Disorder Checklist (PCL-5); scoring 31 or above was used to indicate symptom burden and probable PTSD in the past month (Bovin et al., 2016). MST was assessed with the current questions used in VHA universal screening protocol: “When you were in the military, did you ever receive uninvited or unwanted sexual attention such as touching, cornering, pressure for sexual favors, or inappropriate verbal remarks, etc.?” (Assessment of sexual harassment) and “When you were in the military, did anyone ever use force or threat of force to have sexual contact with you against your will?” (Assessment of sexual assault). A positive response to either or both questions was categorized as MST, as is consistent with VHA screening practices and existing literature (Wilson, 2018).

EHR data—VHA administrative data were obtained from the Corporate Data Warehouse and linked to the survey responses. These data included depression and PTSD diagnoses identified from the International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10) diagnostic codes derived from the EHR, as well as MST documented from VHA screening. The universal screening protocol mandates that veterans engaged in VHA care are screened by clinic staff at least once, with the questions listed above. Responses include “Yes,” “No,” or “Declined to answer.” Those who decline to answer continue to be screened annually until a “Yes” or “No” response is provided (Mengeling et al., 2019). In the current study, an EHR-documented MST flag resulting from a positive response to either or both screening questions at any point in time was categorized as MST.

MST variables—We examined two types of positive MST responses: 1) positive MST screen in the EHR regardless of whether MST was reported on the survey (+MST in VHA EHR), and 2) negative MST screen in the EHR but positive report of MST by survey (–MST in VHA EHR but +MST by survey). We created an outcome variable to compare women with a positive MST screen in the EHR with women who had a negative MST screen in the EHR but a positive report of MST by study survey (referent).

Statistical Analyses

Descriptive statistics were used to describe key characteristics of the full sample. Demographic and clinical characteristics of women with a positive MST screen in the EHR were compared with those of women who had a negative MST screen in the EHR but positive report of MST by study survey, using χ^2 (for categorical variables) and analysis of variance (for continuous variables). We combined racial subgroups into “all other races” and “White” because the participant numbers would otherwise have been too small for meaningful analyses. A positive MST screen in the EHR included participants who also reported MST on the survey ($n = 78$) and those who did not report MST on the survey ($n =$

2). We conducted a multivariable logistic regression analysis examining the associations between sociodemographic and mental health characteristics chosen a priori based on existing literature (Coyle, Wolan, & Van Horn, 1996; Foyes, Smith, & Shipherd, 2015; Schuyler et al., 2020; Skinner et al., 2000) with +MST in VHA EHR relative to –MST in VHA EHR and +MST in the study survey. The sociodemographic data included age, race and ethnicity, education, sexual orientation, and military service era. The mental health variables were clinically significant depressive symptoms (PHQ-9) and recent probable PTSD (PCL-5), and EHR-documented depression and PTSD diagnoses. We conducted a collinearity analysis between all variables before including them in regression models. In exploratory models, descriptive statistics were conducted to examine potential differences in VHA EHR MST documentation by survey-reported MST type (only sexual harassment, only sexual assault, and both sexual harassment and sexual assault). SPSS (IBM SPSS Statistics for Windows, Version 21.0) was used for all analyses.

Results

Characteristics of the Study Population

A total of 247 women veterans enrolled in the study and were sent the study survey. Of these enrolled participants, 232 (94%) returned a completed survey and 202 (82%) had complete MST data from the EHR. Therefore, the final analytic sample included 202 midlife women veterans (mean age 56.0, SD = 5.2). Overall, the sample was largely White (69%), self-identified as heterosexual (74%), and reported some college or technical school (51%). Approximately 40% last served during peace time (1975–1989), 34% last served during the Gulf War (1990–2000), and 19% last served during Operation Enduring Freedom, Operation Iraqi Freedom, and/or Operation New Dawn (OEF/OIF/OND, 2001–current) (Table 1). No significant differences in key demographic or clinical characteristics between women with and without missing EHR-documented information about MST screening were detected (data not shown).

Military Sexual Trauma

In this sample of midlife women veterans, 40% had EHR-documented MST, and 74% reported MST on the survey. Approximately 60% ($n = 72$) of women who did not have MST documented in their EHR screen reported MST on the study survey (Table 1 and Figure 1). Among all participants, 73% ($n = 148$) reported sexual harassment, and 48% ($n = 96$) reported sexual assault on the study survey; all but two women who reported sexual assault also reported sexual harassment. Of the women veterans with a negative VHA EHR screen, 31% ($n = 37$) only reported sexual harassment on the study survey and 28% ($n = 34$) reported sexual harassment and sexual assault (Table 2).

Characteristics of Women With + MST in VHA EHR Versus –MST in EHR but + MST by Survey

Characteristics of women with EHR-documented positive MST screens (+MST in VHA EHR) were compared with those of women without EHR-documented MST but with MST reported by survey (–MST in VHA EHR but + MST by survey). In bivariate comparisons, discordance between EHR and survey-reported MST was not associated

with any sociodemographic characteristics, including age, race, ethnicity, education, sexual orientation, and military service era. The proportion of women with a depression diagnosis did not differ between the two groups. However, the proportion of women veterans with current clinically significant depressive symptoms, current probable PTSD (PCL-5), and EHR-documented PTSD diagnoses was more than twofold higher among women with +MST in VHA EHR compared with women with -MST in VHA EHR but +MST by survey ($p < .003$ for all) (Table 3).

In multivariable analyses including age, race, ethnicity, education, military service era, depressive symptoms, probable PTSD, and diagnosed depression and PTSD, only diagnosed PTSD remained significantly associated with EHR-documented MST compared with positive MST screening in the study survey alone. Women with a PTSD diagnosis had more than five times greater odds of having a positive MST in VHA EHR relative to a negative MST screen in VHA EHR but positive report of MST by survey (odds ratio: 5.2; 95% confidence interval: 2.3–11.9) (Table 4).

Discussion

Recent high-profile cases of MST among women in the military have increased concern about timely and systematic detection of MST (Diaz, Cramer, & Morales, 2021). Our study of midlife women veterans found that approximately 60% of women veterans without a positive EHR-documented MST screen reported MST by survey, suggesting their MST was not captured by current VHA screening practices. Contrary to expectations, no specific sociodemographic characteristics were associated with MST not being captured in the VA EHR. Although this may suggest that VHA-based MST screening discrepancies for this age range were not significantly influenced by participant age, race and ethnicity, education attainment, sexual orientation, or service era, power may have been limited to detect associations in this study, and replication in larger, diverse populations are needed to confirm these findings.

Clinically significant depressive symptoms, probable PTSD, and a documented diagnosis of PTSD were twice as common among women with a positive MST screen in the EHR relative to women with a negative MST screen in the EHR but positive report of MST by survey. However, in models adjusting for sociodemographic and mental health characteristics, only diagnosed PTSD remained significantly associated with EHR-documented MST relative to MST only reported in the survey. The strong, independent association between diagnosed PTSD and EHR-documented MST may indicate that the current VHA screening practices are identifying women veterans most in need of MST-related resources. Having a recognized PTSD diagnosis, potentially related to service-connected disability and/or engagement in trauma-focused treatment, may lead to additional screening or acknowledgment of MST history in the VHA setting. Alternatively, a positive MST screen may contribute to assessment, diagnosis, and/or connection to services and/or treatment for PTSD. As there was no difference in current PTSD symptoms based on PCL-5 scores in women with and without EHR-documented MST in the multivariable model, current PTSD symptoms may not be as readily recognized among those women who reported MST only in the study survey. Ultimately, screening may continue to miss

many women who have experienced MST and therefore are at risk of developing consequent psychological or physical comorbidities. These women may benefit from preventive services and additional resources to which they would be entitled if they had EHR-documented MST.

Our study is consistent with prior literature showing that VHA screening for MST may underdetect experiences of MST based on differences in reporting rates from research surveys relative to prevalence estimated from VHA screening (Andresen & Blais, 2019; Blais et al., 2018; Wilson, 2018). Several factors may lead to differences in screenings in a health care context versus a research survey, including concerns regarding confidentiality, which has been shown to be a barrier to reporting MST during active duty and disclosing intimate partner violence during VHA clinical screening (Burns et al., 2014; Mengeling, Booth, Torner, & Sadler, 2014; Miller et al., 2022). Therefore, it is important to conduct screening of stigmatized experiences in a private area without family or other patients close by (Gryczynski et al., 2019). Veterans have reported that MST disclosure during clinical visits is difficult because it is associated with distressing memories (Street et al., 2021; Turchik et al., 2014). Empathetic communication paired with MST education and resources may be one way to mitigate the emotional barrier of talking about MST (Street et al., 2021). Other potential factors include perceived stigma or lack of rapport with the provider, provider comfort talking about MST, and more uniform approaches to screening during surveys compared with clinical encounters (Gryczynski et al., 2019). Although few studies have provided direct comparisons between screening and study survey responses, rates of MST exposure reported in surveys are typically much higher than the rates observed in VHA EHR data (Barth et al., 2016; Skinner et al., 2000). For example, in one study examining traumatic exposures during military service across multiple age cohorts, 84% of women veterans aged 55–64 years reported MST in an anonymous research survey (Gibson et al., 2016), and 18% of women veterans in that age range had EHR-documented MST in a recent evaluation of VA administrative data (Gibson et al., 2020). Our findings are also consistent with the Veterans' After-Discharge Longitudinal Registry (Project VALOR), a younger cohort of veterans from the current service era. The Project VALOR study compared endorsement of MST during a telephone-based interview to the same veterans' most recent MST EHR screening results, and found that 42% of women veterans reported MST during VHA EHR screening, and 73% reported MST on the telephone interview (Bovin et al., 2019). Our study indicated that 40% of midlife women had a positive VHA EHR MST screen, a higher rate than expected relative to national VHA data (Gibson et al., 2020; Kimerling et al., 2007). This difference may be explained by regional sampling reflecting the screening practices or disclosure rates within several regional VHAs rather than the national VHA system.

Barriers to disclosing MST during VHA screening remain poorly understood. Possible obstacles include stigma, fear of negative repercussions, discomfort talking about MST with providers, and lack of confidence in subsequent actionable change (Andresen & Blais, 2019; Dardis, Reinhardt, Foynes, Medoff, & Street, 2018; Kelly, 2021; Street et al., 2021). Clinician communication may contribute to decreased disclosure if not conveying empathy and knowledge of MST-related care resources (Dardis et al., 2018; Street et al., 2021). Many participants are also not re-screened after an initial negative response (Mengeling et al., 2019), missing the opportunity to endorse MST after a greater level

of trust and comfort within the system or with the provider is attained (Gundlapalli et al., 2019). It is also possible that participants were influenced by their perceived reason for being screened for MST. For example, patients may not have reported experiences of MST during a health care encounter because they did not believe it was related to their health (Shaheen et al., 2020). We also found that half of the women who reported sexual harassment without sexual assault on the study survey did not have EHR-documented MST. Although sexual harassment is included in the screening questions, it is possible that some women who did not endorse MST in screening based on experiences of sexual harassment would later identify these experiences as MST due to factors such as recent sociopolitical movements advocating against normalizing and dismissing sexual harassment (O'Neil, Sojo, Fileborn, Scovelle, & Milner, 2018). Although sexual harassment may be perceived as a less severe form of MST, it has been shown to have negative health repercussions and warrants connection to care and resources (Gibson et al., 2016; Goldstein, Dinh, Donalson, Hebenstreit, & Maguen, 2017). In the current study, we cannot confirm barriers, perceptions, or reasons for discordant reporting.

We had expected to see differences in EHR-documented MST based on participant sociodemographic characteristics, which may affect screening practices and/or veterans' level of trust with the VHA and may influence disclosure. In prior research, older women have been shown to report lower rates of MST in VHA screening, which could be related to generational differences in the assessment and interpretation of MST experiences, differences in the timing or repetition of screening, changing military roles and culture over different service eras, and/or true differences in exposure by age (Gibson et al., 2016). These differences may have been limited by the relatively narrow age window in the current study. Concerns of discrimination on the basis of race or sexual orientation in the VHA setting also could be barriers to disclosing MST during screening for women who belong to minoritized racial or sexual orientation groups (Calton, Cattaneo, & Gebhard, 2016; Foynes et al., 2015; Gurung et al., 2018; Hoffman, Trawalter, Axt, & Oliver, 2016; Schulman et al., 1999; Schuyler et al., 2020). Despite these hypotheses, we did not find statistically significant differences in screening ascertainment based on sociodemographic characteristics. However, it would be important to verify these findings in larger, diverse populations throughout the United States.

These findings should be interpreted in light of several limitations. Data were drawn from a small sample of women veterans and limited to one region in the United States. Results may not be generalizable to midlife women veterans in other regions, of other age groups, of other gender identities, or to women veterans who do not receive care in the VHA setting, a group that accounts for most women veterans (Calhoun et al., 2018). The power to detect differences by demographic or clinical characteristics may be limited by the relative homogeneity of this sample. Expansion of this work within a diverse national sample is needed to better identify groups for whom screening is succeeding or could be improved. We lack information about the personnel administering VHA screening and timing of the survey administration in relation to EHR screening. Screening responses are likely to be influenced by unmeasured factors including patterns of health care utilization; changes to the wording of the standardized screening questions since initial implementation; and long-term, trusting relationships with providers (Gundlapalli et al., 2019; Mengeling et al., 2019). To mitigate

this variability, enrolled participants had to have had at least one clinical encounter in the VHA system within the past 2 years. This analysis was not a formal analysis of VHA screening test characteristics or accuracy. Finally, volunteer surveys inherently bring the risk of biased response and experimental demand effects. However, every effort was made to be representative in the data collection. The recruitment strategies also did not highlight MST as a specific topic of the study. Therefore, it is less likely that enrollment or responses were influenced by desire to confirm an inferred hypothesis or interest in/experience of MST.

Implications for Practice and/or Policy

There are several strengths and clinical implications of this work. Although past studies have suggested higher rates of MST reporting in anonymous research surveys than health record data, the current study is distinct in that it compares MST as documented in the EHR and reported in a study survey within the same sample. These findings provide important information about midlife women veterans, an understudied population that comprises almost half of women veterans served by the VHA. They also extend past research identifying the pervasiveness of MST and demonstrating potential gaps in the current VHA model of screening for MST. Possible approaches to improve current MST screening include surveying patients via paper or electronic questionnaires before their clinical appointments so the results can be discussed during the encounter, and screening those with previously negative MST responses more than once, particularly after establishment of a trusting relationship with the screening clinician (California Surgeon General's Clinical Advisory Committee, 2021; Felitti & Anda, 2010). Given the high prevalence of survey-reported MST in this age group, it may be beneficial to accompany screening with information on how MST can affect health and available resources in the VHA and community for veterans who have experienced MST. However, further mixed-method research that analyzes the test characteristics of the VHA screen and centers the preferences of veterans is needed to clarify how to improve identification of MST in the VHA setting. This research may be done through in-depth interviews, focus groups, and surveys of veterans who have experienced MST.

Conclusions

Experiences of MST among midlife women may be underrecognized using current VHA screening. This identifies a potential gap in documentation and treatment for these women. Our findings may support the need to decrease barriers to reporting MST within the VHA health care system.

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Biographies

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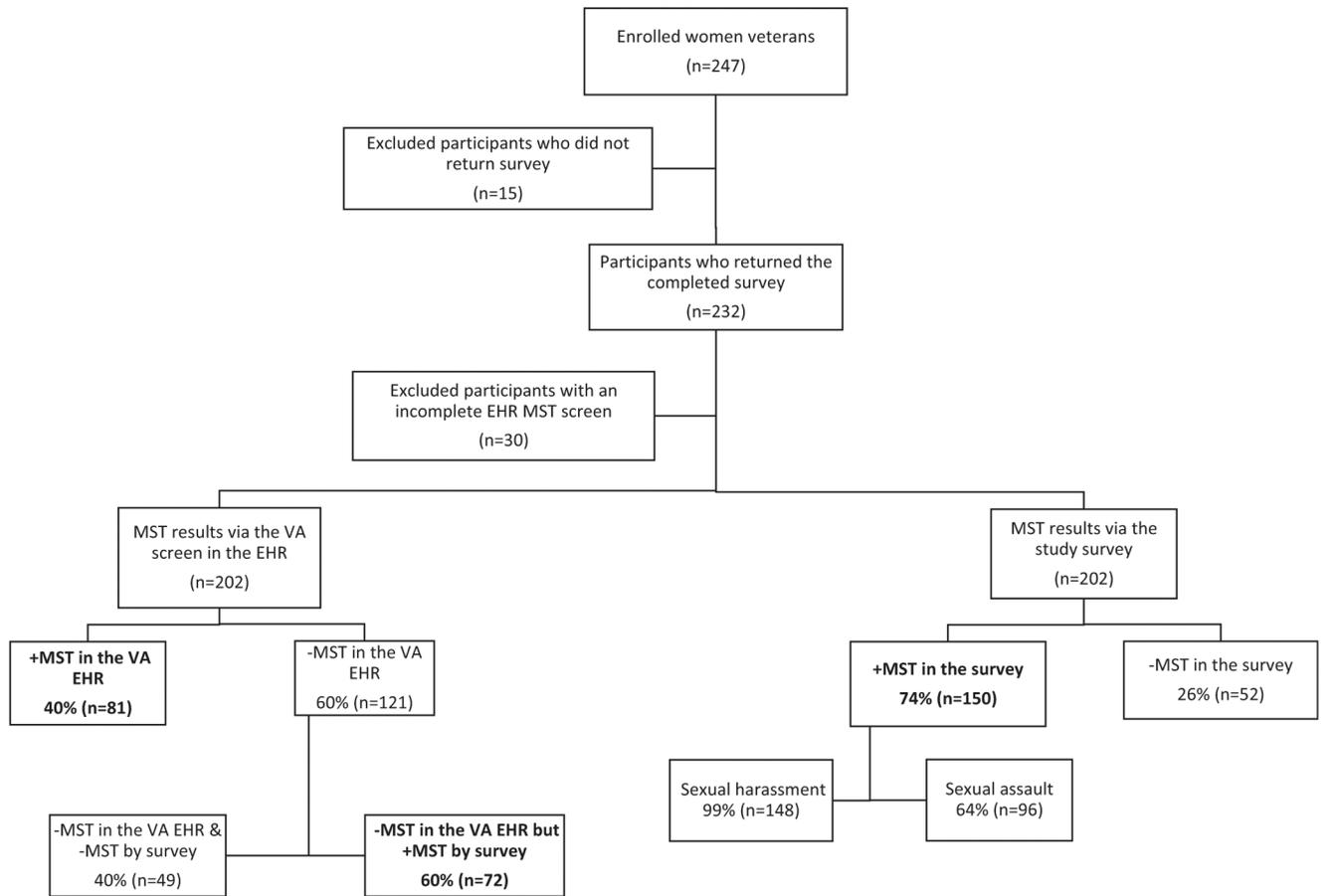


Figure 1. Flowchart of participants through the study and their MST responses in the EHR during VA screening compared with the study survey.

Table 1Demographic Characteristics of the Study Population ($n = 202$)

Demographic Characteristics	n (%)
Age (mean, SD)	56.04 (5)
Race	
American Indian or Alaskan Native	1 (0.5)
Asian	7 (4)
Black or African American	22 (11)
Native Hawaiian or Other Pacific Islander	1 (0.5)
Other/Multiracial	23 (11)
White	148 (73)
Ethnicity	
Hispanic or Latina	20 (10)
Non-Hispanic or Latina	182 (90)
Education	
Some College or Technical School	102 (51)
College Degree or More	100 (50)
Sexual Orientation	
Straight or Heterosexual	150 (74)
LGBQ	52 (26)
Military Service Era*	
Vietnam (1961–1975)	6 (3)
Peace Time (1975–1989)	80 (40)
Gulf War (1990–2000)	69 (34)
OEF/OIF/OND (2001-ongoing)	39 (19)
MST	
Positive EHR MST Response	81 (40)
Positive Survey MST Response	150 (74)
Sexual Harassment [†]	148 (73)
Sexual Assault [‡]	96 (48)

Abbreviations: EHR, electronic health record; LGBQ, lesbian, gay, bisexual, queer; MST, military sexual trauma; OEF/OIF/OND, Operation Enduring Freedom/Operation Iraqi Freedom/Operation New Dawn.

* Participants may span multiple military service eras. Peace time not counted if any service overlaps with named era. [Note Vietnam + peace time collapsed into one category for multivariable analyses.]

[†] Participants who reported sexual harassment on study survey. Participants could report sexual harassment and/or sexual assault.

[‡] Participants who reported sexual assault on study survey. Participants could report sexual harassment and/or sexual assault. Among women who reported sexual assault, almost all ($n = 94$) also reported sexual harassment on the study survey.

Table 2**MST Survey Responses by VA EHR-Documented Screening Results**

Survey MST Responses	+MST in VA EHR* (n = 81, x%)	-MST in VA EHR[†] (n = 121, x%)
Sexual harassment only	17 (21)	37 (31)
Sexual assault only	1 (1)	1 (0.8)
Sexual harassment and assault	60 (74)	34 (28)
No sexual harassment or assault	2 (2)	49 (40)

Abbreviations: EHR, electronic health record; MST, military sexual trauma; VA, Department of Veterans Affairs.

* Includes all participants with a positive VA MST screen in the EHR ($n = 81$), including participants who reported MST on the survey ($n = 78$), those who had missing MST survey response ($n = 1$), and those who did not report MST on the survey ($n = 2$).

[†] Includes those who had not endorsed MST in the VA EHR ($n = 121$).

Table 3
Sample Characteristics by VA EHR-Documented MST Screening Compared With MST Reported Only on Survey

Sample Characteristics	+MST in VA EHR* (n = 81, x%)	-MST in VA EHR, +MST by Survey† (n = 72, x%)	p Value
Age (mean, SD)	56.0 (4.4)	55.4 (5.6)	.44
Race			.80
All Other Races‡	20 (25)	20 (28)	
White	61 (75)	52 (72)	
Ethnicity			.81
Non-Hispanic or Latina	74 (91)	64 (89)	
Hispanic or Latina	8 (9)	8 (11)	
Education			.22
Some College	37 (46)	41 (57)	
College Degree	44 (54)	31 (43)	
Sexual Orientation			.63
Heterosexual	58 (72)	55 (76)	
LGBQ	23 (28)	17 (24)	
Military Service Era (Final)			.48
Vietnam/Peace Time (pre-1989)	39 (51)	28 (41)	
Gulf War (1990-2000)	25 (33)	27 (39)	
OEF/OIF/OND (2001-present)	13 (17)	14 (20)	
Mental Health			
PTSD (ICD-10)	57 (70)	22 (31)	<.001
Probable PTSD-PCL 33	38 (48)	15 (21)	.001
Depression (ICD-10)	38 (47)	31 (43)	.75
Depressive Symptoms - PHQ-9 10	41 (51)	18 (25)	.002

Abbreviations: EHR, electronic health record; ICD-10, International Classification of Diseases, 10th Revision; LGBQ, lesbian, gay, bisexual, queer; MST, military sexual trauma; OEF/OIF/OND, Operation Enduring Freedom/Operation Iraqi Freedom/Operation New Dawn; PCL, Posttraumatic Stress Disorder Checklist; PHQ-9, Patient Health Questionnaire-9; PTSD, posttraumatic stress disorder; VA, Department of Veterans Affairs.

Participants who did not endorse MST in both EHR and study survey ($n = 46$) were not included in this analysis.

* Includes all participants with a positive VA MST screen in the EHR ($n = 81$), including participants who reported MST on the survey ($n = 78$), those who had missing MST survey response ($n = 1$), and those who did not report MST on the survey ($n = 2$).

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[‡]Includes only those who had not endorsed MST in the VA EHR but reported MST by survey ($n = 72$).

[‡]Includes participants who self-reported race to be American Indian or Alaska Native ($n = 1$), Asian ($n = 5$), Black or African American ($n = 13$), Native Hawaiian or Other Pacific Islander ($n = 1$), and Other/Multiracial ($n = 20$).

Multivariable Analysis of Sociodemographic and Mental Health Characteristics Associated With a Positive MST Screen in the EHR Compared With a Negative MST Screen in the EHR but Positive Report of MST by Study Survey

Table 4

Sample Characteristics	OR (95% CI)
Demographic Data	
Age, Y	1.0 (0.90–1.1)
Race (Referent: All Other Races [*])	0.88 (0.33–2.4)
Ethnicity (Referent: Not Hispanic/Latina)	0.93 (0.19–4.5)
College Education (Referent: <College Degree)	0.53 (0.23–1.2)
Sexual Orientation (Referent: Lesbian, Bisexual, or Gay)	1.3 (0.54–3.2)
Military Service Era (Final) (Referent: Vietnam/Peace Time)	
Gulf War (1990–2000)	0.53 (0.17–1.7)
OEF/OIF/OND (2001–Present)	0.63 (0.16–2.4)
Mental Health Data	
PTSD (ICD-10)	5.2 (2.3–11.9)
PCL >30	2.0 (0.76–5.4)
Depression (ICD-10)	0.55 (0.23–1.3)
PHQ-9 >10	1.4 (0.57–3.6)

Abbreviations: CI, confidence interval; EHR, electronic health record; ICD-10, International Classification of Diseases, 10th Revision; MST, military sexual trauma; OEF/OIF/OND, Operation Enduring Freedom/Operation Iraqi Freedom/Operation New Dawn; OR, odds ratio; PCL, posttraumatic stress disorder checklist; PHQ-9, Patient Health Questionnaire-9; PTSD, posttraumatic stress disorder.

* Includes participants who self-reported race to be American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and Other/Multiracial.