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Barriers to initiating and continuing mental health treatment among soldiers in the Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS)

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Abstract

U.S. Army soldiers with mental disorders report a variety of barriers to initiating and continuing treatment. Improved understanding of these barriers can help direct mental health services to soldiers in need. A representative sample of 5,428 nondeployed Regular Army soldiers

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eTable 1. Army STARRS Q2–4 2011 All Army Study (AAS) items assessing reasons for not seeking mental health treatment.

eTable 2. Army STARRS Q2–4 2011 All Army Study (AAS) items assessing reasons for discontinuing mental health treatment.

participating in the Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS) completed a self-administered questionnaire (SAQ) and consented to linking SAQ data with administrative records. We examined reported treatment barriers (perceived need, structural reasons, attitudinal reasons) among respondents with current DSM-IV mental disorders who either did not seek treatment in the past year (n=744) or discontinued treatment (n=145). 82.4% of soldiers who did not initiate treatment and 69.5% of those who discontinued treatment endorsed at least two barriers. 69.8% of never-treated soldiers reported no perceived need. Attitudinal reasons were cited more frequently than structural reasons among never-treated soldiers with perceived need (80.7% vs. 62.7%) and those who discontinued treatment (71.0% vs. 37.8%). Multivariate associations with socio-demographic, Army career, and mental health predictors varied across barrier categories. These findings suggest most soldiers with mental disorders do not believe they need treatment, and those who do typically face multiple attitudinal and, to a lesser extent, structural barriers.

Keywords

military; mental health; treatment; barriers

INTRODUCTION

Approximately 20–30% of U.S. military personnel who served during the wars in Iraq and Afghanistan screened positive for mental disorders, with increased odds among those who previously deployed.[1–4] Although the individual and collective burden of these disorders might be attenuated by timely intervention, less than half of service members with mental health problems report seeking treatment in the past year.[3,5] There is evidence that service members perceive a variety of barriers to doing so, both structural (e.g., financial constraints, difficulty scheduling or attending appointments) and attitudinal (e.g., stigma-related concerns, negative attitudes toward mental health professionals) in nature.[3,6–9]

The current study extends this previous work using data from the All Army Study (AAS) component of the Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS; www.armystarrs.org)[10] involving a representative survey of nondeployed Regular Army soldiers. Among the 25.1% of AAS respondents who met criteria for at least one current mental disorder at the time of the survey,[2] 21.3% were currently in treatment.[11] Here we examine the prevalence and predictors of treatment barriers in the remaining 78.7% who were not in treatment. The representativeness of the AAS sample and broad assessment of current mental disorders allow more generalizable findings than prior studies. Unlike previous research, we also distinguish between soldiers who never received treatment in the past year and those who were receiving treatment but stopped. Finally, we examine perceived need for treatment and the desire to handle problems on one's own, which are consistently identified as two of the most important barriers in general population research,[12–14] but rarely included in military studies.

METHOD

Sample

We used data from the Q2–4 2011 Army STARRS AAS, a cross-sectional survey administered quarterly to a representative sample of active duty Regular Army soldiers, excluding those in Basic Combat Training or deployed to a combat theatre. Activated Army National Guard and Reserve personnel were excluded from the current study due to small numbers. Each quarterly replicate included a probability sample of Army units stratified by Army Command-location and unit size. Sample sizes for the command × unit size strata were proportional to authorized unit strength, excluding units with fewer than 30 soldiers (less than 2% of Army personnel). Soldiers from sampled units attended an informed consent briefing where they were informed that participation in the study was completely voluntary. After receiving information about purposes of the study and confidentiality procedures, soldiers were given an opportunity to ask questions. Those electing to participate provided written informed consent for a group-based self-administered questionnaire (SAQ). Separate consents were requested to link respondents' Army and Department of Defense (DoD) administrative records to their SAQ responses and allow re-contacting for future studies. Identifying information needed for record linkage (name, date of birth, and SSN) and longitudinal follow-up (telephone number, email, secondary contact information) was collected and secured in a separate file from completed SAQs. All recruitment, consent, and data collection/security procedures were approved by the Human Subjects Committees of the Uniformed Services University of the Health Sciences for the Henry M. Jackson Foundation (the primary grantee), the Institute for Social Research at the University of Michigan (the organization implementing Army STARRS surveys), and all other collaborating organizations.

Here we include the 5,428 Regular Army respondents who completed the SAQ and consented to linkage of their Army/DoD administrative data. Among soldiers ordered to attend the informed consent briefing, 23.5% were absent due to conflicting duty assignments. Among those in attendance, 96.0% consented to the survey, 98.0% of consenting soldiers completed the survey, and 69.2% of completers had their Army/DoD administrative records successfully linked. Although incomplete surveys were largely due to logistical complications with certain units (e.g., scheduling conflicts resulting in late arrivals or early departures), some respondents were unable to complete the SAQ during the allotted 90 minutes. The *cooperation* rate for consent, survey completion, and successful record linkage was 65.1% (.96 × .98 × .692) and the *response* rate was 49.8% ([1–.235] × .651), based on the American Association of Public Opinion Research COOP1 and RR1 calculation methods.[15]

We obtained de-identified administrative data for the entire Army and for survey respondents who agreed to administrative data linkage, allowing two weights to be created to adjust for non-response bias (i.e., discrepancies between the analytic sample and target population). Each weight was constructed based on an iterative process of stepwise logistic regression analysis designed to arrive at a stable weighting solution. Weight 1 (W1) adjusted for discrepancies between survey completers with and without administrative record linkage

based on a prediction equation that used SAQ responses as predictors: W1 = 1/p1, where p1 is the probability of consenting to administrative data linkage. Weight 2 (W2) adjusted for discrepancies between weighted (W1) survey completers with record linkage and the target population based on a prediction equation that used a small set of administrative variables as predictors (e.g. age, sex, rank): W2 = 1/p2, where p2 is the probability of survey completion. These doubly-weighted (W1 × W2) data were used in the current study's analyses. Additional details regarding AAS weighting procedures can be found elsewhere.[16]

Measures

Diagnostic assessment—Self-administered assessments of past 30-day DSM-IV mental disorders included 5 internalizing disorders and 3 externalizing disorders. Internalizing disorders included generalized anxiety disorder (GAD), panic disorder, posttraumatic stress disorder (PTSD), major depressive disorder (MDD), and bipolar disorder I–II or sub-threshold bipolar disorder (BPD). Sub-threshold BPD was defined as a lifetime history of hypomanic episode in the absence of ever having a major depressive episode, or a history of hypomanic symptoms not meeting full criteria in the presence of a lifetime major depressive episode. To be considered positive for sub-threshold BPD in past 30 days, a respondent who met the lifetime definition above must have had a major depressive or sub-threshold hypomanic episode in the past 30 days. Externalizing disorders included attention-deficit/hyperactivity disorder (ADHD), intermittent explosive disorder (IED), and substance use disorder (SUD; alcohol or drug abuse or dependence, including illicit drugs and misused prescription drugs). Respondents completed the Composite International Diagnostic Interview screening scales (CIDI-SC)[17] and PTSD Checklist (PCL),[18] both of which have good concordance with independent clinical diagnoses in the AAS.[19] All disorders were assessed without DSM-IV diagnostic hierarchy or organic exclusion rules. Duration of disorder was determined by asking respondents how many months during the past year they had problems related to each disorder.

Severity of role impairment—Past 30-day severity of health-related role impairment was assessed with a revised version of the Sheehan Disability Scales.[20] Respondents were asked how much problems with their physical health, mental health, or alcohol-drug use interfered with their functioning in each of four role domains: *home management; quality of work on duty; social life*; and *close personal relationships*. Level of interference within each domain was rated using a 0–10 visual analogue scale labeled "no interference (0), mild (1–3), moderate (4–6), severe (7–9), and very severe interference (10)." Severe role impairment was defined as a 7–10 rating in one or more domains.

Reasons for not seeking treatment—Respondents who reported no use of mental health treatment in the past 12 months from any of 11 different service sectors[11] were asked: "Was there a time in the past 12 months when you thought you might need to see a professional or go to a self-help or support group because of problems with your emotions, nerves, mental health, behavior, or substance use?" Those who answered "no" were considered to have no perceived need for treatment. Those who answered "yes" were presented with a list of potential reasons for not seeking treatment[3,21] and asked to indicate the importance of each (*very important, somewhat important, not very important, not at all*

important). The list of reasons included low perceived need (i.e., "the problem was not serious or got better"), structural barriers (e.g., lack of financial means, inconvenience), and attitudinal barriers (e.g., stigma, perceived ineffectiveness of treatment, a desire to handle the problem on one's own). (See eTable 1 for exact item wording, available at www.armystarrs.org/publications). Reasons rated as somewhat or very important were coded as positive endorsements.

Reasons for discontinuing treatment—Respondents who reported use of any mental health services in the past 12 months were asked whether they were still in treatment or had stopped. Those indicating the latter were presented with a list of potential reasons for stopping treatment similar to those above (low perceived need, structural barriers, attitudinal barriers),[3] and asked to rate the importance of each (see eTable 2 for exact item wording). Reasons rated as at least somewhat important were again coded as positive endorsements. Only respondents who had stopped *all* ongoing treatments were classified as having discontinued treatment.

Socio-demographic and Army career variables—The socio-demographic variables considered herein include gender, race/ethnicity (Non-Hispanic White, Non-Hispanic Black, Hispanic, other), and marital status (currently, previously, and never married). The Army career variables include rank (lower-ranking enlisted [E1–E4], higher-ranking enlisted [E5–E9], officer [W1–W5/O1–O9]), number of deployments to a combat theater (0, 1, 2, 3+), and Army Command assignment (the major organizational subdivisions within the Army).

Analysis procedures

AAS data were weighted to adjust for differences in probabilities of selection, differential non-response, and residual differences between the sample and the population (based on distributions of study variables obtained from Army/DoD administrative data sources). Analyses were carried out separately among those who did not initiate treatment and those who discontinued treatment. Analyses of perceived need included all respondents who did not initiate treatment, whereas analyses of other barriers included only those who reported having perceived need. We calculated frequencies of reported barriers overall and among respondents with and without severe role impairment. Multivariate logistic regression analyses[22] examined socio-demographic, Army career, and disorder-related predictors of each broad barrier category (no perceived need, low perceived need, structural barriers, attitudinal barriers). Categories composed of multiple items were analyzed using an overall data array in which separate data files (one for each item) were stacked and distinguished by dummy variables in the regression model.

Logistic regression coefficients and their confidence limits were exponentiated to obtain estimated odds ratios (OR) and 95% confidence intervals (CI). Standard errors were estimated using the Taylor series method implemented in SUDAAN Version 8.0.1[23] to adjust for the stratification, weighting and clustering of the AAS data. Multivariate significance tests in the logistic regression analyses were made using Wald χ^2 tests based on coefficient variance–covariance matrices that were adjusted for design effects using the

Taylor series method. Statistical significance was evaluated using two-sided design-based tests and the .05 level of significance.

RESULTS

Reasons for not seeking treatment

Among the 744 respondents with a current mental disorder who had not received treatment in the past 12 months (Table 1), nearly 70% reported no perceived need, which did not vary based on severity of role impairment (χ^2_1=0.1, p=0.71). The vast majority (90.0%) of the remaining 208 respondents with perceived need reported at least one reason for not seeking treatment, and more than half (57.8%) reported four or more reasons. At least one structural reason was endorsed by 62.7%, whereas 80.7% endorsed at least one attitudinal reason. Overall, the most frequently reported reason for not seeking treatment among soldiers with perceived need was the desire to handle the problem on one's own (77.0%). Those with severe role impairment were more likely than others to report any reason overall (96.5% vs. 88.1%; χ^2_1=5.3, p=0.021), any structural reason (91.8% vs. 53.9%; χ^2_1=35.8, p<0.001), lack of available and affordable civilian treatment that the Army would not find out about (84.0% vs. 38.6%; χ^2_1=40.2, p<0.001), being unsure where to go for treatment or unable to get an appointment (46.0% vs. 26.9%; χ^2_1=7.5, p=0.006), and stigma-related concerns (51.5% vs. 38.1%; χ^2_1=5.7, p=0.017). However, they were less likely to report two or more reasons (76.4% vs. 84.2%; χ^2_1=4.6, p=0.032), the problem was not serious or got better (29.0% vs. 52.2%; χ^2_1=19.5, p<0.001), or they talked to friends or relatives instead (45.7% vs. 60.8%; χ^2_1=6.2, p=0.013).

Reasons for discontinuing treatment

Among the 145 respondents who discontinued treatment during the previous 12 months (Table 2), 81.5% reported at least one reason for stopping and 44.6% reported four or more reasons. At least one structural reason was endorsed by 37.8% and 71.0% endorsed at least one attitudinal reason. Wanting to handle the problem on one's own was the most frequently reported reason overall (52.5%). Compared to less impaired soldiers, those with severe role impairment were more likely to report at least two (77.5% vs. 61.5%), three (70.5% vs. 56.1%), or four (54.6% vs. 34.6%) reasons overall (χ^2_1=4.2–6.2, p=0.013–0.041). Soldiers with severe role impairment were also more likely to report any structural reason (54.8% vs. 20.9%; χ^2_1=8.5, p=0.004), any attitudinal reason (79.7% vs. 62.4%; χ^2_1=6.6, p=0.010), and inconvenience, such as problems with time, transportation, or scheduling (53.4% vs. 19.4%; χ^2_1=8.9, p=0.003). The proportion reporting that they did not need help anymore or the problem got better did not vary by level of impairment (χ^2_1=0.0, p=0.95).

Predictors of reasons for not seeking treatment

Having no perceived need for treatment was significantly more likely for males than females (OR=3.9; 95% CI: 1.9–7.9), less likely for Hispanic soldiers than Non-Hispanic Whites (OR=0.4; 95% CI: 0.2–0.7), and less likely for those with than without MDD, BPD, or PTSD (ORs=0.2–0.4). Army Command had an overall association with perceived need (χ^2_5=16.1, p=0.007), although none of the individual odds ratios were significant relative to Area Commands (Africa, Central, North, South, Europe, Pacific) (Table 3).

Among soldiers with perceived need who did not seek help, those in the aggregate group of "other" Army Commands were more likely to report a low level of perceived need (the problem was not serious or got better) than soldiers in Area Commands (OR=16.8; 95% CI: 6.0–46.9). Low perceived need was less likely among soldiers with three or more previous deployments versus those with no history of deployment (OR=0.1; 95% CI: 0.0–0.4), and among those with MDD (OR=0.2; 95% CI: 0.1–0.4). There also was an overall association between rank and low perceived need owing to an elevated, but nonsignificant, odds ratio for higher-ranking enlisted soldiers versus lower-ranking enlisted soldiers (OR=3.2; 95% CI: 0.8–11.7). Structural barriers were less likely to be reported by respondents with two previous deployments versus none (OR=0.2; 95% CI: 0.1–0.5), and soldiers with severe role impairment were more likely to report structural barriers than those without severe impairment (OR=1.8 95% CI: 1.1–3.0). Attitudinal barriers were more likely to be reported by Hispanic soldiers relative to Non-Hispanic Whites (OR=3.0; 95% CI: 1.4–6.3) and by those with PD (OR=7.8; 95% CI: 2.9–20.8). Attitudinal barriers were less likely among previously married soldiers than those who were never married (OR=0.1; 95% CI: 0.0–0.4), and among enlisted soldiers versus officers (ORs=0.1–0.3). Number of deployments had an overall association with attitudinal barriers (χ^2_3=14.5, p=0.002), but none of the individual odds ratios were significant (Table 3).

Predictors of reasons for discontinuing treatment

Among respondents who discontinued treatment, low perceived need (did not need help anymore or the problem got better) was less likely for both lower- and higher-ranking enlisted soldiers than officers (all ORs=0.0). Despite a significant overall association of Army Command with low perceived need (χ^2_5=12.9, p=0.025), we had low power to make comparisons among specific commands, as indicated by the fact that none of the individual odd ratios were significant. The association of number of deployments with low perceived need was marginally significant (χ^2_3=7.7, p=0.053), with higher odds among those who had deployed (OR=12.0; 95% CI: 1.1–133.9). Structural reasons for discontinuing treatment were more likely among those with GAD (OR=33.9; 95% CI: 3.6–341.4), and less likely among those reporting disorder-related problems for 5–7 months compared to 1–4 months (OR=0.0; 95% CI: 0.0–1.0). The overall association of rank with structural reasons was significant (χ^2_2=6.4, p=0.041), but the lower odds ratios for enlisted soldiers versus officers (ORs=0.0–0.3) did not reach significance. Type of externalizing disorder had a marginally significant association with structural reasons (χ^2_5=7.8, p=0.050), with lower odds for ADHD (OR=0.1; 95% CI: 0.0–0.9). The odds of reporting any attitudinal reason for discontinuing treatment were elevated for soldiers with GAD (OR=4.5; 95% CI: 1.6–12.0), but lower for those in the "other" race category compared to Non-Hispanic Whites (OR=0.2; 95% CI; 0.1–1.0) and those with disorder-related problems for 5–7 months versus 1–4 months (OR=0.1; 95% CI: 0.0–0.9). Army Command had an overall association with attitudinal reasons (χ^2_5=13.4, p=0.020), although none of the individual odds ratios were significant (Table 4).

DISCUSSION

Five limitations are noteworthy. First, external validity is limited by the exclusion of soldiers who were in basic training or deployed, and by the 65.1% cooperation rate for survey completion and consent to administrative record linkage. Second, self-reported treatment history was not corroborated through examination of respondents' administrative mental health treatment records, as those administrative data were not yet available for analysis. Third, we classified respondents as discontinuing treatment only if *all* treatment during the past year had stopped. Soldiers who continued treatment in any sector (e.g., self-help group) were not included in the current analyses, even if they discontinued treatment in all other sectors (e.g., mental health specialty services). Fourth, we did not assess whether discontinuation of treatment was self- or provider-initiated, precluding examination of potentially important differences between those groups. Respondents who had treatment terminated by a provider would presumably fall within the 29% who reported "some other reason" for stopping treatment. Fifth, some respondents may have had reasons for not initiating or continuing treatment that were not included in our lists, while some of the reason statements provided to respondents were more ambiguous than they should have been. This is especially true of the statement "You wanted to get treatment that the Army would not know about, but you could not find or afford a civilian treatment provider," which not only has elements of a structural barrier (i.e., could not find or afford), but also of an attitudinal barrier (i.e., wanting to get treatment that the Army would not know about). As a result, our decision to classify this reason statement as a structural barrier might have led us to under-estimate the importance of attitudinal barriers.

Within the context of these limitations, lack of perceived need was by far the greatest barrier to seeking mental health treatment among soldiers reporting a mental disorder. Although this is consistent with epidemiological studies from around the world,[12–14] the proportion of soldiers who perceived no need for treatment (70%) is much larger than what has been observed in representative samples of the U.S. general population (45%)[13] and Canadian military (40%).[24] Several factors may contribute to discrepancies with the general population, including the Army's socio-demographic profile (mostly young males), which is associated with decreased help-seeking,[25–27] personality traits associated with voluntary military service,[28] and the effects of Army training and culture on attitudes toward self-reliance and willingness to acknowledge personal problems.[29] The discrepancy with Canadian service members is particularly interesting and may reflect differences in healthcare access and delivery, cultural attitudes toward treatment, or in the characteristics of those who enlist.

Given the overwhelming proportion of AAS respondents with mental disorders who perceive no need for treatment, interventions that effectively address these perceptions could have the greatest impact on population mental health. Developing such interventions will require a deeper understanding of why so many soldiers with mental disorders do not perceive a need to seek help. It might be easy to assume, for example, that soldiers reporting no perceived need are unaware of their own difficulties. However, research has found that over three quarters of service members who screen positive for a mental disorder recognize they are experiencing problems, yet only 40% report interest in receiving help.[5] It is therefore

unlikely that this absence of perceived need is due primarily to a lack of insight, although this is an empirical question worthy of investigation.

Among the minority of soldiers with perceived need, attitudinal barriers were more important than structural barriers, particularly the desire to handle problems on one's own, which was the single most common reason overall for failing to initiate (77.0%) or continue (52.5%) treatment. This preference for self-reliance is also the most frequently reported barrier in the general population[12–14] and among U.S. soldiers who drop out of PTSD treatment.[30] Stigma did not stand out among the barriers reported by AAS respondents, apart from being the only attitudinal barrier to seeking treatment that was more prevalent in soldiers with severe role impairment than those without severe impairment. However, it is interesting that over 42% of untreated soldiers reported stigma-related concerns, while only 9% reported not seeking treatment because it was discouraged by Army leadership. It may be that leadership not discouraging treatment is insufficient to convince some soldiers that their career or reputation will not be harmed. Although stigma-related concerns are frequently reported by service members with mental health problems[3,6,7,9] and may reduce honest reporting during mental health screening,[31] evidence concerning their impact on treatment seeking behavior is mixed.[32]

Nearly 92% of soldiers with severe impairment reported a structural barrier to initiating treatment, far more than the non-severe group (53.9%). This discrepancy was due primarily to the 84% of severely impaired soldiers who reported that they wanted treatment the Army would not know about but could not find an available or affordable civilian provider. Although the military's existing TRICARE program provides civilian health care benefits, those services are documented in a soldier's Army medical records. These findings suggest that privacy concerns are paramount among soldiers most in need of help, warranting substantial attention from researchers and policymakers.

Also noteworthy is the finding that more than 43% of AAS respondents who were using mental health services reported discontinuing because they did not need help anymore or the problem got better, regardless of the severity of role impairment. Thus, over half of soldiers who stopped treatment likely did so in spite of persistent difficulties and/or the belief that they still needed help, supporting and extending the findings of a recent study focused specifically on soldiers who screened positive for PTSD.[30]

Multivariate analyses did not identify a clear pattern of associations between the predictor variables and categories of treatment barriers, similar to the results of military studies examining attitudes toward seeking mental health treatment.[5,33] The finding that males were more likely to report no perceived need has been reported in previous general population[13] and military[34] research. General population data also largely supports the finding that gender was unrelated to other treatment barrier categories.[13] Officers were more likely than enlisted soldiers to report attitudinal reasons for not seeking treatment, and that they discontinued treatment due to structural barriers or because it was no longer needed. It has been suggested that higher-ranking service members may perceive less need for treatment due to concerns about how it might affect their career or because they view themselves as less likely to have

serious problems requiring professional help,[5] but these possibilities have yet to be examined.

Compared to never-deployed soldiers, those with a history of multiple deployments were generally less likely to report low perceived need and structural barriers as reasons for not seeking treatment. It is possible that the Army's emphasis on mental health education and screening during the deployment cycle[35–37] raises awareness and removes some of the structural barriers to receiving treatment. It is also possible that distressed soldiers who experience structural barriers to obtaining care are least likely to be allowed to deploy.[38] Although the lack of association between deployment history and perceived need contrasts with findings from the Canadian military,[24] U.S. military service members' interest in receiving help appears to be similarly unaffected by deployment.[3]

Overall, internalizing disorders were among the more consistent predictors of barriers to initiating and continuing treatment, although the effects of individual internalizing disorders were mixed. The finding that soldiers with MDD were more likely to have perceived need for treatment is consistent with general population data.[39] Those with PTSD were also more likely to report perceived need. Compared to other disorders, soldiers may more easily recognize symptoms of MDD and PTSD, as they are a central focus of the Army's education and screening programs.[36]

These findings demonstrate that mental health treatment barriers persist as a major public health problem in the U.S. Army. The most significant impediment is that most soldiers with mental health problems do not perceive a need for treatment. The reasons for this are poorly understood, necessitating more focused research with these soldiers to inform new outreach programs.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

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Table 1

Reported reasons for not seeking mental health treatment by severity of disorder among soldiers with a 30-day DSM-IV disorder who did not seek treatment at any time in the past 12 months (n=744)

	Total		Severity of impairment: Severe		Severity of impairment: Not severe		Reason by severity
	%[1]	SE	%[1]	SE	%[1]	SE	χ^2_1
I. No perceived need[2]							
Did not think treatment was needed	69.8	1.7	67.9	5.6	70.4	2.1	0.1
(n)[3]	(744)		(176)		(568)		
II. Low perceived need among those with perceived need[4]							
Problem not serious or got better	46.8	3.8	29.0	5.3	52.2	3.9	19.5*
(n)[3]	(208)		(61)		(147)		
III. Structural reasons among those with perceived need[4]							
Financial	13.2	2.6	13.4	4.4	13.1	3.1	0.0
Civilian treatment unavailable or unaffordable	49.1	4.4	84.0	6.1	38.6	3.9	40.2*
Inconvenient	26.1	4.1	32.8	9.9	24.1	5.2	0.5
Unsure where to go or could not get appointment	31.3	4.4	46.0	9.4	26.9	3.5	7.5*
Leaders discouraged treatment	8.6	1.9	13.1	3.6	7.2	2.6	1.4
Any structural barrier	62.7	5.3	91.8	2.6	53.9	6.5	35.8*
(n)[3]	(208)		(61)		(147)		
IV. Attitudinal reasons among those with perceived need[4]							
Wanted to handle on own	77.0	4.3	65.9	6.0	80.3	5.2	3.5
Perceived ineffectiveness	44.7	4.2	55.9	8.1	41.4	4.1	3.6
Stigma	41.2	4.1	51.5	5.9	38.1	4.2	5.7*
Embarrassed	38.8	4.1	50.2	8.2	35.3	4.2	3.2
Any attitudinal barrier	80.7	4.1	76.4	3.8	82.1	5.0	0.8
(n)[3]	(208)		(61)		(147)		

	Severity of impairment						
	Total		Severe		Not severe		Reason by severity
	%[1]	SE	%[1]	SE	%[1]	SE	χ^2_1
V. Other reasons among those with perceived need[4]							
Talked to friends or relatives instead	57.3	3.9	45.7	4.0	60.8	4.8	6.2*
Some other reason	16.7	3.8	20.6	5.7	15.5	4.6	0.5
(n)[3]	(208)		(61)		(147)		
VI. Number of reasons among those with perceived need[4]							
Any reason	90.0	2.6	96.5	2.1	88.1	3.1	5.3*
2+ reasons	82.4	2.6	76.4	3.8	84.2	2.8	4.6*
3+ reasons	73.2	4.1	74.9	3.9	72.7	5.0	0.1
4+ reasons	57.8	6.5	67.5	7.5	54.8	7.5	1.8
(n)[3]	(208)		(61)		(147)		

[1] Weighted *row* percentages denoting the proportion of AAS respondents within each row reporting the specified severity of impairment.

[2] Among all AAS respondents with a 30-day DSM-IV disorder who did not seek treatment (n=744).

[3] Unweighted number of AAS respondents within each cell corresponding to the row heading and specified severity of impairment.

[4] Among the subset of AAS respondents with a 30-day DSM-IV disorder who did not seek treatment and had perceived need (n=208).

* $p<0.05$, two-sided test.

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Table 2

Reported reasons for discontinuing mental health treatment by severity of disorder among respondents with a 30-day DSM-IV disorder who received treatment in the past 12 months (n=145)

	Total (n=145)		Severity of impairment: Severe (n=72)		Severity of impairment: Not severe (n=73)		Reason by severity
	%[1]	SE	%[1]	SE	%[1]	SE	χ^2_1
I. Low perceived need							
Did not need help anymore or problem got better	43.4	9.8	43.2	11.9	43.7	9.6	0.0
II. Structural reasons							
Financial	13.2	5.2	18.4	10.7	7.9	4.7	0.8
Inconvenient	36.3	4.8	53.4	7.4	19.4	6.4	8.9*
Any structural reason	37.8	5.2	54.8	7.6	20.9	6.9	8.5*
III. Attitudinal reasons							
Wanted to handle on own	52.5	8.9	59.7	11.8	45.3	7.7	2.2
Perceived ineffectiveness	41.8	3.7	45.1	6.8	38.4	4.5	0.6
Stigma	36.5	3.4	46.1	7.8	26.9	5.4	2.7
Embarrassed	30.9	8.4	36.1	14.5	25.7	5.4	0.6
Any attitudinal reason	71.0	5.3	79.7	6.0	62.4	6.2	6.6*
IV. Other reasons							
Talked to friends or relatives instead	45.3	6.7	47.5	8.1	43.2	7.7	0.3
Some other reason	29.4	4.5	33.1	12.7	25.7	9.2	0.1
V. Number of reasons							
Any reason	81.5	4.7	82.5	5.9	80.5	6.0	0.1
2+ reasons	69.5	5.8	77.5	6.7	61.5	6.3	5.6*
3+ reasons	63.5	6.4	70.5	7.6	56.1	6.8	4.2*
4+ reasons	44.6	3.5	54.6	6.7	34.6	3.3	6.2*

[1] Weighted *row* percentages denoting the proportion of AAS respondents within each row reporting the specified severity of impairment.

* $p<0.05$, two-sided test.

Table 3

Multivariate predictors of reasons for not seeking mental health treatment among soldiers with a 30-day DSM-IV disorder who did not seek treatment at any time in the past 12 months (n=744)

Predictors	Reason for not seeking treatment							
	No perceived need[1] (n=744)		Low perceived need[2] (n=208)		Any structural barrier[2] (n=208)		Any attitudinal barrier[2] (n=208)	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
I. Socio-demographic characteristics								
a. Gender								
Male	3.9*	(1.9–7.9)	0.9	(0.3–2.7)	1.3	(0.6–3.1)	1.1	(0.6–2.2)
Female	1.0	–	1.0	–	1.0	–	1.0	–
χ^2_1	14.2*		0.1		0.6		0.1	
b. Race/ethnicity								
Non-Hispanic White	1.0	–	1.0	–	1.0	–	1.0	–
Non-Hispanic Black	1.0	(0.5–1.7)	0.9	(0.4–2.3)	1.1	(0.4–2.6)	0.7	(0.4–1.3)
Hispanic	0.4*	(0.2–0.7)	0.9	(0.3–2.3)	1.9*	(1.1–3.3)	3.0*	(1.4–6.3)
Other	0.9	(0.3–2.3)	1.3	(0.3–6.0)	2.9	(0.5–16.4)	1.8	(0.7–4.8)
χ^2_3	10.6*		0.4		6.0		13.1*	
c. Marital status								
Currently married	1.1	(0.6–2.1)	0.8	(0.4–1.8)	1.7*	(1.0–3.0)	0.9	(0.5–1.7)
Previously married	1.5	(0.3–6.8)	2.7	(0.5–15.4)	1.4	(0.5–4.2)	0.1*	(0.0–0.4)
Never married	1.0	–	1.0	–	1.0	–	1.0	–
χ^2_2	0.4		2.7		4.4		17.0*	
II. Army career characteristics								
a. Rank								
Lower-ranking enlisted (E1–E4)	1.0	(0.4–2.4)	1.0	(0.2–5.6)	0.7	(0.3–1.4)	0.1*	(0.1–0.3)
Higher-ranking enlisted (E5–E9)	0.6	(0.3–1.4)	3.2	(0.8–11.7)	0.6	(0.3–1.3)	0.3*	(0.1–0.5)
Officer (W1–5/O1–9)	1.0	–	1.0	–	1.0	–	1.0	–

Predictors	Reason for not seeking treatment							
	No perceived need[1] (n=744)		Low perceived need[2] (n=208)		Any structural barrier[2] (n=208)		Any attitudinal barrier[2] (n=208)	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
χ^2_2	2.6		9.2*		1.8		19.9*	
b. Number of deployments								
0	1.0	–	1.0	–	1.0	–	1.0	–
1	0.8	(0.4–1.6)	0.8	(0.5–1.5)	1.3	(0.8–2.3)	1.0	(0.6–1.7)
2	0.7	(0.3–1.4)	0.5	(0.2–1.3)	0.2*	(0.1–0.5)	0.5	(0.2–1.3)
3+	1.5	(0.7–3.6)	0.1*	(0.0–0.4)	0.7	(0.3–1.6)	1.8	(0.7–4.4)
χ^2_3	3.8		12.4*		24.7*		14.5*	
c. Command								
Forces Command (FORSCOM)	1.2	(0.7–2.2)	1.9	(0.8–4.8)	0.9	(0.6–1.5)	0.5	(0.2–1.3)
Area Commands[3]	1.0	–	1.0	–	1.0	–	1.0	–
Special Operations Command (USASOC)	1.0	(0.4–2.1)	5.4	(0.6–48.5)	0.3	(0.1–1.5)	0.5	(0.2–1.6)
Medical Command (MEDCOM)	1.4	(0.4–4.6)	1.1	(0.1–12.4)	0.2	(0.0–1.1)	0.4	(0.1–1.3)
Training and Doctrine Command (TRADOC)	1.4	(0.4–4.2)	0.7	(0.0–13.2)	0.5	(0.1–4.3)	0.7	(0.2–3.2)
All other Commands[4]	0.7	(0.4–1.1)	16.8*	(6.0–46.9)	0.6	(0.3–1.3)	0.8	(0.2–2.9)
χ^2_5	16.1*		51.7*		10.0		4.1	
III. Mental disorder characteristics								
a. Internalizing disorders								
Major depressive disorder (MDD)	0.4*	(0.2–0.8)	0.2*	(0.1–0.4)	0.7	(0.4–1.3)	1.1	(0.7–2.0)
Bipolar disorder (BPD)	0.2*	(0.1–0.6)	0.8	(0.2–2.3)	1.4	(0.6–3.0)	1.7	(0.6–4.9)
Generalized anxiety disorder (GAD)	1.3	(0.6–2.8)	1.4	(0.5–3.6)	0.8	(0.4–1.4)	0.8	(0.3–1.9)
Panic disorder (PD)	1.3	(0.4–4.5)	2.2	(0.6–8.5)	2.3*	(1.2–4.4)	7.8*	(2.9–20.8)
Post-traumatic stress disorder (PTSD)	0.4*	(0.2–0.7)	1.6	(0.7–3.6)	1.0	(0.5–1.9)	0.7	(0.5–1.2)
χ^2_5	31.5*		25.6*		9.3		31.1*	
b. Externalizing disorders								
Attention-deficit/hyperactivity disorder (ADHD)	1.0	(0.5–2.1)	0.7	(0.3–1.9)	1.1	(0.7–1.9)	0.8	(0.4–1.6)

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Predictors	Reason for not seeking treatment							
	No perceived need[1] (n=744)		Low perceived need[2] (n=208)		Any structural barrier[2] (n=208)		Any attitudinal barrier[2] (n=208)	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
Intermittent explosive disorder (IED)	0.8	(0.5–1.2)	0.8	(0.3–2.0)	0.9	(0.5–1.6)	0.8	(0.5–1.3)
Substance use disorder	1.0	(0.4–2.2)	0.7	(0.2–2.4)	1.2	(0.7–2.0)	1.9*	(1.0–3.3)
χ^2_3	1.2		1.0		1.3		5.3	
c. Duration of disorder								
8–12 months	0.7	(0.3–1.5)	1.5	(0.5–4.1)	2.0*	(1.0v4.0)	2.3*	(1.0–5.1)
5–7 months	0.5	(0.2–1.1)	0.8	(0.3–2.7)	1.5	(0.6–3.6)	0.9	(0.5–1.9)
1–4 months	1.0	–	1.0	–	1.0	–	1.0	–
χ^2_2	2.8		1.2		4.1		5.1	
d. Severity of impairment								
Severe role impairment	1.3	(0.7–2.3)	0.7	(0.4–1.3)	1.8*	(1.1–3.0)	1.5	(0.6–3.5)
Not severe	1.0	–	1.0	–	1.0	–	1.0	–
χ^2_1	0.7		1.4		4.9*		0.7	

[1] Among all AAS respondents with a 30-day DSM-IV disorder who did not seek treatment (n=744).

[2] Among the subset of AAS respondents with a 30-day DSM-IV disorder who did not seek treatment and had perceived need (n=208).

[3] Area Commands include Africa (USARAF), Central (USARCENT), North (USARNORTH), South (USARSO), Europe (USAREUR), and Pacific (USARPAC).

[4] Other Commands include Materials Command (AMC), all other Service Component Commands (ASCC), and all other Direct Reporting Units (DRU).

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* $p<0.05$, two-sided test.

Table 4

Multivariate predictors of reasons for discontinuing mental health treatment among soldiers with a 30-day DSM-IV disorder who received treatment in the past 12 months (n=145)

Predictors	Reason for discontinuing treatment					
	Low perceived need (n=145)		Any structural reason (n=145)		Any attitudinal reason (n=145)	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
I. Socio-demographic characteristics						
a. Gender						
Male	0.3	(0.0–1.9)	1.8	(0.1–28.9)	1.5	(0.2–9.8)
Female	1.0	–	1.0	–	1.0	–
χ^2_1	1.7		0.2		0.2	
b. Race/ethnicity						
Non-Hispanic White	1.0	–	1.0	–	1.0	–
Non-Hispanic Black	1.6	(0.6–4.4)	0.5	(0.0–8.0)	1.5	(0.7–3.2)
Hispanic	0.0	(0.0–1.7)	0.3	(0.0–2.5)	0.6	(0.3–1.6)
Other	0.3	(0.1–2.1)	–	–	0.2*	(0.1–1.0)
χ^2_3	5.7		2.5		8.2*	
c. Marital status						
Currently married	3.9	(0.6–26.6)	2.3	(0.2–32.8)	0.9	(0.4–2.3)
Previously married	–	–	–	–	2.3	(0.3–15.4)
Never married	1.0	–	1.0	–	1.0	–
χ^2_2	8.8		0.5		1.4	
II. Army career characteristics						
a. Rank						
Lower-ranking enlisted (E1–E4)	0.0*	(0.0–0.9)	0.3	(0.0–144.8)	0.2	(0.0–1.4)
Higher-ranking enlisted (E5–E9)	0.0*	(0.0–0.2)	0.0	(0.0–6.3)	0.2	(0.0–1.4)
Officer (W1–5/O1–9)	1.0	–	1.0	–	1.0	–
χ^2_2	10.1*		6.4*		2.8	
b. Number of deployments						

Predictors	Reason for discontinuing treatment					
	Low perceived need (n=145)		Any structural reason (n=145)		Any attitudinal reason (n=145)	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
0	1.0	–	1.0	–	1.0	–
1	4.6	(0.7–31.4)	1.1	(0.1–14.4)	0.7	(0.2–2.2)
2	12.0*	(1.1–133.9)	2.0	(0.0–79.2)	1.3	(0.2–6.4)
3+	7.4	(0.3–210.2)	1.0	(0.0–47.3)	1.1	(0.2–7.1)
χ^2_3	7.7		0.3		1.4	
c. Command						
Forces Command (FORSCOM)	0.8	(0.0–21.9)	0.4	(0.0–6.2)	0.2	(0.0–5.0)
Area Commands[1]	1.0	–	1.0	–	1.0	–
Special Operations Command (USASOC)	–	–	–	–	1.6	(0.0–57.9)
Medical Command (MEDCOM)	0.4	(0.0–12.0)	0.3	(0.0–10.0)	0.2	(0.0–6.4)
Training and Doctrine Command (TRADOC)	0.9	(0.0–39.9)	1.2	(0.0–57.8)	0.2	(0.0–8.2)
All other Commands[2]	1.2	(0.1–26.4)	–	–	0.1	(0.0–1.4)
χ^2_5	12.9*		1.4		13.4*	
III. Mental disorder characteristics						
a. Internalizing disorders						
Major depressive disorder (MDD)	0.4	(0.2–1.2)	0.9	(0.1–8.2)	0.8	(0.2–2.8)
Bipolar disorder (BPD)	0.5	(0.0–5.5)	1.1	(0.1–8.6)	0.7	(0.2–2.6)
Generalized anxiety disorder (GAD)	0.9	(0.1–8.6)	33.9*	(3.6–341.4)	4.5*	(1.6–12.0
Panic disorder (PD)	1.3	(0.2–8.4)	3.0	(0.3–31.4)	0.9	(0.4–2.0)
Post-traumatic stress disorder (PTSD)	1.4	(0.4–5.3)	4.0	(0.5–33.7)	1.4	(0.6–3.1)
χ^2_5	5.0		18.0*		16.8*	
b. Externalizing disorders						
Attention-deficit/hyperactivity disorder (ADHD)	0.9	(0.2–3.7)	0.1*	(0.0–0.9)	0.6	(0.2–1.4)
Intermittent explosive disorder (IED)	1.1	(0.3–4.4)	4.6	(0.5–39.0)	1.6	(0.7–3.6)
Substance use disorder	5.6	(0.9–35.9)	4.5	(0.5–41.3)	2.4	(0.7–8.2)
χ^2_3	3.6		7.8		4.6	

Predictors	Reason for discontinuing treatment					
	Low perceived need (n=145)		Any structural reason (n=145)		Any attitudinal reason (n=145)	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
c. Duration of disorder						
8–12 months	0.6	(0.1–4.6)	0.5	(0.0–29.4)	0.5	(0.1–2.4)
5–7 months	0.6	(0.0–26.1)	0.0*	(0.0–1.0)	0.1*	(0.0–0.9)
1–4 months	1.0	–	1.0	–	1.0	–
χ^2_2	0.2		7.0*		6.6*	
d. Severity of impairment						
Severe role impairment	1.1	(0.2–8.0)	5.3	(0.8–32.6)	1.7	(0.9–3.4)
Not severe	1.0	–	1.0	–	1.0	–
χ^2_1	0.0		3.2		2.4	

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