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Exploring the Health and Well-Being of a National Sample of U.K. Treatment-Seeking Veterans

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Objective: Military veterans experience a higher prevalence of mental health difficulties compared with the general population. Research has highlighted veterans who experience mental health difficulties have poorer treatment outcomes. Understanding veteran needs may help improve veteran mental health services and treatment outcomes. The aim of this study was to explore the complexity of health and well-being needs among a national clinical sample of veterans. ***Method:*** In total, 989 veterans from a U.K. veterans mental health charity were invited to complete a questionnaire about their sociodemographic characteristics, military experiences, physical and mental health, and well-being. ***Results:*** Of the invitees, 428 veterans (43.3%) completed the questionnaire. Common mental disorders, such as anxiety and depression, were the most frequently reported mental health difficulty (80.7%), followed by loneliness (79.1%) and perceived low social support (72.2%). Rates of PTSD were also high (68.7% any PTSD), with most participants experiencing complex PTSD (CPTSD; 62.5%) compared with PTSD (6.2%). Veterans with co-occurring CPTSD symptoms have poorer health due to a higher number of comorbidities, for instance between CPTSD and moral injury. ***Conclusions:*** Comorbidity appeared to be the norm rather than the exception within treatment-seeking veterans. As such, it seems important for veteran mental health services to take a holistic approach when supporting veterans.

Clinical Impact Statement
Data from systematic reviews suggest that veterans with mental health difficulties (in particular, PTSD) do not respond as well to treatment as members of the general public. Additionally, there is a lack of research on the unique needs of treatment-seeking veterans. The current study aims to address this by exploring the health and well-being of a national sample of treatment-seeking veterans. The data presented shows the prevalence of health difficulties within this population and the comorbid relationship of these difficulties. This allows us to better understand how to support this at-risk population.

Keywords: mental health, veterans, ex-service personnel, military, treatment-seeking

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Military service places substantial demands on personnel and experience of military operations can result in the deterioration of physical and, or mental health. It is well recorded that military service personnel experience a higher rate of health issues compared with the general population; for instance, PTSD (8% vs. 5%), common mental disorders (CMDs; 23% vs. 16%) and alcohol misuse (11% vs. 6%; Rhead et al., 2020). It has been suggested that alcohol may be used as a coping mechanism to deal with the stresses of

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military life, and for those who have left the military (i.e. veterans), to cope with the challenging and stressful transition from military to civilian life (Jones & Fear, 2011). Loneliness has also been outlined as a prevalent issue among veterans of all ages, and it is one of the strongest predictors of social well-being (Royal British Legion, 2014). The Royal British Legion reported that one in four veterans indicated feeling lonely or socially isolated 'always' or 'often' (Royal British Legion, 2018). Potentially, this is another factor linked to the challenging transition out of the military and leaving their military 'family'.

Ex-service military personnel, referred to herein as veterans, with history of deployment in a combat role experience higher rates of probable PTSD (17%) compared with veterans who were deployed in a support role, such as medical or logistics (6%; Stevelink et al., 2018). It is possible that the traumatic events experienced during deployment in a combat role, such as the loss of comrades and personal injury, have negative psychological effects and begin to account for these higher rates. Complex PTSD (CPTSD) is also common; a recent study of treatment-seeking veterans in the U.K. suggested that 71% reported meeting case criteria for PTSD, of which 80% met criteria for CPTSD (Murphy, Shevlin, et al., 2020). Potentially moral injurious events (PMIEs) are associated with adverse mental health outcomes in U.K. military veterans, including being more likely to meet case criteria for PTSD or Complex CPTSD (Williamson et al., 2021). PMIEs are experiences which violate one's moral or ethical code and are common exposures for individuals with military service (Litz et al., 2009; Williamson et al., 2020). In addition, the higher rates of probable PTSD among veterans could potentially relate to adverse childhood experiences which are reported to be higher for individuals with military service compared with the general population, especially among treatment-seeking veterans (Murphy et al., 2021; Ross et al., 2020; Sadler et al., 2004; Williamson et al., 2022).

Despite the compelling evidence on the prevalence of health issues among military personnel, previous research estimates that only around 50% of veterans who meet criteria for psychiatric difficulty access mental health services (Iversen et al., 2005; Stevelink et al., 2018). Responsibility for veterans' health care in the U.K. falls to the National Health Service (NHS), alongside several charitable and not-for-profit organizations. There are several potential barriers associated with treatment-seeking among military veterans. Stigma is one key barrier associated with the low treatment-seeking and treatment utilization rates (Hoge et al., 2004; Sharp et al., 2015; Stecker et al., 2007). Other barriers include problems accessing services, fear of negative occupational outcomes, feeling as though they should be able to deal with their own problems, and a lack of recognition of their mental health symptoms (Mellotte et al., 2017).

Engaging veterans into mental health treatment remains challenging. Previous research has found it takes on average, 11 years after leaving service for a veteran to seek support and experience greater PTSD symptom severity, especially if it took longer than five years (Murphy et al., 2015). Untreated mental health difficulties can be detrimental to the mental and physical health of veterans, and to their well-being (Kessler, 2000; Schnurr & Green, 2004). Veterans with PTSD are less likely to access support compared with their peers with other mental health disorders, and veterans with CPTSD take longer to seek help (Murphy et al., 2021). It has also been reported that PTSD treatments for veterans are less effective than for matched populations (Bisson et al., 2013; Bradley et al., 2005; Kitchiner et al., 2012).

Treatment-seeking becomes more complex with comorbidities, which are common in military veteran populations, including between physical and mental health. In a sample of U.K. treatment-seeking veterans, 95.2% had between one and three comorbidities with PTSD (Murphy et al., 2021). Most commonly, PTSD presents as comorbid with depression, anxiety and substance use disorders (Richardson et al., 2017). Comorbidities are associated with poorer health outcomes, including worse mental health symptoms, poorer prognosis and delayed treatment response. PTSD also has several physical health comorbidities including obesity, pain, impairment and potential difficulties in recovery and treatment (Sharp et al., 2019).

Much of the existing literature on the health and well-being of veterans is based on US samples or U.K. community veteran samples. This study expands on a previous study (Murphy et al., 2017) and further explores the health and well-being of U.K. treatment-seeking veterans. In addition, the COVID-19 pandemic, and the associated lockdowns and social distancing measures, have impacted the lives of the global population. Since the pandemic occurred after the first study was conducted, it is important that we revisit the topic to understand how the health and well-being of treatment-seeking veterans has changed since the pandemic. By better understanding the unique and complex health needs of treatment-seeking veterans, treatment services can better align with their needs and therefore begin to improve treatment engagement. The aim of this study was to survey a representative clinical sample of veterans to explore the complexity of their health and well-being needs, and to inform the treatment services provided to veterans.

Method

Setting

This study adopted a cross-sectional design. Participants were recruited via Combat Stress, a U.K. veterans mental health charity. Combat Stress was chosen because it offers nationwide coverage and receives approximately 2,600 referrals annually (Murphy et al., 2017).

Participants

A random sample of treatment-seeking veterans was extracted from the Combat Stress Patient Management System for all patients who had: (1) received support from Combat Stress over a one-year period, (2) consented to be contacted for research purposes, and (3) provided a contact e-mail address. For the purposes of this study, treatment-seeking was defined as an individual who had attended at least one treatment appointment with Combat Stress. Individuals were defined as veterans if they completed a minimum of one day paid employment in the U.K. Armed Forces. A random subsample of 20% was selected, identifying 1,147 veterans. Of these, 158 were removed due to having an invalid e-mail address. In total, 989 veterans were contacted by the research team.

Measures

The 10-page questionnaire was split into eight sections; (1) About You, (2) Your Military History, (3) Questions About Your Social Network, (4) Questions About Your Gambling and Drinking Habits, (5) Questions About Your Health, (6) Questions About Obsessions and Compulsions, (7) Questions About Symptoms Related to a Stressful Event, and (8) Questions About Life Growing Up.

Data on sociodemographic characteristics included age, sex, ethnicity, relationship status, educational attainment, and employment status. Military characteristics included service branch, reason for leaving the Armed Forces, and experience of military adversities. The following measures were chosen because they are validated and suitable for use within the target population of the study. Perceived social support was measured using the Oslo Social Support Scale–3 (OSSS-3; Dalgard, 1996). Scores can be categorized into poor (3–8), moderate (9–11) and strong (12–14) social support. The three-item UCLA Loneliness Scale (UCLA-3; Hughes et al., 2004) measures three dimensions of loneliness; relational connectedness, social connectedness and self-perceived isolation. Scores from 3–5 are categorized as 'not lonely' and 6–9 are categorized as 'lonely'.

Questions about gambling and drinking habits included the National Opinion Research Center Diagnostic Screen for Gambling Disorders, Preoccupation, Escape, Risked Relationships and Chasing Screen (NODS-PERC; Volberg et al., 2011) which is a four-item measure of pathological gambling, where a score of 1 or more raises concerns about gambling and indicates a need for further assessment. Data on alcohol use was collected using the Alcohol Use Disorder Identification Test (AUDIT; Saunders et al., 1993), where a score of 8+ raises concerns about hazardous alcohol use and 16+ harmful alcohol use.

Questions about health included data on service utilization (such as A&E and NHS 111), sleep quality, physical health, CMDs and memory. Sleep was measured using the Sleep condition Indicator (SCI; Espie et al., 2014); an eight-item measure of sleep quality. Scores are reported between 0 and 32, where a higher score indicates better sleep quality and scores <16 warrant assessment for insomnia disorder. Physical health was measured using the 15-item Patient Health Questionnaire (PHQ-15; Spitzer et al., 1999). A higher score indicates more severe symptoms; a score of 0–4 represents minimal symptom severity up to a score of 15 to 30 which indicates high somatic symptom severity. The 12-item General Health Questionnaire (GHQ-12; Goldberg & Williams, 1998) was used to measure symptoms of CMDs, such as anxiety and depression. A score of 4 or higher on the GHQ-12 indicates the potential presence of CMDs.

Questions about obsessions and compulsions included the Yale-Brown Obsessive Compulsive Scale (Y-BOCS; Goodman et al., 1989); a ten-item measure of Obsessive Compulsive Disorder (OCD). Scores on Y-BOCS can be categorized into mild (8 to 15), moderate (16 to 23), severe (24 to 31) and extreme (32 to 40) symptoms of OCD. The Dimensions of Anger Reactions–5 (DAR-5; Forbes et al., 2014) scale is a five-item measure of difficulties with anger. A score of 12 or more on the DAR-5 indicates that the participant might meet case criteria for anger difficulties.

Questions about symptoms related to a stressful event included measures of trauma and moral injury. The International Trauma Questionnaire (ITQ; Cloitre et al., 2018; Murphy, Shevlin, et al., 2020) is a measure of PTSD and CPTSD. Participants consider their most traumatic event and indicate how much they have been bothered by each of their core symptoms in the past month. Six-items on the ITQ measured PTSD symptoms (reexperiencing, avoidance and sense of threat clusters) and six-items measured disturbance in self-organization (DSO) symptoms (functional impairment, affective dysregulation and negative self-concept clusters). Each item is scored on a five-point Likert scale from 0 (not at all) to 4 (extremely). Total scores on the ITQ can range from 0 to 24. The diagnostic criteria for PTSD require a score of two or more for at least two symptoms for each of the three clusters. Diagnostic criteria for CPTSD include satisfying criteria for PTSD in addition to scoring two or more for at least one symptom for each of the three clusters.

Moral injury was measured using the Moral Injury Outcome Scale (MIOS; Litz et al., 2022). The scale is split into two sections: (a) a question about the presence of a potential moral injurious event (PMIE), and (b) a 14-item measure of symptoms associated with moral injury. A higher score on the MIOS indicates greater severity of moral injury and warrants further assessment.

Procedure

Initially data was collected via Survey Monkey, an online survey creator and distributor. Data was collected between August and September 2020. Five e-mail invitations were sent over a period of six weeks. Following this, all nonresponders (n = 692) were then sent the survey via a postal mailout in October 2020.

Analysis

The first stage of analyses assessed predictors of returning a completed survey. Data available for responders and non-responders included age, sex, and service branch (Royal Navy, Army, Royal Air Force). These are all potential predictors of response which were identified a priori based on existing literature (Fear et al., 2010). This was based on the assumptions that data were missing at random and that the variables used to model non-response were correctly modeled.

Analyses were then restricted to responders only. Missing data was not included in the analyses. To describe sociodemographic and military characteristics, descriptive statistics were calculated. Following this, the main analyses explored the prevalence of mental and physical health outcomes endorsed by the sample. The next stage of the analyses was to examine any correlations between each health outcome using pairwise Pearson's r correlations. The final stage of the analyses was to conduct a multinomial logistic regression to explore the relationship between the three trauma groups. The largest group (CPTSD) was used as the reference group which means we are only able to comment on the statistical differences between PTSD and CPTSD, and no PTSD and CPTSD. All analyses were conducted using STATA 13.0.

Ethics

Approval for the study was granted by the Combat Stress Research Committee (ref. pn2020). When providing consent, participants agreed that anonymised survey responses could be used for research.

Results

Responders Versus Non-Responders

Overall, 428/989 (43.3%) participants completed the survey. The participant group (responders) significantly differed to nonresponders and were more likely to be older (responders M_{age} = 50.5 years versus nonresponders M_{age} = 44.3 years). This finding is similar to findings in other military health research (Murphy et al., 2017; Stevelink et al., 2018). There were no other significant differences in sociodemographic or military characteristics.

Sociodemographic and Military Characteristics

Table 1 describes the sociodemographic and military characteristics of study participants. Most of the sample were male (97.4% male versus 2.6% female), had low educational attainment (60.4% low versus 39.6% high), were working or retired (56.3% working or retired versus 43.7% not working), endorsed white ethnicity (94.7% white versus 5.3% ethnic minority), were in a relationship (66.5% in a relationship versus 33.5% not in a relationship) and were living at a fixed address (90.9% fixed address versus 9.1% no fixed address). Additionally, most of the sample had served in the British Army (82.5% Army, 11.0% Navy, 6.5% Royal Air Force) and reported leaving the military voluntarily (54.9% voluntary versus 45.1% non-voluntarily). Only 4.4% of the sample were early service leavers (ESLs), defined as leaving service prior to completing 4 years continuous service. For 11.2% of participants, their last rank prior to leaving the military was at officer level compared with 88.8% who were other ranks. Additionally, most of the sample left military service more than 10 years ago (30.3% 10–19.9 years, 24.4% 20–29.9 years and 18.1% 30+ years) versus less than 10 years ago (27.2%).

Table 1
Description of Sample: Sociodemographic Characteristics and Military Factors

Variable	*n* (%)
Age	M = 50.4, SD = 10.9
Level of education	
Low	238 (60.4)
High	156 (39.6)
Ethnicity minority	
White	379 (94.7)
Ethnic minority	21 (5.3)
Employment status	
Working or retired	223 (56.3)
Not working	173 (43.7)
Relationship status	
In a relationship	264 (66.5)
Not in a relationship	133 (33.5)
House status	
No fixed address	36 (9.1)
Fixed address	361 (90.9)
Military branch	
Naval services	47 (11.0)
Army	353 (82.5)
RAF	28 (6.5)
Last rank	
Officer	44 (11.2)
Other ranks	349 (88.8)
Early service leaver	
No (>4 yrs service)	368 (95.6)
Yes (<4 yrs service)	17 (4.4)
Reason for living military	
Voluntary	213 (54.9)
Nonvoluntary/medical discharge	175 (45.1)

Note. N = 428. As a result of missing data, some frequencies do not sum to 428.

Health and Well-Being Outcomes

The prevalence of several health and well-being outcomes are described in Table 2. The most frequently reported outcome was CMDs (80.7%), followed by loneliness (79.1%) and low perceived social support (72.2%). Rates of probable PTSD were also high (68.7% any PTSD), with the majority experiencing CPTSD (62.5%) compared with PTSD (6.2%). A large proportion of the sample reported misusing alcohol (81.1%), with 55.9% drinking hazardously (AUDIT score 8+) and 25.2% drinking heavily (AUDIT score 16+). Gambling was also reported by 16.3% of the sample.

Correlations Among Health Outcomes

An overview of the strength of the correlations between all health outcomes are described in Table 3. Within the ITQ measure of PTSD, there was a strong correlation between the two subscales of ITQ PTSD and ITQ DSO (.678). There was a significant strong positive correlation between ITQ score and moral injury (.616), in particular the strongest correlation was between CPTSD (ITQ DSO) and moral injury (.647). This correlation was moderate between PTSD (ITQ PTSD) and moral injury (.493). Additionally, there were significant weak correlations between CMDs and anger (.232), between CMDs and PTSD (ITQ PTSD) (.299) and between CMDs and physical health symptoms (.310).

Associations Between Trauma Groups

For the multinomial logistic regression, presented in Table 4, the predictor variables were GHQ-12, DAR-5, Y-BOCS, MIOS, UCLA-3, OSSS-3, PHQ-15, AUDIT, and the criterion variable was diagnostic status (no PTSD, PTSD, CPTSD). As CPTSD was the reference group, we can only comment on the statistical differences between PTSD and CPTSD, and no PTSD and CPTSD. For many of the predictor variables, CPTSD had the highest mean score and the highest rate of comorbidity, followed by PTSD and then no PTSD with the lowest mean score. For instance, measures of CMDs (M = 8.87 CPTSD, M = 5.81 PTSD, M = 5.07 no PTSD), anger (M = 11.9 CPTSD, M = 7.82 PTSD, M = 6.70 no PTSD), OCD (M = 19.6 CPTSD, M = 15.4 PTSD, M = 11.8 no PTSD), moral injury (M = 37.2 CPTSD, M = 28.0 PTSD, M = 27.3 no PTSD) and physical health (M = 14.4 CPTSD, M = 10.7 PTSD, M = 9.46 no PTSD). The overall model statistics and intercepts for the multinomial logistic regression are presented in Supplementary Table 1.

Table 2
Description of Health and Well-Being Outcomes

Outcome	*n* (%)
International Trauma Questionnaire	
Any PTSD	22 (6.2)
PTSD	222 (62.5)
CPTSD	244 (68.7)
General Health Questionnaire–12	
CMD	301 (80.7)
Dimensions of Anger Reactions–5	
Problems with anger	148 (41.9)
Yale–Brown Obsessive–Compulsive Scale	
OCD	72 (22.6)
Patient Health Questionnaire–15	
Physical health	137 (32.0)
Moral Injury Outcome Scale	
PMIE	244 (57.0)
Alcohol Use Disorder Identification Test	
Hazardous drinking (score ≥8)	160 (55.9)
Heavy drinking (score ≥16)	72 (25.2)
Drug Use Disorder Identification Test	
Drug use	37 (10.3)
NODS-PERC	
Gambling issue	59 (16.3)
Oslo Social Support Scale–3	
Low social support	260 (72.2)
UCLA Loneliness	
Lonely	287 (79.1)

Note. $N = 428$. CPTSD = Complex Post-Traumatic Stress Disorder; CMD = common mental disorders; OCD = obsessive–compulsive disorder; PMIE = potentially morally injurious event; NODS-PERC = National Opinion Research Center Diagnostic Screen for Gambling Disorders, Preoccupation, Escape, Risked Relationships and Chasing Screen; UCLA = University of California, Los Angeles.

Discussion

Expanding on a previous study by Murphy et al. (2017), the present study reported on the health and well-being of a national clinical sample of U.K. veterans. Our sample of treatment-seeking veterans appeared to be more likely to be male (96.6% non-responders; 97.4% responders) compared with female (3.4% non-responders; 2.6% responders) and to have served in the Army (85.9% non-responders, 82.5% responders) compared with other military branches (8.0% Navy, 6.1% Royal Air Force [RAF] non-responders; 11.0% Navy, 6.5% RAF responders). Compared with U.K. military demographics overall, our sample appeared to overrepresent male veterans who served in the Army (88.8% male, 11.2% female; 22.0% Navy, 56.0% Army, 22.0% RAF; Harding & Dempsey, 2021; UK Government, 2021).

The most prevalent outcomes observed in this sample of treatment-seeking veterans were CMDs, loneliness and PTSD (particularly CPTSD). While different measures were used, it appears that rates of CMDs and probable PTSD were higher in our sample of treatment-seeking veterans compared with a community sample of non treatment-seeking veterans by Stevelink et al. (2018): CMDs (80.7% treatment-seeking vs. 21.9% non treatment-seeking) and probable PTSD (68.7% treatment-seeking vs. 6.9% non-treatment seeking). In addition, the sample reported a lack of perceived social support. CMDs were observed to be the most prevalent mental health difficulty among this population, aligning with previous literature where CMDs were reported to be more common than PTSD in a wider military community sample (Fear et al., 2010; Stevelink et al., 2018).

In our previous study exploring the profile of treatment-seeking veterans in the U.K. (Murphy et al., 2017); PTSD was the most prevalent mental health difficulty (82.4%). One explanation for this could be the use of the *DSM–5* criteria for assessing probable PTSD in the 2017 study compared with the ICD-11 criteria for the current study, as there is a suggestion that the ICD-11 criteria are stricter (Wisco et al., 2017). Alternatively, another potential explanation for the lower rates of PTSD compared with CMDs in this population could be that veterans with PTSD, especially CPTSD, are less likely to seek support for their mental health symptoms than their peers with other mental health conditions (Murphy et al., 2021). However, PTSD was still highly prevalent with 68.7% of the sample in the present study meeting criteria which compares favorably to other research using the ICD-11 criteria for PTSD.

Loneliness was a key issue in the present study, with the prevalence of loneliness appearing to be higher among this sample of treatment-seeking veterans (79.1%) than a community sample of veterans collected at a similar time-point (27.4%) (Sharp et al., 2021). Loneliness is a prevalent issue for military veterans of all ages and is associated with an increased risk of several physical and mental health illnesses (Bu et al., 2020; Leigh-Hunt et al., 2017; Royal British Legion, 2014). A survey by the Royal British Legion reported that one in four (25%) veterans feel lonely or socially isolated 'always' or 'often' (Royal British Legion, 2018).

Table 3
Correlations Among Health Outcomes

Variable	1	2	3	4	5	6	7	8
1. ITQ score	—							
2. ITQ DSO	—	—						
3. ITQ PTSD	—	.678***	—					
4. GHQ-12	.491***	.510***	.387***	—				
5. DAR-5	.562***	.533***	.496***	.329***	—			
6. Y-BOCS	.592***	.575***	.505***	.405***	.479***	—		
7. PHQ-15	.350***	.341***	.299***	.310***	.232***	.359***	—	
8. MIOS	.616***	.647***	.493***	.294***	.507***	.537***	.206	—

Note. ITQ = International Trauma Questionnaire; DSO = Disturbance in self-organisation; PTSD = Post-Traumatic Stress Disorder; GHQ-12 = General Health Questionnaire; DAR-5 = Dimensions of Anger Reactions; Y-BOCS = Yale-Brown Obsessive Compulsive Scale; PHQ-15 = Patient Health Questionnaire; MIOS = Moral Injury Outcome Scale. Pairwise Pearson's r correlations were conducted based on the scores for each measure.
*** $p < .001$.

Table 4
Exploring Differences in Mean Scores Among the Trauma Groups

	No PTSD				PTSD				CPTSD			
Instrument	*M*	β	*SE*	95% CI	*M*	β	*SE*	95% CI	*M*	β	*SE*	95% CI
GHQ-12	5.07	−0.27	0.04	−0.34 to −0.20*	5.81	−0.22	0.06	−0.34 to −0.10	8.87	1.00	1.00	1.00
DAR-5	6.70	−0.18	0.03	−0.22 to −0.13*	7.82	−0.14	0.04	−0.22 to −0.05*	11.9	1.00	1.00	1.00
Y-BOCS	11.8	−0.12	0.18	−0.16 to −0.09*	15.4	−0.07	0.03	−0.12 to −0.01*	19.6	1.00	1.00	1.00
MIOS	27.3	−0.12	0.02	−0.16 to −0.08*	28.0	−0.11	0.03	−0.18 to −0.04*	37.2	1.00	1.00	1.00
UCLA-3	6.01	−0.51	0.07	−0.65 to −0.37*	5.65	−0.61	0.12	−0.84 to −0.37*	7.72	1.00	1.00	1.00
OSSS-3	8.14	0.26	0.05	0.16 to 0.36*	8.68	0.34	0.09	0.16 to 0.52*	6.67	1.00	1.00	1.00
PHQ-15	9.46	−0.20	0.03	−0.25 to −0.15*	10.7	−0.15	0.47	−0.24 to −0.06*	14.4	1.00	1.00	1.00
AUDIT	8.98	−0.03	0.02	−0.07 to −0.01*	11.3	0.01	0.03	−0.06 to 0.06	11.2	1.00	1.00	1.00

Note. GHQ-12 = General Health Questionnaire; DAR-5 = Dimensions of Anger Reactions; Y-BOCS = Yale-Brown Obsessive Compulsive Scale; MIOS = Moral Injury Outcome Scale; UCLA-3 = UCLA loneliness scale; OSSS-3 = Oslo Social Support Scale; PHQ-15 = Patient Health Questionnaire; AUDIT = Alcohol Use Disorder Identification Test. CPTSD is reference group. OSSS-3 lower scores indicate lower social support. CI = confidence interval.
* $p < .05$.

The high rates of loneliness and social isolation among veterans could potentially be explained by the challenging nature of the transition from military life to civilian life. During this time, the bonds formed during military service may break down and become more difficult to maintain, and veterans no longer feel part of the military 'family' (Wilson et al., 2018). Given that this sample was, on average, 18.8 years post military service, this could be one potential explanation for why veterans continue to feel lonely many years after they transitioned out of service.

Further, loneliness was strongly associated with more severe mental health presentations for this sample. The relationship between loneliness and mental illness is difficult to interpret. For instance, an individual struggling with mental health difficulties may restrict their social network as a coping mechanism for anticipated stigma, which then leads to isolation (Greene-Shortridge et al., 2007; Watson et al., 2007); or it could be that loneliness is exacerbating mental health symptoms. Further, research has reported that veterans with probable CMDs and PTSD were more likely to report perceived and internalized stigma and barriers to support compared with veterans without a likely mental disorder which in turn could be linked to social isolation and loneliness Williamson et al., 2019).

The present study also reported a strong correlation between PTSD scores (on the ITQ) and moral injury, with ITQ DSO symptoms (central to CPTSD but not PTSD) appearing to be more strongly associated with moral injury than ITQ PTSD scores for this sample. It has been reported that experiences which violate one's moral or ethical code (i.e., PMIEs) are common among individuals with military history and are associated with adverse mental health outcomes for U.K. military veterans (Litz et al., 2009; Williamson et al., 2020, 2021). Our findings align with previous research which has reported that veterans who experienced a morally injurious event were more likely to meet case criteria for PTSD or CPTSD (Williamson et al., 2021). Our findings go further by suggesting that DSO symptoms central to CPTSD (but not PTSD) are more strongly associated with reporting a PMIE compared with PTSD symptoms among the sample of treatment-seeking veterans. This suggests a stronger association between moral injury and CPTSD than between moral injury and PTSD.

The present study also suggests that individuals in this sample with co-occurring symptoms of CPTSD experience more comorbidities and therefore poorer health compared with those with PTSD or no PTSD. However, as the sample was cross-sectional, it is difficult to establish causality, only associations. It is unclear whether current treatments for PTSD are suitable for treating CPTSD. However, due to the different health profiles of individuals with CPTSD and PTSD, this would suggest a need for a different treatment response. If those with CPTSD take longer to seek support and have worse outcomes, this perhaps highlights the importance of early intervention within this group.

Strengths and Limitations

Strengths of the study include the high response rate and the lack of differences between responders and non-responders. The response rate for our study (43%) was comparable to other U.K. veterans studies conducted at a similar time point such as Sharp et al. (2021) (44%). However, when interpreting the data, it is important to consider study limitations which may limit the generalizability of the findings. As participants were recruited from a national U.K. mental health charity for veterans, the sample may differ from the wider treatment-seeking veteran population. For instance, due to different demographics or mental health presentations. However, as Combat Stress has approximately 2,600 referrals annually and is a recognized treatment pathway of the NHS, this should increase the validity of the sampling.

The study was limited by the large proportion of participants who served in the British Army (82.5% of study participants), the small number of female veteran participants (2.8% of study participants), the modest number of ethnic minority participants (5.3% of study participants) and lack of information on other potential minority groups (e.g., LGBTQ+, Commonwealth veterans) which may limit the generalizability of the findings. Ethnic minority groups appeared to be underrepresented in the study sample (5.3%) compared with in the wider military community (9.4%) (UK Government, 2021). The lack of female participants makes it challenging to draw conclusions on whether sex was a risk factor for certain mental health presentations. It is difficult to know why there was such a low prevalence of female veteran participants, just 2.8% in the study compared with 11.2% in the U.K. Armed Forces (UK Government, 2021). This was interesting given that research has shown female veterans are more likely to seek support and treatment than their male counterparts (Jones et al., 2019). However, studies have shown that women reported feeling

less welcomed to veteran mental health organizations (Baumann et al., 2022; Thomas et al., 2017), and therefore they may have sought help elsewhere. Despite this, previous literature has reported females in the U.K. Armed Forces are less at risk of experiencing mental health difficulties (Fear et al., 2010).

Finally, data was collected between August and October 2020 during the COVID-19 pandemic. Although the United Kingdom was not in a period of nation lockdown during data collection, social distancing and self-isolation measures remained in place. This may have influenced the responses given, especially around anxiety, loneliness and lack of perceived social support. Research exploring the impact of COVID-19 and restrictions to daily living as a result of social distancing within U.K. veterans with preexisting mental health difficulties reported that CMDs and PTSD were the most prevalent symptoms to have been exacerbated by the pandemic during the first U.K. national lockdown (Murphy, Williamson, et al., 2020). These however remained stable between the first and second U.K. national lockdowns (Hendrikx et al., 2021). Future research should seek to explore the health and well-being of treatment-seeking veterans outside of the COVID-19-era.

Implications

The current study provided further data on the profile and health needs of veterans seeking support for mental health difficulties. With the higher rates of health issues among military veterans, it is critical to improve the rates of treatment-seeking among this population by having a full understanding of their unique needs. This will allow treatment services to better align with these needs and therefore improve treatment engagement. Future research should expand on our findings by exploring the health and well-being of treatment-seeking veterans from several treatment services to improve the representativeness of treatment-seeking veterans. Developing a better understanding of the unique health and well-being needs of treatment-seeking veterans has implications for veteran health services and treatment outcomes. Interventions aiming to support veterans must consider the complexity of the physical and mental health presentations of this unique population, for instance experience of PMIEs should be considered in the treatment pathway for PTSD.

Additionally, the high prevalence of loneliness in this study highlights the need for specialized support when leaving the armed forces, in particular it may be important to provide more support during the challenging transition from military to civilian life and leaving the military "family."

Conclusions

To conclude, the most prevalent mental health disorder among U.K. treatment-seeking veterans is CMDs, such as anxiety and depression. Evidence was also presented highlighting the correlations between health outcomes, for instance between PTSD and other health disorders. While there are limitations to consider when interpreting the findings, the data presented highlights the complex nature of veterans needs and provides suggestions for service development. Future research should continue to expand on this research and develop a stronger evidence base for the needs of U.K. treatment-seeking veterans. This could have major clinical implications for the support provided to this unique population.

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