MENTAL DISORDER PROPORTION OF RECRUITED INPATIENTS IN THE DEPARTMENT OF PSYCHIATRY, MILITARY HOSPITAL 103 IN 2 YEARS (2022 - 2023)

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Abstract

Objectives: To investigate the proportion of mental disorders and military-related factors among recruited inpatients. ***Methods:*** A retrospective study on 296 recruits treated in the Department of Psychiatry, Military Hospital 103 from 2022 to 2023 compared to 126 military recruiting-naïve participants obtained from community patients treated at the same department and during the same period. Diagnostic criteria were based on the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition of the American Psychiatric Association. ***Results:*** Most mental disorders had the onset within 6 months of recruitment (51.7%) and were more common in lower military rank (78.3%). Out of several main mental disorders, major depressive disorder and schizophrenia were prominent (22.6% and 17.9%, respectively). However, the proportion of schizophrenia in recruited inpatients was double lesser than in community inpatients (17.9% and 51.6%, respectively). Dissociative disorders and factitious disorders were unique in recruited inpatients compared with community inpatients with mental health disorders (13.5% and 13.9% vs 0.8% and 0%, respectively). ***Conclusion:*** In the military, the proportion of mental disorders of recruited inpatients compared with community control inpatients is different not only by a higher percentage of dissociative disorders and factitious disorders but also by a smaller percentage of schizophrenia.

Keywords: Mental disorder proportion; Recruit; Inpatient.

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INTRODUCTION

Mental disorder is the leading cause of hospitalization among active-duty military personnel [1]. In recent years, the Vietnam Ministry of Defense has attempted to identify people who are already experiencing mental health problems before recruitment. The advantage of not recruiting sick troops is obvious. However, population epidemiological publications have shown that most lifetime mental disorders have childhood-adolescent onsets [2] that are initially too mild to be detected at a routine recruitment screening examination. In fact, troops developing their particular mental disorders during their military training course in the North Vietnam area have been treated in the Department of Psychiatry, Military Hospital 103. However, until now, the prevalence of their hospitalization mental health disorders during military training has not been elucidated.

Military training is a highly stressful undertaking. Recruits undergo training conditions in which they are exposed to the stress of combat force with not only intense mental and physical training but also separation from normal social supports. For some soldiers, this is a motivating prospect, but for many soldiers, this is a challenging condition. It may predispose them towards mental disorders. For example, the incidence of depressive symptoms in recruits was 45% in the US Navy [3], 25.2% in China [4], and 29.9% in Turkey [5]. A follow-up report using data collected from soldiers during basic combat training found that suicidal ideation, suicidal plans, and suicidal attempt rates were 14.1%, 2.3%, and 1.9%, respectively [6]. However, little is known about the extent to which military characteristics of recruits may inform our understanding of the risk of mental disorder onset. Therefore, we conducted this study: *To investigate the proportion of mental disorders among recruits hospitalized in the Department of Psychiatry, Military Hospital 103, and elucidate their military characteristic-related factors.*

MATERIALS AND METHODS

1. Subjects

296 recruits treated in the Department of Psychiatry, Military Hospital 103 from January 2022 to December 2023 were enrolled. The control group included 126 military recruiting-naïve participants obtained from community patients treated at the same department, during the same period, and with the same age range.

* *Inclusion criteria:* All participants met the criteria for diagnosis according to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) of the American Psychiatric Association which has been described in detail elsewhere. In brief, we assessed the presence of several main mental disorders, including schizophrenia, major depressive disorder, bipolar disorder, acute brief psychosis, dissociative disorders, factitious disorder, anxiety disorders, game addiction, gambling, and substance-induced psychosis. Patients were diagnosed by at least two independent, certified psychiatrists.

* *Exclusion criteria:* Participants were excluded if they had a severe concurrent illness or a history of a neurological condition such as traumatic brain injury. To investigate the contribution of military training to mental disorder onset, the additional exclusion criterion of military patients was mental disorder onset before military recruiting.

2. Methods

* *Research design:* A retrospective study.

The time of mental disorders onset was measured from the new soldier recruiting time to the onset of mental disorders. The service roles of recruits were divided into support roles and battle roles. The support role included medical, informative, signal, and logistics. The battle role included the navy, land force, and air force. The military origin of recruits was divided into temporal service who were enlisted and served in the military within 2 years, and military students who studied in the military universities.

* *Statistical analysis:* Data were reported as numbers and percentages for categorical variables or mean ± standard deviation (S.D.) for continuous variables. Between-groups variances in categorical correlates were determined by the Chi-square test or Fisher's exact test. For continuous variables, the normality test (Shapiro-Wilk test) was applied to the data before performing the test. Based on the normality result, data in two sample groups were compared using an unpaired Student T-test or Mann-Whitney U test. Statistical differences were established with $p < 0.05$, $p < 0.01$, and $p < 0.001$. A two-tailed test was always performed. Statistical analysis was performed using the SPSS statistical software package (SPSS 20 for Windows; SPSS, Inc.).

3. Ethics

Participants' information was kept confidential and secure throughout the study.

RESULTS

Table 1. Characteristic of study groups.

	Soldier patients (n = 296)	**Community patients (n = 126)**	**p**
Age, mean (S.D.)	20.9 (1.4)	21.0 (1.6)	> 0.05
Gender, n (%)			
Men	296 (100)	126 (100)	
Women	0 (0)	0 (0)	
Service, n (%)			
Battle role	211 (71.3)		
Support role	85 (28.7)		
Rank, n (%)			
Master Sergeant	10 (3.4)		
Sergeant	18 (6.1)		
Corporal	36 (12.2)		
Private first class	142 (48.0)		
Private	90 (30.3)		
Time of mental disorders' onset (months), n (%)			
≤ 3	97 (32.8)		
4 - 6	56 (18.9)		
> 6	143 (48.3)		

Table 1 describes the sociodemographic and military characteristics of those included in the study. The mean age of the soldier patient group was 20.9 ± 1.4 years old. It was not significantly different compared to the community control group (21.0 ± 1.4 years old, p > 0.05). The military characteristics of the soldier patient group were as follows: Battle role (71.3%) and support role (28.7%), had

private first class or lower rank (78.3%). Out of 296 soldier patients, 32.8% had the mental disorder onset within the first 3 months of training, resulting in 51.7% of patients reporting the onset within the first 6 months of military training.

Table 2. Proportion of mental disorders.

	Scz.	MDD	BD	ABD	DD	FD	Others	Total	p
Soldiers n (%)	53 (17.9)	67 (22.6)	21 (7.1)	24 (8.1)	40 (13.5)	41 (13.9)	50 (16.9)	296 (100)	< 0.001*
Community n (%)	65 (51.6)	23 (18.5)	10 (7.9)	3 (2.4)	1 (0.8)	0 (0)	24 (19.0)	126 (100)	

*(Scz: Schizophrenia; MDD: Major depressive disorder; BD: Bipolar disorder; ABD: Acute brief disorder; DD: Dissociative disorder; FD: Factitious disorder. Others included gambling, substance-induced psychosis, and anxiety disorders; *: by Fisher's exact test).*

We then accessed the proportion of mental disorders in recruited patients (*Table 2*). Several main mental disorders were schizophrenia, major depressive disorder, bipolar disorder, acute brief delusion, dissociative disorder, factitious disorder, and others. We found that major depressive disorder had the highest proportion (22.6%), followed by schizophrenia (17.9%). In the soldier group, the proportion of factitious disorder (13.9%) and dissociative disorders (13.5%) were significantly higher than those in the community group. In contrast, schizophrenia in the community group (51.6%) was significantly higher than in the soldier group (17.9%).

Table 3. Time of mental disorders' onset.

	Scz.	MDD	BD	ABD	DD	FD	Others	Total	p
≤ 3 months n (%)	13 (13.4)	21 (21.6)	3 (3.1)	8 (8.2)	15 (15.5)	21 (21.6)	16 (16.5)	97 (100)	< 0.01
4 - 6 months n (%)	5 (8.9)	17 (30.4)	5 (8.9)	5 (8.9)	5 (8.9)	10 (17.9)	9 (16.1)	56 (100)	
> 6 months n (%)	35 (24.5)	29 (20.3)	13 (9.1)	11 (7.7)	20 (14.0)	10 (7.0)	25 (17.5)	143 (100)	

We found that during the first three months, major depressive disorder and factitious disorder had the highest percentages (21.6%). They were still the first and second most common disorders during 4 and 6 months. After 6 months of recruiting, major depressive disorder and factitious disorder became the second and third most common disorders, respectively, while schizophrenia rose to be the most common disorder. Taken together, major depressive disorder and factitious disorder mostly had the onset within the first 6 months, but schizophrenia had the onset after 6 months of recruiting (*Table 3*).

Table 4. Service roles of the soldier group.

	Scz.	**MDD**	**BD**	**ABD**	**DD**	**FD**	**Others**	**Total**	**p**
Batlle n (%)	42 (19.9)	45 (21.3)	14 (6.6)	17 (8.1)	34 (16.1)	25 (11.8)	34 (16.1)	211 (100)	> 0.05
Support n (%)	11 (12.9)	22 (25.9)	7 (8.2)	7 (8.2)	6 (7.1)	16 (18.8)	16 (18.8)	85 (100)	

Overall, around one-third of personnel held a supportive role, such as medical, logistic, or signal, whereas the majority was in battle role. In contrast to previous results, we found that the proportion of mental disorders was not significantly different between the two groups.

Table 5. Origins of soldier patients.

	Scz.	**MDD**	**BD**	**ABD**	**DD**	**FD**	**Others**	**Total**	**p**
Temporal service n (%)	47 (19.4)	59 (24.4)	17 (7.0)	21 (8.7)	34 (14.0)	27 (11.2)	37 (15.3)	242 (100)	< 0.05*
Student n (%)	6 (11.1)	8 (14.8)	4 (7.4)	3 (5.6)	6 (11.1)	14 (25.9)	13 (24.1)	54 (100)	

We found that the proportion of major depressive disorder was much higher in the temporal service group (24.4%) compared to the military student group (14.8%). Meanwhile, the factitious disorder proportion was higher in the military student group (25.9%) than in the temporal group (11.2%). The difference was statistically significant ($p < 0.05$) (*Table 5*).

DISCUSSION

Regarding the ranking of patients, the proportion of enlisted soldiers and non-commissioned officers was 78.3% and 21.7%, respectively. This suggests that soldiers with lower rank had the tendency to have mental disorders compared to those with higher rank. A previous study has shown that higher rank was considered a protecting factor from mental disorder onset [7]. Our result supported this finding. In addition, the onset of mental disorders in recruits was mostly within 6 months of recruitment. The exact mechanism of this issue is still unclear. The possibility would be that military activities, with their stressful characteristics, could make some vulnerable troops prone to mental disorders. Previous studies have also reported a significant correlation of mental disorders with length of military service, worrying about the future, poor coping skills, and inadequate social support [4, 8, 9, 10].

This is the first study reporting the proportion of mental disorders among recruited inpatients in the Vietnam military. Major depressive disorder was the most prevalent mental disorder in recruited inpatients. This finding is consistent with population studies showing that major depressive disorder is the most common mental disorder. It is notable that although schizophrenia was the second most prevalent mental disorder among recruits, its prevalence was half that of the community control group. The possible mechanism might be that the mental screening test conducted before recruitment somewhat ruled out several severe mental disorders, such as schizophrenia. It indicated the valuable effect of mental disorder screening tests before recruitment, which has been intensively conducted by the Vietnam Ministry of Defense in recent years. Interestingly, dissociative disorders and factitious disorders were unique in recruited patients compared to community patients. The cause is unknown, but dissociative disorder and factitious disorder might relate to traumatic events during childhood. Military training with its stressful conditions may thereby predispose them toward stress-related mental disorders.

The principal limitation of this study is that we focused exclusively on recruits who were hospitalized, thereby representing a very small proportion of the total number of soldiers experiencing mental disorders. However, our data was significant as it presented the extent to which mental disorders correlate with disability from military service. It is well known that mental disorder hospitalization is the burden of the military. It is significantly

associated with service-related disability separations, resulting in a reduction of the military's ability to protect the country from enemies. Furthermore, since many recruits were hospitalized during their military training, our results also point out the difficulty in screening for mental disorders before recruitment. It cannot completely identify all vulnerable people and prevent them from being recruited. Therefore, identifying soldiers who are considered healthy but have a propensity to develop chronic mental disorders should be further investigated in future studies.

CONCLUSION

In summary, major depressive disorder and schizophrenia are the most common disorders in recruited inpatients with mental disorders (22.6% and 17.9%, respectively). Factitious disorder and dissociative disorder are more specific in recruited inpatients compared to community inpatients (13.9% and 13.5% vs. 0% and 0.8%, respectively).

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