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Attitudes and perceived barriers to mental healthcare in the People's Liberation Army Navy: study from a navy base

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ABSTRACT

Introduction The People's Liberation Army (PLA, China) Navy is increasingly conducting military operations other than war overseas. Factors such as confrontations with pirates, special environments and long sailing times have resulted in mental health problems. However, the navy's actual utilisation of mental health services is low. This study examined members' rate of willingness to seek help and the factors that act as barriers to willingness to seek mental health services in the PLA Navy.

Methods This cross-sectional study was conducted at the Zhoushan Base, operated by the East Sea Fleet, between March 2019 and April 2019. We distributed a 12-item questionnaire to examine participants' attitudes and perceived barriers to mental healthcare. We recruited 676 navy personnel. Participants' willingness to seek help if they had mental health problems was also assessed.

Results The response rate was 99%. A total of 88.44% of the sample reported being willing to seek help. Univariate analysis suggested that those not willing to seek help were more likely to agree with the items, '*Mental healthcare does not work*' and '*My unit leadership might treat me differently*' and all organisational barriers, and they were more likely to have concerns about '*embarrassment*' and '*being weak*' than those willing to seek help. After controlling for demographic characteristics, binary logistic regression analyses confirmed that a lack of knowledge regarding the location of mental health clinics and being perceived as weak were the main factors preventing participants' willingness from seeking help.

Conclusions Extensive efforts to decrease organisational barriers and stigma towards mental healthcare should be a priority for researchers and policymakers to improve the usage of mental health services. Psychoeducation aimed at de-stigmatising mental health problems should be delivered and the accessibility and availability of mental health services should be increased.

INTRODUCTION

Exposure to deployment-related stressors—such as taking enemy fire, handling dead bodies, knowing someone who was killed, or killing enemy combatants—are strongly related to the prevalence of post-traumatic stress disorder (PTSD).¹ Historically, there has been a sharp increase in the number of evacuated soldiers with mental disorders.^{2–6} In a previous study, approximately one-third of soldiers experienced mental health problems about 6 months after returning from deployment.⁷ The US Department of Defence has made extensive efforts to enhance access to mental health services for

Key messages

- ⇒ PLA Navy members completed a questionnaire on barriers to mental healthcare.
- ⇒ Most participants were willing to seek help for mental health problems.
- ⇒ A lack of knowledge regarding the location of mental health clinics and being perceived as weak were the main barriers to mental healthcare.
- ⇒ Extensive efforts to decrease organisational barriers and stigma toward mental healthcare should be a priority for researchers and policymakers.

military personnel, including enhancing screening for mental health issues before and after deployment,⁸ conducting psychological evaluations and interventions for soldiers who have experienced war⁷ and paying close attention to veterans' mental health.⁹ However, studies have consistently found that only a fraction of those with symptoms of mental illness seek care/help, and few soldiers are interested in receiving help, which is inconsistent with the expected prevalence of mental disorders and their needs. For example, Hoge showed that only 23%–40% of soldiers and marines with symptoms of mental illness sought mental healthcare, and less than half were interested in receiving mental healthcare.¹ In another study, among soldiers who received a PTSD diagnosis within 90 days of returning from Afghanistan, 22% had only attended one mental healthcare visit.¹⁰

What prevents military personnel from seeking mental healthcare? To understand this, Hoge and colleagues¹ developed a 13-item questionnaire concerning perceived barriers to mental health services. The barriers covered by the instrument included concerns about how a soldier will be perceived by their peers and leaders, fears of harming their military career, lack of trust in mental health professionals and organisational barriers (eg, difficulty in scheduling an appointment, getting time off for treatment and the cost of mental healthcare). Since then, it has been widely used in various forms with US^{11–14} and British¹⁵ military personnel according to the purposes of the study being conducted.

The Chinese People's Liberation Army (PLA) is the military of the People's Republic of China. It includes ground, naval, air, rocket, strategic

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support and joint logistic support forces. The PLA Navy is the naval branch of the PLA. The PLA Navy force is organised into three fleets: the North Sea Fleet, East Sea Fleet and South Sea Fleet. Each fleet owns and operates several bases. For the past 40 years, China has not been engaged in war. Owing to broadening maritime interests and the naval strategic transformation, the PLA Navy is increasingly conducting military operations other than war overseas. Factors such as confrontations with pirates, special environments (eg, airtightness, high temperature, noise aboard ships) and long sailing times have resulted in mental health problems.^{16 17}

Over the past decade, the PLA has steadily promoted mental health service at all levels, and studies aiming to explore the mental health characteristics of Chinese service people have been conducted. Every regiment has its own mental health clinic with at least one mental health worker. Psychological education is an important way to improve psychological health and boost morale. Psychological education in the military applies multi-disciplinary theories, psychological methods and techniques, pedagogy, sociology and psychiatry to cultivate favourable psychological features in military personnel, to improve their psychological functioning and help them reach their full psychological potential. The objective of psychological education is to resolve psychological conflicts, relieve psychological pressure, strengthen psychological quality, develop a well-rounded personality, reduce and prevent mental illness and maintain a healthy state of mind. Many mental health instruments are used to assess the mental health status of Chinese soldiers. Even while at sea, the navy can conduct psychological counselling through the Political Work Website, a network platform for the navy to perform political work. It offers featured columns, such as political education, current affairs, online legal services and psychological counselling. All soldiers can communicate with psychological counsellors online at any given time, regardless of their location. Despite these efforts, the actual utilisation of mental health services is low. A previous study found that, out of 1204 PLA Navy members who reported a stress problem, only 26.7% were seeking help.¹⁸ However, there has been no related research on the factors behind this low rate of seeking psychological help. In addition, research assessing the attitudes and perceived barriers to mental healthcare in the Chinese Army has been scarce. Furthermore, the increase in utilisation of psychological services is based on the premise of an increase in willingness to seek help. Understanding the influencing factors of soldiers' willingness to seek mental health may help providers develop new ways to encourage soldiers to use the services available to them.

This study investigated two main research questions: (1) What is the rate of willingness to seek help when experiencing a mental health problem in the Chinese Navy? and (2) What are the prevailing perceived barriers to willingness to seek mental health services in the Chinese Navy?

MATERIALS AND METHODS

Data collection

Data for this study were collected from the Zhoushan Base, operated by the East Sea Fleet, which performs certain combat missions around the East Sea areas. Data were collected between March 2019 and April 2019. Base leaders assembled the Navy Corps near their workplaces at convenient times. The intended sample size was all personnel on all the vessels during the visit. Reasons for not being available to complete the survey included work-related duties, illness, leave, or temporary duty elsewhere.

In total, 676 naval soldiers convened for this research. After a short recruitment briefing by the researchers, participants voluntarily completed an anonymous questionnaire, which took approximately 10–15 min to complete. Nearly all (n=669) soldiers chose to participate (response rate=99%). Prior to participating in the survey, the military personnel provided written informed consent. The data of 649 navy personnel were ultimately used for analysis as we excluded responses with incomplete information.

Measures

This was a quantitative study involving a cross-sectional self-report survey. We used the 12-item questionnaire concerning perceived barriers to mental health services (Cronbach's alpha=0.889), which was taken from Hoge and colleagues,¹ and has been widely used in various forms with military personnel. The items were translated into Chinese by the authors and back-translated by two English editors. After that, the items, both in English and Chinese, were sent to four experts (two psychologists, a methodologist and a linguist) in military academic institutions in China to ensure that they were comprehensible considering cultural differences. Each item was scored on a five-point Likert-type scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Participants were asked to rate how each of the listed concerns would affect their decision to seek mental healthcare if they developed a mental health problem. One question was asked regarding willingness to seek help: 'If you had a mental health problem, would you seek help?' Response options were 'yes' or 'no'. Additionally, the questionnaire included items on background such as demographics and military experience.

Analyses

We used SPSS V.21.0 for statistical analysis. Frequencies were calculated and χ^2 tests were used to assess the difference in each item between participants willing or not willing to seek help. Binary logistic regression analyses, unadjusted and adjusted for potential confounding factors, were further performed to generate ORs with 95% CIs. The significance level was set at 0.05.

RESULTS

Demographic characteristics

Participants were mostly single Han Chinese men. Most had a college degree. The most common service length was 1–2 years and most were non-commissioned officers (Table 1).

Factors related to willingness to seek help

In this sample, 88.44% reported willingness to seek help if they had a mental health problem and 11.56% reported not being willing to do so. Table 2 depicts the comparison of each item related to attitudes and perceived barriers between participants willing and unwilling to seek help if they had a mental health problem. Those not willing to seek help were more likely to agree with the items, 'Mental healthcare does not work' and 'My unit leadership might treat me differently' as well as all the organisational barriers than those willing to seek help. Those who were not willing to seek help were also more likely to have concerns about 'embarrassment' and 'being weak' than were those willing to seek help.

We performed two binary logistic regression analyses to identify the significant barriers to participants' willingness to seek help. Model 1 included factors with items 2, 3 and 6–12. Model 2 included the variables in Model 1 as well as demographics (age,

Table 1 Demographic characteristics of study participants

Demographics	Participants n (%)	Willing to seek help n (%) (n=574)	Not willing to seek help n (%) (n=75)	χ^2	P value
Sex					
Male	628 (96.76)	553 (96.34)	75 (100.00)	2.836	0.092
Female	21 (3.24)	21 (3.66)	0 (0)		
Ethnicity					
Han	619 (95.38)	547 (95.30)	72 (96.00)	0.075	0.785
Other	30 (4.62)	27 (4.70)	3 (4.00)		
Education					
≤High school	215 (33.13)	187 (32.58)	28 (37.33)	0.677	0.411
≥Some college	434 (66.87)	387 (67.42)	47 (62.67)		
Age (years)					
18–24	388 (59.78)	343 (59.76)	45 (60.00)	0.354	0.950
25–29	165 (25.42)	145 (25.26)	20 (26.67)		
30–39	92 (14.18)	82 (14.28)	10 (13.33)		
≥40	2 (0.31)	2 (0.35)	0 (0)		
Missing data	2 (0.31)	2 (0.35)	0 (0)		
Marital status					
Single	509 (78.43)	446 (77.70)	63 (84.00)	9.918	0.019
Married	137 (21.11)	126 (21.95)	11 (14.67)		
Divorced/widowed	2 (0.31)	2 (0.35)	0 (0)		
Missing data	1 (0.15)	0 (0)	1 (1.33)		
Rank enlisted					
Officer	52 (8.01)	43 (7.49)	9 (12.00)	2.819	0.589
Non-commissioned	451 (69.49)	400 (69.69)	51 (68.00)		
Junior enlisted	138 (21.26)	123 (21.43)	15 (20.00)		
Cadet	7 (1.09)	7 (1.22)	0 (0)		
Missing data	1 (0.15)	1 (0.17)	0 (0)		
Service length (years)					
1–2	238 (36.67)	215 (37.46)	23 (30.67)	2.669	0.446
2–5	158 (24.35)	135 (23.52)	23 (30.67)		
5–9	140 (21.57)	122 (21.25)	18 (24.00)		
≥10	109 (16.79)	98 (17.07)	11 (14.66)		
Missing data	4 (0.62)	4 (0.70)	0 (0)		

sex, education, marital status, rank and service length). Table 3 presents the summary of the regression analyses. Organisational barriers, not knowing the location of mental health clinics and being perceived as weak were the main barriers.

DISCUSSION

One objective of this research was to investigate the degree of the PLA Navy's willingness to seek psychological help. Encouragingly, 88.44% of the base navy personnel were willing to seek help if they had a mental health problem. This ratio was higher than that of a study deploying soldiers in the USA,¹⁹ in which 65.7% of the responding soldiers indicated that they would be willing to address a mental health condition if they thought they had an issue or if the postdeployment screening identified an ongoing problem. This may be because of the contribution of traditional ideological and political education in the Chinese PLA. The Chinese PLA was founded and led by the Communist Party of China. The political work performed by the Chinese PLA is the ideological and organisational work of the Communist Party of China within the army. The fundamental task of this type of work is to ensure the absolute leadership of the Communist Party over the military. Political work mainly includes content such as regular ideological work, ideological

and political education, construction of the party organisation and construction of the cadre system. The Political Work Department consists of the General Political Department established by the Chinese PLA, Political Commissars and institutions established by organisations above the regiment level, political directors established by battalions and political instructors established by companies. Like military officers, they are also the heads of the units they serve, and jointly responsible for all types of work in their respective units, under the leadership of the same-level party committee. One of the main functions of the Political Work Department is to perform regular ideological education. The political work regulations are statutory documents that regulate the relationships among various aspects of the PLA's political work. They are also the fundamental basis for the Chinese military to perform political work. According to the regulations, the main content of regular ideological work is to address the practical mental health problems of officers and soldiers, so that ideological education can be performed in a timely manner, to maximise the effectiveness of psychological counselling. Therefore, one of the most important tasks for the Political Work Department in the Chinese military is to pay close attention to the changes in the mental health status of officers and soldiers, so that psychological counselling can be

Table 2 Attitude and perceived barriers to mental healthcare*

Attitude and perceived barriers	n	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	χ^2	P value
1. I do not trust mental health professionals	646	90	269	202	75	10	5.874	0.209
Willing to seek help	573	86	239	174	65	9		
Not willing to seek help	73	4	30	28	10	1		
2. Mental healthcare does not work	648	127	355	136	28	2	10.753	0.029
Willing to seek help	573	119	316	115	21	2		
Not willing to seek help	75	8	39	21	7	0		
3. Members of my unit might have less confidence in me	647	114	216	134	166	17	12.877	0.012
Willing to seek help	572	105	196	116	144	11		
Not willing to seek help	75	9	20	18	22	6		
4. My unit leadership might treat me differently	649	114	208	130	173	24	7.176	0.127
Willing to seek help	574	106	189	113	146	20		
Not willing to seek help	75	8	19	17	27	4		
5. It would harm my career	647	60	148	99	294	46	3.672	0.452
Willing to seek help	572	53	132	82	264	41		
Not willing to seek help	75	7	16	17	30	5		
6. I do not know where to get help	648	95	263	111	156	23	20.187	<0.001
Willing to seek help	573	89	243	98	126	17		
Not willing to seek help	75	6	20	13	30	6		
7. Mental healthcare costs too much money	647	82	263	175	105	22	9.771	0.044
Willing to seek help	572	76	240	152	87	17		
Not willing to seek help	75	6	23	23	18	5		
8. There would be difficulty getting time off work for treatment	648	74	257	110	162	45	16.101	0.003
Willing to seek help	573	70	238	93	137	35		
Not willing to seek help	75	4	19	17	25	10		
9. I do not have adequate transportation	649	83	292	114	124	36	17.063	0.002
Willing to seek help	574	80	267	97	101	29		
Not willing to seek help	75	3	25	17	23	7		
10. It is difficult to schedule an appointment	648	78	206	227	108	29	10.350	0.035
Willing to seek help	573	73	188	200	87	25		
Not willing to seek help	75	5	18	27	21	4		
11. It would be too embarrassing	648	87	283	139	124	15	29.272	<0.001
Willing to seek help	573	83	255	128	98	9		
Not willing to seek help	75	4	28	11	26	6		
12. I would be seen as weak	648	101	374	111	55	7	22.546	<0.001
Willing to seek help	573	97	336	95	40	5		
Not willing to seek help	75	4	38	16	15	2		

*Data excluded missing values.

Table 3 Logistic regression analyses results of demographic variables, barriers to care and willingness to seek help

		P value	OR (95% CI)
Dependent variable: willingness to seek help			
Barriers			
Model 1			
6. I do not know where to get help	−0.342	0.005	0.710 (0.559 to 0.902)
12. I would be seen as weak	−0.436	0.003	0.647 (0.487 to 0.859)
Model 2			
6. I do not know where to get help	−0.340	0.006	0.712 (0.560 to 0.906)
12. I would be seen as weak	−0.426	0.003	0.653 (0.491 to 0.869)

conducted in a timely manner. Moreover, the Health Department in the Chinese military provides mental health services to soldiers. Although the PLA introduced mental health services relatively late, the Political Work Department plays an important supporting role in mental health work. With constant ideological and political education, which is unique to China, military personnel are potentially encouraged to improve their motivation to seek mental healthcare.

The organisational barriers assessed in this study appraised whether the Chinese Navy experienced the barriers of not knowing where to seek help, the cost of mental healthcare, being unable to get time off work for treatment, not having adequate transport and being unable to get appointments. Univariate analysis suggested that all of the organisational practical barriers were endorsed as important barriers, while binary logistic regression analyses confirmed that navy personnel's willingness to seek help was impeded by a lack of knowledge regarding the location of

mental health clinics. Though organisational barriers appeared to be important factors in preventing soldiers from seeking help, not knowing where to get help was the least frequently reported organisational barrier among US and British military personnel.^{4 20} Consistent results were obtained in a study across US, UK, Australian, New Zealand and Canadian militaries.²¹ A possible reason is that mental health-related programmes do not provide the same organisational support as those intended for smoking cessation, physical fitness, motor vehicle safety and alcohol awareness in the US forces.²² This reason could also have been applicable to the navy base in the present study. Compared with mental health services, ideological and political education exists for a longer period and is more significant among Chinese militaries, which may have weakened the importance of the former. Further, our previous research found that mental health education performed by the PLA mainly focused on prevention, with limited flexibility and variety.²³ These findings shed light on the problem of the effectiveness of existing mental health services in military settings. There is a necessity to improve the current model of mental health services. The first step is to increase the accessibility and availability of mental health services. Furthermore, it is essential to conduct regular evaluations of the effectiveness of mental health services during provision.

In a previous study,¹ 65% of soldiers and marines reported that receiving mental health services would cause them to be seen as weak, which was the most frequently selected barrier to mental health services. In a sample of veterans from the Operation Enduring Freedom in Afghanistan and Operation Iraqi Freedom,¹⁴ the belief that therapy is a sign of weakness was associated with a decreased likelihood in using mental health services. A meta-analysis found that the second most frequent concern of stigma items was being seen as weak.²⁴ In this study, we found that being perceived as weak was another factor preventing participants' willingness from seeking help. The military is often perceived as a symbol of strength and health by the general public, while seeking help is a sign of weakness. The belief, '*I would be seen as weak*', is also one manifestation of stigma. Corrigan^{25 26} presented three approaches to mitigate this stigma: protest, education and promoting contact with individuals who have a mental health disorder. Greenberg *et al*²⁷ found that psychoeducational briefs may benefit psychological health. The Royal Navy has developed a trauma risk management programme, incorporating education and contact with individuals with mental disorders.²⁸ This programme delivers psychoeducational interventions aimed toward de-stigmatising mental health problems and encouraging military personnel to seek help when they need it most, both before and after deployment.²⁹ In the past, for Chinese military members, the content of mental health education mainly included the following: enhancing awareness of mental health problems, understanding common mental health problems, identifying elements of mental fitness, mastering methods of psychological adjustment and acquiring skills to maintain mental fitness. It is essential to deliver psychoeducation aimed at de-stigmatising mental health problems at the base. Moreover, it is critical to start, in a timely manner, developing contact with individuals who have mental health concerns.

In this study, the navy base personnel's willingness to seek help if they had a mental health problem was high. Not knowing the location of the mental health clinics, and being seen as weak, were the chief factors preventing participants' willingness to seek help. However, there are some limitations to this study. First, the data were collected using a self-report questionnaire, which raises concerns about same-source measurement bias, the

deviation caused by common method variance. Common method variance can either inflate or deflate the relationship between study factors. The survey also used a Likert-style response set, which is vulnerable to the effect of response bias. However, given that individuals often view their own opinions as best, and each respondent was assured of confidentiality, a subjective report was the best approach. Furthermore, there is the possibility of social desirability bias. Soldiers tend to present their self in a favourable way rather than offering accurate answers. Second, the cross-sectional design limits inferences about causality; thus, future studies should employ longitudinal designs to investigate this topic. Third, although studies that require participants to identify factors that contribute to their decision not to seek care are certainly useful and informative,¹ the association between mental health beliefs/attitudes and service use should be further studied.

CONCLUSIONS

Willingness to seek mental health services is critical to ensure the provision of necessary treatment to service members. This study provided important new findings on the willingness of active Chinese Navy members to engage in mental health services. Not knowing the location of mental health clinics and being seen as weak were the main factors preventing participants' willingness to seek help. To improve the use of mental health services, extensive efforts to decrease organisational barriers and stigma towards mental healthcare should be a priority for researchers and policymakers. Psychoeducation aimed at de-stigmatising mental health problems should be delivered and the accessibility and availability of mental health services should be increased. Our future research will investigate the status of help-seeking behaviours of the Chinese Navy in practice, which may help elucidate the relationships among barriers to seeking help, willingness to seek help and help-seeking behaviours in practice.

Contributors R-PG was a major contributor in writing the manuscript. X-FY analysed and interpreted the data. X-RL supervised the preparation, conduction and evaluation of the study.

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Competing interests None declared.

Patient consent for publication Not required.

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Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

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