The Differences of Anxiety Scores in the Pangkalan-I Defense Battalion Warriors, Belawan between the Pandemic Time COVID-19 and the Normal Period Before Pandemic

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Abstract

BACKGROUND: Coronavirus disease 2019 (COVID-19) has caused changes in people's living conditions and has brought harmful psychological effects such as anxiety. The military has an important role as a health service provider in particular and accelerates control in disasters such as COVID-19. Mental health in the rapid adaptation of the military is an important thing in carrying out its duties.

AIM: This study is to determine the adaptability of the Belawan Defense Marine Battalion Soldiers in dealing with situations that have never been faced before.

METHODS: This study is a paired numerical comparative analytical study using a retrospective approach. This study is a paired numerical comparative analytical study using a retrospective approach by assessing the difference in the State-Trait Anxiety Inventory-State (STAI-S) score and also the State-Trait Anxiety Inventory-Trait (STAI-T) score during the COVID-19 pandemic and normal conditions before the pandemic, with the study population of Marine Defense Battalion Soldiers Base-I Belawan.

RESULTS: The median of the STAI-S score during the COVID-19 pandemic in the Belawan Defense Base-I Marine Battalion Soldier is 35 with a minimum value of 20 and a maximum value of 55. There is a significant difference between the STAI-S score during the COVID-19 pandemic and normal conditions at Belawan I-Base Defense Marine Battalion Soldiers (p < 0.001). There was no significant difference between the STAI-T score between the COVID-19 pandemic and the normal condition of the Belawan I-Base Marine Defense Battalion Soldiers (p = 0.45).

CONCLUSION: There was a tendency for anxiety during the COVID-19 pandemic compared to normal conditions in the Belawan I-Base Defense Marine Battalion Soldier.

Introduction

The coronavirus disease 2019 (COVID-19) outbreak which originated in the city of Wuhan, Hubei Province, which can cause severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) has been threatening human life, since January 30, 2020, by the World Health Organization (WHO) that the COVID-19 outbreak is a serious health problem worldwide [1], [2]. The COVID-19 pandemic has an impact on global and mental health. Regardless of all the resources used to combat the spread of the virus, additional global strategies are needed to tackle related mental health issues [3]. This pandemic is causing mental health problems such as stress, anxiety, depressive symptoms, insomnia, denial, anger, and fear globally. Anxiety affects people's daily behavior, the economy, and prevention strategies control of COVID-19 and leads to increased morbidity [4].

In some countries, psychiatric clinics are modifying their practice to ensure care and support for people with mental health problems, but also for those who are not mentally ill and are suffering from the psychosocial consequences of the pandemic [4]. According to data from the WHO, the development of COVID-19 since the pandemic began to spread until 28 June 2020, around the world, there have been reported cases of COVID-19 of 9,843,073 cases and deaths of 495,760 cases, while in Indonesia on June 28, 2020, there were 52,812 positive cases of infection, and 2720 cases died [5].

The military plays a major role in various aspects of humanitarian assistance, especially in disasters. Military involvement in disaster relief operations is mandated by law, the emergency response needs to utilize critical assets such as military communications networks, facilities, and a disaster response workforce [6]. International guidelines for the proper use of the military in disasters and rapidly changing views are needed for assistance emergency [7].

In 2007, three general commanders from the Marine Expeditionary Forces formed a working group of marine leaders, pastors, medical, and mental health professionals, to develop a new Combat and Operational Stress model, from now on called the stress continuum model in the Marine Corps. The stress continuum model is a paradigm for recognizing the entire response

spectrum and includes stress results, from left to right, adaptive coping and health (color-coded Green as Zone "Ready"), mild and reversible difficulty or loss of function (Yellow Zone "React"), more severe and persistent distress or loss of function (Orange Zone "Injury"), and mental disorders arising from stress and unhealed stress injuries ("Sick" Red Zone) [8].

There has been some news about the mental health challenges caused by the COVID-19 pandemic, but little attention has been paid to the structural aspects of military mental health caused by COVID-19 [9]. Guo *et al*. in China, were investigating mental health among 642 people working in military hospitals and found an increase in anxiety (29.44%) and depression (36.45%) during the Covid-19 Pandemic in 2020. In Mowbray February 2020 study in Beijing, the prevalence in the general population experiencing post-traumatic stress disorder (GSPT) ranged from 4% to 41%; the prevalence of major depression increased by 7% after the pandemic. As explained, there are several factors that can increase the risk of developing this condition, such as gender, low socioeconomic status, interpersonal conflict, frequent use of social media, and lower resilience and social support [10]. Based on the difference between the State-Trait Naxiety Inventory-State (STAI-S) Score and The State-Trait Anxiety Inventory-Trait (STAI-T) Score in the military, especially the soldiers of the Belawan Base-I Defense Marine Battalion during the COVID-19 pandemic and normal condition before the pandemic using the STAI instrument.

Methods

This study is a paired two-group numerical comparative analytical study with a retrospective approach, which assesses the difference in the STAI-S score and the STAI-T score between the COVID-19 pandemic and the before the pandemic in Belawan I-Base Marine Defense Battalion Soldiers. The sample in this study was soldiers of the Belawan Pangkalan-I Marine Defense Battalion, who met the inclusion criteria and was obtained by simple random sampling. The criteria for inclusion in this study were soldiers of the Belawan Defense Marine Battalion, aged over 19–50 years, willing to act as respondents and could be interviewed. The exclusion criteria in this study were having general medical disorder and/or other comorbidities from another psychiatric disorder. All research subjects were asked to fill in written consent to participate in the study by first being given a detailed and clear explanation after obtaining approval from the Research Ethics Committee at the Faculty of Medicine, University of North Sumatra. The research, which was conducted from August to September 2020, received 76 respondents as the research sample.

In data analysis, the data normality test was performed first using the Kolmogorov–Smirnov test.

Data that were normally distributed were analyzed using the paired *t*-test. Data that are not normally distributed will be transformed using a log, if it is not normally distributed, data analysis will be performed using the Wilcoxon test. Data processing and analysis were carried out with the help of the Statistical Package for the Social Sciences software.

Results

This study, a demographic description of the sample (Table 1) was obtained. The highest level of education in the subjects of this study was high school graduates, as many as 74 people (97.4%) and two people who graduated from diploma 3 (2.6%). The most marital status in this study was married, namely, 67 subjects (88.2%), for the rank group, 48 people (63.2%) from the Tamtama group and 28 people (32.4%) from the NCO group. For family domiciles, 65 people (85.5%) have families who live in one house and one city with the subject and one city with the subject. It can be seen that the median age of the subjects in this study was 41.5 years, with a minimum value of 21 and a maximum value of 50 years ($p < 0.001$). The median of length of service for the subjects in this study was 20 years, with a minimum value of 2 and a maximum value of 31 years ($p = 0.001$). The median of the number of dependents in this study was three people.

Table 1: Distribution of research subjects based on demographic characteristics of the soldiers of the Belawan Base-I Defense Marine Battalion

Variable	Mean ± SB	Median (min–max)	n (%)	p
Age		41.5 (21–50)		<0.003
Long time on duty		20 (2–31)		0.013
The number of dependents		3 (0–6)		<0.001
Level of education				
High school			74 (97.4)	
Diploma			2 (2.6)	
Marital status				
Married			67 (88.2)	
Not married			9 (11.8)	
Rank				
Enlisted			48 (63.2)	
NCO			28 (36.8)	
This family domicile				
Live 1 home and 1 town			65 (85.5)	
Do not live in 1 house and 1 city			11 (14.5)	

Kolmogorov–Smirnov test

The STAI-S score of soldiers in normal conditions had a mean of 33.54 and a standard deviation of 6975 ($p = 0.2$), while the STAI-S score of soldiers during the COVID-19 pandemic in this study had a mean of 35.05 and a standard deviation of 7048 ($p = 0.065$). In Table 2, even after transforming data the log 10, data was obtained not normally distributed with p value <0.001 ($p < 0.05$). The median of the STAI-S score for the Belawan Marine Defense Battalion Soldier in normal circumstances is 33 with a value a minimum of 20 and a maximum value of 53, while the median of the STAI-S score for the Belawan Marine Defense Battalion Soldier in the COVID-19 pandemic is 35 with a minimum score of 20 and a maximum value of 55. There is a very significant

difference between STAI-S scores between the pandemic periods COVID-19 and normal conditions in Belawan Marine Defense Battalion Soldiers I-Base (p < 0.001).

Table 2: Differences in STAI-S scores between the COVID-19 pandemic period and normal conditions

	Median (min–max)	p
The STAI-S score was in normal condition on the battalion soldiers of the Defense Marines Base-I against	33 (20–53)	<0.001
The STAI-S score during the COVID-19 pandemic on the battalion of the Marine Defense Force Base-I Belawan	35 (20–55)	

*Wilcoxon test, STAI-S: State-trait anxiety inventory-state

The STAI-T score in normal conditions before the pandemic in the study subjects had a mean of 32.86 and a standard deviation of 6675 (p = 0.2), while during the COVID-19 pandemic, the study subjects had a mean of 32.91 and a standard deviation of 6678 (p = 0.2). In table <Table 3 was obtained 7>, data obtained were not normally distributed with p < 0.001 (p < 0.05) even though efforts had been made to normalize the data by transforming the log 10. The median of the STAI-T score of research subjects in the normal state before the pandemic was 33 with a minimum value of 20 and a value a maximum of 50, while the median of the STAI-T score during the COVID-19 pandemic in the study subjects was 33.5 with a minimum value of 20 and a maximum value of 50. There was no significant difference between the STAI-T score between the COVID-19 pandemic and the normal state of subjects (p = 0.45).

Table 3: Difference in STAI-T score between the COVID-19 pandemic period and normal conditions in Belawan Base-I Defense Marine Battalion Soldiers

	Median (min-max)	p
The STAI-T score was normal in the battalion soldiers of the I-Base Defense Marines against	33 (20–50)	0.45
STAI-T score during the COVID-19 pandemic of the Marine Defense Battalion Base-I Belawan	33.5 (20–50)	

*Wilcoxon test, STAI-T: State-trait anxiety inventory-trait

Discussion

This study succeeded in answering the question in this study well, namely, whether there was a difference in the STAI-S score between the COVID-19 pandemic and normal conditions in the Belawan Base-I Defense Marine Battalion Soldiers and differences in the STAI-T scores between the COVID-19 pandemic and normal conditions in research subjects.

In this study, subjects who were included were male. The domination of men in the military is a social development. The lack of representation and role of women in the military due to the existence of several special regulations and every woman who enters the TNI must be a virgin as one of the rules that cannot be contested and virginity testing is applied. This can be seen from the number of female soldiers at the TNI Headquarters only 10–15% of the total number of TNI soldiers [11].

Demographic characteristics of study subjects (Table 1) was obtained. The highest level of education is high school graduates, as many as 74 people (97.4%) and two subjects who graduated from Diploma 3 (2.6%). This is different from the study from Vojvodić and Dedić in 2017 in Serbia, it was found that many military soldiers had education above 189 high school students (60.8%) [12]. In marital status, study subjects with married status were 67 subjects (88.2%). This is in accordance with a study from Vojvodić and Dedić in 2017 in Serbia, there were more military personnel with married status, namely, 195 people (62.7%) [12].

For age demographic characteristics, the median age of the subjects in this study was 41.5 years, with a minimum value of 21 and a maximum value of 50 years (P < 0.001). This is in accordance with a study from Silva *et al*., in 2012 in Brazil, it was found that there were 173 military soldiers aged 25–44 years (57.3%) compared to 69 people aged 19–24 (22.8%), and aged >44 years as many as 60 people (19.9%) [13]. In terms of demographic characteristics, the length of service in this study was 20 years, with a minimum value of 2 and a maximum value of 31 years (p = 0.013). This is in accordance with a study from Silva *et al*., in 2012 in Brazil, it was found that the military soldiers who had served >20 years were more, namely, 154 people.

The results of this study are in accordance with a study in the 2020 study by Guo *et al*. in China, investigating the psychological health among 642 people who worked in military hospitals and found an increase in anxiety (29.44%) and depression (36.45%) during the COVID-19 epidemic [9]. In Mowbray February 2020 study in Beijing, the prevalence in the general population experiencing post-traumatic stress disorder (GST) has ranged from 4% to 41%; the prevalence of major depression increased by 7% after the outbreak. As explained, there are several factors that can increase the risk of developing this condition, such as gender, low socioeconomic status, interpersonal conflicts, frequent use of social media, and lower resilience and social support [10]. In the study of Yu *et al*. in February 2020 in China, it was found that the COVID-19 outbreak in China had a major impact on the mental health status of the general population. Of the 1607 respondents, 1588 returned a valid questionnaire and were entered into the analysis. Nearly a quarter (22.8%) had a high level of psychological distress using the Kessler Psychological Distress Scale score ≥13 [14]. Limcaoco *et al*. conducted study in April 2020 in Spain with 1091 respondents from 41 countries. A high level of psychological distress was obtained with a mean Kessler Psychological Distress Scales score of 17.4 (6.4) [15]. In 2020, Wang *et al*. conducted study in China, evaluating the impact of psychology, depression, stress, and anxiety at onset of pandemic COVID-19. Of 1210 participants, 53.8% of them experienced severe psychological impact. About 16.5% of respondents experienced depression, 28.8% experienced anxiety, and 8.1%, experienced stress [1]. In Mansourieh's 2020 study in Iran, in 10,754 participants, it was found that anxiety levels were significantly higher among

people at least one family member, relative, or friend who contracted the disease COVID-19 (p < 0.001) [16].

and the normal state of the Belawan I-Base Marine Defense Battalion Soldiers (p = 0.45).

Conclusion

1. In the demographic politics of the Belawan Marine Defense Battalion Soldiers, the highest level of education in the subjects of this study was high school graduates, 99 people (94.3%), and 6 subjects (5.7%) who graduated Diploma 3. The marital status of the subjects of this study was mostly married, namely, 94 subjects (89.5%) and 11 subjects with unmarried status (10.5%). For the rank group, 71 subjects (67.6%) were from the Tamtama group, and 34 people (32.4%) were from the NCO group. For family domicile, 90 subjects (85.7%) have families who live in one house and one city with the subject, and 15 subjects (14.3%) have families who do not live in one house and one city with the subject. For the age of the subjects, it was found that the median age of the subjects in this study was 41 years, with a minimum value of 21 and a maximum value of 50 years. The value of the length of the subject in this study was 20 years, with a minimum value of 2 and a maximum of 31 years. For the dependents of the subjects, it was found that the median number of dependents in this study was three people, with a minimum value of 0 and a maximum value of 8 years.
2. The STAI-S score is normal for the Belawan 1st Marine Defense Battalion Soldier. The STAI-S score of the research subjects had a mean of 33.54 and a standard deviation of 6975 (p = 0.2).
3. STAI-T score between the COVID-19 pandemic in Belawan Base-I Defense Marine Battalion Soldiers. The STAI-S score of the research subjects had a mean of 35.05 and a standard deviation of 7048 (p = 0.065).
4. The existence of a very significant difference between the STAI-S score between the COVID-19 pandemic and the normal condition of the Belawan I-Base Marine Defense Battalion Soldiers (p < 0.001).
5. The STAI-T score is normal for the Belawan 1st Marine Defense Battalion Soldier. The STAI-T score of the research subjects had a mean of 32.86 and a standard deviation of 6.675 (p = 0.2).
6. STAI-T score during the COVID-19 pandemic in the Belawan 1st Marine Defense Battalion Soldier. The STAI-T score of the research subjects had a mean of 32.91 and a standard deviation of 7678 (p = 0.2).
7. There was no closest difference between the STAI-T score between the COVID-19 pandemic

References

1. Wang C, Pan R, Wan X, Tan Y, Xu L, Ho CS, *et al*. Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. Int J Environ Res Public Health. 2020;17(5):1729.
   PMid:32155789
2. Kong X, Zheng K, Tang M, Kong F, Zhou J, Diao L, *et al*. Prevalence and factors associated with depression and anxiety of hospitalized patients with COVID-19. MedRxiv. 2020;2020:1-12.
3. Kontoangelos K, Economou M, Papageorgiou C. Mental health effects of COVID-19 pandemic COVID-19a: A review of clinical and psychological traits. Psychiatry Investig. 2020;17(6):491-505.
4. Torales J, O'Higgins M, Castaldelli-Maia MJ, Ventriglio A. The outbreak of COVID-19 coronavirus and its impact on global mental health. Int J Soc Psychiatry. 2020;66(4):317-20.
   PMid:32233719
5. World Health Organization. Coronavirus Disease (COVID-19) Situation Report. Geneva: World Health Organization; 2020. Available from: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200529-covid-19-sitrep-130.pdf?sfvrsn=bf7e7f0c_4. [Last accessed on 2020 Mar 03].
6. Zaw TN, Lim S. The Military's role in disaster management and response during the 2015 Myanmar floods: A Social network approach. Int J Disaster Risk Reduct. 2017;25:1-22.
7. Goniewicz K, Goniewicz M, Burkle FM Jr. The territorial defense force in disaster response in Poland: Civil-military collaboration during a state of emergency. Sustainability. 2019;11:1-6.
8. Carpenter WB, Flynn GJ. MCTP 3-30E. Combat and operational stress control. US Marine Corps; 2016. p. 1-240.
9. Guo X, Lili Wu L, Yu X, Sun Z, Liu W. Mental health care for military personnel in the COVID-19 epidemic. Mil Med. 2020;185(9-10):e1401-5.
   PMid:32559299
10. Mowbray H. In Beijing, coronavirus 2019-nCoV has created a siege mentality. BMJ. 2020;368:m516.
    PMid:32033967
11. Ummah KC. Men's Perceptions of Women's Leadership in the Military. Jakarta: UIN Syarif Hidayatullah; 2014. p. 1-131.
12. Vojvodić AR, Dedić G. Quality of life and anxiety in military personnel. Ser J Exp Clin Res. 2017;1(1):1-7.
13. Silva R, Schlichting AM, Schlichting JP, Filho PJ, Adami F, Silva A. Aspects related to quality of life and activity physics of military police officers from Santa Catarina Brazil. Motricidade. 2012;8(3):81-8.
14. Yu H, Li M, Li Z, Xiang W, Yuan Y, Liu Y, *et al*. Coping style, social support and psychological distress in the general Chinese population in the early stages of the COVID-2019 epidemic. Lancet. 2020;2020:1-34.
15. Limcaoco RS, Mateos EM, Fernandez JM, Roncero C. Anxiety, Worry and Perceived Stress in the World Due to the COVID-19 Pandemic COVID-19c, March 2020. Preliminary Results. Salamanca: Biomedical Research Institute of Salamanca; 2020. p. 1-11.
16. Mansourieh AM. Assessing the anxiety level of Iranian general population during COVID-19 outbreak. Asian J Psychiatry. 2020;51:102076.
    PMid:32334409