

Studying Higher Education within Armed Conflict Areas of Thailand: a Study of Post-Traumatic Stress Disorder

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ABSTRACT

Objectives: To compare the prevalence of post-traumatic stress disorder (PTSD) symptoms and examine the associated factors between students who studied at campuses located within the areas affected by Southern Thailand's insurgency, and those in a nearby province.

Material and Methods: This study was of a cross-sectional designed, conducted by self-administered questionnaires; using the Thai version of the PTSD checklist. The subject groups were Prince of Songkla University students who studied at the Pattani Campuses, which are located within the restive areas of Southern Thailand's insurgency, and Hat Yai Campus, which is in a nearby province.

Results: Of all 897 university students, 454 university students studied in Pattani. The prevalence of PTSD symptoms was 30.8%; which is statistically significant, compared with 17.6% of those who studied in Hat Yai (p -value<0.001). The associated factors, in both groups, were perception of stress from the violence due to the insurgency. Moreover, domicile and intention to resign were significantly associated with PTSD symptoms in the Pattani Campus group. However, gender, religion and satisfaction of university teaching were associated factors among university students at the Hat Yai Campus.

Conclusion: Difference of PTSD symptoms among university students, who studied at the campus located in restive areas and a nearby province, was statistically significant. Both groups reported that perception of stress from the violence due to the insurgency was associated with their PTSD symptoms.

Keywords: armed conflict; comparative studies; post-traumatic stress disorder; student

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INTRODUCTION

Within the periods between January 2004 and November 2019; 20,485 violent situations within the restive area of Southern Thailand's insurgency killed 7,074 people, in addition to 13,221 others being injured.¹ The insurgency; which is part of complicated political conflicts, has been ongoing for 15 years in the three provinces of Southern Thailand. Pattani, Narathiwat, Yala and some areas of Songkhla province are still restive areas, which have been dubbed by the Thai media as the 'SBP' standing for: Southern Border Provinces. Local civilians, who have lived with these continuously dangerous circumstances within these areas, have been crucially at risk for many mental disorders; such as, post-traumatic stress disorder (PTSD), and substance-related disorders.² Some of the valuable populations for psychological distress are children and young people (10–25 years old); including, university students who studied at the campuses located in these restive areas; however, no prior study has focused on them specifically.³ Although, prior PTSD studies, regarding the endless violence of the Southern Thailand insurgency, showed atypical manifestations and fluctuation of symptoms^{2,4} most of them focused on children at risk and psychiatric patients, not on normal civilians.^{4,5}

Regarding DSM–5, PTSD is a Trauma and Stressor–Related Disorder. The criteria consists of 4 symptom–groups; intrusion, avoidance, hyper–arousal activity and negative alterations in cognition and mood, after “traumatic events”.⁶ However, it is an arguable psychiatric disorder among experts for definition and symptomatology. Therefore, most people with PTSD cannot access proper treatment, even in high–income countries.⁷ Moreover, a study revealed that PTSD patients represented less accurate memory and more vivid memory of feelings; which could destruct any student's education, and effect overall quality of life.⁸

Thus, this study aimed to compare prevalence of post–traumatic stress disorder symptoms between students who studied at campuses located within the areas affected by Southern Thailand's insurgency, and those who studied in nearby provinces. Also, the researchers intended to examine the associated factors of PTSD disorder symptoms among students who studied at both campuses.

MATERIAL AND METHODS

This research was endorsed by the ethics committee of the Faculty of Medicine, Prince of Songkla University. (REC. 61–071–3–1). This study is a cross–sectional survey, with stratified random sampling. The subject groups were Prince of Songkla University students who studied at the Pattani Campuses, located within the restive areas of Southern Thailand's insurgency⁹ and those at the Hat Yai Campus in a nearby province. The target groups at both campuses were categorized for randomization into 3 classifications of their faculties; social science, health science and pure/applied science.

The single assessment was conducted by self–administered questionnaires. Groups were approached by the first author and research assistants at the lecture rooms. Informed consent was obtained, via both document and verbal consent, to reassure that all participants had an age above from 18 years. The questionnaire related to personal information, and the Thai version of the PTSD checklist (17 Items–Thai PCL).¹⁰ This information was collected within the periods between; the 8th of August through till the 8th of October, 2018. R software package was performed, using descriptive statistics by Wilcoxon rank sum test, chi–square, and Fisher's exact test. Then the author performed multiple logistic regression to examine the associated factors of PTSD disorder. Variables with p–values of less than 0.2 from the univariate analysis were included in the initial model of the multivariate logistic regression analysis. A p–value<0.05 was considered significant.

RESULTS

Demographic data and differences between students who studied in the restive areas (Pattani Campus) and a campus located in a nearby province (Hat Yai Campus)

From 897 students, studying at both campuses (Table 1), most participants were female (80.3% at Pattani Campus and 81.5% at Hat Yai Campus), with 20 years being the median age (19,21). They reported they felt highly satisfied with their studies and the university's teaching (63.4% at Pattani Campus and 59.0% at Hat Yai Campus). However, students at the Pattani Campus declared strong intentions to resign (4.1%), which is more than those who studied at Hat Yai Campus (1.3%) (p -value<0.001). Almost all of them revealed they were healthy; both physically and mentally, without any history of domestic violence. Moreover, most participants, from both campuses, disclosed they had no stress in regards to the insurgency (64.7% at Pattani Campus and 65.1% at Hat Yai Campus)

At the Pattani Campus, most participants were Muslim (76.3%), while 22.3% of students at Hat Yai Campus were Muslim (p -value<0.001). Their own hometowns located in insurgent areas (55.7%), whilst 20.5% of students at Hat Yai Campus did (p -value<0.001). 5.9% of students in restive areas were Malaya, compare with 0.4% at Hat Yai Campus (p -value<0.001).

Prevalence of PTSD symptoms among the students at Pattani and Hat Yai Campuses

(Figure1) A total of 30.8% university students studying in the restive areas were found to have Post-traumatic stress disorder (PTSD) symptoms from the Thai version PCL-check list; comparing with 17.6% of students found at Hat Yai Campus. (Table 2) There was a statistically significant difference (p -value<0.001), with a Median (IQR) of 22 scores (18–32.8) at Pattani Campus, and 19 scores (17–25), which was also significantly different by statistical analysis (p -value<0.001).

Associated factors of PTSD symptoms among university students at Hat Yai and Pattani Campuses

According to Logistic regression for multivariate analysis (Table 3), both groups of students had a perception of stress due to violent situations associated to PTSD symptoms. Students at the Pattani Campus who perceived stress from the insurgency were 1.7 times higher at risk of PTSD (95% CI=1.08–2.69) than those who did not, while students in Hat Yai were 3.0 times higher (95% CI=1.70–5.29).

Students at the Pattani Campus, who had domicile within restive areas, were found to be 1.92 times higher at risk, and those who had intention to resign were at 3.6 times higher risk of PTSD than those who did not (95% CI=1.28–10.72); additionally, increasing age would decrease risks of PTSD symptoms by as much as 0.78 times. However, at the Hat Yai Campus, female students with high satisfaction towards university teaching and being Buddhists had lower risks than male students with a low satisfaction towards university teaching and those being Muslims; as adjusted odd ratio 0.46, 0.03 and 0.41 (95% CI=0.24–0.89, 0.01–0.13 and 0.22–0.75), respectively.

According to the logistic regression for multivariate analysis (Table 3); both groups having a perception of stress due to violent situations showed association with PTSD symptoms. Students who studied in the restive areas, who perceived stress from the insurgency, were at 1.7 times higher risk of PTSD symptoms (95% CI=1.08–2.69), whilst students who studied in a nearby province were 3 times higher than those who did not (95% CI=1.70–5.29).

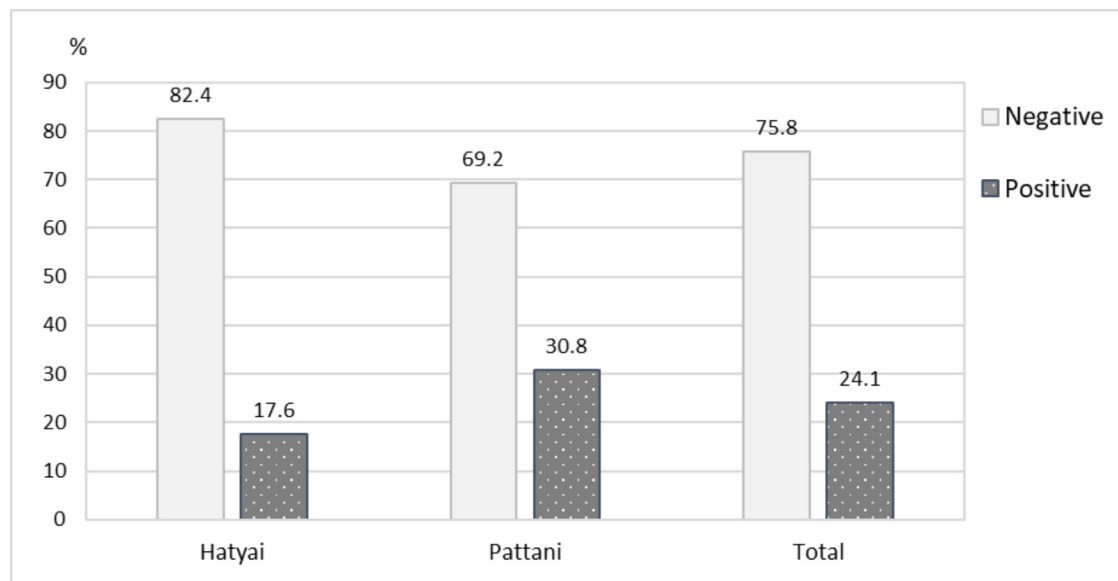
University students who studied at the campus located in Thailand's insurgent areas, and had domicile within restive areas, were found to be 1.92 times higher at risk of PTSD symptoms, and those who had intention to resign were shown to have a 3.6 times higher risk of PTSD symptoms than those who did not (95% CI=1.28–10.12). Additionally, increasing age would decrease risks

Table 1 Comparison between demographic data of students in restive areas (Pattani Campus), and a nearby province (Hat Yai Campus)

Demographic data	Hat Yai Campus (n=454)	Pattani Campus (n=443)	Chi-square p-value
Gender			0.703
Male	84 (18.5)	87 (19.7)	
Female	370 (81.5)	354 (80.3)	
Age: Median (IQR)	20 (19.0, 21.0)	20 (19.0, 21.0)	0.449 ^a
Race			<0.001 ^b
Thai	450 (99.6)	414 (94.1)	
Malaya	2 (0.4)	26 (5.9)	
Religion			<0.001 ^b
Buddhism	347 (76.8)	103 (23.5)	
Muslim	101 (22.3)	334 (76.3)	
Others	4 (0.9)	1 (0.2)	
Hometown			<0.001
Other provinces in southern Thailand	212 (46.8)	117 (27.1)	
Southern border provinces	93 (20.5)	240 (55.7)	
Songkhla	132 (29.1)	64 (14.8)	
Others	16 (3.5)	10 (2.3)	
Teaching's satisfaction			0.144
Low	15 (3.3)	7 (1.6)	
Medium	170 (37.7)	154 (35.0)	
High	266 (59.0)	279 (63.4)	
Intention to resign			<0.001
Never	291 (64.2)	227 (51.4)	
Sometimes	156 (34.4)	197 (44.6)	
Always	6 (1.3)	18 (4.1)	
Underlying physical disease			0.717
No	418 (92.1)	403 (91.2)	
Yes	36 (7.9)	39 (8.8)	
Underlying mental disease			0.624 ^b
No	448 (99.3)	434 (99.8)	
Yes	3 (0.7)	1 (0.2)	
Domestic violence			0.506
No	431 (97.5)	425 (98.4)	
Yes	11 (2.5)	7 (1.6)	
Perception of stress regarding insurgent situations			0.974
Yes	154 (34.9)	153 (35.3)	
No	287 (65.1)	281 (64.7)	

Note: There were missing values for some variables

a = p-value from Wilcoxon rank sum test; b = p-value from Fisher's exact test



Note: positive = significant PTSD symptoms; negative = non-significant PTSD symptoms

Figure 1 Prevalence of post-traumatic stress disorder (PTSD) symptoms among the university students studied in restive area (Pattani) and a nearby province (Hat Yai)

Table 2 Comparison between prevalence of post-traumatic stress disorder (PTSD) symptoms among the students at Hat Yai Campus and Pattani Campus

Screening test	Hat Yai Campus (n=454)	Pattani Campus (n=443)	Chi-square p-value
PTSD symptoms			<0.001
Negative (1–29 score)	374 (82.4)	306 (69.2)	
Positive (≥ 30 score)	80 (17.6)	136 (30.8)	
Median (IQR)	19 (17.0–25.0)	22 (18.0–32.8)	<0.001 ^a

a = p-value from Wilcoxon rank sum test; PTSD = post-traumatic stress disorder

of PTSD symptom by as much as 0.78 times per year. However, at the Hat Yai Campus, female, and Buddhist students with high satisfaction towards university teaching had lower risks than male and Muslim students with a low satisfaction towards university teaching [adjusted odds ratio (95%CI) 0.46 (0.24–0.89), 0.03 (0.01–0.13), and 0.41 (0.22–0.75), respectively].

DISCUSSION

Although this study is not the first survey of PTSD in the restive areas of Southern Thailand's insurgency, these prior studies were conducted in risky groups; such as children, widows who lost their husbands from violent situations and psychiatric patients; such as those with substance-related disorders.^{2,5} This survey may be the first study which focused on the seem-to-be normal

Table 3 Associated factors of post-traumatic stress disorder (PTSD) among university students at Hat Yai and Pattani Campus

Demographic data	Hat Yai Campus		Pattani Campus	
	Crude OR (95% CI)	Adjusted OR (95% CI)	Crude OR (95% CI)	Adjusted OR (95% CI)
Age			0.79 (0.67, 0.94)	0.78 (0.65, 0.93)
Gender				
Male	1	1		
Female	0.60 (0.33, 1.10)	0.46 (0.24, 0.89)		
Religion				
Muslim	1	1		
Buddhism	0.53 (0.31, 0.93)	0.41 (0.22, 0.75)		
Hometown				
Other provinces in southern Thailand			1	1
Southern border provinces			2.07 (1.23, 3.48)	1.92 (1.13, 3.27)
Songkhla			1 (0.47, 2.12)	0.88 (0.40, 1.90)
Others			0 (0, Inf)	0 (0, Inf)
Teaching's satisfaction				
Low	1	1		
Medium	0.03 (0.01, 0.12)	0.02 (0.01, 0.12)		
High	0.03 (0.01, 0.13)	0.03 (0.01, 0.13)		
Intention to resign				
Never			1	1
Sometimes			1.43 (0.92, 2.22)	1.37 (0.87, 2.16)
always			2.96 (1.12, 7.84)	3.60 (1.28, 10.12)
Perception of stress according to violence situations				
No	1	1	1	1
Yes	2.81 (1.68, 4.73)	3.00 (1.70, 5.29)	1.75 (1.14, 2.71)	1.70 (1.08, 2.69)

OR = odds ratio; CI = confidence interval; PTSD = post-traumatic stress disorder

population in these areas, and the prevalence of PTSD symptoms were, surprisingly, the highest ever reported in Thailand's insurgent areas (30.8%). University students who studied within the areas reported more prevalence of PTSD symptoms than children at risk (28.8)⁵ Moreover, this also applied to those in at the campus located in a nearby province; wherein, the prevalence found in Hat Yai from this survey (17.6%) were almost as high as the PTSD prevalence reported among the car bomb victims of the explosion at Lee Gardens Plaza Hotel's in 2012 (19.9%).¹¹ However, each study used different screening-tests, which may have had an effect on the results; moreover, PTSD

symptoms could be finally diagnosed to be other various psychiatric disorders; such as, generalized anxiety disorder, major depressive disorder and so forth.¹²

Most studies of PTSD, in foreign countries, revealed that those of the female gender were more at risk than males.¹³ In contrast, this survey found that female students were less likely to develop PTSD symptoms. This finding was very interesting in; context of Southern Thai culture; such as, the philosophy of living and religious beliefs parenting styles and should be considered. A study conducted in the same population reported self-sufficiency, according to His Majesty King Bhumibol Adulyadej's Sufficiency Economy

Philosophy, which exhibited a significant inverse association with PTSD symptoms.¹⁴ Furthermore, more studies to implement preventive strategies of mental illness within insurgent areas; especially PTSD, should be undertaken.

Additionally, the results from this study suggested that university staff at both campuses; especially supervisors and preceptors, should have mental health awareness on the students who complain about their teaching and need to resign from their higher education. as PTSD symptoms may be one of their hidden reasons. Therefore, said staff should take this into consideration as a matter of concern and seek help from health care providers, if any mental disorders are suspected.

Clinical implication

Satisfaction towards teaching and intention to resign were significantly associated with PTSD symptoms. These factors showed that university staff have played important roles for student's mental health. Every, single decision to resign should be dissected for mental adversities; including PTSD. Additionally, both students and staff should be more educated, so as to raise awareness of mental well-being, and psychiatric disorder screening. Moreover, the high prevalence found in this study represented an urgent need for mental health services at university campuses; especially those located in insurgent areas. It is also important that mental health care providers should genuinely understand the different cultural contexts of the students. In addition, university staff themselves should be investigated for PTSD symptoms along with any other mental difficulties, since we previously underestimated mental illnesses in the seem-to-be normal population of university students.

Limitations

The study was cross-sectional, using only a single survey. We knew the magnitude of mental problems among university students in the restive area of Thailand's insurgency as PTSD symptoms; however, the current gold standard to diagnose PTSD has been a psychiatrist's

diagnosis.¹⁵ The associated factors found in the study, could not tell which is cause and which one is result. Therefore, further studies should be cohort studies, which follow up the participants for explicit diagnosis until recovery. Additionally, qualitative or mixed-methodology studies should be conducted to focus on "prevention" for mental difficulties among the normal population in the insurgent areas of Southern Thailand.

CONCLUSION

The comparison of prevalence of PTSD symptoms among university students who studied at the campus located in restive areas of Southern Thailand's insurgency, and a nearby province was statistically significant: 30.8% and 17.6%, respectively. Both groups reported that perception of stress from violence in accordance to insurgency was associated to their PTSD symptoms. Age, domicile and intention to resign were associated factors of PTSD symptoms among those who studied in the restive areas.

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CONFLICT OF INTEREST

Both authors declare no conflicts of interest. This project was fully granted by the Faculty of Medicine, Prince of Songkla University, Thailand.

REFERENCES

1. Deep South watch. Summary of incidents in Southern Thailand, November 2019 [homepage on the Internet]. Pattani: The School [cited 2020 Jan 1]. Available from: <https://deepsouthwatch.org/en/node/11942>.
2. Jatchavala C, Vittayanont A. Post-traumatic stress disorder symptoms among patients with substance-related disorders in the restive areas of south Thailand insurgency. *Songkla Med J* 2017;35:121-32.
3. Mental health foundation. Children and young people [homepage on the Internet]. London: Mental Health Foundation; 2020 [cited 2020 Jan 1]. Available from: <https://www.mentalhealth.org.uk/a-to-z/c/children-and-young-people>.
4. Jatchavala C, Vittayanont A, Ngamkajornviwat A. Post-traumatic disorder and resilience in substance-related disorders for patients in the south Thailand insurgency. *ASEAN J Psychiatry* 2018;19:2231-7805.
5. Pothisat C. Post-traumatic stress disorder (PTSD) symptoms in children of police officers working in the unrested areas of southern Thailand. *J Psychiatr Assoc Thailand* 2012;57:323-34.
6. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. Washington: American Psychiatric Publishing; 2014.
7. Bryant RA. Post-traumatic stress disorder: a state-of-the-art review of evidence and challenges. *World Psychiatry* 2019;18:259-69.
8. Wu KK, Cho VW, Chow FL, Tsang AP, Tse DM. Posttraumatic stress after treatment in an intensive care unit. *East Asian Arch Psychiatry* 2018;28:39-44.
9. Prince of Songkla University. Pattani campus [homepage on the Internet]. Songkhla: Prince of Songkla University; 2020 [cited 2020 Jan 1]. Available from: <https://en.psu.ac.th/about-psu/campuses/pattani>.
10. Chawanakrasaesin P, Rukskul I, Ratanawilai A. Validity and reliability of Thai version of the posttraumatic stress disorder checklist. *J Psychiatr Assoc Thailand* 2011;56:395-402.
11. Wiwattanaworaset P, Pitanupong J. Prevalence and association factors in posttraumatic stress disorder following a bombing. *J Psychiatr Assoc Thailand* 2015;60:209-20.
12. Jaguga F, Mwangi A, Mahugu M, Songole R, Gakinya B, Ayuku D, et al. Post-traumatic stress disorder, major depressive disorder and generalized anxiety disorder, among university students following a terrorist attack in Kenya. *East Afr Med J* 2018;95:1767-75.
13. Olff M. Sex and gender differences in post-traumatic stress disorder: an update. *Eur J Psychotraumatol* 2017;8:1351204.
14. Jatchavala C, Vittayanont A. King Bhumibol Adulyadej's sufficiency economy philosophy and post-traumatic stress disorder among higher-education students from the armed conflict region of Thailand. *Kesmas* 2021;16:207-12.
15. da Silva HC, Furtado da Rosa MM, Berger W, Luz MP, Mendlowicz M, Coutinho ESF, et al. PTSD in mental health outpatient settings: highly prevalent and under-recognized. *Braz J Psychiatry* 2019;41:213-7.