Original Article

Songklanagarind Medical Journal

อาการความเครียดภายหลังเหตุสะเทือนขวัญในผู้ป่วยสารเสพติดภายใต้สถานการณ์ความไม่สงบจังหวัดชายแดนภาคใต้

Post-Traumatic Stress Disorder Symptoms among Patients with Substance-Related Disorders in the Restive Areas of South Thailand Insurgency

ชนกานต์ ชัชวาลา, พ.บ.*, อานนท์ วิทยานนท์, พ.บ.

Chonnakarn Jatchavala, M.D.*, Arnont Vittayanont, M.D.

ภาควิชาจิตเวชศาสตร์ คณะแพทยศาสตร์ มหาวิทยาลัยสงขลานครินทร์ อ.หาดใหญ่ จ.สงขลา 90110 ประเทศไทย

Department of Psychiatry, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla 90110, Thailand.

*E-mail: jchonnak@gmail.com

Songkla Med J 2017;35(2):121-132

บทคัดย่อ:

วัตถุประสงค์: เพื่อศึกษาข้อมูลทางคลินิคในระดับปฐมภูมิ และความชุกของอาการที่เข้าได้กับโรคเครียดภายหลังเหตุภัยพิบัติของผู้ป่วยสารเสพติดที่อาศัยอยู่ภายในพื้นที่สถานการณ์ความไม่สงบชายแดนภาคใต้

วัสดุและวิธีการ: เป็นการศึกษาเชิงพรรณนาภาคตัดขวาง สำรวจโดยใช้แบบสำรวจข้อมูลส่วนตัว แบบสำรวจการใช้สารเสพติด แบบบันทึกประสบการณ์เหตุสะเทือนขวัญ และแบบคัดกรองเพื่อการวินิจฉัยโรคเครียดภายหลังภัยพิบัติ ในผู้ป่วยโรคสารเสพติดซึ่งมารับบริการโรงพยาบาลธัญรักษ์ปัตตานี เก็บข้อมูลโดยผู้ช่วยวิจัย คือ พยาบาลจิตเวชประจำโรงพยาบาลธัญรักษ์ปัตตานี ระหว่างวันที่ 1 เมษายน-30 มิถุนายน พ.ศ. 2559 ก่อนนำมาวิเคราะห์ข้อมูลของผู้ป่วยด้วยสถิติเชิงพรรณนา

ผลการศึกษา: ผู้ป่วย 92 ราย เป็นเพศชายทั้งหมด อายุเฉลี่ย 28.8±7.3 ปี โดยมากสถานภาพโสด นับถือศาสนาอิสลาม และจบการศึกษาชั้นประถมศึกษา ส่วนใหญ่ปฏิเสธประวัติการใช้สารเสพติดในครอบครัว หากว่ามีผู้เสพมักจะเป็นพี่หรือน้องเพศชาย ไม่มีประวัติโรคจิตเวชอื่นๆ ที่ถูกบันทึกอย่างเป็นทางการในโรงพยาบาล สารเสพติดที่ใช้มากที่สุดคือ แอมเฟตามีน ร้อยละ 36.9 และสารเสพติดประเภทฝิ่น ร้อยละ 30.4 ผู้ร่วมวิจัยรายงานด้วยว่ามักใช้ในปริมาณมาก ความชุกของอาการที่เข้าได้กับโรคเครียดหลังภัยพิบัติพบที่ร้อยละ 4.3 และยังพบว่าผู้ป่วย 4 รายข้างต้นจะเกิดอาการหวาดกลัวตื่นตระหนกอย่างมากทุกครั้งที่รับทราบเหตุความรุนแรงจากสถานการณ์ความไม่สงบจังหวัดชายแดนภาคใต้ และ 3 ราย จาก 4 ราย ระบุว่าอาการหวาดกลัวตื่นตระหนก

ได้รับทุนสนับสนุนการวิจัยจากกองทุนวิจัยคณะแพทยศาสตร์ มหาวิทยาลัยสงขลานครินทร์ ปีงบประมาณ 2559

รับต้นฉบับวันที่ 3 ตุลาคม 2559 รับลงตีพิมพ์วันที่ 1 กุมภาพันธ์ 2560

ดังกล่าวเป็นเพราะไม่ได้รับความช่วยเหลืออย่างทันท่วงที เช่นเดียวกับที่ตนเองหรือครอบครัวเคยประสบเหตุการณ์ความรุนแรง เคยได้รับบาดเจ็บ หรือเคยเห็นเพื่อนร่วมงาน/เพื่อนบ้านเสียชีวิตหรือบาดเจ็บสาหัสมาก่อน

สรุป: ผู้ป่วยสารเสพติดในพื้นที่ความไม่สงบจังหวัดชายแดนภายใต้โดยมากใช้แอมเฟตามีนและสารเสพติดประเภทฝิ่น โดยไม่พบบันทึกโรคร่วมทางจิตเวช แต่พบความชุกของอาการที่เข้าได้กับโรคเครียดภายหลังเหตุภัยพิบัติอยู่ที่ร้อยละ 4.3 ของผู้เข้าร่วมวิจัย และส่วนมากของประชากรที่เกิดภาวะดังกล่าวเคยประสบเหตุการณ์ความรุนแรงกับตนเองหรือครอบครัว โดยได้รับบาดเจ็บโดยตรง หรือเห็นเพื่อนบ้าน/เพื่อนร่วมงานเสียชีวิตหรือบาดเจ็บสาหัส

คำสำคัญ: โรคเครียดภายหลังเหตุสะเทือนขวัญ, สถานการณ์ความไม่สงบในจังหวัดชายแดนภาคใต้, สารเสพติด

Abstract:

Objective: To study the primary clinical characteristics and prevalence of post-traumatic disorder (PTSD) symptoms among patients with substance-related disorder living within the areas of Thailand, affected by insurgency.

Material and Method: This study was a descriptive, cross-sectional survey based on self-administered questionnaires which included questions relating to: personal information, traumatic experiences and the Thai version of post-traumatic stress disorder check-list (Thai PCL.) The subjects were patients with substance-related disorders at Thanyarak Pattani Hospital. This information was gathered by psychiatric nurses during the period within the periods 1st of April through 30th of June, 2016. Descriptive statistics were used to analyze the demographic characteristics of the patients

Results: Ninety-two patients were enrolled in the study, all male with a mean age of 28.8±7.3 years. They were mostly single, Muslim and had graduated from elementary school. Most of them denied a family history of addiction, however, many indicated one or more male siblings had misused some illegal drug. No psychiatric disorder was diagnosed or recorded by the hospital. The most common substances used among these substance-related disorders patients were methamphetamines (36.9%) and opioids (30.4%) with "heavy use". The prevalence of PTSD symptoms by the Thai PCL screening test was 4.3% (n=4). The 4 patients with a positive PCL result, reported that they felt terrified whenever violent situations in the unrest areas were announced. Three of them also stated for always felt extreme panic in order to delay evacuation, as well as experiencing a direct threat to their own life, or that of their family, having seen serious injuries and/or death of their peers and neighbors.

Conclusion: The most common substances used in the areas affected by the insurgency of southern Thailand were methamphetamines and opioids. There was no dual diagnosis of psychiatric disorders recorded and the prevalence of PTSD symptoms among patients with substance related disorders was 4.3%. Most of those, who were suspected of having PTSD, had experienced threats to themselves or family, witnessed serious injuries or the death of peers and neighbors.

Keywords: post-traumatic stress disorder, south Thailand insurgency, substance

Introduction

Since 2004, the south Thailand insurgency, or situation of unrest, which is in part due to political conflict, has continuingly escalated creating violence in the 3 most southern provinces of southern Thailand: Patani, Yala and Narathiwat (which the Thai media has dubbed the three Southern Border Provinces or SBP), as well as in some parts of Songkhla province.

From 2004 to 2014, 14,701 violent situations were officially reported with 6,297 people killed and another 11,375 injured in total.[1] Local people in these areas, who have to live under these ongoing, stressful circumstances, have undergone a significant increase in various types of psychological distresses, for example; depression and post-traumatic stress disorder.[2]

In Thailand, substance abuse occurs nationwide in every group of gender, age and occupation. However, the prevalence of use has been highest in the south of Thailand.[3] Assanangkornchai et al. also found that substance abuse had been increasing among Thai adolescents living in southern Thailand, with a 5.0-7.0% life time prevalence. Krathom (a local addictive plant) along with, cannabis has been the most commonly used illicit substances in southern Thailand,[4] but recent studies have important the increasing use of various more modern drugs, such as; ecstasy, ice, ketamine and cocaine.[3] The Thai government states all of these substances are regarded as an active problem within Thailand.[4]

The DSM-5 identifies two major types of, post-traumatic stress disorder (PTSD), Trauma-and Stressor-Related Disorders. Following a traumatic experience, PTSD criteria consists of 4 symptom-clusters: intrusion, avoidance, negative alterations in cognitions and mood, and alterations in arousal and reactivity[5] Jitnupong[6] stated that the prevalence of PTSD among non-psychiatric patients in the SBP of Thailand at a hospital in Songkhla was 2.8%. However, Pothisat[7] found the prevalence in children was 18.2% in 2012. In 2012, a car bomb which exploded at Lee Gardens Plaza Hotel, Songkhla province. Wiwattanaworaset and Pitanupong[8] reported that 23.4% of these victims, had significant PTSD symptoms 1 month after the explosion. The symptom manifestations were associated with the victim's religion, present region of accommodation, physical illness and severity of injury. However, by 6 months after the bomb, only 1.4% of the victims still had PTSD symptoms.[8]

There are many studies that indicate that substance-related disorders are highly comorbid with PTSD. This is because PTSD is a complex disorder; consisting of various symptoms, and characterized by different physiological, behavioral and psychological processes. Trautmann et al.[9] revealed that all life-time PTSD symptoms were associated with current alcohol and nicotine dependence in deployed German soldiers[9], whilst 25.3% of Germans with alcohol dependence and 29.9% with drug dependence were reported to have PTSD.[10] Even though, 22.8% of these German participants were sub-syndrome and 18.3% of them could not indicate the premise traumatic exposures, Driessen et al.[10] indicated that PTSD appeared as an independent risk factor for a negative outcome of substance related disorders.[10]

To date, Self-medication has been presumed as a symptom-level explanatory model of substance use in PTSD. This conceptualization was confirmed by the study of Leeies et al.[11], which revealed that 20% of patients with PTSD used substances to relieve their PTSD symptoms. One study reported that fluctuations of symptoms were associated with weekly substance use.[12] Another model of substance use concurrent, with PTSD, called the shared liability model, assumes that individuals with greater common obligations would be more likely to develop both disorders, because; they share the same risk factors, for example: genetic loading.[13]

Although, PTSD has been reported to be strongly associated with substance use in many previous studies, conducted in both western and eastern countries, no studies have been conducted examining substance abuse and PTSD in the area from this existing unrest area of Thailand. This study was undertaken to examine substance abuse and PTSD in the southern border provinces of Thailand, with a goal of promoting detection of causative or co-morbid psychiatric illnesses, which could decrease the incidence of substance-related disorders in the areas of the insurgency in Thailand.

Objectives of this study: (1) To survey the prevalence of PTSD symptoms in patients with substance-related disorders in the areas of the southern Thailand insurgency (2) To study clinical characteristics of patients with substance-related disorders in the areas of the southern Thailand insurgency

Material and Method

The study was a descriptive cross-sectional survey, in which a self-administered questionnaire was given to selected psychiatric patients by psychiatric nurses from the 1st of April through the 30th of June 2016.

Population

All outpatient clinic and rehabilitation ward patients at the governmental institute on drug abuse treatment at Thanyarak Pattani Hospital, which is located, within the areas of the southern Thailand insurgency, were recruited.

Inclusion criteria

1. Patients who were able to understand and communicate in Thai.
2. Patients of the ages from 18 to 60 years of age.
3. Patients who were diagnosed with substance-related disorders classified in 10th International Statistical Classification of Diseases and Related Health Problems.
4. Patients who agreed to complete the questionnaires.

Exclusion criteria

1. Patients who were legally adjudged quasi-incompetent or incompetent.
2. Patients who were terminally ill.
3. Patients who met the criteria for moderate to severe mental retardation or severe receptive or expressive language disorders.
4. Patients who had severe psychotic or mood symptoms during the period of the study.
5. Patients who were had diagnosed nicotine-related disorders as the main diagnosis.

Criteria for discontinuation

1. Participants who refused to complete the questionnaire during their interview.
2. Participants who were adjudged unable to continue due to instability or changes in behavior during their interview by the psychiatric nurse.

Size of population: $n=[Z^2\ p(1-p)]/d^2$

Where Z is the confidence interval; if we choose 95% as the area under the normal curve, it will be 1.96. d is the expected margin of error (it will be 0.1) and p is the expected prevalence of the variable being studied (it will be 0.182).[14]

From the study: The prevalence of post-traumatic stress disorder symptom in children of police officers working in the unrested areas of the southern provinces of Thailand was 18.2% reported. Therefore, n should be 57.

Study tools and outcome measurement: (1) Personal information and the traumatic experience questionnaire, which followed the PsySTART Rapid Mental Health Triage and Incident Management System[15] divided into 2 parts;

patient's self- reporting and medical records obtained by the research-assistants. (2) The Thai version of the Post-traumatic stress disorder check-list (Thai PCL), which is a 17-item, standardized self-report rating scale examining the three-month period symptoms of PTSD.[16] For the Thai version, an internal consistency reported Cronbach's alpha coefficient of 0.961. The cut-off point was reported to be at 50, with 100% sensitivity and 92% specificity.[17]

Data collection: After this project proposal was endorsed by the Ethic Committee of Prince of Songkla University (REC 58-335-03-1), all research assistants were trained by the researchers for interviewing and administration of the questionnaires before the 1st of April 2016. The researchers' interviewing and questionnaire administration were validated by observation once a month. The participants were approached by the research assistants who has been psychiatric nurses, before completing the self-administered questionnaire

Statistical analysis: All statistical procedures were performed using the R software package. Demographic characteristics of the participants and prevalence in frequency, percentage, articulate mean and standard deviation are presented by descriptive statistics.

Results

1. Demographic data of patients with substance-related disorder within the areas of the southern Thailand insurgency.

According to the survey (Table 1), all of the 92 participants were Thai males (100.0%) at an average age of 28.8 years (S.D.=7.3) and lived in the unrest areas of southern Thailand (47.8% in Pattani, 39.1% in Narathiwat, 5.4% in Yala and 4.4% in Songkhla). Most were single (52.0%) and Muslim (66.0%). Thirty-eight percent had graduated from primary school and 26.0% had reach junior high school. Seventy point seven pencent were mostly employed with 23.9% unemployed. Ninety-two point four of them had no known physical disease and 93.5% said that they had no known mental illnesses: known medical diseases included glucose-6-phosphate dehydrogenase deficiency, thyroid disease, hypertension and skin disease as underlying diseases. Known psychiatric disorders were bipolar disorder, drug induced psychosis and hallucinations. (each one was 25.0% and one participant could not identify his own exact diagnosis) 81.5% of participants denied that they had a family history of drug abuse. With 76.4% of the rest reported that one or more male siblings had engaged in substance abuse 97.8% of participants had no family history of suicidality. Most of these participants reported no prior history of domestic violence, with only 6.5% of them experienced physical abuse among family members. However, none of them indicated sexual harassment and 90.2% of participants defined their own families as having a 'good' relationship (Table 2). The most common substances used among these participants were methamphetamines, heroin and a local polysubstance usage called '4x100' (36.9%, 30.4% and 19.6%). Moreover, 54.4% of them described their frequency of substance use as "heavy use" (more than 4 times per week).

The most participants indicated that the accessibility of illegal drugs was "easy" in their communities (85.9%). Eighty-eight percent of their peers always used substances, and most of the participants recognized peer influence on substance abuse (6.3%). Throughout their treatment and rehabilitation regarding substance-related disorders, only 1.1% felt uncertain for relapse prevention course. Participants who did not feel confident concerning a positive outcome from their treatment programs stated that the key factors of recovery were

themselves (60.9%), their families (25.0%) and authorities or peers (6.5%). Eighty-five point nine of them did not believe that the stressful environment of the unrest areas in the SBP was a cause of their substance use.

On the subject of traumatic experience and perception of the violencewhich occurred in the unrest area of the SBP (Table 3), almost half of the participants had witnessed death or severe injuries of others (47.8%). 34.8% of them had directly experienced violent situations, their peers or neighbors were found with serious injuries. Participants supposed that their friend died from the regional violence due to terrorism in the SBP (29.3%). Most of them declared feelings of extreme fear following every act of regional violence being announced to the public (28.3%). A quarter of the participants experienced delayed evacuation, or felt trapped and 19.6% of them had felt a direct threat to their own life and/or their family members.

2. Prevalence and characteristics of PTSD symptoms in patients with substance-related disorders in the areas of the southern Thailand insurgency.

Of the 92 participants, 94.6% screened as negative by the PCL check-list, with only 4 participants (4.3%) were suspected of suffering from PTSD with PCL scores of more than 50 (Table 4). Due to the PTSD screening check-list, 75.0% of those who were positive for PTSD symptoms had directly experienced violent situations, and had seen death or the infliction of severe injuries to their neighbors or peers. All of those, who were screened with positive PTSD symptoms, reported that they felt terrified whenever they heard or saw news of regional violence in the SBP. Moreover, and 3 of the 4 felt extreme panic and trapped during these broadcasts. They had experienced threats directly to their own life and/or to family members with previously delayed evacuation (Table 5).

Table 1 Demographic data (n=92)

Demographic information	Number (%)
Gender	
Male	92 (100.0)
Marital status	
Single	52 (56.5)
Married	26 (28.3)
Separated	6 (6.5)
Divorced/widowed	8 (8.7)
Ethnicity	
Thai	87 (94.6)
Malay	5 (5.4)
Religion	
Buddhist	26 (28.3)
Muslim	66 (71.7)
Present address (Province)	
Pattani	44 (47.8)
Narathiwat	36 (39.1)
Yala	5 (5.4)
Songkhla	4 (4.4)
Missing value	3 (3.3)
Graduation	
Uneducated	2 (2.2)
Primary school	38 (41.3)
Middle school	26 (28.3)
High school/certificate of vocational education	15 (16.3)
Certificate of high vocational education	4 (4.3)
Bachelor or higher degree	5 (5.4)
Missing value	2 (2.2)
Occupation	
Unemployed	22 (23.9)
Agriculture/fishery	6 (6.5)
Personal business/merchandise	15 (16.3)
Bureaucrat/state enterprise officer	3 (3.3)
Rubber tapper	7 (7.6)
Employee	34 (37.0)
Student	2 (2.2)
Missing value	3 (3.2)
Known medical conditions	
No	85 (92.4)
Yes	5 (5.4)
Missing valued	2 (2.2)

Table 1 (Continued)

Demographic information	Number (%)
Reported medical disease	
G6PD	1 (20.0)
Thyroid disease	1 (20.0)
Hypertension	1 (20.0)
TB	1 (20.0)
Skin disease	1 (20.0)
Known psychiatric illnesses	
No	86 (93.5)
Yes	4 (4.3)
Missed value	2 (2.2)
Reported psychiatric disease	
Bipolar disorder	1 (25.0)
Drug induced psychotic disorder	1 (25.0)
Un-identified psychiatric condition	1 (25.0)
Hallucination	1 (25.0)
Family history of mental illness	
No	88 (95.6)
Yes (Schizophrenia)	1 (1.1)
Missing valued	3 (3.3)
Sequence among siblings	
The only child	5 (5.4)
The eldest child	32 (34.8)
Middle child	12 (13.0)
The youngest child	18 (19.6)
Other	25 (27.2)
Family history of substance use	
No	75 (81.5)
Yes	17 (18.5)
Identified family member(s) with substance use	
Elder brother(s)	5 (29.4)
Younger brother(s)	8 (47.0)
Father	1 (5.9)
Uncle	1 (5.9)
Cousin(s)	1 (5.9)
Mother's sibling(s)	1 (5.9)

Table 1 (Continued)

Demographic information	Number (%)
Family history of suicidality	
No	90 (97.8)
Yes	2 (2.2)
Family member(s) with suicidality	
Unidentified relative	1 (50.0)
Father	1 (50.0)
History of domestic violence	
No	85 (92.4)
Yes	6 (6.5)
Missing value	1 (1.1)
History of sexual abuse	
None	92 (100.0)
Perceived family relationship	
Good	83 (90.2)
Bad	9 (9.8)
Most frequently used substance	
Methamphetamine	34 (36.9)
Heroin	28 (30.4)
Cannabis	2 (2.2)
Kratom	5 (5.4)
Anxiolytic	1 (1.1)
Polysubstance (4x100)	18 (19.6)
Other	4 (4.4)
Frequency of substance use at last 1 month	
Never	11 (12.0)
≤1	5 (5.4)
2-4	7 (7.6)
2-3 per week	19 (20.6)
≥4 per week	11 (12.0)
Every day	39 (42.4)
Accessibility of illegal drug in community	
Difficult	13 (14.1)
Easy	79 (85.9)
Substance use among peers	
No	11 (12.0)
Yes	81 (88.0)

Table 1 (Continued)

Demographic information	Number (%)
Peer's influence on substance use	
No	34 (37.0)
Yes	58 (63.0)
Confidence of substance treatment regarding relapse prevention	
Assured	50 (54.3)
Uncertain	1 (1.1)
Confused	41 (44.6)
The key factor of relapse prevention program	
Own self	56 (60.9)
Family	23 (25.0)
Authority or peer	6 (6.5)
Higher power or God	2 (2.2)
Uncertain	4 (4.3)
Missing value	1 (1.1)
Effects of unrested situation on substance use	
Agree	12 (13.0)
Disagree	79 (85.9)
Missing value	1 (1.1)

G6PD=glucose-6-phosphate dehydrogenase deficiency
TB=tuberculosis

Table 2 Psychiatric diagnosis (hospital record, using ICD-10)

Diagnosis	Number (%)
Other stimulant abuse	47 (51.1)
Poly substance drug (psychoactive substance related disorder)	35 (38.0)
Opioid related disorder	12 (13.0)
Cannabis related disorder	6 (6.5)
Sedative hypnotic or anxiolytic related disorder	5 (5.4)

Table 3 Traumatic experience and perception in the area of southern Thailand insurgency (n=92)

Traumatic experience and perception	Number (%)
Traumatic experience	
Directly experience the violence situation	32 (34.8)
Saw death or serious injury of other(s)	44 (47.8)
Separated from family during the violence	4 (4.3)
Direct threat to life of self	4 (4.3)
Direct threat to life of family member(s)	5 (5.4)
Serious injury of neighbor(s) and peer(s)	32 (34.8)
Home not livable due to violence situation	7 (7.6)
Death of family member(s)	2 (2.2)
Death of neighbor(s) and peer(s)	27 (29.3)
Death of pet(s) or vehicle(s) loss	6 (6.5)
Family member(s) currently missing	3 (3.3)
Violence perception	
Directly threat to life of self and family member(s)	18 (19.6)
Felt extremely panic	16 (17.4)
Trapped or delayed evacuation	23 (25.0)
Felt terrified for knowing violence situation	26 (28.3)

Table 4 Post traumatic stress screening by using Thai version of post-traumatic stress disorder check-list (n=92)

Result	Number (%)
Negative (score 1-49)	87 (94.6)
Positive (score≥50 s)	4 (4.3)
Missing value	1 (1.1)

Table 5 Traumatic experience and perception in the area of southern Thailand insurgency: categorized by PTSD screening results (n=91)

Traumatic experience and perception	Number (%)	
	Negative (n=87)	Positive (n=4)
Traumatic experience		
Directly experience the violence situation	28 (32.2)	3 (75.0)
Saw death or serious injury of other(s)	40 (46.0)	3 (75.0)
Separated from family during the violence	3 (3.4)	1 (25.0)
Direct threat to life of self	3 (3.4)	1 (25.0)
Direct threat to life of family member(s)	4 (4.6)	1 (25.0)
Serious injury of neighbor(s) and peer(s)	29 (33.3)	3 (75.0)
Home not livable due to violence situation	6 (6.9)	1 (25.0)
Death of family member(s)	1 (1.1)	1 (25.0)
Death of neighbor(s) and peer(s)	24 (27.6)	3 (75.0)
Death of pet(s) or vehicle(s) loss	5 (5.7)	1 (25.0)
Family member(s) currently missing	2 (2.3)	1 (25.0)
Violence perception		
Directly threat to life of self and family member(s)	14 (16.1)	3 (75.0)
Felt extremely panic	12 (13.8)	3 (75.0)
Trapped or delayed evacuation	20 (23.0)	3 (75.0)
Felt terrified for knowing violence situation	21 (24.1)	4 (100.0)

Discussion

This study is the first survey of PTSD in the population with substance-related disorders in Thailand, and the first conducted explicitly in the area of unrest and insurgency in southern Thailand. All of the participants were civilians, living as usual in communities where there are ongoing spates of violence in Thailand's SBP.[1] For these reasons, this survey in the SBP addiction center is distinctive and different from other studies in Thailand and abroad. Most previous studies of PTSD and have examined on substance use in veteran, children and adolescents.

Unlike the study by Assanangkornchai et al. in 2008[3], methamphetamines were more popular than krathom and cannabis usage in these patients with substance-related disorders. We also found that the prevalence of opioid-related disorders was higher than in other studies and 54.4% of all participants could be classified as "heavy use".[3,4]

This would indicate that there is a need, changing prevention policies and intervention programs against substance-related disorders, and re-organized recovery program. Not only are suggestions urgently needed for a wide-ranging education program to intervene in the progression of diseases, but completing basic education itself should be more stringently enforced, since lower education levels are associated with heavier drug use.[18] Almost half of the participants in this study had only graduated from primary school. Only 54.3% of them

meeting the standards of by the National Education Act of 2002[19], which require all Thai children having to graduate from at least junior high school (9 years of Thai compulsory education). Moreover, male siblings were reported as having been substance abuser, which may endorse the shared liability model of substance-related disorders such as genetic factor[13], as well as most of the participants indicated they had a "good family relationship". Therefore, family integration into recovery interventions may be advantageous for these patients.

With regards to the model of self-medication, which dual psychiatric diagnosis should be recognized for recovery programs[11], we noticed that the institute record did not refer to any mental illness, except substance-related disorders. This gap may have an effect on the efficacy of addiction treatment and relapse prevention, PTSD is high comorbid with substance misuse. This study presumed prevalence of PTSD among patients with substance-related disorder (4.3%) was comparatively higher than patients at Songklanagarind Hospital's outpatient clinics in 2010 (2.8%).[6] The survey also discovered a higher prevalence than a previous study of post-traumatic stress disorder among Vietnamese refugees, which is about 3.5% in Australia.[20] However, another study found the prevalence of PTSD in patients with substance-related disorder to be lower than PTSD symptoms in children in the same unrest area (18.2%).[7] Sub-syndrome representation, fluctuation of PTSD symptoms due to substance effects and difference of age ranges may impact on the results[10,12], since children and adolescents tend to more commonly develop PTSD and are also misdiagnosed more often than adults.[21] In addition, the degree of exposure caused by the participant's location and proximity to traumatic experiences is associated with the PTSD trajectory. For instance, the prevalence of PTSD in general population, who lived nearer the Chernobyl nuclear reactor site was 2.4%, compared with 0.4% of those 800 km's away.[22]

To sum up, for the best outcome of mental health among people at risk of mental illness[2], a more detailed study monitoring the situation in the SBP of Thailand would be practically beneficial for screening both substance misuse and post-traumatic stress disorder in this particular area of Thailand.[10]

Limitation of the study: Firstly, this study was a descriptive cross-sectional study, presented primary presenting and primary findings of a single survey. Whilst, PTSD and substance-related disorders are complex disorders, and both of them are always found to have fluctuating symptoms and high recurrence.[4,8] Hence, a cohort study with long-term follow-up should be suggested for more in-depth information. Secondly, all participants in this study were male, as there are only a small number of female patients with substance-related disorder were considerably fewer. Thus, all of whom are referred to Thanyarak Songkhla Hospital, an excellence center of addiction located in the area outside the SBP.[23] And for these reasons, our data may not be generalizability of data to apply on female patients. Thirdly, every PTSD screening test should be considered for recall bias and stigma related to traumatic experiences, and the final diagnosis of any mental disorder should be approved by a psychiatrist. Finally, further studies should aim to identify both risk and protective factors associated with PTSD patterns in the SBP for guiding early intervention and minimize long-term mental consequences among people at risk because of the Thailand insurgency.[2]

Conclusion

This present study was conducted to evaluate the prevalence of PTSD symptoms in patients with substance-related disorders, who living in the unrest

areas of Thailand's SBP. All of the participants were male, mostly addicted to methamphetamines with "heavy use". However, no other psychiatric disorders were noted by the hospital, which may have an effect on recovery efficacy due to the addiction model of self-medication. Our survey found that PTSD symptoms prevalence in this population was 4.3%. All of the patients, who were suspected of developing PTSD reported, that they felt terrified whenever they knew of any violent situation in the SBP. Seventy-five percent of them also stated that they had directly experienced violent situations involving, death or serious injuries of other, particularly their peers and neighbors. For that reason, they felt their lives, and the lives of their family members and peers/neighbors was severely threatened. Additionally, they also felt extreme panic and a feeling of being trapped because of previously delayed evacuation.

These results should be considered for PTSD awareness, especially among those patients with substance-related disorders who have experienced violent situations because of the Thailand insurgency in the SBP.

Acknowledgement

The research was supported by the Research Credit Grant from the Faculty of Medicine, Prince of Songkla University, Thailand.

References

1. Deep South Journalism School. Ten most frequent incidence districts in 2014 [homepage on the Internet]. Pattani: The School [cited 2015 Oct 21]. Available from: http://www.deepsouthwatch.org/dsj/6631
2. Charoenwong S, Kongsuwan V, Taogani M. Stress and psychological self-care behaviors of the people in the unrest area of Narathiwat Province, Thailand. Bangkok: Mental Health in the City; 2007.
3. Assanangkornchai S, Aramrattana A, Perngparn U, Kanato M, Kanika N, Sirivongs Na Ayudhya A. Current situation of substance-related problems in Thailand. J Psychiatr Assoc Thailand 2008; 53: 24 - 36.
4. Assanangkornchai S, Pattanasattayawong U, Samangsri N, Mukthong A. Substance use among high-school students in Southern Thailand: trends over 3 years (2002-2004). Drug Alcohol Depend 2007; 86: 167 - 74.
5. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th ed. Virginia: American Psychiatric Publishing; 2013.
6. Jitnupong M. Mental health problem and psychiatric disorders in Songklanagarind Hospital patients effected by the insurgency in south Thailand. Songkhla: Prince of Songkla University; 2010.
7. Pothisat C. Post-traumatic stress disorder (PTSD) symptoms in children of police officers working in the unrested areas of the southern Thailand. J Psychiatr Assoc Thailand 2012; 57: 323 - 34.
8. Wiwattanaworaset P, Pitanupong J. Prevalence and association factors in posttraumatic stress disorder following a bombing. J Psychiatr Assoc Thailand 2015; 60: 209 - 20.
9. Trautmann S, Schonfeld S, Behrendt S, Schafer J, Hofler M, Zimmermann P, et al. Associations between lifetime PTSD symptoms and current substance use disorders using a five-actor model of PTSD. J Anxiety Disord 2015; 29: 93 - 100.
10. Driessen M, Schulte S, Luedecke C, Schaefer I, Sutmann F, Ohlmeier M, et al. Trauma and PTSD in patients with alcohol, drug, or dual dependence: a multi-center study. Alcohol Clin Exp Res 2008; 32: 481 - 8.
11. Leeies M, Pagura J, Sareen J, Bolton JM. The use of alcohol and drugs to self-medicate symptoms of posttraumatic stress disorder. Depress Anxiety 2010; 27: 731 - 6.
12. Ouimette P, Read J, Wade M, Tirone V. Modeling associations between posttraumatic stress symptoms and substance use. Addict Behav 2010; 35: 64 - 7.
13. Berenz E, Coffey S. Treatment of co-occurring posttraumatic stress disorder and substance use disorders. Curr Psychiatry Rep 2012; 14: 469 - 77.
14. Cochran W. Chapter 4 The estimation of sample size. Sampling techniques. New York: Wiley; 1977.

15. Center for Disaster Medical Sciences. Disaster Mental Health Program [homepage on the Internet]. Irvine: University of California; 2015 [cited 2015 Oct 26]. Available from: http://www.cdms.uci.edu/disaster_mental_health.asp
16. Blanchard E, Jones-Alexander J, Buckley TC, Forneris CA. Psychometric properties of the PTSD checklist (PCL). Behav Res Ther 1996; 34: 669 – 73.
17. 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.
18. Schnohr C, Hojbjerre L, Riegels M, Ledet L, Larsen T, Schultz-Larsen K, et al. Does educational level influence the effects of smoking, alcohol, physical activity, and obesity on mortality? A prospective population study. Scand J Public Health 2004; 32: 250 – 6.
19. Office of Non-formal and Informal Education. Thai National Education Act of 2002 [homepage on the Internet]. Bangkok: Ministry of Education; 2013 [cited 2016 Sep 15]. Available from: http://www.braille-cet.in.th/Braille-new/?q=news-1287
20. Silove D, Steel Z, Bauman A, Chey T, McFarlane A. Trauma, PTSD and the longer-term mental health burden amongst Vietnamese refugees: a comparison with the Australian-born population. Soc Psychiatry Psychiatr Epidemiol 2007; 42: 467 – 76.
21. Kaminer D, Seedat S, Stein DJ. Post-traumatic stress disorder in children. World Psychiatry 2005; 4: 121 – 5.
22. Havenaar JM, Rumyantzeva GM, Van den Brink W, Poelijoe NW, Van den Bout J, Van Engeland H, et al. Long-term mental health effects of the Chernobyl disaster: an epidemiologic survey in two former Soviet regions. Am J Psychiatry 1997; 154: 1605 – 7.
23. Thanyarak Songkhla Hospital. Vision and mission [homepage on the Internet]. Songkhla: The Hospital; 2004 [cited 2016 Sep 24]. Available from: http://www.sdtc.go.th/vision