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Original Article

Risk factors associated with post-traumatic stress disorder among Uyghur and Han veterans in Xinjiang region of China

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Abstract: Xinjiang is an autonomous region where multiple terrorist attacks have occurred in recent years. Troops were deployed to this area to fight against the terrorist activities. This study examined the prevalence and the risk factors associated with post-traumatic stress disorder (PTSD) in ethno-racially diverse veterans in the Xinjiang region of China. A total of 303 veterans (145 from Uyghur ethnic minorities, 122 from the Han majority, and 36 from other ethnic minorities) who served in combat zones and resided in the Xinjiang region were randomly selected and included in the study. A mail survey was sent to all participants to collect information about their social demographic factors, combat exposure, psychological resilience, social support, social connectedness, and self-disclosure of their mental health problems. The Post-Traumatic Stress Checklist - Civilian Version based on DSM-IV criteria were used to assess PTSD. The Uyghur veterans were significantly less likely to be identified as having PTSD (29.0%, 42/145) than other ethnic minorities (44.4%, 16/36), and the Han majority (44.2%, 54/122). Results of hierarchical logistic regression analyses indicated that psychological resilience and social support during the deployment were negatively associated with PTSD. However, self-disclosure of mental health problems was not significantly associated with PTSD among the ethno-racially diverse veterans. Ethno-racial and resilience factors were associated with PTSD. Understanding these factors could improve our understanding of PTSD and help policy makers take preventive actions to prevent PTSD among diverse ethnic veterans.

Keywords: PTSD, veterans, ethnicity, resilience, social support, combat

Introduction

Xinjiang is an autonomous region with approximately nine million Uyghurs, a mostly Muslim Turkic ethnic minority. The racial composition of the region was 45.73% Uyghurs, 39.75% Han people, and 14.52% other minorities. There has been a long history of tension in Xinjiang between Uyghur separatists and the Chinese government. Terrorist attacks have been increasing significantly among Uyghur separatists after several Central Asian countries became independent following the collapse of the Soviet Union in 1990s. In the last year, over a hundred people have been killed by terrorist attacks in the region. Hundreds of thousands of troops were deployed to Xinjiang to prevent and fight against terrorism. These soldiers face enormous psychological pressure from threats such as bomb, knife, and gun attacks. The troops came from diverse ethnic backgrounds. Most Uyghur soldiers were recruited from Xinjiang while Han soldiers were enlisted from both Xinjiang and regions in other parts of China.

Deployment to a combat zone is found to have psychological effects on military personnel [1]. Post-traumatic stress disorder (PTSD) is a mental disorder that affects people who are exposed to one or more traumatic events [2-5]. The rate of PTSD is more than twice as high in veterans as in civilians. Military service is the most common cause of PTSD. The high prevalence of PTSD among veterans is caused by a range of factors, such as sex, ethnic minority status, combat specialization, the frequency and the

length of deployments, and trauma severity [6, 7]. About 15% to 50% of veterans suffer from PTSD [8-12]. Studies show that PTSD is associated with suicide attempts, legal problems, and substance use [1, 8, 13-16].

Military personnel face many stressors during their deployment, including being exposed to combat situations, witnessing human suffering and deprivation, experiencing difficult living and working conditions, being separated from home and family, and experiencing conflict with military peers or supervisors [17, 18].

Veterans with PTSD may develop a range of psychological and physical problems that can affect their social relationships, occupational functioning, and quality of life. Most previous studies evaluated the military risks associated with PTSD for soldiers deployed to other countries. Deploying within their own country, military personnel in Xinjiang face a different situation. They not only need to fight against terrorist attacks toward themselves but also attacks on the civilians. Many veterans suffered from PTSD after they completed their military service. Limited research exists on the prevalence of PTSD among veterans in Xinjiang, China. The prevalence and risk factors associated with the PTSD for Xinjiang veterans are not well known. The current study investigates the prevalence of PTSD and the risk factors associated with PTSD among Xinjiang veterans.

Methods

The study was approved by the ethics committee of the College of Public Health at Xinjiang Medical University. Written consent was obtained from all participants. Veterans residing in the Xinjiang region were identified from the Veterans Affairs (VA) Program Roster. This roster was developed via a national telephone, mailing, and internet outreach campaign initiated by the VA to follow veterans who served in combat zones or supported missions outside the combat zone. To be included in this roster, veterans had to complete a one-page form with their name, address, and military service in detail. 2628 veterans resided in Xinjiang were identified.

Procedure

460 veterans were randomly selected from the VA roster to receive a mail survey. 62 letters were returned because of incorrect addresses. 18 veterans declined to participate. 54 veterans did not send the complete survey. 326 veterans completed the survey. Four participants were excluded because they served outside of the Xinjiang Autonomous Region. 19 subjects were not included due to missing information on one or more questions. 303 veterans completed the survey and were included in the study.

Participants identified themselves as one or more ethno-racial categories based on the national conventions for classifying Chinese people (e.g., Uyghur ethnic minorities, other ethnic minorities, and the Han majority). The study includes 39.3% Uyghur minorities, 40.3% Han majority, and 11.9% other ethnic minorities. Our sample is comparable to the registered veterans in Xinjiang for age, gender, and marital status. More veterans in our sample identified themselves as officers.

Measures of PTSD and risk factors exposed

The Post-Traumatic Stress Checklist-Civilian Version is a 17-item self-report measure that assesses the DSM-IV symptoms of PTSD. Respondents were asked to report the extent to which they were bothered by each PTSD symptom from 1 (*not at all*) to 5 (*extremely*). Veterans with a total score of 50 or higher were classified as having PTSD. Studies show such a cutoff could differentiate normal people from those who have moderate or severe PTSD based on DSM-IV Criteria B, C, and D [19, 20].

Combat exposure was measured by the questions that assessed the major roles that participants might potentially engage in during their deployment. We used three questions to assess whether participants had (1) engaged in direct combat or direct-combat operations; (2) responded to an attack that involved improvised explosive devices (IEDs) such as mortar rockets and small arms fire, or (3) provided medical support for war casualties. An answer of “Yes” to each question was assigned a score 1 and the total score was calculated for each respondent. Higher total scores indicated higher levels of combat exposure. A “Yes” response to at least one of these items was categorized as having combat exposure.

The Post Deployment Social Support Scale (PSSS) is a 15-item self-report measure from

Table 1. Demographic characteristics and psychosocial factors in Veterans with PTSD

Variable	Probable PTSD			X^2	*t*	*p*	Cohen's *d*
	Yes	No	Total				
Age				0.63		0.23	
≥ 32	89 (79.5%)	136 (71.2%)	225 (74.3%)				
< 32	23 (20.5%)	55 (28.8%)	78 (25.7%)				
Gender				0.11		0.96	
Male	96 (85.7%)	162 (84.8%)	258 (85.1%)				
Female	16 (14.3%)	29 (15.2%)	45 (14.9%)				
Ethno-racial subgroup				10.66		< .01	
Uyghur ethnic minorities	42 (37.5%)	103 (53.9%)	145 (39.3%)				
Other ethnic minorities	16 (14.3%)	20 (10.5%)	36 (11.9%)				
The Han majority	54 (48.3%)	68 (35.6%)	122 (40.3%)				
Education				2.33		0.07	
High school or less	86 (76.8%)	136 (71.2%)	222 (73.3%)				
Some college or technical school	24 (21.2%)	42 (22.0%)	66 (21.8%)				
College or higher	2 (2.0%)	13 (6.8%)	15 (4.9%)				
Annual income				4.61		0.21	
≤ $8,000/year	76 (67.9%)	126 (66.0%)	202 (66.7%)				
> $8,000/year	36 (32.1%)	65 (34.0%)	101 (33.3%)				
Relationship				0.01		0.67	
Married/Long term relationship	60 (53.6%)	116 (60.7%)	176 (58.1%)				
Not married	52 (46.4%)	75 (39.3%)	127 (41.9%)				
Combat exposure				20.6		< .01	
One or more roles	81 (72.3%)	96 (50.3%)	177 (58.4%)				
No combat	31 (27.7%)	95 (49.7%)	126 (41.6%)				
Psychosocial factors							
Social support, M (SD)	46.67 (6.98)	51.19 (10.02)	49.01 (8.67)		3.31	< .01	0.78
Social connectedness, M (SD)	3.65 (1.16)	2.88 (1.09)	3.36 (1.20)		3.35	< .05	0.42
High resilience	36 (32.1%)	169 (88.5%)	205 (67.7%)	56.8		< .01	
Self-disclosure norms, M (SD)	0.78 (.36)	1.02 (0.10)	0.50 (0.36)		2.45	< .05	0.31

the Deployment Risk and Resilience Inventory [21]. Respondents were asked to report their level of agreement with items assessing perceived level of emotional encouragement, information advice, and tangible assistance from others, such as family members, employers, and friends. Responses ranged from 1 (*strongly agree*) to 5 (*strongly disagree*). A total score was calculated by summing each individual score for the 15 items. Higher scores indicate greater levels of social support [22].

Social connection was measured using the Brief Sense of Community Index, an eight-item dichotomous scale that evaluates collective and interdependent community support and perceived community integration and connection [23]. We excluded 3 items that evaluated a "community values" subscale. The five remaining items assessed social and emotional community connections (e.g., "very few of my neighbors know me") and mutual concerns (e.g., "my neighbors and I want the same things for the neighborhood"). A positive answer to each question was given a score of 1 and total score was summed to represent the level of social connection.

Attitudes and beliefs about mental illness could affect the rate of self-reported PTSD [24]. Stigma and shame associated with mental disorders could affect people's willingness to disclose their mental health problems. We evaluated such social norms by a single question: "People in my family do not talk about mental health problems with people outside of my family". Respondents were asked to rate their agreement on a 5-point scale ranging from

"Strongly disagree" to "Strongly agree". This variable was developed based on extensive literature review and focus group discussion among diversified ethno-racially stakeholders in Xinjiang [25]. Resilience was measured by the Connor Davidson Scale. Any one has a score higher than 65 consider being high resilience [26].

Analysis

Bivariate statistics were computed between each independent variable and dependent variable. Continuous variables were transformed into z-scores. Bivariate correlations were computed to examine the relationship between continuous variables. Cohen's *d* values were computed to estimate the effect sizes of group differences [27]. A chi-square test was conducted to compare the prevalence of PTSD by ethno-racial subgroups. Because the ethno-racial subgroup varies widely, a Games-Howell test was performed to examine ethno-racial subgroup differences for continuous variables while accounting for unequal variance of the data.

Univariate regressions were computed using PTSD as the dependent variable. The odds ratio for each variable and their 95% confidence interval were calculated, the statistic significant ones are bold in **Table 2**, suggesting the candidate variable needs to be processed in multivariate regression.

The study is aiming for analyzing the ethnic difference in PTSD status, and there are 3 group of veterans, so a multivariate logistic hierarchical regression analysis was conducted to examine associations between independent variables and a positive screen for PTSD. Variables associated with a positive PTSD screen at the $P < 0.05$ level in univariate analysis were included as explanatory variables in this model. As suggested by best practice recommendations for examining ethno-racial differences, demographic variables significantly associated with PTSD were entered in Step 1; combat exposure in Step 2; social support and social connectedness variables in Step 3, because they both indicate how veteran live in their social environment; and the resilience and disclosure-norms variables in Step 4, because they are both related to psychological statues of the veteran [28].

Results

Descriptive statistics

Demographic characteristics and scores on all study measures by PTSD status are presented in **Table 1**. Compared with veterans without PTSD, veterans with PTSD were significantly more likely to report combat exposure, lower psychological resilience, higher norms against disclosing mental health problems, and a lower measure of social support. Veterans who screened positive for PTSD showed lower scores on the sense of community index, but the difference was not statistically significant.

Fewer veterans who identified themselves as Uyghur minorities (29.0%, 42/145) met screening criteria for PTSD compared with the Han majority (44.2%, 54/122) and other ethnic minorities (44.4%, 16/36). The results are statistically significant for the comparison between the Uyghur minority and Han majority in univariate analysis ($\chi^2 = 10.66$, $P < 0.01$). No significant difference was found among the ethno-racial subgroups on other demographic and psychosocial variables.

As the results from **Table 2** indicate, combat exposure is a significant risk factor, people experienced combat exposure are 2.59 times of the odds to have PTSD than those who does not experience combat. In univariate analysis, all four psychosocial factors are all significantly related to the PTSD status in veterans, but the result is not quite follow the normal sense, so a multivariable regression is needed. Also, the demographic variable age, gender indicate positive association with PTSD status, but are both insignificant. Since most of the veterans are male in Xinjiang, so is our sample, it is not appropriate to include it in multivariable regression. Education and annual income are also positively associated with PTSD status, but the 95% confidence interval showed insignificance. The relationship is also not significantly associated with PTSD status. They are excluded in the multivariable regression.

Factors associated with PTSD

The results of the multivariate hierarchical logistic regression analysis are shown in **Table 3**. Before adjusted for ethnic variable, combat exposure, social support and family-disclosure

Table 2. Univariate regression for characteristics and psychosocial factors in Veterans with PTSD

Variable	Probable PTSD		Description
	OR	95% CI	
Age			Categorize people equal and older than 32 as one group, code as 1; younger than 32 as the other group, code as 0.
≥32	1.56	(0.90-2.73)	
Gender			Male are coded as 1, female are coded as 0.
Male	1.07	(0.55-2.08)	
Ethno-racial subgroup			The study includes Uyghur minorities, the other ethnic minorities and the Han majority. Coded in dummy variables.
Uyghur ethnic minorities	0.51	(0.32-0.83)*	
Other ethnic minorities	1.43	(0.71-2.88)	
The Han majority	1.68	(1.04-2.71)*	
Education			People divided in 3 group: "High School or less", "Some college or technical school", and "College or higher". Since there is little amount of people in the group of "College or Higher", they are include in the "Some college or technical school" group.
High school or less	1.34	(0.78-2.29)	
Annual income			The group of people with annaul income less than or equal to $8,000/year code as 1, the one with more than $8,000/year code as 0.
≤ $8,000/year	1.09	(0.66-1.79)	
Relationship			The people who are married or have long term relationship are code as 0, the people who are not code as 1.
Married/Long term relationship	0.75	(0.47-1.20)	
Combat exposure			Combat exposure was measured by the questions that assessed the major roles that participants might potentially engage in during their deployment. A "Yes" response to at least one of these items was categorized as having combat exposure, and code as 1. Those who do not code as 0.
One or more roles	2.59	(1.57-4.27)*	
Psychosocial factors			
Social support	1.21	(1.10-1.36)*	The Post Deployment Social Support Scale (PSSS) is a 15-item self-report measure from the Deployment Risk and Resilience Inventory. Higher scores indicate greater levels of social support
Social connectedness	0.32	(0.13-0.69)*	Social connection was measured using the Brief Sense of Community Index, an eight-item dichotomous scale that evaluates collective and interdependent community support and perceived community integration and connection. A positive answer to each question was given a score of 1 and total score was summed to represent the level of social connection.
High resilience	0.06	(0.03-0.11)*	Resilience was measured by the Connor Davidson Scale. Any one has a score higher than 65 consider to be high resilience.
Self-disclosure norms	2.03	(1.41-4.31)*	We evaluated this by a single question: "People in my family do not talk about mental health problems with people outside of my family". Respondents were asked to rate their agreement on a 5-point scale ranged from "Strong disagree" to "Strong agree".

Table 3. Hierarchical regression analysis of variables associated with a positive posttraumatic stress disorder screen

Step	Variable								
	Odds ratio (95% Confidence Interval)								
	Ethno-Racial Subgroup-Reference group: the Han majority			Combat exposure	Social support	Social connectedness	High resilience	Self disclosure norms	
	Uyghur ethnic minorities	Other ethnic minorities	The Han majority						
Unadjusted				2.59 (1.57-4.27)*	1.21 (1.10-1.36)*	0.32 (.13-.69)*	0.06 (0.03-0.11)*	2.03 (1.41-4.31)*	
Adjusted									
Step1	0.51 (0.32-0.83)*	1.43 (0.71-2.88)	1.68 (1.04-2.71)*						
Step2	0.49 (0.46-0.97)*	1.77 (0.62-4.15)	1.89 (1.13-2.44)*	2.45 (1.23-5.79)*					
Step3	0.87 (.59-2.06)	1.90 (0.53-5.79)	2.10 (1.64-3.81)*	1.79 (0.96-2.01)	0.30 (0.14-0.88)*	1.14 (.67-3.55)			
Step4	0.38 (0.74-3.21)	1.23 (0.66-3.56)	1.95 (1.33-3.93)*	1.89 (0.61-2.22)	0.34 (0.09-1.01)	1.10 (0.81-4.11)	0.07 (0.02-1.45)	2.01 (0.31-5.99)	

Note: Posttraumatic Stress Disorder (PTSD) was measured by the PTSD Checklist. Social Support was measured by Deployment Risk and Resilience Inventory Post-Deployment Social Support Subscale. Social Connectedness was measured by the Sense of Community Scale. Resilience was measured by the Connor Davidson Scale. Significant odds ratios are highlighted in bold. *$P < 0.05$.

norms are positively associated with the PTSD status, social connectedness and resilience are negatively associated with the PTSD. After the 4 steps of multivariable hierarchical regression, the effect of social support become negatively associated with PTSD, which means more social support, the veterans are less likely to acquire PTSD; scores on measures of resilience, social connectedness and self-disclosure norms were insignificantly associated with PTSD. The possibility of PTSD remains significantly lower for Uyghur ethnic minorities compared with the Han majority and other minorities after potential confounders are controlled.

Discussion

To our knowledge, this is the first study examining the prevalence as well as risks associated with PTSD in veterans with inclusion of the Han majority, Uyghur ethnic minorities, or other ethnic minorities. We examined PTSD differences between ethno-racial subgroups both prior to and after controlling for potential confounding [29]. In the present study, fewer Uyghur ethnic minorities (29.0%) met screening criteria for PTSD when compared with other groups, even when controlling for resilience factors and disclosure style. More than 44% of the Han majority and other ethnic minorities screened positive for PTSD. No difference was found between the Han majority and other minorities. Social, culture, and religion might play roles in the observed difference. The limited sample size in our study does not allow us to explore these factors in detail.

We examined resilience and other risk factors in ethno-racial subgroups. Results of these analyses revealed that higher psychological resilience (lower score in resilience) and social support during deployment are negatively associated with PTSD among the Han majority and other ethnic minorities. However, social support resilience were not associated with PTSD in any of the veteran subgroups. The lack of significant findings related to resilience factors after deployment is difficult to explain, given the lack of theories and publications regarding the role of resilience on PTSD in these populations. A recent study on university students has found that perceived social support was less helpful for Asian Americans when they face stressful situations compared with European Americans [30]. In addition, Asian Americans experienced higher physiological stress at the time they seek support [31]. A study of Vietnamese-American community members following Hurricane Katrina found no relationship between social support and PTSD [32]. Results of these studies suggest that social support might be less effective for some Asian populations. Furthermore, social support may not be conceptually equivalent in ethno-racially diverse populations. It may represent cultural rather than racial or ethnic differences.

A third noteworthy finding from the present study was that family-disclosure of mental health problems was not different among the Han majority, Uyghur minorities, and other ethnic minorities. This contradicts the theories that variations in family-disclosure might account for the ethno-racial difference in mental health prevalence. A study conducted in the USA found that African and Hispanic Americans had a greater tendency of under-reporting problems on a measure of social desirability compared with European Americans. Higher scores of measured social desirability were associated with fewer PTSD symptoms [29]. Additional research with larger samples and more comprehensive assessments of this measure is required to evaluate the role of social norms on the rate of PTSD.

A notable strength of the present study is the recruitment of a highly under-researched sample of ethno-racially diverse veterans. Examination of PTSD in separate ethno-racial groups revealed significant differences among these groups which might otherwise be overlooked. The sample size of our study is not large enough to explore other risk factors associated with PTSD in detail, such as socioeconomic status, religion, and culture. Additional research with larger samples is required to examine these factors further.

This study has limitations that must be noted. To keep our survey brief, we employed self-report instruments to assess PTSD, resilience, and disclosure style, which may result in possible reporting bias. In addition, all veterans were selected from the Xinjiang region, so findings based on this sample may not be generalized to other regions. Lastly, social and cultural factors that might explain the difference in prevalence among different ethnicities were not examined. Additional research with larger samples is required to explore these factors in detail.

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Disclosure of conflict of interest

None.

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References

[1] Zamorski MA, Rolland-Harris E, Jetly R, Downes A, Whitehead J, Thompson J and Pedlar D. Military Deployments, Posttraumatic Stress Disorder, and Suicide Risk in Canadian Armed Forces Personnel and Veterans. Can J Psychiatry 2015; 60: 200.

[2] Altschuler E. PTSD induced by the trauma of subordinates: the Robert Gates syndrome. Occup Med (Lond) 2016; 66: 182.

[3] Brown WJ, Bruce SE, Buchholz KR, Artime TM, Hu E and Sheline YI. Affective Dispositions and PTSD Symptom Clusters in Female Interpersonal Trauma Survivors. J Interpers Violence 2016; 31: 407-424.

[4] Dekel S, Solomon Z and Ein-Dor T. PTSD symptoms lead to modification in the memory of the trauma: a prospective study of former prisoners of war. J Clin Psychiatry 2016; 77: e290-296.

[5] Garcia HA, McGeary CA, Finley EP, McGeary DD, Ketchum NS and Peterson AL. The influence of trauma and patient characteristics on provider burnout in VA post-traumatic stress disorder specialty programmes. Psychol Psychother 2016; 89: 66-81.

[6] Beristianos MH, Maguen S, Neylan TC and Byers AL. Trauma Exposure and Risk of Suicidal Ideation among Ethnically Diverse Adults. Depress Anxiety 2016; 33: 495-501.

[7] Wade D, Varker T, Kartal D, Hetrick S, O'Donnell M and Forbes D. Gender Difference in Outcomes Following Trauma-Focused Interventions for Posttraumatic Stress Disorder: Systematic Review and Meta-Analysis. Psychol Trauma 2016; 8: 356-64.

[8] Bryan CJ, Clemans TA, Hernandez AM, Mintz J, Peterson AL, Yarvis JS, Resick PA; STRONG STAR Consortium. Evaluating Potential Iatrogenic Suicide Risk in Trauma-Focused Group Cognitive Behavioral Therapy for the Treatment of Ptsd in Active Duty Military Personnel. Depress Anxiety 2016; 33: 549-57.

[9] Bennett N, Davy C, Lawrence-Wood E and McFarlane A. The association between inflammatory markers and psychological disorders in veterans and military personnel: a systematic review protocol. JBI Database System Rev Implement Rep 2015; 13: 41-50.

[10] Cui R, Haller M, Skidmore JR, Goldsteinholm K, Norman S and Tate SR. Treatment Attendance among Veterans with Depression, Substance Use Disorder, and Trauma. J Dual Diagn 2016; 12: 15-26.

[11] Resick PA, Wachen JS, Mintz J, Young-McCaughan S, Roache JD, Borah AM, Borah EV, Dondanville KA, Hembree EA, Litz BT and Peterson AL. A randomized clinical trial of group cognitive processing therapy compared with group present-centered therapy for PTSD among active duty military personnel. J Consult Clin Psychol 2015; 83: 1058-1068.

[12] Xue C, Ge Y, Tang B, Liu Y, Kang P, Wang M and Zhang L. A meta-analysis of risk factors for combat-related PTSD among military personnel and veterans. PLoS One 2015; 10: 1-21.

[13] Friedman MJ. Suicide Among US Military Personnel--Reply. JAMA 2015; 314: 84-85.

[14] Bryan CJ and Heron EA. Belonging protects against postdeployment depression in military personnel. Depress Anxiety 2015; 32: 349-355.

[15] Khazem LR, Law KC, Green BA and Anestis MD. Examining the relationship between coping strategies and suicidal desire in a sample of United States military personnel. Compr Psychiatry 2015; 57: 2-9.

[16] Monteith LL, Bahraini NH, Matarazzo BB, Soberay KA and Smith CP. Perceptions of Institutional Betrayal Predict Suicidal Self-Directed Violence Among Veterans Exposed to Military Sexual Trauma. J Clin Psychol 2016; 72: 743-755.

[17] Howlett JR and Stein MB. Prevention of Trauma and Stressor-Related Disorders: A Review.

Neuropsychopharmacology 2016; 41: 357-369.
[18] Reijnen A, Rademaker AR, Vermetten E and Geuze E. Prevalence of mental health symptoms in Dutch military personnel returning from deployment to Afghanistan: a 2-year longitudinal analysis. Eur Psychiatry 2015; 30: 341-346.
[19] Franklin CL, Piazza V, Chelminski I and Zimmerman M. Defining Subthreshold PTSD in the DSM-IV Literature: A Look Toward DSM-5. J Nerv Ment Dis 2015; 203: 574-577.
[20] Bromet EJ, Hobbs MJ, Clouston SA, Gonzalez A, Kotov R, Luft BJ. DSM-IV post-traumatic stress disorder among World Trade Center responders 11-13 years after the disaster of 11 September 2001 (9/11). Psychol Med 2016; 46: 771-83.
[21] Jones N, Keeling M, Thandi G and Greenberg N. Stigmatisation, perceived barriers to care, help seeking and the mental health of British Military personnel. Soc Psychiatry Psychiatr Epidemiol 2015; 50: 1873-1883.
[22] Hoencamp R, Idenburg FJ, Vermetten E, Tan E, Plat MC, Hoencamp E, Leenen LP and Hamming JF. Impact of combat events on first responders: experiences of the armed conflict in Uruzgan, Afghanistan. Injury 2015; 46: 863-869.
[23] Townley G and Kloos B. Development of a measure of sense of community for individuals with serious mental illness residing in community settings. J Community Psychol 2009; 37: 362-380.
[24] Janssen SM, Hearne TL and Takarangi MK. The relation between self-reported PTSD and depression symptoms and the psychological distance of positive and negative events. J Behav Ther Exp Psychiatry 2015; 48: 177-184.
[25] Minsky SK, Lu W, Silverstein SM, Gara M, Gottlieb JD and Mueser KT. Service Use and Self-Reported Symptoms Among Persons With Positive PTSD Screens and Serious Mental Illness. Psychiatr Serv 2015; 66: 845-850.
[26] Yu XN, Lau JT, Zhang J, Mak WW, Choi KC, Lui WW, Zhang J, Chan EY. Posttraumatic growth and reduced suicidal ideation among adolescents at Month 1 after the 5.12.2008 Sichuan Earthquake. J Affect Disord 2010; 123: 327-331.
[27] Li JC. Cohen's d Corrected for Case IV Range Restriction: A More Accurate Procedure for Evaluating Subgroup Differences in Organizational Research. Personnel Psychology 2015; 68: 899-927.
[28] Koolick J, Galano M, Grogan-Kaylor A, Clark H, Montalvo-Liendo N and Graham-Bermann S. PTSD Symptoms in Young Children Exposed to Intimate Partner Violence in Four Ethno-racial Groups. J Child Adolesc Trauma 2016; 1-11.
[29] Whealin JM, Nelson D, Stotzer R, Guerrero A, Carpenter M and Pietrzak RH. Risk and resilience factors associated with posttraumatic stress in ethno-racially diverse National Guard members in Hawai'i. Psychiatry Res 2015; 227: 270-277.
[30] Singh S, McBride K and Kak V. Role of Social Support in Examining Acculturative Stress and Psychological Distress Among Asian American Immigrants and Three Sub-groups: Results from NLAAS. J Immigr Minor Health 2015; 17: 1597-1606.
[31] Chang J. The interplay between collectivism and social support processes among Asian and Latino American college students. Asian Am J Psychol 2015; 6: 4.
[32] Chan CS, Lowe SR, Weber E and Rhodes JE. The contribution of pre-and postdisaster social support to short-and long-term mental health after Hurricanes Katrina: A longitudinal study of low-income survivors. Soc Sci Med 2015; 138: 38-43.