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RESEARCH ARTICLE / ARAŞTIRMA YAZISI

Prevalence and Risk Factors of Post-Traumatic Stress Disorder in a North Cyprus Household Adult Cross-Sectional Study

Kuzey Kıbrıs Hanehalkı Kesitsel Çalışmasında Yetişkin Bireylerde Travma Sonrası Stres Bozukluğunun Yaygınlığı ve Risk Faktörleri

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Abstract:

Post Traumatic Stress Disorder (PTSD), in other words impairment after post-traumatic difficulty, is one of the most important topics investigated by mental health professionals all over the world. Objectives: In this article, the results of the 2017 national household survey of PTSD in North Cyprus (NC) are presented. The aim of the study is to determine the prevalence and risk factors of depression in NC households. The study was conducted between April and June 2017, the sample consisting of Turkish-speaking individuals between 18-88 years of age living permanently in NC. A multi-stage stratified (randomized) quota was used in the survey, and 978 people were selected according to the 2011 census. Demographic Information Form, Traumatic Events List and Traumatic Stress Symptom Scale were used. PTSD prevalence was stated as 19% for NC. Being women, widow, unemployed, housewife, having a physical illness, having a psychiatric illness, being treated by a physical illness, living in a Greek property, living single or with a relative, defined as risk factors of PTSD in the present study. When the significance of the regression coefficients is examined according to the traumatic life events, only domestic violence and fire or explosion found as a significant predictor for the PTSD. When we consider the world prevalence, NC has higher PTSD prevalence similar with other post conflict regions in the world. NC has environmental and socio-cultural characteristics such as a history of war, migration and colonization, high unemployment rates, socioeconomic problems, similar to other high prevalence PTSD countries and regions, which give a strong indication of the importance of socio-cultural factors on PTSD.

Keywords: Prevalence, Post Traumatic Stress Disorder, North Cyprus, Risk Factors

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Öz:

Travma Sonrası Stres Bozukluğu (TSSB), diğer bir deyişle post-travmatik güçlük sonrası bozulma, tüm dünyada ruh sağlığı profesyonellerinin araştırdığı en önemli konulardan biridir. Bu makalede, Kuzey Kıbrıs'ta (KK) TSSB'ye ilişkin 2017 ulusal hanehalkı araştırmasının sonuçları sunulmaktadır. Bu çalışmanın amacı, KK hanelerinde TSSB prevalansını ve risk faktörlerini belirlemektir. Çalışma, Nisan-Haziran 2017 tarihleri arasında yürütülmüş olup, örneklemi sürekli olarak KK'da yaşayan 18-88 yaş arası Türkçe konuşan bireylerden oluşturulmuştur. Ankette çok aşamalı tabakalı (randomize) bir kota örneklemi kullanılmış ve 2011 nüfus sayımına göre 978 kişi seçilmiştir. Demografik Bilgi Formu, Travmatik Olaylar Listesi ve Travmatik Stres Belirti Ölçeği kullanılmıştır. KK için TSSB yaygınlığı %19 olarak belirtilmiştir. Bu çalışmada kadın olmak, dul olmak, işsiz olmak, ev hanımı olmak, fiziksel bir hastalığa sahip olmak, psikiyatrik bir hastalığa sahip olmak, fiziksel bir hastalık nedeniyle tedavi görmek, bir Rum mülkünde yaşamak, bekar veya bir akraba ile yaşamak TSSB için risk faktörleri olarak tanımlanmıştır. Travmatik yaşam olaylarına göre regresyon katsayılarının anlamlılığı incelendiğinde sadece aile içi şiddet ve yangın veya patlama TSSB için anlamlı bir yordayıcı olarak bulunmuştur. Dünya prevalansını göz önünde bulundurduğumuzda, KK, dünyadaki diğer çatışma sonrası bölgelere benzer şekilde daha yüksek TSSB prevalansına sahiptir. KK, savaş, göç ve sömürgeleştirme geçmişi, yüksek işsizlik oranları, sosyoekonomik problemler gibi diğer yüksek prevalanslı TSSB ülke ve bölgelerine benzer çevresel ve sosyo-kültürel özelliklere sahiptir, bu da TSSB oluşumunda sosyo-kültürel faktörlerin öneminin güçlü bir göstergesidir.

Anahtar Kelimeler: Yaygınlık, Travma Sonrası Stres Bozukluğu, Kuzey Kıbrıs, Risk Faktörleri

Introduction

The root of the word "trauma" is based on Ancient Greek and the deep mean of the trauma is any kind of injury which integrity is impaired (Bilgiç, 2011). The effects of traumatic events on mental health are known since ancient times and these observations are transferred by various sections of the society. Different legends in the world's literature such as the Shakespeare's Henry IV seem to have many symptomatic criteria of the PTSD (King et al., 2013). Conditions accepted as causing traumatic effect are considered to be experiencing an incident on its own and it is also regarded as witnessing such a phenomenon that someone else has experienced (Eriksson, Vande Kemp, Gorsuch, Hoke, & Foy, 2001).

The latest epidemiological studies of PTSD, included both the low and also the middle income countries, illustrate the distribution of the PTSD is cross-nationally (Atwoli et al., 2013; Carmassi et al., 2014; Ferry et al., 2014). Lifetime prevalence of exposing a traumatic occasion found to be higher than PTSD rates as not every people exposing a traumatic event develop PTSD (Mills et al., 2011). Although there are still limited studies on the epidemiology of the PTSD, in most general population surveys, the lifetime prevalence of PTSD has been found to vary between 1-14% (Alegria et al., 2013; Roberts, Gilman, Breslau, Breslau, & Koenen, 2011; Hapke, Schumann, Rumpf, John, & Meyer, 2006). The 12-month prevalence of PTSD was high in Western nations (Karam et al., 2014), Australia (Mills et al., 2011) and New Zealand (Oakley-Browne et al., 2006), and was low among Asian nations (Cho et al., 2007).

Moreover researches illustrate that severity of the traumatic event is also an important predictor for the PTSD (Shah, Shah and Links, 2012). Many research results expressed that who revealed earlier traumatic occasion in their life had elevated amounts of PTSD indications (Anda et al., 2006). Another important factor is the personality traits of the person who experiences the trauma (Hacıoğlu, Gönüllü & Kamberyan, 2002). Family history and lack of social support found to have negative effect on PTSD (Brewin, Andrews & Valentine, 2000).

PTSD rates in some special populations such as war survivors (Eytan & Gex-Fabry, 2011), battle veterans (Renshaw & Caska, 2012), peacekeepers (Souza et al., 2011), psychological militant assault survivors (Marshall et al., 2002) have shown higher rates of PTSD. In spite of the high extent of subjects presented to occasions related with PTSD, some high-risk areas have also high PTSD prevalence such as Asia, Middle East and Africa (Jong et al., 2001). There are some studies which illustrate high PTSD prevalence conducted in North Cyprus (NC) with special populations which have experienced recent traumatic events (Şimşek & Çakıcı, 2017; Ergun, Cakici, & Cakici, 2008). This study is the first household community survey study conducted to find out the prevalence and risk factors of PTSD in NC. Although, there has been growing curiosity regarding PTSD and its effects on the NC population limited reliable information is available regarding PTSD. NC population has a history of war, migration, economic hardship and traumatic events. Beside the basic risk factors effecting PTSD sociocultural factors involve additional risks affecting the level of prevalence. Determining the sociocultural structure and common characteristics in some specific regions of the world, such as the NC, will enable the risk factors of PTSD to be studied in a wider perspective. Hence, the main aims of this study are to provide a scientific analysis of the causes of PTSD in NC, and to provide a characterisation of all the dimensions of PTSD that emerge from the study.

Methods

Sampling

The population of the study is Turkish-speaking individuals between 18-88 years of age living in North

Cyprus. A multi-stage stratified (randomized) quota was used to achieve a representative sample of the adult population in the survey, and 978 people were selected for household interview. The selected participants were tabulated according to gender (male/female), age (18-19, 20-29, 30-39, 40-49, 50-65, 65 and above) and geographical region (village/city). The statistics considered for sampling were based on the national census of 4 December, 2011 (Census of Population, 2011). With the guidance of the census, five main regions, namely, Nicosia, Famagusta, Kyrenia, Morfou, and İskele, were examined in terms of themain characteristics of their populations. According to the census data, gender, age and region were divided in to quotas which are arranged according to the general population statistics. The stratification of region, gender, age and quarters/villages/cities were arranged by using the proportionate stratification method as the number of the participants in each region were determined by the census 2011. These five central areas are divided into quarters in the rural area and villages in the urban area. 16 quarters, 17 villages and 5 cities were considered randomly in the study.

Fieldwork

The fieldwork was conducted from April to June 2017. Starting points were randomly selected in particular streets for cities, and invillage centers (coffee houses and village mosques) with directions to the north, south, east and west established for the villages. Interviewers tried to draw squares in their movements, starting with the lowest house numbers. One house in three was added to study with the interviewers taking the first rightturning each case in order to complete the square. After one square hadbeen completed, a new start point was defined and the creation of a new square commenced. Gender and age quotaswere considered in every house entered. Each pollster considered these quotas in every house. If no one was at house or when participants did not give consent, pollsters continued with the next house. Only one person was added to the study in each house, alternating between men and women. If there was more than one candidate in a home, the one whose birthday was closest was selected. 40 interviewers were used, after training about the questionnaire and the interview process. Each interviewer administered 25 questionnaires. In this way, it was hoped to minimise the margin of error that might result from variation in interviewer application. After detailed information wasgiven to the participants, they were asked to sign a consent form signalling their agreement to participate in the study.

Survey Form

Socio-demographic data sheet

Socio-demographic data sheet used to collect profile data and consist of 21 questions. This self-made form, following questions asked to participants: age, gender, marital status, place of birth, where they live, with whom they live, education status, profession, the legal position of their homes, thoughts on uniting with Greek-speaking Cypriots, cigarette/alcohol/substance usage and total monthly income.

Life Events question form

It consists of questions prepared by the researcher. Questions may include child abuse, natural disasters, fire or explosion, traffic accidents, physical assaults, sexual assaults, presence in the field of battle, torture or similar practice, murder or suicidal situations, sudden death of a loved one, Family violence, sudden withdrawal from work, or life events involving heavy economic stress, work place accidents and other stressful events.

Traumatic Stress Symptom Scale

Başoğlu et al., was developed and conducted reliability and validity studies of this scale. It is a 4 point likert scale which consists of 23 items. It contains questions that participants evaluate themselves in the last month. The points of the items are between 0-3. The first 17 items question the symptoms of PTSD and the last 6 items question the symptoms of depression. The scores from these 17 items, which are 25 or higher, points to a possible PTSD. The ideal cut-off score for PTSD was 22 and the cut-off score for depression was 38. It was reported that the sensitivity and specificity was 81%. The Cronbach's alpha values of the scale were 0.94 for the whole scale, 0.93 for PTSD and 0.82 for depression (Başoğlu et al., 2001).

Ethical Considerations

The study was approved by the Social and Science Institute Ethical Board at the Near East University of NC and was conducted according to the ethical standards laid down in the 1964 Declaration of Helsinki and its later amendments. Written informed consent from all participants was also obtained.

Data Analysis

Collected data analyzed by computer with Statistical Package for Social Science (SPSS) 23 software package. Each socio-demographic feature compared between with PTSD and without PTSD groups using Chi-Square analysis and risk factors were defined by using logistic regression analysis method. 0.05 or lower p values considered statistically meaningful to all these statistical analyses. PTSD risk factor rate defined (95% confidence interval) by logistic regression rate for every feature of socio-demographic values. Linear regression analysis was also applied in order to investigate the level of the correlation between the life events and PTSD.

Results

There were 994 participants in the study, but 978 (98%) of the forms were used for statistical analysis as 16 (2%) of them had inconsistent or inconclusive answers. 9 of these forms that are considered as invalid were belonged to female participants and 7 of them were belonged to male participants. 453 (46.3%) of the participants were female and 525 (53.7%) male. When the 2011 census was examined, it was found that female (47.4%) and male (52.6%) rates were similar to the present study. 181 (19%) of them had PTSD while 770 (81%) of them don't. 37.48 (SD=+15,79) for the average age of PTSD while its 39.84 (SD=+15,13) for without PTSD.

Women had a significantly higher rate of PTSD compared to men. Participants who were born in Turkey had a significantly higher ratio of PTSD. Participants, who were single, widowed, have higher PTSD rates than married participants. Participants who were graduates of elementary schools orbelow had higher rates of PTSD than participants who were graduates of secondary schools or above. Participants who lived alone had higher rates of depression than thoseliving witha spouse/ partner/ mother/ father/ siblings. Unemployed participants had a higher PTSD rate than those in employment. It was found that as the monthly income level of the participants decreased, the

rate of PTSD increased. The highest rate of PTSD was found among participants who had no income or were on the minimum wage (1700 Turkish Liras) and who had income more than 10000 Turkish Liras. Participants with physical illnesses had higher PTSD rates than those without any illness. Participants who used cigarettes also had higher rates of PTSD, but there was no significant difference for PTSD rate according to use of alcohol or psychoactive drugs (Table 1).

Table 1. Demographics of Participants with PTSD (PTSD≥ 22) and without PTSD (PTSD < 23) participants in North Cyprus

Demographic Variables	**Participants with PTSD %**	**Participants without PTSD %**	**x^2**	**p**
Gender				
Female	24.9	75.1	18.643	<.001**
Male	13.9	86.1		
Age				
18-29	22.6	77.4	5.170	.075
30-50	18.6	81.4		
50 and above	14.7	85.3		
Birth Place				
Turkey	16.0	84.0	10.462	.015*
Cyprus	23.1	76.9		
Britain	0.0	100.0		
Other	15.8	84.2		
Marital Status				
Married	13.9	86.1	39.156	<.001**
Single	35.2	64.8		
Divorced	27.6	72.4		
Widow	37.7	62.3		
Having Children				
No Children	21.2	78.8	1.570	.210
Have Children	17.8	82.2		
Living Place				
Village	17.6	82.4	0.079	.778
City	18.4	81.6		
Employment Status				
Employed	14.0	86.0	22.913	<.001**
Unemployment	26.4	73.6		
Education Level				
Illiterate	31.3	68.8	7.543	.023*
Primary-Secondary School	21.6	78.4		
High School and above	17.0	83.0		
Monthly Income				
1700 TL and beloved	23.5	76.5	7.688	0.021*
1701-10000 TL	16.2	83.8		
10000 TL and more	23.7	76.3		
Physical Illness				
Have Physical Disease	27.3	72.7	4.249	.039*
Doesn't Have Physical Disease	18.2	81.8		
Whom Living With				
Alone	28.0	72.0	15.522	.001**
Spouse / Partner / Lover	15.2	84.8		
Mother / Father / Brother	18.4	81.6		
Other	25.6	74.4		
Alcohol Use				
Non-user	17.9	82.1	0.681	.263
1-40 times	20.7	79.3		
40 times and above	18.7	81.3		
Smoking				
Non-user	13.9	86.1	7.199	.027*
1-40 times	21.3	78.7		
40 times and above	21.3	78.7		
Drug Use				
User	17.8	82.2	0.425	.514
Non-user	19.6	80.4		

* p < .05. **p < .0

When participants' expectations of a political solution in Cyprus were evaluated, it was discovered that those who want a bi-zonal bi-communal federal state, and those who want a separate republic as a continuation of NC or union with Turkey had lower PTSD rates than those desiring a two state confederated state solution (27.1%), a return to the 1960 Cyprus Republic (23.3%). No difference was found between groups according to the ratio of PTSD in terms of whether their own the house (x2=7.182, p= .066) whereas significant difference was found according to their houses are original Greek or original Turkish property (x2=9.863, p= .007). Participants whose houses are Greek property found to have higher PTSD rates than participants whose houses are Turkish property (Table 2)

Table 2. Ideas about Cyprus Political Solution and Status of Home lived of Participants with PTSD (PTSD ≥ 22) and participants without PTSD (PTSD < 23) in North Cyprus

Demographic Variables	**Participants with PTSD %**	**Participants without PTSD %**	**x^2**	**p**
Own Resources				
Owned	17.5	82.5	7.182	.066
Government Owned	25.4	74.6		
On Rent	22.4	77.6		
Other	6.9	93.1		
Status of Home Lived				
Turkish Property	19.3	80.7	9.863	.007*
Greek Property (Allocated)	24.7	75.3		
Greek Property (Equivalent)	11.8	88.2		
Ideas about Cyprus Political Solution				
New Federal state	13.1	86.9	20.723	.002*
Con-federal states	23.8	76.2		
Continuation of Status	15.7	84.3		
Unite to Turkey	20.7	79.3		
Forming again 1960 Republic of Cyprus	27.3	72.7		

* p < .05. **p < .001

Thus the risk factors for PTSD have been identified as being woman, living apart from family, having low levels of education, unemployment, born in Turkey, having a physical illness, having a psychiatric illness, being treated by a psychiatric disorder and not wanting the Cyprus Problem to be solved (Table 3).

Table 3. Odss Ratio and Confidence Intervals of somedemographic variables obtaining from Multivariate Logistic regression**.**

Demographic Variables	**With PTSD/Without PTSD Odds Level**	**%95 CI**
Gender (Female / Male)	1.792	(1.368 – 2.347)**
Depression(With / Without)	1.857	(1.626 - 2.121)**
Birth (Cyprus / Turkey)	1.092	(1.023– 1.165)*
Living status (not with family / with family)	1.124	(1.038– 1.218)**
Education (High school below / above)	1.357	(1.042 – 1.768)*
Marital Status (Married / single)	1.144	(1.074 - 1.220)**
Employment Status (employed / unemployed)	1.169	(1.091-1.252)**
Monthly Income (below and above 3400TL)	1.497	(1.035-2.166)**
Physical Disease (having / don't having)	2.511	(1.686-3.740)**
Psychiatric Disorders (Having/ Not Having)	1.870	(1.302-2.688)**
Therapy due to Psychiatric Disorders	1.065	(1.002-1.133)*
Property Status (Turkish Property/ Greek Property)	1.870	(1.302-2.688)**
Solution in NC (willing/not willing)	1.065	(1.002-1.133)*

When the binary and partial correlations between the predictor variables and the dependent variable are examined, it is observed that there is a positive and low level of correlation between the predictor variables and PTSD. All of the variables and PTSD found to have a positive and low levels of a meaningful relationship, R= ,296, R2=,088, P<.01. The relative significance rank of the predictor variables over the PTSD according to the standardized regression coefficient (β); Domestic violence, fire or explosion, sudden unexpected death of loved one, unexpected unemployment or serious financial problems, torture or similar assault, death events like murder or suicide, sexual assault, physical assault, sudden separation from loved one, natural disaster, traffic accidents, industrial accidents, experience of conflict or war, child abuse and unexpected illness of a loved one. When the significance of the regression coefficients are examined, only domestic violence and fire or explosion found as a significant predictor for the PTSD (Table 4).

Table 4. Results of Multiple Regression Analysis on the PTSD Prediction

Variable	B	Std Error	B	T	p	Binary r	Partial r
Constant	0.09	0.02	-	5.08	.000	-	-
Child abuse	-0.01	0.03	-0.01	-0.19	.850	0.09	-0.01
Natural disaster	0. 02	0.03	0.02	0.71	.479	0.10	0.02
Fire or explosion	0.07	0.02	0.10	2.90	.004	0.19	0.09
Traffic accidents	-0.01	0.02	-0.01	-0.39	.705	0.09	-0.01
Physical assault	0.02	0.03	0.03	0.76	.447	0.12	0.03
Sexual assault	0.03	0.03	0.03	0.89	.373	0.13	0.03
Experience of conflict or war	0.01	0.03	0.01	0.22	.824	0.11	0.01
Torture and similar assault	0.04	0.04	0.04	1.00	.318	0.14	0.03
Death events like murder and suicide	0.03	0.03	0.03	0.95	.344	0.15	0.03
Sudden and unexpected death from loved one	0.03	0.02	0.07	1.72	.086	0.15	0.06
Sudden and illness of loved one	0.003	0.02	-0.01	-0.16	.876	0.12	-0.01
Sudden and unexpected separation from loved one	0.02	0.02	0.03	0.71	.476	0.13	0.02
Domestic violence	0.10	0.03	0.14	3.75	.000	0. 22	0.12
Sudden and unexpected unemployment, serious financial problems	0.03	0.02	0.05	1.38	.168	0.15	0.05
Industrial accident	-0.01	0.02	-0.01	-0.31	.754	0.14	-0.01

R= .296	R^2= .088
F $(_{3,26})$= 5,903	P= .000

Discussion

This cross-sectional study found a point prevalence of 19% for high PTSD scores (≥22) suggesting estimated number of 56.315 people suffering from PTSD among 296.396 people who live in North Cyprus. Being female, unemployed, having a limited education, having a physical illness and living alone were defined as risk factors for PTSD.

The lifetime prevalence of PTSD was found lower and similar in some countries as 2.3% in South Africa (Atwoli et al., 2013), 3.4% in Lebanon (Karam et al., 2008), 2.2% in Spain (Carmassi et al., 2014), 2.4% in Italy (Olaya et al., 2015) and 1.3% in Japan (Kawakami et al., 2014). Much higher rates are found some countries like in 7.4% in Netherlands (Vries & Olff, 2009), and 11% Mexican

(Norris et al., 2003). On the other hand, a higher prevalence of PTSD can be seen as expected in some risky regions with war history, economic difficulties and conflict areas. Among adult population in Israel point PTSD prevalence was found as much higher rate as 17.8% (Bleich, Gelkopf & Solomon, 2003) and 11.8% in Northern Uganda (Mugisha, Muyinda, Wandiembe, & Kinyanda, 2015). In addition, rates of PTSD are observed elevated in specific cultures which are post-conflict and low income areas such as Algeria (37%), Cambodia (28%), Ethiopia (16%), Gaza (18%) (Jong, 2001). NC has one of the highest community PTSD prevalence rate. The reality that NC is an unrecognized country, late war history, migration history, economic exploitation, the uncertainty about Cyprus Problem and unemployment may be seen as the purpose behind the high PTSD levels. Similar with NC and other extremely high prevalence countries have some common features such as history of war and immigration, economic hardship, living in conflict area, colonization history and unemployment. History of war (Betancourt & Williams, 2008), migration (Tuzcu and Bademli, 2014), economic hardship and unemployment (Najafipour et al., 2016), cultural factors (Ferrari, 2002) can be a predictor for the PTSD.

In addition to community lifetime PTSD rates, highest prevalence rates can be seen in those exposed to a lifetime traumatic life event such as 60.6% in Northern Ireland (Ferry et al., 2014), 60% in Japan (Kawakami et al., 2014), 56.1% in Italy (Carmassi et al., 2014), and 73.8% in South Africa (Atwoli et al., 2013). Differences in instrumentations used, traumatic event experience history, and sample differences can lead to consequent changes. Variety in the rates of trauma introduction over the world, and in addition the predominance of particular traumatic occasions, seems to reflect sociocultural and political variables that fluctuate rates over the different cultures. For instance, South Africa's history of state-endorsed separation and political brutality, combined with rising rates of criminal attack out in the open spaces may add to the higher rates of trauma related events contrasted with Europe and Japan (Kaminer et al., 2008). Similarly, Northern Ireland's long history of common clash is probably going to have added to its high rates of traumatic occasion presentation (Ferry et al., 2014).

Besides community prevalence in NC, very high prevalence rates have emerged in some special groups. Şimşek and Çakıcı (2017) showed that 48% of Turkish Cypriot Erenköy warriors struggled to survive in the mountains wrapped in the Erenköy District for 40 years after the war. Moreover, researches including the Turkish veterans and citizens in North Cyprus show that the veterans who were displaced show higher levels of PTSD in comparison with non-displaced people (Ergun, Cakici, & Cakici, 2008).

At the point when political perspectives are considered, individuals who might want to join with Turkey, bolster confederation, and need to frame Republic of Cyprus again have fundamentally higher rates of PTSD contrasted with individuals who are satisfied with NC and individuals who think shaping an administration with two government states. In the view of these outcomes, we can state that the progressing Cyprus issue process may disillusion individuals who need confederation or being joined to Turkey. Additionally, status as usual proceeds with as a result of the uncertainty of the Cyprus issue. It is obvious that being treated or being experienced by political violence might cause psychological problems. Political brutality, including war, common war, and fear-based oppression, are group wide traumatic occasions (Canetti et al., 2013). Such components incorporate the loss of financial assets (Hobfoll et al., 2006), locus of control and sense of duty regarding belief system (Shechner, Slone & Bialik, 2007). In the present study, uncertainty about the future and repeated frustrations about the solution in NC might be a leading cause of the relationship between the political beliefs and PTSD. Political beliefs and housing status are related with the previous war and migration events of the participants living in the NC. These factors are thought to affect the PTSD level as they can be a source of stress.

The present study results illustrate that; domestic violence is the most significant ranked predictor variable among the variable life events. There are important studies in the literature which also highly correlates the domestic violence and predisposition to PTSD (Roberts & Kim, 2005; Pico-Alfonzo, 2005). It is observed that women who experience domestic violence have lower life quality which affects the psychological make-up of the females (Laffaye, Kennedy & Stein, 2003). Second significant ranked life event was found as fire or explosion. In the literature studies which have investigate the relationship between life events and PTSD also found fire and explosion as a predictor factor (Loey, Schoot, & Faber, 2012; Saville et al., 2018). Although there are scarce number of studies, fire and explosion are accepted to have a great impact on the psychological health. Experiencing a fire or explosion can possibly led to burn injuries which can increase the traumatic effect.

In this study, as with other similar research, individuals that are women (Lukaschek et al., 2013), being divorced or widowed (Frank et al., 2004), unemployed and lower incomes (Farhood et al., 2016), low education level (Weiss, Garvert, & Cloitre, 2015), psychiatric disorder or physical illness (Sareen, 2014) have higher PTSD prevalence.

Limitations

Self-reporting screening instruments such as the Traumatic Stress scale is not irreproachable in measuring clinical PTSD; it is mainly used to assess symptom severity rather than as a diagnostic tool. Moreover it is not possible to understand certain temporality in cross-sectional studies. For example, having low socioeconomic status can lead to PTSD, but PTSD can also lead to low socioeconomic status. Third, non-response bias may cause underestimation of the levels of PTSD symptoms, because people who participate in this kind of health surveys are healthier than those who do not. Fourth, some populations are not included in the samples such as those in prisons, dormitories, hospitals or the army.

Conclusion

High prevalence of PTSD was observed among NC Population. PTSD must be prior public mental health care in NC. It is useful for researchers and policy makers to understand the socio-cultural factors as well as the individual factors behind PTSD as they seek to evaluate and improve mental health program policy in NC. The prevalence of PTSD should be monitored by NC Health Ministry and Public Health Department through constant surveillance, and socio-cultural characteristics also should

be considered when planning and implementing interventions.

In regions like NC, further research with long-term follow-up is needed to increase our understanding of the risk factors for PTSD prevalence at-risk populations. Each culture or country has unique characteristics specific to itself, besides individual factors socio-cultural features like socioeconomic problems, high unemployment, war, migration and colonization history may lead to an increase in the prevalence of PTSD. When developing treatment methods, therapists and researchers need to take into account the cultural influences of ethnic communities. In particular, while developing such programs, the characteristics of cultural attitudes in the target population should be reflected in the content of the programs.

Declarations

Ethics Approval and Consent to Participate
This study was conducted in compliance with the principles of the Helsinki Declaration. Ethical approval was granted by the Near East University Ethics Committee (Dated April 18, 2017, Numbered YDÜ/SB/2017/23).

Consent for Publication
Not applicable.

Availability of Data and Materials
Not applicable.

Competing Interests
The author declares that no competing interests in this manuscript.

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Authors' Contributions
AB collected, analyzed and interpreted the data and contributed to the writing of the article. MÇ contributed to the design of the study, finding the subject, interpretation of the results and supervising the writing of the article. All authors have read and approved the final version of the article.

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