

THE SYRIAN WAR AND POST-TRAUMATIC STRESS DISORDER

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Abstract

Purpose of the Study: The purpose of this study is to investigate the prevalence of posttraumatic distress disorder (PTSD) amongst Syrian whom lived in under the war.

Methodology: The study has utilized a survey to observe the prevalence of post-traumatic stress disorder (PTSD) among Syrian people who lived inside Syria during the Syrian conflict. The survey uses the PTSD checklist for civilians (PCL-C), which measures both the severity of PTSD and the 3 symptoms of it in accordance with “The Diagnostic and Statistical Manual of Mental Disorders” (DSM-IV) that are re-experiencing; avoidance; and hyperarousal. A sample of 600 random Syrian people participated in the current study.

Findings: The PTSD test results show a widespread of the trauma in Syria based on the result of the test as 53percent of the participants had symptoms corresponding to the recommended diagnosis, which is expected due to horrors of war and terrorism-related events.

Implications: Results suggest that it is imperative to provide intervention programs to treat PTSD symptoms among people who live in Syria. The participants' cultural and religious backgrounds should be taken into account in these programs.

The originality of the Study: This Syrian war research has contributed to a spike in symptoms of PTSD and depression among children in Syria.

Keywords: *Syrian War, Post-Traumatic-Stress Disorder (PTSD).*

BACKGROUND

In accordance with the Diagnostic and Statistical Manual of Mental Disorders IV's [DSM-IV], (APA, 2013), [Post-traumatic stress disorder \(PTSD\)](#) is a disorder associated with anxiety due to traumatic experiences. PTSD may develop due to experiencing or witnessing the suffering of a closely related person, to an extent that it threatens the life of the witnessing individual. Three main risk classes are characterizing the effects of PTSD: re-experiencing, avoidance, and hyperarousal. Some people may develop only some of these symptoms while others may get diagnosed with them all. Although some people are experiencing these symptoms of PTSD for a short period, the symptoms could last for years or decades and may continue to cause daily impairment; in some instances, PTSD signs cannot progress until many months or years after a stressful experience has happened (Radell et al., 2017; Gharib et al., 2017; Moustafa et al., 2013; Myers et al., 2013; Iyadurai et al., 2019; Clark & Mackay, 2015). The ensuing feeling may be helplessness and fear or horror (Ghumman, McCord & Chang, 2016). In view of the DSM-IV definition, the occurrence of PTSD may result from a single instance of traumatic experience threatening one's safety or life (Shelby, Golden-Kreutz & Andersen, 2005). According to DSM-IV, and as cited in Perkins, Ajeeb, Fadel and Saleh (2018), PTSD encompasses three symptom clusters: re-experiencing, avoidance, and arousal (Perkins et al., 2018). The phrase “Traumatic Event” has been defined as one causing a threat to an individual's integrity (or other people) (A1 Criterion), where the subject shows signs of helplessness, fear, or horror (A2 criterion) (Maercker & Perkonig, 2013). In the absence of physical safety, people may develop post-traumatic stress disorder, which can cause them to become both physically and mentally unhealthy (Maercker & Perkonig, 2013).

In light of the injustice that occurs in many regions around the world, a series of revolts began against the despotic governments in the Arab world, starting from Tunisia, moved to the Northside of Africa then to Syria, as the participated in those revolutions. Unfortunately, after the end of the Arab Spring revolutions and the beginning of the stability of states, some countries continued to pay the price of their attempts to live in democratic countries, so the governments of those countries did not give up easily but rather used all methods of violence and tyranny which led to civil war. In this study, we investigate the prevalence of PTSD due to the Syrian Civil War, which has started in 2011. No accurate number of casualties of the Syrian conflict is documented, however, it is estimated that the war has resulted in more than 5 million refugees who were forced to abandon their homes and leave their country and properties to preserve their lives and those of their children, and went to start a new life in several countries including Lebanon, Turkey, and Germany, who have opened their arms to

these people to help them in their plight and provide them with opportunities to build a better future for their children so that they do not suffer from the same social and psychological difficulties. While many others did not have the chance to reach any other country either they died because of shells, bombs, gunshots, or more likely they sacrificed their lives to save their colleagues on the difficult path to reach any other country. Also, many other Syrian civilians are still living in Syria during the Syrian armed conflict.

LITERATURE REVIEW

Researchers worldwide have become extremely interested in the mental health of Syrian refugees ([Yehuda, et al., 2015](#); [Yachouh, 2018](#); [El-Khani & Calam, 2019](#); [Georgiadou, Zbidat, Schmitt & Erim, 2018](#); [Karaman & Ricard, 2016](#)). Various studies have compared the existing rates of PTSD prevalence in peace and war among civilians as well as military personnel ([Ghumman et al., 2016](#); [Perkins et al., 2018](#); [Abo Hamza, Elsantil, Moustafa, and Abdelhadi, 2019](#)). Other researchers have focused on the differences in pre- and post-war PTSD prevalence among civilians in countries at war ([Hoppen & Morina, 2019](#); [Georgiadou, et al., 2018](#)). In their study, [Perkins et al. \(2018\)](#) estimated war-related events between 1989 and 2015 in roughly 1.45 billion persons across the globe ([Perkins et al., 2018](#)). From this figure, the researchers found out that a total of 354 million adults who survived extreme wars suffer post-traumatic stress disorders. From the 354-million persons, roughly 117 million individuals are victims of PTSD and major depressive disorder ([Perkins et al., 2018](#)).

Many studies have compared the prevalence of PTSD rates in peace and war in different European countries, and while the findings differed, a significant number indicated Croatia as the European country with the lowest number of PTSD prevalence among civilians and soldiers ([Atwoli, Stein, Koenen, & McLaughlin, 2015](#); [Burri & Maercker, 2014](#)). Generally, the average prevalence of PTSD in Europe ranges between 0.6 percent and 7 percent ([Wittchen et al., 2016](#)) of the general population, while the prevalence of PTSD in the United States is approximately 3.6 percent among civilians ([Onyedire, Ekoh, Chukwuorji & Ifeagwazi, 2017](#)). Nations with the highest rate of PTSD prevalence among both military and civilians included the UK, the Netherlands, Germany, and France. Other studies have associated low-income countries with increased PTSD prevalence ([Leon, Osburn, Bellairs, 2018](#)). The prevalence of PTSD and depression is higher in war areas around the world; [Abo Hamza et al. \(2019\)](#) reported that about 44 percent of children had at least one death in the household.

[Abo Hamza et al. \(2019\)](#) observed that PTSD and depression were substantially higher in females than males, and about 32.8 percent of the subjects meet the extreme depression criterion and 42.6 percent meet the PTSD requirements. Furthermore, [Pereira, Pereira, and Pedras \(2020\)](#) indicated that there are many variables that affect the prevalence of PTSD significantly. PTSD symptoms were observed to be higher according to the existence of psychological morbidity, and marital dissatisfaction ([Pereira et al., 2020](#)). [Heptinstall, Sethna and Taylor \(2004\)](#) study on refugee children who lived in London with their families had shown that there is a significant relationship between the recapping of pre-migration traumas the children experienced and their PTSD scores, also, the pre-migration and post-migration including violence, death of a family member, financial difficulties and the insecure asylum status experiences were associated with higher depression, and PTSD symptoms ([Yehuda, et al., 2015](#); [Heptinstall et al., 2004](#)).

[Ghumman et al. \(2016\)](#) reported a high rate of PTSD prevalence among Syrian refugee populations in various European nations such as Turkey, Germany, and the Netherlands ([Ghumman et al., 2016](#)). Similarly, the prevalence of PTSD among Syrian refugees has been previously examined by many researchers ([Georgiadou et al., 2018](#); [Acarturk et al., 2018](#)). [Acarturk et al. \(2018\)](#) estimated PTSD prevalence among Syrian refugees in a camp in Turkey as high as 83.4 percent ([Acarturk et al., 2018](#)), while [Georgiadou et al. \(2018\)](#) found that the prevalence of PTSD in Syrian refugees living in Germany is lower than in other nations like Turkey, Greece, Sweden, among others. This can be due to the fact that Germany provides larger benefits and sustainable support to Syrian refugees than that of other nations ([Georgiadou et al., 2018](#)). Moreover, a study had shown that PTSD was found by 35.4 percent among 452 respondents from the Syrian refugees in Lebanon, also, the study indicated that the Syrian refugees' hometown had an effect on the prevalence of PTSD. Syrian refugees who came from Aleppo had significantly more PTSD symptoms than Syrians who are coming from Homs ([Kazour et al., 2017](#)).

To our knowledge, there is no available information about the prevalence of PTSD among Syrian civilians who have lived and still are living in Syria during the Syrian armed conflict. Therefore, the present study seeks to examine the prevalence of post-traumatic stress disorder among Syrian civilians who, until the time this study was conducted, are and still living in Syria during the Syrian armed conflict.

METHODOLOGY

Design

We have used a survey that includes biographical information; however, submitting identity information was kept optional (as many participants may not feel comfortable sharing their identity). Other questions were set as "required". Some of them were used to filter out non-Syrians, fake participants, and multiple submissions.

Next, we screened for PTSD by using the PTSD checklist for civilians (PCL-C) which is a self-report measure that consists of 17 questions and used with respect to the Diagnostic Statistical Manual (DSM-IV) ([National Center for PTSD, 2012](#)). As the surveyed sample consists of native Syrians who speak the Arabic language mainly, we used a credible and valid Arabic version of the PCL-C. Google Forms were used to design the survey and collect responses and Google Sheets were used to analyze the data. The study was approved by the Al-Baath University University Ethics Committee. The consent obtained from all participants was both online and informed.

Participants

A sample of 600 random Syrian people participated in this study, all lived inside Syria during the time of conducting this study, and 32 percent of them lived in the city of Homs, while the other 68 percent lived in other Syrian cities. Most of the participants (95 %) were above eighteen years old. In terms of gender, 56 percent were males and 44 percent were females. Those who said that they have experienced a shocking/traumatizing war-related event reached 83percent of the participants, while the other 17 percent said they have not witnessed such events.

Procedure

The survey was made available online and published for responses using social media website Facebook® as a platform, and the selected page on the website is the official page of the Syrian Researchers organization. The page was used as a platform to make the survey available for participants to reach out Syrian people as the assistant manager of the organization had confirmed that page had just over 537 thousand Syrian followers by the time the study was conducted (A. Kerdie, personal communication, March 25, 2016). A post was created to publish the survey on the page, and it was kept available for review indefinitely ([Syrian Researchers, 2016](#)). The survey was open for responses from 26 March 2016 till 30 March 2016, and a total of 600 responses were collected.

Two methods can be used to score the results of PCL-C screening. The first one is done by setting a cut-point score, then finding out whether it was exceeded by the total score of severity, knowing that the total score is the sum of the points of all answers of the 17 questions, which range between 1 point "Not at all", and 5 points "Extremely". This means that the total score has to be between 17 and 85 points. The second method can be used to obtain a presumptive diagnosis in order to determine whether the participant has a symptom that is compatible with the criteria of the DSM-IV. This happens if the participant has 1 B item at least (in questions 1 to 5), a minimum of 3 C items (in questions 6 to 12), and at least 2 D items (in questions 13 to 17). A symptom is counted as present if the chosen answer was "Moderately" or above. It is recommended to combine both methods to guarantee that the participant has adequate severity of PTSD, as well as the required symptoms' pattern according to DSM-IV 5, which is what we did in this survey.

When the estimated prevalence of PTSD as high as in our situation as we are surveying people under war conditions, the recommended PCL-C cut-point scores are between 45 and 50 points. In our study, we chose 45 points as the cut-point, so any score that is over 44 points were considered to have had sufficient severity ([National Center for PTSD, 2012](#)).

RESULTS

The results of PTSD rates among the surveyed sample of 600 Syrian showed that about 58percent of the participants had a score higher than 44 points (346 participants), and while 360 participants had all the symptoms, 43 of them did not score sufficient severity score, so by combining both methods, we found that about 53percent of the participants had all the symptoms of PTSD in addition to having a score over 44 points (317 participants in total and 150 of them are females). An illustration of percentages is shown in Figure 1.

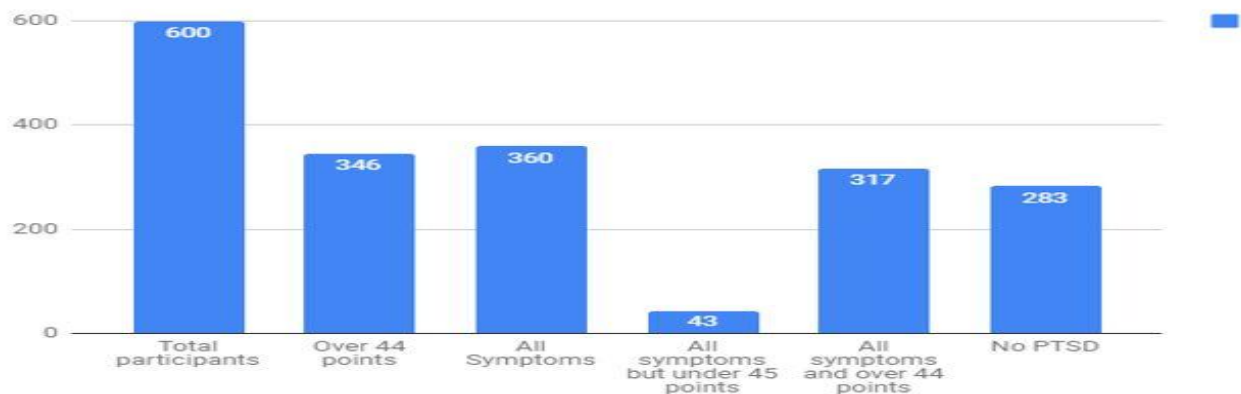


Figure 1: PTSD prevalence among participants of the surveyed sample in Syria, based on PCL-C scores

The mean average of all symptoms was 47.48 points. The mean averages for the three clusters of questions that indicate the first, second, and third PTSD symptoms (re-experiencing, avoidance, & hyperarousal) were 2.53, 2.93, and 2.85 respectively.

DISCUSSION

The PTSD test results show a widespread trauma in Syria as 53percent of the participants had symptoms corresponding to the recommended diagnosis, which is expected due to the horrors of war and terrorism-related events. For comparison, the lifetime prevalence of PTSD among the general population – not specifically in Syria – is about 3.6percent for men and 9.7percent for women ([Gradus, 2020](#)). A meta-analysis that reviewed post-war studies by using full diagnostic assessment and representative samples found that PTSD was reported in 15.4percent of the studied sample ([Steel et al., 2009](#)). In addition, there is good evidence that the number of lifetimes traumatic events is strongly linked with PTSD spread, the onset of PTSD in early age, and the level of impairment socially or occupationally. This means that more exposures can increase the chances of the early appearance of PTSD, which will probably be persistent and severe. The severity of traumatic events is directly related to higher risk and prevalence of PTSD with specific events, such as traumas caused by direct combat or sexual assault ([Yehuda et al., 2015](#)).

When it comes to veterans, it was estimated that the lifetime prevalence of PTSD reaches 30 percent, while the percentage of veterans that will keep suffering from PTSD symptoms more than 10 years after the war is 15percent. For instance, after one decade of the Vietnam War, one study estimated the proportions of current PTSD to be 28 percent in veterans who were exposed to combat ([Dohrenwend et al., 2006](#)). A follow-up study was conducted recently, 4 decades after the war ended, examining participants of the original veterans' group that participated in the first study. The results showed that 11percent of them are still suffering from PTSD symptoms that are severe enough to cause functioning impairment ([Marmar, Schlenger Henn-Haase, Qian, Purchia, Li & Karstoft, 2015](#)). Our findings show that PTSD prevalence is higher due to the Syrian War in comparison to other wars. Future research should explore the reasons underlying the discrepancy of the prevalence of PTSD following several wars, which could be due to several factors, such as health care provided to PTSD patients, the severity of the trauma, as well as other factors.

CONCLUSION

Results show a widespread of the trauma in Syria based on the result of the test as 53percent of the participants had symptoms corresponding to the recommended diagnosis, which is expected due to horrors of war and terrorism-related events. Furthermore, results suggest that it is imperative to provide intervention programs to treat PTSD symptoms among people who live in Syria. The participants' cultural and religious backgrounds should be taken into account in these programs. In conclusion, this Syrian war research has contributed to a spike in symptoms of PTSD and depression among children in Syria.

LIMITATIONS

It is very important to notice that the DSM-IV (PLC-C) test manual is not meant to make a final formal diagnosis, despite the fact the PCL has shown a good diagnostic utility. This study is only to show a simple estimation of how much could the trauma be spreading; thus, no personal scores were given to the participants. While the results of this study match with the results of other studies conducted on this topic, unfortunately, a more accurate approach could not be taken due to financial and personal hardships.

FUTURE WORK

It is recommended to use the new PCL-5 after being translated into Arabic and validated. Additionally, more precise conclusions could be achieved if the study was conducted by specialized organizations such as the UN, or governments like the official government of the Syrian Arab Republic and civil society organizations.

LIST OF ABBREVIATIONS

Posttraumatic distress disorder (PTSD).

Checklist for civilians (PCL-C).

The Diagnostic and Statistical Manual of Mental Disorders” (DSM-IV).

ETHICAL COMPLIANCE

All participants agreed to do enroll and conduct the study. They all signed informed consent before starting the study. The study was approved by the Ethics (IRB) Committee at Al-Baath University (Homs, Syria). The study was also conducted in agreement with the 1964 Helsinki Declaration. No external funding supported this work.

SUPPLEMENTARY DATA

The raw data is publicly available or can be requested from Mr. Majd A. Gharib who collected the data and prepared the assessments.

CONSENT FOR PUBLICATION

All authors of the manuscript have read and agreed to its content and are accountable for all aspects of the accuracy and integrity of the manuscript in accordance with ICMJE criteria.

That the article is original, has not already been published in a journal, and is not currently under consideration by another journal.

All authors agree to the terms of the BioMed Central Copyright and License Agreement, which we strongly recommend you read and, where applicable, Open Data policy.

COMPETING INTERESTS

The authors declare that they have no competing interests.

FUNDING

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

AUTHORS' CONTRIBUTIONS

All authors contributed equally in the research. Dr. Eid Abo Hamza worked in the methodology section and writing up and editing the final paper to be ready for publication, Mr. Majd A. Gharib Collected the data and prepared the assessments, Mr. Rami A. Gharib wrote the literature review and Methodology section, and Dr. Ahmed A. Moustafa supervised the whole project and run the data analysis.

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