To Study the Prevalence of Post-Traumatic Stress Disorder and its Comorbidity with personality disorders among veterans of Tehran

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Received: 29 January 2018  Accepted: 13 February 2018  Published: 10 March 2018

Abstract

Introduction: Iran has experienced 8 years of holy defence and over 5000 veterans of the holy defence are living at the moment in Tehran, but there is no accurate information available on their mental health status. The present study aims to determine the prevalence of post-traumatic stress disorder in the veterans of Tehran city.

Methodology: The research method has been devised as a “descriptive”, based on survey design. In order to perform the survey, 172 veterans from five districts of Tehran were selected by random cluster sampling. The Mississippi traumatic stress scale and clinical questionnaire of Millon Clinical Multiaxial questionnaires 3 (MCMI-III) were utilized to analyze the data collected via Chi-square test.

Findings: The results suggested that the prevalence of post-traumatic stress disorder was 39%. The extent of their disability lower than 25% along with the education higher than bachelor degree was associated with a lower risk of this disorder. The most common personality disorder along with such disorder among the veterans with post-traumatic stress disorder and the ones who did not have such disorder was Borderline Personality Disorder (BPD) (17/9 % of them with the post-traumatic stress disorder, 4/8% of the veterans without such disorder). The prevalence of avoidant personality disorders (10.4% vs. 1.9%), affiliated (10.4% vs. 0%), and a pessimist (7.5% vs. 1.0%) were also found higher in the veterans with disorder compared to the other veterans.

Conclusion: Post-traumatic stress disorder is high in the sacred defence veterans' population and its significant comorbidity with some personality disorders shows the necessity for an accurate assessment of these people's mental health status.

Keywords: Epidemiology, Post-Traumatic Stress Disorder, Personality Disorders, Veteran

How to cite the article:

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1. Introduction

The history of human being’s life has witnessed a number of wars due to having different purposes. Each of them caused some complications for the people of every land, which may look visible for the inhabitants of each region whose effects may be obvious to those who have experienced the war directly or indirectly or even for the later generations. Many of the war survivors indicated specific clinical responses after facing a stressful event (such as the lack of interested people, the disruption of the social structure and the loss of social supports) [1,2]. Since the passage of time, the ageing of the patients and the lack of comprehensive treatment intensify their symptoms and problems,
the studies conducted to investigate the long-term effects of the war on the psychosocial status of veterans demonstrate that not only the passage of time is not beneficial for the patient recovery, but also ageing causes increase in the symptoms of the disease and comorbid disorders [3,4]. The studies have shown severe result in long-term disabilities for the survivors. The incidence of disability and mental disorder such as Post-traumatic Stress Disorder (PTSD) is related to the closeness and confrontation with war. Unlike other psychiatric disorders, PTSD disorder is a unique disease that this traumatic incident in addition to having a cognitive role is considered as one of its diagnostic criteria [5]. The said harm historically and traditionally is usually related to the men in the events of war [6]. The most common disorder among the combat warriors is abnormal PTSD, one of the disorders that the occurrence of the traumatic incident has been raised as one of the main causes in the appearance of this disorder. PTSD is mostly seen in people who have experienced or observed a severe mental or physical stress or they have heard it from others. Post-traumatic stress disorder includes a set of symptoms after the time that an individual is exposed to a traumatic incident. These symptoms are categorized into three categories: re-experiencing the traumatic incident, persistent avoidance of relevant stimuli with avoidance of general responding as well as stable signs of hyperarousal. These symptoms should last at least for 4 months of excitement and they may be acute (lasting less than 3 months) or chronic (lasting at least 3 months) or may have a delayed start (symptoms start six months after the traumatic incident) [7]. The traumatic or traumatic incident in this disorder is an experience whose occurrence looks so close for the patient at any moment or any emotional and sentimental level so that he or she cannot process the mental and external reality [8].

The prevalence of post-traumatic stress disorder by using DSM-IV criteria in the general population is 6.8% [9]. The 12-month prevalence of this disorder in the range of 1.3% (in Australia) and 1-month prevalence of it in the range of 1.8-1.5% was estimated using criteria of ICD_10 up to 3.4% [10]. Prevalence in the life of PTSD in the general US population is within 7 to 8 per cent [11]. The prevalence of post-traumatic stress disorder has been estimated from 1% to 12.3% through field studies in the adult population [12]. In addition to this figure, 5 to 15% more other individuals may also have non-clinical forms of this disorder. The prevalence amount of this disease in the high-risk groups, namely, the groups whose members have been exposed to traumatic inscients have been placed in the range of 5 to 75 per cent. PTSD could emerge at any age but the most common age of the disorder onset is early adulthood due to its accelerating status [13]. The research on the prevalence of psychiatric disorders was conducted in Iran in 2009, reported the prevalence of this disorder in the general population at 0.98% [14]. In the research conducted in 2008, the prevalence of PTSD in the general population of Kashan was informed as 2% [15]. The closest research to estimate the PTSD prevalence is related to the research carried out by Fathi Ashtiani and Karaminia (2002) to investigate the clinical presentation of a number of psychologically injured people caused by the war that their most common disorder has been characterized by 44.2% PTSD [16]. And the oldest research of Jalili and Okhovat in February 1980, studied the war-related psychiatric patients in Khuzestan. They had been reported by more than 72 %. PTSD [17]. This disorder lasts for years, and it is associated with several traumas in many cases [17,18,19,20]. Most of these researches have reviewed limited samples and most of them have been performed on the accessible samples [17]. Considering the spiritual importance of the veterans and in order to obtain reliable information on their psychological needs of these people, one of the main goals of the present study is to determine the prevalence of post-traumatic stress disorder in the veterans' population. Since some other common disorders have been raised along with PTSD in a way they have been regarded as a law [21,22] two-thirds of the people with PTSD have at least another psychiatric disorder or they have a personality disorder which is often associated with DSM-I disorder. The most common psychiatric disorder related to PTSD was contributed to the personality disorders including Borderline Personality Disorder (BPD) having the highest comorbidity with PTSD. The personality disorder is characterized when the difference in person's behaviours is beyond the observed changes in most people, or the personality traits are not flexible and maladaptive, causing disruption in the performance and distress of the person. The personality disorder is a common and chronic disorder. Its prevalence extent in the general population is between 10% to 20%. Personality disorders are the underlying causes of other psychiatric disorders (such as drug use, suicide, emotional disorders, impulse control disorders, along with interrupting the treatment outcomes of DSM-I disorders and causing disability increase, diseases and fatality of these patients [13]. The onset and development of personality disorders may have occurred in the early life, early adulthood, adolescence or even prior to it [23]. On the other hand, personality disorders are defined as abnormal behavioural patterns to be shown at least in two areas: Cognitive-emotional, interpersonal performance and impulse control [7]. In domestic researches, no research was found on the comprehensive study of personality disorders prevalence in the general population, and only a small number was conducted on specific populations (pupils, students and criminals) [24]. Based on the carried limited studies, it was common to distinguish borderline personality disorder and...
avoidant personality disorders in patients with PTSD [25,26, 27]. But the association between PTSD and personality disorders is not limited to disorders and colleagues 1 of the borderline personality. The Southwick study (1993) suggested that many outpatients and the patients with PTSD had a variety of personality disorders through which the borderline personality disorder, obsessive-compulsive, avoidant personality disorder, and paranoid disorders are the most prevalent ones. Also among patients with PTSD, the most common personality disorder was paranoid, schizotypal, avoidant and self-defeating [25]. The prevalence extent of the personality disorders among veterans has been less studied, while these disorders have a major impact on the social and economic performance of the veterans [28,29,30]. Since having personality disorders and anxiety disorders not only makes life enjoyment impossible, but also such feelings will keep the person from acting with full capacity [31]. The purpose of the present study was to investigate the prevalence of post-traumatic stress disorder and personality disorders associated with it among veterans who are living in Tehran. By examining this prevalence among veterans, the responsibility of policymakers and the country health planners regarding the development of mental health programs will become more and more evident.

2. Methodology
2.1 Design
This study was a descriptive study.

2.2 Subjects
The population of the present study consisted of veterans living in Tehran who had participated in the war fronts from 1980 to 1982. Assuming the uncertainty of the post-traumatic stress disorder prevalence among the veterans, the p-ratio (Hypothetical ratio) 0.5 was considered in order to calculate the required sample size. Thus, considering \( \alpha = 0.05, 0.07 \) accuracy and its size equivalent to 1.25 (due to cluster sampling in the first phase), 245 samples were required for the study. By assuming a 20% drop in the sample in some cases like lack of filled-in questionnaires or their non-analyticity, 294 veterans were selected by multistage cluster sampling from 5 regions (north, west, south, east and centre) of Tehran. Only 172 veterans had responded to all questionnaires. The average age of male veterans is 47 years.

2.3 Tools
Mississippi traumatic stress scale is one of the most well-known scales to measure the severity of stress disorder. In order to investigate the reliability of this scale, its English version was translated from English to Persian using the recommended method by Briselin, Laner, and Thorndike (1973). The Persian version of this scale was briefly called "Ashl" [32]. The scale of post-traumatic stress disorder has 39 phrases. This scale was introduced by Noris and Reid in 1997 and its reliability was investigated by Goodarzi (2003) in Iran. The test validity was based on the internal correlation of 0.92, using the two-half way method of 0.92, considering a re-test with a one-week interval of 0.91 with a peer-to-peer test) PTSD log) of 0.82. Its test reciprocity was 0.97, the internal consistency of alpha was 0.94, with a sensitivity of 0.93 and validity of 0.90, moreover, its validity has gained based on the diagnostic criteria of DSM-III. This scale is scored in five degrees by the use of the Likert method. This scale has been used in various studies so far (King et al. 1995; Marble 1994; McNellie et al. 1995). The Cronbach's alpha coefficient test is 0.97.

2. Millon Clinical Multiaxial questionnaires 3 (MCMI-III): it is a self-assessment scale which is used for clinical decision-making. This test has a total of 175 yes/no items measuring 11 Clinical pattern measures personality and clinical syndrome to be used for over 18-year-old adults or older. The personality clinical patterns in the Millon Clinical Multiaxial questionnaires 3, including 11 sub-scales, are as follow: Schizoid Personality, Selective, Depressed, Affiliated, Dramatic, Narrated, Antisocial, Annoying, Sadomasochist, Pessimist, and Sadomasochist Personality. This test has been normalized twice in Iran. The second edition of the test was once translated in Tehran by Khaje Mughi and normalized in 1993. The third version was normalized by Sharifi in 2002 in Isfahan. The reliability coefficient of MCDM scales for the subscales of the clinical syndrome and the clinical pattern of personality and the total questionnaire have obtained 0.87, 0.83 and 0.92, respectively [33]. The Cronbach's alpha coefficient in this study is 0.85.

The process of the research: After obtaining a variety of licenses from the Martyrs' and Warriors Foundation of Great Tehran along with identifying the veterans living in the 5 areas (north, south, west, east and center) of Tehran who were selected by multi-stage cluster sampling method, they completed Mississippi post-traumatic stress scale questionnaires and Millon Clinical Multiaxial questionnaires 3 (MCMI-III). The method to fill in the questionnaires was individually based. Before the questionnaires are administered and completed, the goals of the research were fully explained and along with obtaining a consent letter, and observing the ethical considerations, the veterans were requested to fill in the questionnaires. In addition, assuring over the confidentiality of the information and freedom of choice in order to participate in the research has been considered as the observed ethical points of this research.
To analyze data, SPSS-19 (Statistical Package for the Social Science Version 19) was utilized and in order
to study the relationship between demographic variables and post-traumatic stress disorder (PTSD). Additionally, the Chi-square test was used to compare the association between post-traumatic stress disorder and personality disorders of the previous group with the normal group.

2.4 Findings

172 participants participated in this study. The mean age (± standard deviation) of these people was 47.7 ± 2.8 years. The 172 veterans were male and all married.

Table 1. Demographic information of the studied individuals and the frequency of post-traumatic stress disorder (PTSD)

<table>
<thead>
<tr>
<th>Demographic information</th>
<th>Frequency in sample</th>
<th>People with PTSD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td><strong>Age group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41-48 years old</td>
<td>98</td>
<td>57.0</td>
</tr>
<tr>
<td>49-52 years old</td>
<td>74</td>
<td>43.0</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under diploma</td>
<td>10</td>
<td>5.8</td>
</tr>
<tr>
<td>Diploma</td>
<td>40</td>
<td>32.3</td>
</tr>
<tr>
<td>Bachelor degree</td>
<td>100</td>
<td>58.1</td>
</tr>
<tr>
<td>Master degree</td>
<td>15</td>
<td>8.7</td>
</tr>
<tr>
<td>PhD</td>
<td>7</td>
<td>4.1</td>
</tr>
<tr>
<td><strong>Service organ</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revolutionary Guard Corps</td>
<td>66</td>
<td>38.4</td>
</tr>
<tr>
<td>Mobilization</td>
<td>56</td>
<td>32.6</td>
</tr>
<tr>
<td>Army</td>
<td>31</td>
<td>18.0</td>
</tr>
<tr>
<td>Police force</td>
<td>19</td>
<td>11.0</td>
</tr>
<tr>
<td><strong>Percentage of injuries</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower than 25%</td>
<td>54</td>
<td>31.4</td>
</tr>
<tr>
<td>25%-50%</td>
<td>72</td>
<td>41.9</td>
</tr>
<tr>
<td>50%-75%</td>
<td>39</td>
<td>22.7</td>
</tr>
<tr>
<td>75% or higher</td>
<td>7</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Table 2. Frequency of all Personality Disorders in the Patients with and without PTSD (PTSD)

<table>
<thead>
<tr>
<th>Total number of Veterans</th>
<th>With PTSD</th>
<th>Without PTSD</th>
<th>Statistical test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>Schizoid</td>
<td>8</td>
<td>4.7</td>
<td>3</td>
</tr>
<tr>
<td>Avoidant</td>
<td>9</td>
<td>5.2</td>
<td>7</td>
</tr>
<tr>
<td>Depressed</td>
<td>21</td>
<td>12.2</td>
<td>7</td>
</tr>
<tr>
<td>Affiliated</td>
<td>7</td>
<td>4.1</td>
<td>7</td>
</tr>
<tr>
<td>Dramatic</td>
<td>7</td>
<td>4.1</td>
<td>3</td>
</tr>
<tr>
<td>Narcissistic</td>
<td>12</td>
<td>7.0</td>
<td>6</td>
</tr>
<tr>
<td>Anti-social</td>
<td>3</td>
<td>1.7</td>
<td>1</td>
</tr>
<tr>
<td>Sadomasochist</td>
<td>2</td>
<td>1.2</td>
<td>2</td>
</tr>
<tr>
<td>Obsessive-compulsive</td>
<td>10</td>
<td>5.8</td>
<td>4</td>
</tr>
<tr>
<td>Pessimist</td>
<td>6</td>
<td>3.5</td>
<td>5</td>
</tr>
<tr>
<td>Masochism</td>
<td>1</td>
<td>0.6</td>
<td>0</td>
</tr>
<tr>
<td>Schizotypal</td>
<td>1</td>
<td>0.6</td>
<td>1</td>
</tr>
<tr>
<td>Border</td>
<td>17</td>
<td>9.9</td>
<td>12</td>
</tr>
<tr>
<td>Paranoid</td>
<td>12</td>
<td>7.0</td>
<td>7</td>
</tr>
</tbody>
</table>

*p<0/05
Other basic features of these people are shown in Table 1. In total, 67 veterans (39%) were diagnosed with PTSD. The frequency of this disorder in the different subgroups is presented in the same table.1. 171 veterans out of the sample size completed the demographic information. In terms of marital status, all of them were married. 49 people (17.15%) had under diploma and diploma degree, 122 of them (43.3%) had bachelor and higher education degrees. 16 people (5.2%) were from health services along with a history of hospitalization. 30 persons (9.9%) were on psychiatric drugs. In terms of injuries, 47 of them (73.1%) had 50% injuries and below, and 20 of them (26.9%) were above 50%. 23 people (38/6%) were related to Corps Organ, 56 from mobilization (32/7%) and 31 people (10/5%) related to Army Organ and Police force with a frequency of 18 people (6/4%).

In accordance with the MCMI-III, the most common personality disorders in the whole veterans population were studied which were depression (12.2%), borderline (9.9%), narcissistic (7/0%) and paranoid (7/0%). In the group with PTSD, the most common disorder was also borderline personality disorder (17.9%), and the frequency of the borderline, avoidant, affiliated and paranoid personality disorders in the veterans with PTSD was significantly higher than those who were not affected (Table 2).

3. Discussion

War is one of the oldest phenomena which has been always taken into account in all human societies throughout history and it is the major cause of post-traumatic stress disorder. Regarding the aim of the current study on estimation to the prevalence of PTSD in veterans living in Tehran, the results have shown that the frequency of the PTSD prevalence is 67% people (39%). These results are consistent with the results obtained by the previous studies [2, 34, 35, 36]. For describing the existence of this disorder in veterans, it can be said that according to the 8-year experience of imposed war in Iran, people who had been present in the fronts for a long period of time as well as considering the continuation of existing stresses, which are the basis for the formation of this disorder leading to be a chronic disease, and mental suffering, could face chronic physical illness and early death. For example, in a research conducted by Althaven B, Mac Aimen in 1989, the results suggest that 40% of people with PTSD end up such diagnosis by the end of their lives, and 81% of them who are suffering from PTSD would maintain the PTSD criteria, and it is a fact that such disorder lingers 40 years after the war [37]. Considering the re-experience, as one of the factors of PTSD continuity, some researchers believe in this regard that certain individuals face some environmental factors in their lives which cause them to experience the war once again. These factors include the martyrdom of their chemical front partners and the presence of martyrs' images on the walls and some signs in the city, as well as naming some areas based on the martyrs of the location... All of these factors can affect to revive the memories of the war for these people and influence the severity of PTSD. The results can conclude that the disease tends to be chronic within the time.

Since most controversial studies on PTSD suggest there is a relation between PTSD and bilateral mental illness, the prevalence of abnormalities associated with PTSD is considerably high [11,16]. One of the most disabling psychiatric disorders, namely, personality disorders among veterans, has been investigated in this study. Personality disorders represent a series of diverse and complex behavioural patterns [38]. The results obtained from this study demonstrated that the most common personality disorders in the whole under study veteran population were depression (12.2%), borderline (9.9%), narcissistic (7%) and paranoid (7%), respectively. In the group with PTSD, the most common one was borderline personality disorder (18%) plus depressed personality disorder, avoidance, affiliated and paranoid were reported each 10.4%. These results are in line with the previous research [60,45, 44,43,42,40,39,38,37]. In determining the existence of personality disorder, the reasons behind the relation between war and personality disorder and PTSD is first reviewed. Considering high psychological pressure of the war fronts on warriors, even those who had previously a healthy personality and good social adaptation, they were psychologically distressed along with having some personality changes which base a number of personality disorders. The war with wide waves causes damage to the limbic system, which is located in the temporal part of the brain. This system is effective in adjusting anger and wrath, so that a wide range of personality disorders may develop in these areas. Any damage to the front part of the forehead also results in a lack of control over anger and performing some actions without considering its consequences, which are more seen in the windmill victims. It indicates the effect of the sound waves of bombs and chemical weapons of war on changing the method, lifestyle and personality features in the people. The findings are based on three important factors including the disaster itself, post-traumatic experiences and the person's personality in order to find the relation between personality disorders and PTSD. First of all, the disaster itself is reviewed. Then, the amount and severity of stress based on the duration that anyone has experienced is studied. Moreover, seeing scenes and listening to the memories in this regard affects in spite of the criteria for the
diagnosis of PTSD and existence of trauma in a manner which is beyond the person’s ordinary experiences psychologically and it is somehow effective on anyone. That’s why such emotional stroke could include personal (raping), the group based (war) or natural disasters. It is noteworthy to mention that any individual in the morning (at wartime) is at the exposure to the peril, and it is beyond the life experience of the public [46]. The existence of similarities in the criteria of personality disorders, especially borderline personality disorder with PTSD caused that some researchers consider these two disorders alike. The similarity of some of the diagnostic criteria in these two disorders look like mood fluctuation, usually lasting for several hours [47], and which is often associated with severe symptoms of tiredness, irritability, and reactive anxiety [48]. The clinical study results suggest that experience and avoidance in personality disorders can complicate the treatment process in patients with post-traumatic stress disorder and other psychiatric disorders [48, 45]. The depressed personality of the veteran community, along with losing physical abilities, always creates special social and psychological problems for every human being. These problems are usually as the result of lack of individual’s ability to coincide their new physical conditions with the realities of their living environment. Different psychological stressors, such as unemployment, lack of enough financial resources, physical illnesses, family conflicts, and parenting, may lead to exacerbate or to intensify depressed personality disorder in the veterans’ community. There are common features on the scale of depression and PTSD. This scale is mostly related to mood problems and the features to reduce the pleasure of daily activities, severe dependency, high fear of intimacy, lack of control over anger, pessimism, and inconsistency. That’s why these people have difficulty communicating [49]. Depressed Personality Disorder is the predictor of depression has been reported in one year among people with PTSD [50]. The mood disorder has emotional and emotional aspects, in spite of the fact that hereditary factors play a role in them, environmental factors also have a significant role. Stress is one of the factors which interact with hereditary and environmental factors, and to cause revealing susceptible mood symptoms. It is possible to mention that the reason is there is an overlap between the symptoms of personality disorder and symptoms such as anxiety disorders (especially post-traumatic stress disorder), depression and physical signs due to the fact that post-traumatic stress disorder is often associated with clinical disorders (axis 1) such as mood and anxiety disorders and the underlying factor of this disorder is post-traumatic stress. The results of this research are evidence to it.

Acknowledgement
This research is extracted from a dissertation project and was carried out by the fund granted of the Foundation of the Veterans of the Islamic Revolution. All the veterans participating in this research and the respectful officials of the Foundation of the Veterans of the Islamic Revolution are appreciated.

References