Differences in posttraumatic stress characteristics by duration of exposure to trauma

Aviva Goral[a,b,*], Mooli Lahad[c,d], Limor Aharonson-Daniel[a,b]

[a] Department of Emergency Medicine, Recanati School for Community Health Professions, Faculty of Health Sciences, Ben-Gurion University of the Negev, P.O.B 653, Beer Sheva 8410501, Israel
[b] PREPARED Center for Emergency Response Research, Ben-Gurion University of the Negev, P.O.B 653, Beer Sheva 8410501, Israel
[c] Department of Psychology, Tel-Hai College, 12208 Upper Galilee, Israel
[d] The Community Stress Prevention Centre (CSPC), P.O. Box 797, 11016 Kiryat-Shmona, Israel

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ABSTRACT

Ongoing exposure of civilian populations to war and terror is associated with adverse responses beyond those specified in DSM-5 for PTSD. Current PTSD assessment practices are not fully sensitive to the complex symptomatic picture observed among individuals exposed to ongoing stress and are therefore limited for use in these situations. The current survey aimed to portray the posttraumatic characteristics most salient to ongoing exposure to political conflict.

A questionnaire enquiring about various aspects of the posttraumatic consequences of ongoing exposure to political conflict as compared with those associated with a single exposure to trauma was disseminated to therapists throughout the country. Participants were asked to rank 75 posttraumatic characteristics for their relevance to each trauma type (about the symptom frequency and severity) and item mean scores were compared. The sample consisted of 66 responses valid for analysis. Our findings pinpoint some of the posttraumatic characteristics most salient to ongoing exposure to political conflict and highlight the complexity of the posttraumatic picture observed in these situations. Incorporating these in post trauma assessment tools will allow for the development of standardized, reliable definitions, which in turn will allow for more accurate diagnosis and more effective treatment protocols.

1. Introduction

Posttraumatic stress disorder (PTSD) is one of the most common psychiatric disorders associated with trauma exposure (Spoont et al., 2013). It is estimated that a large proportion of the population (up to 60% in the US) will experience at least one traumatic event over a lifetime (Kessler et al., 2005). PTSD lifetime prevalence rates vary widely across countries ranging from no PTSD in Switzerland to 7.4% in the Netherlands (Kessler et al., 2005; deVries and Olff, 2009; Hepp et al., 2006). Ongoing exposure to war and terror has been linked to higher levels of stress symptoms, PTSD and depression (Bleich et al., 2003; de Jong et al., 2001; Hobfoll et al., 2006a; Shalev and Freedman, 2005; Shalev et al., 2006; Stoddard et al., 2011; Veling et al., 2013).

Israel may be regarded as a natural laboratory for studying the effects of ongoing stress, owing to the protracted Israeli-Palestinian conflict, affecting civilians on both sides. During the period between the year 2000 until the end of 2009, 1178 civilians were killed and 8022 injured due to acts such as mass shootings, homicides, suicide bombers, missile attacks and bombs (Israeli Security Agency). That is an average of over 10 deaths and over 72 injuries per month, in a country of 8.5 million residents only. In the four months between mid-September 2015 and mid-January 2016, 318 people were injured in such attacks, among them 29 killed (www.mdais.org).

One of the first studies aimed at examining the mental effect of ongoing exposure to threat in Israel was conducted in 2002 (Bleich et al., 2003) following a 19 months' period of attacks that were carried out throughout Israel. About 54% of the participants reported being exposed to an attack, either directly (16.4%) or had a family member or friend exposed (37.3%). PTSD symptoms were noted in about 9% of the sample. According to Garcia-Vera et al., (2016) mean PTSD rates are about 30% among directly exposed victims, 23% among relatives or close friends of terror victims and 4% in the general population of the affected community. PTSD rates and severity during periods of intense threat of terrorism are much higher in the affected community (Garcia-

Vera et al., 2016; Bensimon et al., 2013).

Long periods of exposure to political conflict cause a tremendous disturbance to life. Residents may need to avoid routine activities and may be required to be adjacent to air raid-shelters, to home curfew or even evacuate their homes. Public facilities may be temporarily closed and people may be instructed to refrain from congregation, preventing cultural and festive events. Such an exposure forces upon the community exposed a particularly traumatic routine where the fear of injury or death from a random, unpredictable future attack is at the essence of anxiety symptoms (Diamond et al., 2010). Death anxiety in turn, was found to be a significant predictor of posttraumatic symptom severity (Hamama-Raz et al., 2016).

The posttraumatic picture unique to ongoing exposure to political conflict (OEPC) has not been fully characterized yet. Nevertheless, it has been suggested that the set of symptoms associated with such an exposure may not be the typical PTSD syndrome assessed by the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (APA, 2013; Diamond et al., 2010; Kaminer et al., 2016; Nuttman-Shwartz and Shoval-Zuckerman, 2015). Various terms were used in the literature to describe these conditions, including 'Continuous Traumatic Situations – CTS' (Nuttman-Shwartz and Shoval-Zuckerman, 2015), 'Continuous Traumatic Stress' (Kaminer et al., 2016) and 'Lifetime Cumulative Adversity' (Shrira, 2014) among others. Diamond et al. (2010) proposed the term 'Ongoing Traumatic Stress Response' (OTSR) which relates to the accumulated effect of ongoing exposure by which anxiety symptoms develop gradually overtime as a cumulative result of ongoing exposure to threat. Ongoing exposure to trauma is associated with a complex symptomatic depiction and studies show that the clinical presentation seen in trauma victims may be related to the type of traumatic exposure, the duration of exposure, the context of trauma and the measures of posttraumatic stress (Breslau, 1991; Clauw et al., 2003; Herman, 1992; Hoffman et al., 2011). These issues are not addressed in the newly revised DSM-5 diagnostic criteria for PTSD, which has been criticized concerning both its diagnostic capabilities and its clinical utility (Cornelius, 2013; Hoge et al., 2016; Stein et al., 2016). As these criteria were designed for capturing the posttraumatic picture associated with single-event trauma, its' diagnostic capabilities in multiple traumatic events in general, and in OEPC in particular are even more limited (Kaminer et al., 2016; Stein et al., 2016). In addition, Criterion A requires a specific traumatic exposure to qualify for a PTSD diagnosis; it may not be applicable when assessing the posttraumatic impact of ongoing exposure to intense threat, which may extend beyond those directly exposed through intense media coverage, through the experience of friends and acquaintances, etc (Bensimon et al., 2013). Another issue concerns typical PTSD symptoms such as avoidance and arousal which may be conceptualized as adaptive, yet distressing reactions to an ongoing threat (as opposed to those associated with a past non-dangerous traumatic event) and may not necessarily reflect a pathology (Hoffman et al., 2011; Kaminer et al., 2016). Finally, it has been argued that posttraumatic symptoms associated with OEPC may be relieved when the exposure to stress is discontinued (i.e. when moving away from the area under conflict or during calm times). Relief in typical PTSD symptoms is not achieved unless treated (Diamond et al., 2010).

Due to the limited diagnostic capabilities of the DSM-5 described above, more specific designated criteria for the identification and diagnosis of people exposed to ongoing political conflict are needed.

1.1. Study goals and aims

The current survey aimed to capture the posttraumatic characteristics most salient to OEPC based on therapists' experience. The specific aims were:

1. To compare posttraumatic symptoms' mean severity scores between single or short duration exposure to trauma (of any type) and OEPC
2. To assess whether there is a relief in posttraumatic symptomatology

associated with OEPC when the source of exposure is discontinued, and
3. To assess the therapists' perception regarding the similarity between the posttraumatic characteristics observed among individuals exposed to a single or short duration trauma and those observed among individuals exposed to ongoing political conflict

2. Methods

2.1. The study process

The current survey describes one phase of a broad project aimed to undertake an in-depth study of the mental outcomes of OEPC. The study's process comprised of a mixed methods approach and included (by the time the therapist survey was carried out) a thorough literature review, six in depth face-to-face interviews with key informants (three from Southern Israel and three from Northern or central Israel) and a focus group with therapists experienced in treating trauma victims. Interviews were conducted between November 2014 and May 2015; the focus group session was held in November 2014 and consisted of 12 therapists.

Information was collected regarding the mental health consequences of exposure to trauma in an attempt to identify and differentiate the post-traumatic characteristics (symptoms, behaviors etc.) most salient to OEPC and to hear about the challenges therapists face when assessing the effect of OEPC (in terms of the availability of reliable diagnostic criteria and assessment tools). Interviewers and focus group participants were initially presented with a list of 32 potential post-traumatic characteristics derived from commonly used PTSD assessment tools and were invited to add other post-traumatic symptoms they thought were salient to OEPC. By the time the therapist's survey was carried out the list of potential posttraumatic characteristics consisted of 75 items.

2.2. The questionnaire

A questionnaire was developed specifically for this study. The list of 75 posttraumatic characteristics consisted of 'Core' posttraumatic items (criteria B-E and G required by DSM-5 for PTSD assessment) assessed using the Posttraumatic Diagnostic Scale (PDS; Foa et al., 2016), and 'Supplementary' posttraumatic characteristics (SPC). Some of these are newly identified posttraumatic symptoms (not required by DSM-5 for PTSD diagnosis) while others constitute manifestations of DSM-5 criteria but are not specifically enquired in PTSD assessment tools. Participants were asked to rank all posttraumatic characteristics with regards to the symptoms' frequency and severity for each traumatic exposure type: single/short duration trauma (of any type), ongoing exposure to political conflict (one month or over). Items were measured on a seven point Likert scale ranging from 1 = *irrelevant* to 7 = *very relevant*. While all core items were maintained for further analyses, the extensive list of supplementary posttraumatic characteristics was reduced by scientific consensus reaching methods including the Delphi process (Jones and Hunter, 1995) and an exploratory factor analysis process. Fourteen SPC remained following the reduction process. Some of these may be central to understanding the mental effects of OECP and are not specifically integrated in current mental distress assessment tools such as the PDS (Foa et al., 2016), the Clinician Administered PTSD Scale (CAPS; Weathers et al., 2013) or the Patient Health Questionnaire (PHQ; Kroenke et al., 2001). These include 'mental exhaustion', 'feeling of betrayal', 'increased morbidity', 'feeling lack of control about the future', 'sense of danger', and 'low frustration threshold' among others. Functional impairment (criteria G in DSM-5) was assessed both as a single item ('difficulties in daily functioning') and from several perspectives including: work ('absence from work', 'change in work atmosphere'); home ('change in home atmosphere', 'difficulties with spouse') and social ('difficulties in relationships').
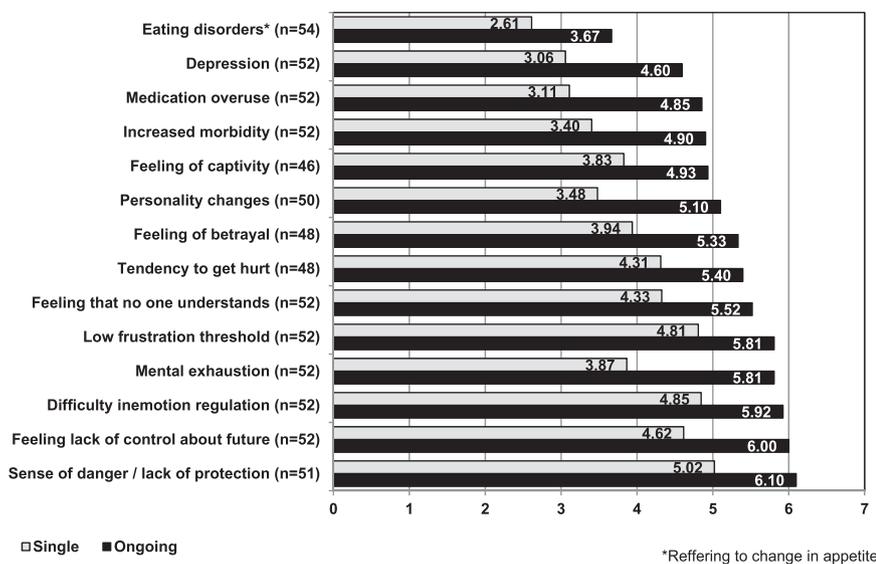
Fig. 1. Supplementary posttraumatic characteristics mean score by trauma type.

In addition, the following questions were asked: In your opinion: 1. 'Would there be a relief in posttraumatic symptoms in a person exposed to ongoing political conflict: a. during calm times, b. when out of range of threat?', 2. 'Do the posttraumatic consequences of OEPC resemble PTSD as currently defined by the DSM?' (responses for both questions were: *Yes/No/Don't know*), 3. 'To what extent are the questionnaires that are currently used for assessing PTSD appropriate for assessing and diagnosing the posttraumatic consequences of OEPC? (measured on a 5-point Likert scale ranging from 1 = *very appropriate* to 5 = *not at all appropriate*).

Additional data collected included: demographics (age, gender); professional background including: profession (*psychiatrist/psychologist, social worker, other*), work region (*Northern, Southern, Central Israel*), duration of experience treating individuals exposed to trauma (*6–10 years, 11–15 years, > 15 years*), time of last contact with a post traumatic patient (*past month, past year, over one year*); familiarity with and use of common PTSD assessment tools.

2.3. The sample

The survey questionnaire was disseminated to professionals whose contact information was extracted from web sites or portals of organizations offering various psychological services in Israel via a web-based online survey (www.qualtrics.com) between September-December 2015. Such websites included: 'Betipulnet' the leading portal in the field of psychotherapy in Israel (http://www.betipulnet.co.il), Hebrew Psychology (htt/www.hebpsy.net), The International Trauma Healing Institute - Israel (http://healingtrauma.org.il), etc. An attempt was made to approach individuals who identified themselves as therapists (psychologists/psychiatrics/social workers, etc). A brief description of the study and its purpose preceded the questionnaire itself and therapists experienced in treating people exposed to political conflict were invited to participate (inclusion criteria). The study sample consisted of 66 responses valid for analysis.

2.4. Ethical considerations

Participation was voluntary and data protection was observed throughout study. Survey participants were informed that by agreeing to participate in the study they were providing their written informed consent. The research protocol was approved by the internal review board (IRB) at the Faculty of Health Sciences at Ben-Gurion University.

2.5. Statistical analysis

Core post trauma items were grouped according to DSM-5 criteria (B-intrusion, C-avoidance, D-negative alterations in cognitions and mood, and E-alterations in arousal and reactivity) and means were calculated across all items in each criteria. Functional impairment and SPC means were calculated separately for each item. Paired-samples t-tests were used to compare mean scores between single traumatic exposure and OEPC. Chi square tests were used to compare responses to the questions regarding relief in posttraumatic symptoms, posttraumatic symptoms resemblance to the PTSD as currently defined by DSM-5, and the appropriateness of currently used questionnaires, by profession, duration of professional experience categories and by work region. Data were analyzed using SPSS21 statistical software.

3. Results

3.1. Sample characteristics

The survey sample (N = 66) consisted of 44(67%) females; the mean age was 51.4 years (standard deviation, SD = 11.86 years); 32(49.2%) were social workers, 19(29.2%) were psychologists, one was a psychiatrist (1.5%) and 13(20%) were 'other' therapists (psychotherapists, and expressive arts therapists). Most survey participants (74.2%) reported having over 11 years of professional experience. Most responders (n = 40, 62.5%) indicated having their last contact with a posttraumatic patient in the month previous to the survey, 15 responders (23.4%) indicated that the last contact was during the year previous to the survey.

3.2. Posttraumatic characteristics

3.2.1. Supplementary ongoing stress related posttraumatic characteristics
Fig. 1 presents mean scores of the 14 supplementary posttraumatic characteristics by trauma type. As can be seen, all mean scores were significantly higher for OEPC compared with those associated with a single traumatic exposure (p < 0.001 for all). Moderate to high (> 5/7) OEPC mean scores were seen for nine out of the fourteen (64%) SPC including: 'Sense of danger/lack of protection', 'Feeling lack of control about the future', 'Difficulty in emotion regulation', 'Mental exhaustion', 'Low frustration threshold', 'Feeling that no one understands me', 'Tendency to get hurt', 'Feeling of betrayal', and 'Personality changes'. In comparison, only 'Sense of danger/lack of protection' had a single exposure mean score higher than five. Furthermore, particularly high
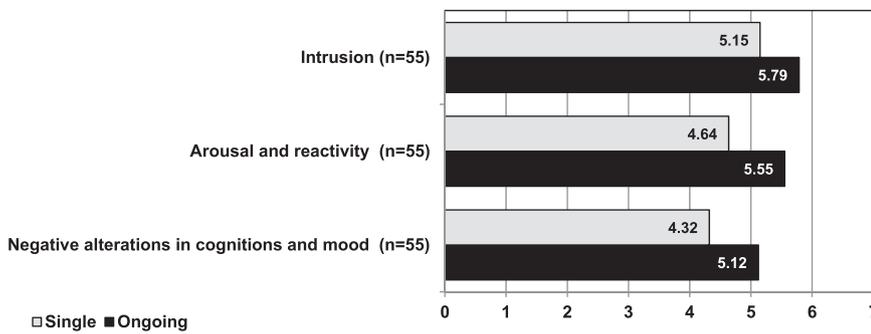
Fig. 2. Mean core posttraumatic characteristic scores, by DSM-5 criteria and by trauma type.

mean score *differences*

($\Delta > 1.5$) were seen for: 'mental exhaustion ($\Delta = 1.94$), 'personality changes' ($\Delta = 1.62$), 'feeling of betrayal' ($\Delta = 1.40$), and 'feeling lack of control about the future' ($\Delta = 1.38$). Supplementary posttraumatic characteristics with lower ongoing exposure mean scores (< 5) yet high *mean score difference* were observed for 'medication overuse' ($\Delta = 1.75$), 'depression' ($\Delta = 1.54$), and 'increased morbidity' ($\Delta = 1.50$).

3.2.2. Posttraumatic characteristics by DSM-5 criteria

Fig. 2 presents mean posttraumatic characteristics according to DSM-5 criteria (B-E) for PTSD and by trauma type. Posttraumatic mean scores were significantly higher for OEPC compared with single exposure for: Intrusion (criteria B; $t(54) = 3.02$, $p = 0.004$), Negative alterations in cognitions and mood (criteria D; $t(54) = 3.53$, $p = 0.001$), and Arousal and reactivity (criteria E; $t(54) = 4.36$, $p < 0.001$). The mean score for Avoidance (criteria C) was non-significantly higher for OEPC compared with single exposure (means were 5.46 and 5.30 respectively).

3.2.3. Functional impairment

All functional impairment mean scores but 'absence from work' were significantly higher for ongoing exposure compared with single exposure to trauma (Fig. 3; $p < 0.001$ for all). The overall functional impairment item ('difficulties in daily functioning') mean scores were 5.32 (SD = 1.43) for OEPC and 4.47 (SD = 1.54) for single exposure (t (52) = 3.32, $p = 0.002$). As can be seen in Fig. 3, the association between OEPC and work related items was somewhat weaker than that observed with personal/social aspects as evident by both the higher mean scores and higher mean score differences observed for personal/ social aspects of functional impairment (i.e.: 'difficulties with spouse', $\Delta = 1.67$; 'difficulties in relationships', $\Delta = 1.21$; 'change in home atmosphere', $\Delta = 1.23$) compared with 'change in work atmosphere' ($\Delta = 0.83$) and 'absence from work' ($\Delta = 0.42$).

3.2.4. Relief in posttraumatic symptoms

Over a half of all responders indicated that there would be a relief in posttraumatic symptoms associated with OEPC during calm times ($n = 37$, 59.7%) and when the individual is out of range of the threat ($n = $
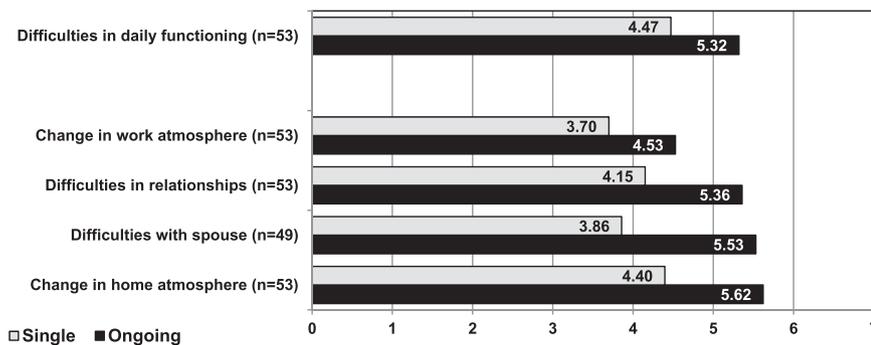
36, 59.0%). Only about a quarter thought that there would be no relief in either situation ($n = 17$, 27.4% during calm time and $n = 14$, 23.0% when out of range). Responses to these questions did not differ significantly by profession, years of experience or by work region.

3.2.5. Is the posttraumatic syndrome seen in individuals exposed to ongoing political conflict, PTSD as currently assessed in DSM-5?

Thirty-five (57.4%) responders indicated that the posttraumatic syndrome seen in individuals exposed to ongoing political conflict resembles PTSD as currently defined by the DSM-5, 15(24.6%) of the responders indicated that these are not the same syndromes, and 11(16.7%) responders said that they did not know. Responses to this question differ significantly by work region; six out of the 11 therapists located in southern Israel (55%) indicated that the posttraumatic syndrome seen in individuals exposed to ongoing political conflict does not resemble PTSD as currently defined, compared with 9 out of the 39 (23.1%) therapists whose clinic is located in central or northern Israel ($\chi^2(1) = 4.05$, $p = 0.044$). Responses to this question did not differ significantly by profession or by years of experience.

3.2.6. To what extent are the questionnaires currently used for assessing PTSD appropriate for assessing the posttraumatic consequences of OEPC?

Of the 51 responses to this question, only 11(21.5%) of the responders indicated that the tools currently used for assessing the posttraumatic consequences of OEPC are 'very appropriate', 24(47.1%) indicated that they are only 'fairly appropriate' and 16(31.4%) responders indicated that they are not at all appropriate. Responses to this question did not differ significantly by profession, years of experience or by work region.

4. Discussion

In this study, we aimed to capture the posttraumatic characteristics most salient to ongoing exposure to stress. In order to do so, we took the perspective of experienced mental health providers. We first compared posttraumatic symptoms' mean scores between single exposure to trauma and ongoing exposure to stress concerning the frequency and severity of the symptom. In accordance with previous findings which

Fig. 3. Functional impairment items: mean scores, by trauma type.

show that higher exposure to terror is associated with more severe PTSD symptoms (Lavi and Solomon, 2005) we found that all post-traumatic symptoms were rated higher for ongoing exposure as compared with a single/short duration exposure to trauma.

This study clearly shows that some posttraumatic characteristics such as those assessed in DSM-5 criteria (Fig. 2) are similarly common in both types of traumatic exposure while other posttraumatic characteristics are much more pronounced in OEPC. These findings support those of previous studies which show an association between negative life events or chronic trauma and reduced sense of safety (Bleich et al., 2003; Galea et al., 2002; Lavi and Solomon, 2005), increased morbidity (McEwen, 1998; Miller et al., 2011; Shrira, 2014), distrust (Kaminer et al., 2016) and impaired personality traits (Daud et al., 2008; Rutkowski et al., 2016; Leigh Wills and Schuldberg, 2016). Enduring personality changes characterized by social withdrawal, feelings of emptiness, hopelessness, estrangement, distrust, and feeling of being constantly threatened, were also described as some of the consequence of chronic 'catastrophic experience' as well as those of chronic PTSD (Herman, 1992).

Some SPC (including: 'personality changes, 'feeling of betrayal', 'feeling that no one understands', 'eating disorders', depression, 'emotion regulation difficulties', and 'sense of danger') either match those associated with complex PTSD as assessed by the Disorders of Extreme Stress (DESNOS) diagnostic criteria (Herman, 1992; Luxenberg et al., 2001) or may be understood as manifestations of DSM-5 symptom clusters. Nevertheless, Luxenberg et al. (2001) suggest that DESNOS diagnostic criteria are more suitable for diagnosing posttraumatic symptoms associated with ongoing exposure of interpersonal nature such as sexual, physical or emotional abuse, than political conflict. Other SPC (including 'mental exhaustion', 'increased morbidity', 'feeling lack of control about the future', and 'feeling of captivity') are neither assessed by the DSM-5 criteria for PTSD nor by DESNOS criteria. It is important to note that commonly used self-report questionnaires for PTSD do not specifically enquire about these SPC. Relief in posttraumatic symptoms would be achieved by addressing those specifically associated with ongoing exposure to political conflict both in the diagnosis and treatment stages (Stein et al., 2016).

Mental exhaustion is one of the most noticeable SPC with both a high mean score for OEPC and a high mean difference between single and ongoing exposure. In a recent study, Selmanovic et al. (2011) showed that continuous exposure to stressors at the workplace could lead to mental and physical exhaustion. According to Bleich et al. (2003) over 60% of individuals exposed to ongoing terror expressed a low sense of safety with respect to themselves or to their relatives. Some of the known symptoms of PTSD such as avoidance and vigilant behavior that tend to be relieved overtime or with therapy are necessary 'coping' modes for those living under OEPC, as these symptoms may assist in taking necessary action whilst under attack. With not a moment to respite, these very symptoms however, may contribute to the sense of exhaustion (Clauw et al., 2003; Kaminer et al., 2016).

The mean scores for 'increased morbidity' were low for both trauma types, yet, the difference in means was relatively high pointing to a stronger association between OEPC and morbidity. These findings support those of previous studies, which show that the number of traumatic events is negatively associated with physical health (Felitti et al., 1998; Sledjeski et al., 2008). It is hypothesized that the link between PTSD and inferior physical health stems from over-activation of physiological stress pathways which results in increased allostatic load, reduced immune activity and eventually increased risk for physical conditions (Pacella et al., 2013; Qureshi et al., 2009; Sledjeski et al., 2008). Increased use of health care services is often an inevitable consequence of inferior physical health ('increased morbidity') as may be suggested by a particularly high mean score difference observed for 'medication overuse'.

The first study conducted in Israel during the period between 2006 and 2009 assessed the impact of ongoing exposure to political violence on posttraumatic symptoms showed that populations exposed to ongoing terror and constant threat present with more severe PTSD symptoms compared with populations exposed to periodical threat (Lahad and Leykin, 2010). Similarly, we found that all core symptom mean scores (intrusion, arousal and negative alterations in cognition and mood) except for avoidance, were significantly higher for OEPC compared with single exposure.

Ongoing exposure to political conflict is associated with greater functional impairment as evident by the higher mean scores for most functional impairment items. Yet, both 'absence from work' and 'avoidance' mean scores were non-significantly different between the two trauma types. These findings support those of a previous study conducted among a sample of Israeli adolescents exposed to continuous terror, which showed that greater exposure to terrorism is associated with functional impairment and with maintained routine activities at the same time (Pat-Horenczyk et al., 2006). Adherence to daily routine in the face of the stressful atmosphere around may be viewed as a coping mechanism and an attempt to make believe that life goes on and that things are under control and 'normal', an essential need for one's inner belief that the world is good (Janoff-Bulman, 1989).

Under conditions of OEPC, the experience of trauma is often a collective experience of an entire community in which individuals may be forced to comply with the community's attempt to put up a face of 'business as usual'. Daily appearance at school or work albeit the difficulties in functioning may be needed in order to maintain the social frameworks and connections from which individuals derive strengths and support while at the same time 'connect' to reality (Bleich et al., 2003). In addition, as exposure to stress is ongoing sometimes for months and even years at a time, absence from work may result in the loss of income, a price individuals cannot afford to pay. Resource loss was implied as a risk factor for posttraumatic symptomatology (Hobfoll et al., 2006b).

The symptoms seen among individuals exposed to ongoing trauma may be linked both to past and to potential future traumatic events. From this perspective, PTSD symptoms seen in individuals exposed to ongoing stress relate to a genuine threat and thus may not represent pathology but rather required precaution or coping measures (Diamond et al., 2010; Kaminer et al., 2016; Nuttman-Shwartz and Shoval-Zuckerman, 2015). Along this line, intrusion symptoms may signify the preoccupation with possible injury or death rather than rumination on a past non-dangerous event. Understanding the meaning of these symptoms is important for designing an efficient treatment aimed at symptoms relief and recovery (Stein et al., 2016).

Survey participants were asked to indicate whether a person suffering from posttraumatic symptoms associated with ongoing exposure feel a relief in symptoms during calm times or when out of range of threat. The rate of responders who indicated that there would be a relief in posttraumatic symptoms under both circumstances was twice as high as the rate of responders who indicated that there would be no relief in symptoms. PTSD symptoms associated with a single, past exposure to trauma do not fade away unless treated. The notion that posttraumatic symptoms associated with OEPC subside when the individual is away from the source of danger strengthens the thought conveyed in this study that the symptoms profile associated with OEPC is not the 'typical' PTSD assessed by DSM-5 criteria but rather a different, more complex phenomenon (Diamond et al., 2010).

About a quarter of the responders in this survey indicated that the posttraumatic syndrome seen in individuals exposed to ongoing political conflict is not PTSD as currently assessed in DSM-5. In addition, the rate of therapists who indicated that the syndromes are different was significantly higher among therapists whose practice is located in Southern Israel (the area under OEPC) compared with those whose practice is located in other regions in Israel. These differences are not reflected in classic PTSD assessment practices as is apparent from our finding: almost 80% of all participants indicated that the measures currently used for PTSD assessment were only moderately or not at all

appropriate for assessing the posttraumatic consequences of OEPC. These findings support previous publications questioning the appropriateness of current practices used for assessing the posttraumatic consequences of OEPC (Diamond et al., 2010; Kaminer et al., 2016; Nuttman-Shwartz and Shoval-Zuckerman, 2015).

4.1. Conclusions

According to Stein et al. (2016), "there is a paucity of research devoted to the relation between specific traumatic events and specific subsequent posttraumatic reactions" (p. 113). Our findings contribute to the overall understanding of the posttraumatic picture associated with OEPC by highlighting the complex consequences of such and exposure and by pinpointing some of the unique posttraumatic characteristics most salient to these situations. Future studies are needed to further elaborate on the issues raised in this study. Identifying the posttraumatic consequences most salient to OEPC and incorporating them in relevant assessment tools will allow for the development of standardized, reliable definitions, which will guide clinicians and researchers alike when assessing posttraumatic stress reactions in OEPC. These in turn, will allow for more accurate diagnosis and more effective treatment protocols.

Confrontation with traumatic memories and avoidance symptoms are important components in the treatment of PTSD patients. Treatment protocols should be more sensitive when treating patients exposed to ongoing political conflict keeping in mind that stress symptoms stem from past, direct or indirect exposure as well as from potential injury from future traumatic events (Diamond et al., 2010; Kaminer et al., 2016). Intervention guidelines should address risk and safety issues in the treatment of patients exposed to ongoing trauma. As violence and hostility directed at civilian populations is now apparent in much broader regions around the world, these findings have important global implications for diagnosis and care.

4.2. Study limitations

Our study assessed the post-traumatic consequences of OEPC from a therapists' perspective using a relatively small sample of therapists. An attempt was made to approach therapists treating trauma victims throughout the country aiming to create a maximum variation sampling inclusive of a broad spectrum of professional background and experience, and geographical practice regions. We do not know how many of the mailing addresses were active at the time of the survey or how many of the individuals approached actually access them. It is therefore not possible to determine the response rate, nor can we assume that the sample used in this study is a representative sample of Israeli therapists. Other means of contact may be applied when attempting to recruit study participants. Furthermore, some of the participants in this study are therapists whose practice is located in Southern Israel and are potentially exposed to ongoing political conflict themselves. The potential impact of such an exposure on the participants' views and the results was not assessed. Finally, in this study we assessed the posttraumatic consequences of OEPC on the Israeli civilian population. Our findings may not represent the impact of OEPC among Palestinian civilians living in the occupied territories or among other populations experiencing ongoing political and civil conflict throughout the word. Future studies should attempt to address the issues raised here and compare affected and unaffected populations employing larger samples.

Conflicts of interest

None.

References

American Psychiatric Association, 2013. Diagnostic and Statistical Manual of Mental Disorders, 5th ed. Author, Arlington, VA.. http://dx.doi.org/10.1176/appi.books.9780890425596.744053.

Bensimon, M., Solomon, Z., Horesh, D., 2013. The utility of Criterion A under chronic national terror. Isr. J. Psychiatry Relat. Sci. 50 (2), 81–83.

Bleich, A., Gelkopf, M., Solomon, Z., 2003. Exposure to terrorism, stress-related mental health symptoms, and coping behaviors among a nationally representative sample in Israel. J. Am. Med. Assoc. 290 (5), 612–620. http://dx.doi.org/10.1001/jama.290.5.612.

Breslau, N., 1991. Traumatic events and posttraumatic stress disorder in an urban population of young adults. Arch. Gen. Psychiatry 48 (3), 216–222. http://dx.doi.org/10.1001/archpsyc.1991.01810270028003.

Clauw, D.J., Engel Jr., C.C., Aronowitz, R., Jones, E., Kipen, H.M., Kroenke, K., et al., 2003. Unexplained symptoms after terrorism and war: an expert consensus statement. J. Occup. Environ. Med. 45 (10), 1040–1048. http://dx.doi.org/10.1097/01.jom.0000091693.43121.2f.

Cornelius, J.R., 2013. Editorial regarding the new DSM-5 diagnosis of PTSD in veterans and non-veterans. J. Depress Anxiety 2 (3), 139–141. http://dx.doi.org/10.4172/2167-1044.1000139.

Daud, A., Klinteberg, B.A., Rydelius, P., 2008. Trauma, PTSD and personality: the relationship between prolonged traumatization and personality impairments. Scand. J. Caring Sci. 22 (3), 331–340. http://dx.doi.org/10.1111/j.1471-6712.2007.00532.x.

De Jong, J.T., Komproe, I.H., Van Ommeren, M., El Masri, M., Araya, M., Khaled, N., et al., 2001. Lifetime events and posttraumatic stress disorder in 4 postconflict settings. J. Am. Med. Assoc. 286 (5), 555–562. http://dx.doi.org/10.1001/jama.286.5.555.

de Vries, G.J., Olff, M., 2009. The lifetime prevalence of traumatic events and posttraumatic stress disorder in the Netherlands. J. Trauma. Stress. 22 (4), 259–267. http://dx.doi.org/10.1002/jts.20429.

Diamond, G.M., Lipsitz, J.D., Fajerman, Z., Rozenblat, O., 2010. Ongoing traumatic stress response (OTSR) in Sderot, Israel. Prof. Psychol. Res. Pract. 41 (1), 19–25. http://dx.doi.org/10.1037/a0017098.

Felitti, V.J., Anda, R.F., Nordenberg, D., Williamson, D.F., Spitz, A.M., Edwards, V., et al., 1998. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: the adverse childhood experiences (ACE) study. Am. J. Prev. Med. 14 (4), 245–258. http://dx.doi.org/10.1016/s0749-3797(98)00017-8.

Foa, E.B., McLean, C.P., Zang, Y., Zhong, J., Powers, M.B., Kauffman, B.Y., et al., 2016. Psychometric properties of the posttraumatic diagnostic scale for DSM–5 (PDS–5). Psychol. Assess. 28 (10), 1166–1171. http://dx.doi.org/10.1037/pas0000258.

Galea, S., Ahern, J., Resnick, H., Kilpatrick, D., Bucuvalas, M., Gold, J., Vlahov, D., 2002. Psychological Sequelae of the September 11 Terrorist Attacks in New York City. N. Engl. J. Med. 346 (13), 982–987. http://dx.doi.org/10.1056/nejmsa013404.

Garcia-Vera, M. Paz, Sanz, J., Gutierrez, S., 2016. A systematic review of the literature on posttraumatic stress disorder in victims of terrorist attacks. Psychol. Rep. 119 (1), 328–359. http://dx.doi.org/10.1177/0033294116658243.

Hamama-Raz, Y., Mahat-Shamir, M., Pitcho-Prelorentzos, S., Zaken, A., David, U.Y., Ben-Ezra, M., et al., 2016. The link between death anxiety and post-traumatic symptomatology during terror: direct links and possible moderators. Psychiatry Res. 30 (245), 379–386. http://dx.doi.org/10.1016/j.psychres.2016.08.059.

Hepp, U., Gamma, A., Milos, G., Eich, D., Ajdacic–Gross, V., Rössler, W., et al., 2006. Prevalence of exposure to potentially traumatic events and PTSD. The Zurich Cohort Study. Eur. Arch. Psychiatry Clin. Neurosci. 256 (3), 151–158. http://dx.doi.org/10.1007/s00406-005-0621-7.

Herman, J.L., 1992. Complex PTSD: a syndrome in survivors of prolonged and repeated trauma. J. Trauma. Stress. 5 (3), 377–391. http://dx.doi.org/10.1007/bf00977235.

Hobfoll, S.E., Canetti-Nisim, D., Johnson, R.J., 2006a. Exposure to terrorism, stress-related mental health symptoms, and defensive coping among Jews and Arabs in Israel. J. Consult. Clin. Psychol. 74 (2), 207–218. http://dx.doi.org/10.1037/0022-006x.74.2.207.

Hobfoll, S.E., Tracy, M., Galea, S., 2006b. The impact of resource loss and traumatic growth on probable PTSD and depression following terrorist attacks. J. Trauma. Stress. 19 (6), 867–878. http://dx.doi.org/10.1002/jts.20166.

Hoffman, Y.S., Diamond, G.M., Lipsitz, J.D., 2011. The challenge of estimating PTSD prevalence in the context of ongoing trauma: the example of Israel during the Second Intifada. J. Anxiety Disord. 25 (6), 788–793. http://dx.doi.org/10.1016/j.janxdis.2011.03.016.

Hoge, C.W., Yehuda, R., Castro, C.A., McFarlane, A.C., Vermetten, E., Jetly, R., et al., 2016. Unintended consequences of changing the definition of posttraumatic stress disorder in DSM-5. JAMA Psychiatry 73 (7), 750. http://dx.doi.org/10.1001/jamapsychiatry.2016.0647.

Janoff-Bulman, R., 1989. Assumptive worlds and the stress of traumatic events: applications of the schema construct. Soc. Cogn. 7 (2), 113–136. http://dx.doi.org/10.1521/ soco.1989.7.2.113.

Jones, J., Hunter, D., 1995. Consensus methods for medical and health services research. Br. Med. J. 311 (7001), 376–380. http://dx.doi.org/10.1136/bmj.311.7001.376.

Kaminer, D., Eagle, G., Crawford-Browne, S., 2016. Continuous traumatic stress as a mental and physical health challenge: case studies from South Africa. J. Health Psychol. http://dx.doi.org/10.1177/1359105316642831.

Kessler, R.C., Berglund, P., Demler, O., Jin, R., Merikangas, K.R., Walters, E.E., 2005. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the national comorbidity survey replication. Arch. Gen. Psychiatry 62 (6), 593–602. http://dx.doi.org/10.1001/archpsyc.62.6.593.

Kroenke, K., Spitzer, R.L., Williams, J.B., 2001. The PHQ-9. J. Gen. Intern. Med. 16 (9), 606–613. http://dx.doi.org/10.1046/j.1525-1497.2001.016009606.x.

Lahad, M., Leykin, D., 2010. Ongoing exposure versus intense periodic exposure to military conflict and terror attacks in Israel. J. Trauma. Stress 23 (6), 691–698. http://dx.doi.org/10.1002/jts.20583.

Lavi, T., Solomon, Z., 2005. Palestinian youth of the Intifada: PTSD and future orientation. J. Am. Acad. Child Psychiatry 44 (11), 1176–1183. http://dx.doi.org/10.1097/01.chi.0000177325.47629.4c.

Leigh Wills, J., Schuldberg, D., 2016. Chronic trauma effects on personality traits in police officers. J. Trauma. Stress 29 (2), 185–189. http://dx.doi.org/10.1002/ jts.22089.

Luxenberg, T., Spinazzola, J., Van der Kolk, B.A., 2001. Complex trauma and disorders of extreme stress (DESNOS) diagnosis, part one: assessment. Dir. Psychiatry 21 (25), 373–392.

McEwen, B.S., 1998. Protective and damaging effects of stress mediators. N. Engl. J. Med. 338 (3), 171–179. http://dx.doi.org/10.1056/ nejm199801153380307.

Miller, G.E., Chen, E., Parker, K.J., 2011. Psychological stress in childhood and susceptibility to the chronic diseases of aging: moving toward a model of behavioral and biological mechanisms. Psychol. Bull. 137 (6), 959–997. http://dx.doi.org/10.1037/a0024768.

Nuttman-Shwartz, O., Shoval-Zuckerman, Y., 2015. Continuous traumatic situations in the face of ongoing political violence: the relationship between CTS and PTSD. Trauma Violence Abus. http://dx.doi.org/10.1177/1524838015585316.

Pacella, M.L., Hruska, B., Delahanty, D.L., 2013. The physical health consequences of PTSD and PTSD symptoms: a meta-analytic review. J. Anxiety Disord. 27 (1), 33–46. http://dx.doi.org/10.1016/j.janxdis.2012.08.004.

Pat-Horenczyk, R., Schiff, M., Doppelt, O., 2006. Maintaining routine despite ongoing exposure to terrorism: a healthy strategy for adolescents? J. Adolesc. Health 39 (2),

199–205. http://dx.doi.org/10.1016/j.jadohealth.2005.11.021.

Qureshi, S.U., Pyne, J.M., Magruder, K.M., Schulz, P.E., Kunik, M.E., 2009. The link between posttraumatic stress disorder and physical comorbidities: a systematic review. Psychiatry Q. 80 (2), 87–97. http://dx.doi.org/10.1007/s11126-009-9096-4.

Rutkowski, K., Dembińska, E., Walczewska, J., 2016. Effect of trauma onset on personality traits of politically persecuted victims. BMC Psychiatry 16 (1), 148. http://dx.doi.org/10.1186/s12888-016-0853-2.

Selmanovic, S., Ramic, E., Pranjic, N., Brekalo Lazarevic, S., Pasic, Z., Alic, A., 2011. Stress at work and burnout syndrome in hospital doctors. Med. Arch. 221. http://dx.doi.org/10.5455/medarh.2011.65.221-224.

Shalev, A.Y., Freedman, S., 2005. PTSD following terrorist attacks: a prospective evaluation. Am. J. Psychiatry 162 (6), 1188–1191. http://dx.doi.org/10.1176/ appi.ajp.162.6.1188.

Shalev, A.Y., Tuval, R., Frenkiel-Fishman, S., Hadar, H., Eth, S., 2006. Psychological responses to continuous terror: a study of two communities in Israel. Am. J. Psychiatry 163 (4), 667–673. http://dx.doi.org/10.1176/ajp.2006. 163.4.667.

Shrira, A., 2014. Greater age-related decline in markers of physical, mental and cognitive health among Israeli older adults exposed to lifetime cumulative adversity. Aging Ment. Health 18 (5), 610–618. http://dx.doi.org/10.1080/13607863.2013.860951.

Sledjeski, E.M., Speisman, B., Dierker, L.C., 2008. Does number of lifetime traumas explain the relationship between PTSD and chronic medical conditions? Answers from the National Comorbidity Survey-Replication (NCS-R). J. Behav. Med. 31 (4), 341–349. http://dx.doi.org/10.1007/s10865-008-9158-3.

Spoont, M., Arbisi, P., Fu, S., Greer, N., Kehle-Forbes, S., Meis, L., et al., 2013. Screening for Posttraumatic Stress Disorder (PTSD) in Primary Care: A Systematic Review. Department of Veterans Affairs, Washington, DC.

Stein, J.Y., Wilmot, D.V., Solomon, Z., 2016. Does one size fit all? Nosological, clinical, and scientific implications of variations in PTSD Criterion A. J. Anxiety Disord. 43, 106–117. http://dx.doi.org/10.1016/j.janxdis.2016.07.001.

Stoddard Jr., F.J., Gold, J., Henderson, S.W., Merlino, J.P., Norwood, A., Post, J.M., et al., 2011. Psychiatry and terrorism. J. Nerv. Ment. Dis. 199 (8), 537–543. http://dx.doi.org/10.1097/NMD.0b013e318225ee90.

Veling, W., Hall, B.J., Joosse, P., 2013. The association between posttraumatic stress symptoms and functional impairment during ongoing conflict in the Democratic Republic of Congo. J. Anxiety Disord. 27 (2), 225–230. http://dx.doi.org/10.1016/ j.janxdis.2013.01.007.

Weathers, F.W., Blake, D.D., Schnurr, P.P., Kaloupek, D.G., Marx, B.P., Keane, T.M., 2013. The Clinician-Administered PTSD Scale for DSM-5 (CAPS-5). Interview Available from the National Center for PTSD at ⟨www.ptsd.va.gov⟩.