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## Trauma and PTSD among Civilians in the Middle East

This issue of *PTSD Research Quarterly* reviews the growing body of literature on trauma and posttraumatic stress disorder (PTSD) in the civilian population of the Middle East. Within the past few decades, this turbulent region has endured wars, political violence, natural disasters, occupation, and forced displacements, with few resources available to help victims dealing with the resulting physical, psychological, and financial aftermath of those traumatic events. The Middle East is a loosely defined geographic region that encompasses Southwestern and Central Asia, and parts of the Caucasus, North Africa, and Southern Europe. In this review, we subscribe to the narrower definition of the Middle East, which includes Bahrain, Cyprus, Egypt, the Gaza Strip, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, Turkey, the United Arab Emirates, West Bank, and Yemen.

Studying the effects of mass trauma in the Middle East has presented a number of methodological challenges. First, the Middle East is remarkably heterogeneous, encompassing a large variety of cultures, political systems, ethnicities, and religious beliefs, which limits the cross-cultural applicability of the instruments used and the generalization of the findings. Second, many countries in the Middle East remain underrepresented in the trauma and PTSD literature. For instance, while data on Israel, Palestine, and Iran are plentiful, few to no studies were found on Cyprus, Egypt, the United Arab Emirates, Bahrain, Oman, Qatar, Jordan, and Syria. Despite these limitations, the literature presented in this brief review may be relevant and timely for researchers, clinicians, and policy makers interested in addressing the mental health needs of affected populations in the Middle East.

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### Traumatic Events

Civilians in the Middle East have been subjected to frequent episodes of violence, intra- and inter-group conflicts, and natural disasters. These include full-scale wars such as the Yom Kippur War (1973), the Turkey Cyprus War (1974), the Lebanese Civil War (1976-1984), the Israel-Lebanon wars (1978; 1982), the Libyan-Egyptian war (1977), the Iran-Iraq War (1980-1988), the Gulf War (1990-1991), the civil war between Kurdish factions in Northern Iraq (1994-1997), the Second Gulf War (2003), and the Israel-Hezbollah War (2006). The region has further endured numerous political conflicts including the Turkish Kurdistan uprising against Turkey (1977), the Iraqi government-led genocidal campaign against the Iraqi Kurds (1986-1989), the First and the Second (Al-Aqsa) Palestinian *Intifadas* against Israel (1987-1993 and 2000-2005, respectively), the anti-government revolt in Iraq (1991), and the Palestinian Fatah-Hamas conflict (2006-present). Additionally, the Middle East has been subjected to natural disasters such as the Marmara earthquakes in Turkey (1999) and the Bam earthquake in Iran (2003). The psychological distress resulting from repetitive exposure to extreme forms of psychological trauma has put millions of civilians in the Middle East at high risk for trauma-related psychopathology. This bibliography focuses on PTSD.

### General-Population Studies

A number of studies have examined the prevalence of PTSD in the general population of the Middle East. In Iran, a large nationwide survey of 25,180 adult residents found the lifetime prevalence of PTSD to be less than 1% (Mohammadi et al., 2005). In Lebanon, Karam et al. (2008) found a 3.4%

*Continued on page 2*



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lifetime prevalence rate of PTSD in a nationally representative sample ( $n = 2,857$ ) of adult Lebanese civilians. In Israel, 9.4% of the adult sample ( $n = 512$ ) were found to have a current PTSD diagnosis (Bleich et al., 2003). In the Gaza Strip, researchers reported that the lifetime prevalence of PTSD among adults ( $n = 585$ ) was 17.8% (de Jong et al., 2001). Community surveys among children and adolescents have similarly observed a wide range of PTSD rates. In Yemen, Alyahri and Goodman (2008) reported a 0.2% PTSD lifetime prevalence rate among 7- to 10-year-old schoolchildren ( $n = 1,210$ ). In a sample of children and adolescents aged 1 to 15 years old ( $n = 3,079$ ) attending primary health care centers in Mosul, Iraq, a 10.5% prevalence rate of PTSD was reported (Al-Jawadi & Abdul-Rhman, 2007). Among Palestinian adolescents, Khamis (2005) found PTSD to be present in 34.1% of the sample ( $n = 1,000$ ) from East Jerusalem and the West Bank. Likewise, Abdeen et al. (2008) found PTSD prevalence rates of 35-36% among Palestinian adolescents in the West Bank, East Jerusalem, and the Gaza Strip ( $n = 2,100$ ). Overall, the general-population prevalence of PTSD in the Middle East ranges widely from less than one percent to more than a third of the sample, with higher rates consistently reported among children and in areas of recent or ongoing conflict.

## Natural Disasters

Prevalence of PTSD has been examined in populations affected by the Bam and the Marmara earthquakes. Basoglu et al. (2002) reported a PTSD prevalence rate of 43% in a sample of 1,000 survivors of the 1999 Marmara earthquakes about six months after the disasters. In a separate study, 14 months following the event, the researchers compared two samples: one from the quake's epicenter ( $n = 530$ ) and one from an Istanbul suburb ( $n = 420$ ) located 100 kilometers from the quake's epicenter (Basoglu et al., 2004). They found PTSD rates of 23% in the epicenter sample and 14% in the Istanbul suburb sample, suggesting a dose-response relationship (Basoglu et al., 2004). Also, survivors of the Marmara earthquake who experienced intense fear during the quake were more likely to satisfy criteria for PTSD diagnosis. Other risk factors included female gender, previous trauma, previous psychiatric illness, and loss of friends or family members. Studies in adult and children survivors of the 2003 Bam earthquake reported high prevalence rates of PTSD among adults (81%; Hagh-Shenas et al., 2006), and somewhat lower prevalence rates among children (36% and 52% in children over and under 15 years old, respectively; Parvaresh & Bahramnezhad, 2009). In addition to age, PTSD was associated with losing a close friend or a family member in the earthquake.

## Political Conflicts

We use the term *political conflicts* to describe a variety of incidents including wars, occupation, displacements, rioting, and genocides. Prevalence rates of PTSD associated with such events seem to vary widely across regions and studies. For example, the prevalence rates of PTSD in Israel, 10 months into the second *Intifada*, were 27.0% and 21.4% in directly ( $n = 167$ ) and indirectly ( $n = 89$ ) exposed communities, respectively (Shalev et al., 2006).

Forty-four months after the hostilities began, PTSD was found in 9% of Israeli residents ( $n = 501$ ; Bleich et al., 2006). When assessed longitudinally, rates of PTSD were found to spike during exposure and to decline with the passage of time. In a three-wave longitudinal study of college students ( $n = 133$ ) that examined the prevalence of a range of mental health outcomes before and after the 2008-2009 Israel-Gaza war, Neria and colleagues (2010) reported a strong decline in PTSD prevalence, from 20.0% during the war to 3.0% at two months, and 2.2% at four months after the war. Gelkopf and colleagues (2008) examined the prevalence of PTSD among Arabs and Jews in two distinct cross-sectional samples that were assessed at 19 months ( $n = 512$ ) and 44 months ( $n = 501$ ) after the start of the second *Intifada*. At 19 months, 5.9% of Arabs and 10.2% of Jews had PTSD (not a significant difference); at 44 months, significantly more Arabs (16.9%) than Jews (7.4%) were diagnosed with the disorder. Hobfoll and colleagues (2008) in a study four years after the second *Intifada* reported that 6.6% of Jewish citizens ( $n = 1,117$ ) and 18.0% of Arab citizens ( $n = 394$ ) met criteria for PTSD. On the Palestinian side of the conflict, Khamis (1993) reported a PTSD prevalence of 50% among 120 injured males from the first *Intifada*.

Studies of political conflicts in other areas similarly reveal a range of findings, with most reports indicating high prevalence rates. In southern Lebanon, for example, Farhood et al. (2006) reported that a third (29.3%) of an adult sample ( $n = 256$ ) met criteria for PTSD. Among Turkish Cypriots who were internally displaced during both the 1963 ethnic conflict and the 1974 Cyprus war, 20% met criteria for PTSD nearly three decades after the event (Ergun et al., 2008). Hashemian et al. (2006) reported lifetime and current PTSD rates of 59% and 33%, respectively, among Iranians exposed to high-intensity warfare and chemical weapons during the Iran-Iraq War (1980-1988).

Estimates of PTSD prevalence in children and adolescents exposed to political conflicts tend to be even higher than in adults. In the Gaza Strip, 70.1% of 9- to 18-year-olds exposed to the ongoing Israeli-Palestinian conflict were found to have PTSD (Thabet et al., 2008). Similarly, Elbedour and colleagues (2007) reported PTSD prevalence of 68.9% among 229 Palestinian adolescents (age 15-19 years) living in the Gaza Strip and assessed two years into the second *Intifada*. In a study that compared Israeli ( $n = 1,016$ ) and Palestinian ( $n = 1,235$ ) adolescents on both sides of the Israeli-Palestinian conflict, Pat-Horenczyk and colleagues (2009) found that 6.8% of Israeli adolescents and 37.2% of Palestinian adolescents met criteria for PTSD. A longitudinal study of 7- to 12-year-old Gaza Strip children assessed 6 and 18 months after the 1987-1993 Israeli-Palestinian conflict found that the rates of PTSD decreased from 40.6% to 10.0% during the one-year period of sustained peace (Thabet & Vostanis, 2000). In Iraqi Kurdistan, PTSD was found in 87% of the children and 60% of their caregivers living in displacement camps five years after the 1988 "Al-Anfal" campaign (Ahmad et al., 2000). A 26-month follow-up of Kurdish children after the 1991 "mass-escape tragedy" revealed that the prevalence of PTSD declined from 20% at baseline to 0% at a four-month follow-up, but then increased to 23% at the 14-month follow-up and remained high (18%) at the 26-month follow-up (Ahmad et al., 1998).

## Torture

Torture is a form of state-sanctioned violence that aims to inflict physical and mental suffering and humiliation on an individual or group, frequently for political purposes. In the Middle East, prisoners of war and victims of political conflicts are frequently subjected to torture. The prevalence of PTSD among survivors of torture varies across different groups and depends on the severity and the duration of the experience. In a group of Iraqi refugees ( $n = 84$ ), 65% of whom had suffered multiple torture methods, only 10.7% met criteria for PTSD (Gorst-Unsworth & Goldenberg, 1998). Basoglu and colleagues (1994) compared tortured and non-tortured political activists to subjects with no history of torture or political activity ( $n = 55$  in each group) and found the current and lifetime PTSD rates to be 18% and 33%, respectively, among tortured activists, compared to 9% current and 11% lifetime PTSD among non-tortured activists. Another study compared torture victims from six different countries and found the PTSD prevalence rates of 69% in Syria, 79% in Turkey, and 92% in Iran (Moisander & Edston, 2003).

## Conclusion

Recent research conducted in the Middle East suggests that the emotional burden carried by trauma-exposed adults and children is substantial. Although some data from general-population studies suggest relatively low prevalence rates of PTSD in the community (e.g., Karam et al., 2008; Mohammadi et al., 2005), results from other community studies (e.g., de Jong et al., 2001) and especially from research on highly-exposed groups in Middle Eastern societies (e.g., Basoglu et al., 1994; Farhood et al., 2006; Hagh-Shenas et al., 2006; Moisander & Edston, 2003; Parvaresh & Bahramnezhad, 2009) suggest high PTSD rates, which may be extremely debilitating for large populations of victims, especially if the emotional impact remains undiagnosed and untreated. Across studies, the most documented demographic risk factors for PTSD onset are female gender and young age. Notably, and consistent with other PTSD studies, the magnitude of the exposure to the event (e.g., degree of physical injury, immediate risk of life, severity of property destruction, and frequency of fatalities) is the strongest predictor of the development of PTSD.

The majority of studies reported here have used cross-sectional designs, and their results are additionally limited by variability in sample types and sizes, time-points for assessments since trauma, and the instruments used. The longitudinal findings on the long-term course of PTSD reveal a pattern of elevated PTSD rates during exposure, which may last from months to years, followed by a significant decline when exposure is ended (e.g., Neria et al., 2010). These findings provide some hope with regard to the human ability to bounce back from the initial psychopathological response and to exhibit an impressive capacity for recovery over time, either spontaneously or by means of psychological intervention, pharmacotherapy, and social support provided within the exposed community.

Abdeen, Z., Qasrawi, R., Nabil, S., & Shaheen, M. (2008). **Psychological reactions to Israeli occupation: Findings from the national study of school-based screening in Palestine.** *International Journal of Behavioral Development, 32*, 290-297. Children exposed to violent war-like and repeated political violence often experience a continued threat to life and their sense of safety, as well as a disruption of daily functioning. The purpose of the study was to examine the psychological impact of exposure to Israeli occupation on Palestinian school children in the West Bank and Gaza, Palestine. We assessed the association between exposure to occupation and the severity of posttraumatic symptoms and the inter-relationship between posttraumatic symptoms, functional impairment, somatic complaints, and coping strategies in school children. Palestinian students ( $n = 2100$ ) from grades 9-11 were screened from both the West Bank ( $n = 1235$ ) and Gaza ( $n = 724$ ) and responded to self-report questionnaires. Results showed that extensive exposure to violence was associated with higher levels of posttraumatic distress and more somatic complaints in both the West Bank and Gaza regions. More Gaza than West Bank students reported symptoms meeting the criteria for PTSD, and more girls than boys in both groups reported somatic complaints. Thus, school-based screening can be an effective method for case identification of students showing PTSD symptoms as a result of exposure to political violence.

Al-Jawadi, A. A., & Abdul-Rhman, S. (2007). **Prevalence of childhood and early adolescence mental disorders among children attending primary health care centers in Mosul, Iraq: A cross-sectional study.** *BMC Public Health, 7*, 274. The study measured the point prevalence of mental disorders among children 1-15 years of age in Mosul, Iraq. Participants were children of mothers who came to four primary health care centers for vaccination of their children. The chosen mothers were included by systematic sampling randomization. Of 3079 children assessed, 1152 had childhood mental disorders, giving a point prevalence of 37.4%, with a male to female ratio of 1.22:1. The top disorders were PTSD (10.5%), enuresis (6%), separation anxiety disorder (4.3%), and specific phobia (3.3%). Overall, the highest prevalence of mental disorders was among children 10-15 years old (49.2%) while the lowest was among 1- to 5-year-olds (29.1%). Boys were more affected than girls (40.2% and 33.2%, respectively). Childhood mental disorders are a common condition highly prevalent among the children and early adolescents in Mosul. [abstract adapted].

Alyahri, A., & Goodman, R. (2008). **The prevalence of DSM-IV psychiatric disorders among 7- to 10-year-old Yemeni schoolchildren.** *Social Psychiatry and Psychiatric Epidemiology, 43*, 224-230. The planning of child mental health services should be based on recent high-quality data on the prevalence and type of mental health disorders, and yet such data are not available in Yemen and many other Arab countries. Representative samples of Yemeni 7- to 10-year-olds ( $n = 1,210$ ) were assessed using a two-phase design in an urban area and a one-phase design in a rural area. Psychopathology was assessed using the Strengths and Difficulties Questionnaire for screening purposes and the Development and Well-being Assessment to generate psychiatric diagnoses. The overall prevalence of DSM-IV disorders was 15.7% in Yemen. Anxiety disorders were the commonest diagnostic grouping in Yemen (9.3%), followed by behavioural disorders (7.1%) and attention-deficit/hyperactivity disorder (1.3%). Roughly a sixth of Yemeni

schoolchildren had at least one DSM-IV psychiatric disorder, involving a level of distress or social impairment likely to warrant treatment. [abstract adapted].

Basoglu, M., Kilic, C., Salcioglu, E., & Livanou, M. (2004).

**Prevalence of posttraumatic stress disorder and comorbid depression in earthquake survivors in Turkey: An epidemiological study.** *Journal of Traumatic Stress, 17*, 133-141.

This study examined the prevalence of PTSD and depression 14 months after the earthquake in Turkey in 2 randomly selected samples from the epicenter ( $n = 530$ ) and a suburb of Istanbul 100 km from the epicenter ( $n = 420$ ). The rates of PTSD and depression comorbid with PTSD were, respectively, 23 and 16% at the epicenter and 14 and 8% in Istanbul. The strongest predictor of traumatic stress symptoms was fear during the earthquake, whereas predictions with female gender, past psychiatric illness, damage to home, participation in rescue work, past trauma, and loss of close ones were significant but weak. Our findings suggest that devastating earthquakes have long-term psychological effects. Psychological interventions reducing fear may improve PTSD in survivors.

Basoglu, M., Paker, M., Ozmen, E., Tasdemir, O., & Sahin, D. (1994).

**Factors related to long-term traumatic stress responses in survivors of torture in Turkey.** *Journal of the American Medical Association, 272*, 357-363. The psychological status of 55 tortured political activists, 55 nontortured political activists, and 55 subjects with no history of torture or political activism in Istanbul, Turkey, was assessed using the Structured Clinical Interview for DSM-III for psychiatric assessment, the Semi-structured Interview for Survivors of Torture, and other self-rated and assessor-rated measures of anxiety, depression, and PTSD. Postcaptivity psychosocial stressors were associated with PTSD symptoms, anxiety, and depression. Perceived severity of torture was related to PTSD symptoms but not to anxiety or depression. Lack of social support predicted anxiety and depression but not PTSD. Family history of psychiatric illness correlated with higher scores on most measures. Impact of captivity experience on family was the strongest predictor of PTSD symptoms. These findings point to three types of stressors related to different aspects of psychopathology in survivors of torture: perceived severity of torture, secondary effects of captivity experience on various life areas, and general psychosocial stressors following captivity. Different interventions may be needed for these three components of survivors' traumatic experience. [abstract adapted].

Bleich, A., Gelkopf, M., Melamed, Y., & Solomon, Z. (2006). **Mental health and resiliency following 44 months of terrorism: A survey of an Israeli national representative sample.** *BMC Medicine, 4*, 21.

The psychological sequelae of 44 months of terrorism in Israel were studied to identify factors that contribute to vulnerability and resilience. A representative sample of 501 adult Israeli residents were interviewed by phone. In total, 56 participants (11.2%) were directly exposed to a terrorist incident, and 101 (20.2%) had family members or friends exposed. Respondents reported a mean of 5 trauma-related symptoms; 45 (9%) met symptom criteria for PTSD; and 72 (14.4%) were resilient. There were 147 participants (29.5%) who felt depressed, 50 (10.4%) felt anxious, and almost half (235; 47%) felt life-threatening danger; 48 (9.7%) felt the need for professional help. Women and people of Arab ethnicity had more symptoms and less

resiliency. Injury following a life-threatening experience, a major stressful life event, and a major loss of income were associated with PTSD. Symptoms were associated with immigrant status, lower education, low sense of safety, low sense of social support, high societal distress, and injury following life-threatening experiences but not with exposure severity. [abstract adapted].

Ergun, D., Cakici, M., & Cakici, E. (2008). **Comparing psychological responses of internally displaced and non-displaced Turkish Cypriots.** *Torture, 18*, 20-28.

During the 1963-1964 ethnic conflict and 1974 war in Cyprus, many Turkish Cypriots were displaced by Greek Cypriot forces. At the time of the Annan Plan Referendum on April 24th 2004, when people on both sides were to decide whether to reunite or not, and when old traumatic events were being discussed in vivid detail, the psychological responses of the internally displaced and non-displaced Turkish Cypriots were investigated. The sample of the study derived from a sample of a larger household survey study conducted on 408 adult people taken randomly from three different districts. People who settled down in Cyprus after 1974 or who had never experienced a war in Cyprus were not included in the study. 129 Turkish Cypriots who experienced either the 1963-64 conflict or the 1974 war were included in the present study. 86 of these had been displaced. The outcomes indicate that the internally displaced persons (IDPs) were subjected to traumatic incidents at a higher degree due to killing, displacement, captivity, or killing of family members and relatives. The rate of PTSD of IDPs is 20%, and is significantly higher than for non-displaced persons. IDPs had a higher level of depression than non-displaced persons, but somatization was higher in non-displaced persons. The study reveals a higher frequency of war-related traumatic events in IDPs than in non-displaced people, greater suffering from posttraumatic stress, and more negative beliefs about future reunification. [abstract adapted].

Hashemian, F., Khoshnood, K., Desai, M. M., Falahati, F., Kasl, S., & Southwick, S. (2006). **Anxiety, depression, and posttraumatic stress in Iranian survivors of chemical warfare.** *Journal of the American Medical Association, 296*, 560-566.

*Context:* In the 1980-1988 Iran-Iraq War, extensive use of chemical weapons resulted in high rates of morbidity and mortality. To assess the long-term psychological impact of chemical warfare on a civilian population, a cross-sectional randomized survey was conducted in July 2004 of 153 civilians in 3 towns exposed to warfare in northwestern Iran: Oshnaviyeh (low-intensity conventional warfare), Rabat (high-intensity conventional warfare), and Sardasht (both high-intensity conventional warfare and chemical weapons). Respondents had a mean age of 45 years and were all of Kurdish ethnicity. Among individuals exposed to both high-intensity warfare and chemical weapons, prevalence rates for lifetime PTSD, current PTSD, major anxiety symptoms, and severe depressive symptoms were 59%, 33%, 65%, and 41%, respectively. Among the low-intensity warfare group, the corresponding rates were 8%, 2%, 18%, and 6%, respectively, while intermediate rates were found among those exposed to high-intensity warfare but not to chemical weapons (31%, 8%, 26%, and 12%, respectively). Compared with individuals exposed to low-intensity warfare, those exposed to both high-intensity warfare and chemical weapons were at higher risk for lifetime PTSD, current PTSD, increased anxiety symptoms, and increased depressive symptoms. Exposure to high-intensity warfare

but not to chemical weapons was also significantly associated with lifetime PTSD, compared with those in the low-intensity warfare group. Further, compared with individuals exposed to high-intensity warfare alone, those exposed to both high-intensity warfare and chemical weapons were at higher risk for lifetime PTSD, current PTSD, increased anxiety symptoms, and increased depressive symptoms. [abstract adapted].

Hobfoll, S. E., Canetti-Nisim, D., Johnson, R. J., Palmieri, P. A., Varley, J. D., & Galea, S. C. (2008). **The association of exposure, risk, and resiliency factors with PTSD among Jews and Arabs exposed to repeated acts of terrorism in Israel.** *Journal of Traumatic Stress, 21*, 9-21. Israel has faced ongoing terrorism since the beginning of the Al Aqsa Intifada in September 2000. The authors examined risk and resiliency factors associated with PTSD among 1,117 Jews and 394 Arab adult citizens of Israel during August and September 2004 through telephone interviews. Probable PTSD was found among 6.6% of Jews and 18.0% of Arabs. Predictors of probable PTSD in a multivariate model for Jews were refusal to report income, being traditionally religious, economic and psychosocial resource loss, greater traumatic growth, and lower social support. For Arabs, predictors were low education and economic resource loss among those exposed to terrorism. Findings for only those directly exposed to terrorism were similar to those for the overall national sample.

Karam, E. G., Mneimneh, Z. N., Dimassi, H., Fayyad, J. A., Karam, A. N., Nasser, S. C., et al. (2008). **Lifetime prevalence of mental disorders in Lebanon: First onset, treatment, and exposure to war.** *PLoS Medicine, 5*(4), e61. The study investigated the lifetime prevalence, treatment, age of onset of mental disorders, and their relationship to war in Lebanon. The Lebanese Evaluation of the Burden of Ailments and Needs of the Nation study was carried out on a nationally representative sample of the Lebanese population ( $n = 2,857$  adults). Respondents were interviewed using the fully structured WHO Composite International Diagnostic Interview 3.0. Lifetime prevalence of any Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM-IV) disorder was 25.8%. Anxiety (16.7%) and mood (12.6%) were more common than impulse control (4.4%) and substance (2.2%) disorders. Only a minority of people with any mental disorder ever received professional treatment, with substantial delays (6 to 28 y) between the onset of disorders and onset of treatment. War exposure increased the risk of first onset of anxiety, mood, and impulse control disorders. About one-fourth of the sample (25.8%) met criteria for at least one of the DSM-IV disorders at some point in their lives. There is a substantial unmet need for early identification and treatment. Exposure to war events increases the odds of first onset of mental disorders. [abstract adapted].

Khamis, V. (1993). **Posttraumatic stress disorder among the injured of the Intifada.** *Journal of Traumatic Stress, 6*, 555-559. The current study aimed to assess the prevalence of PTSD among Palestinians who sustained serious bodily injuries during the Intifada, as well as to delineate factors having an effect on the development and attenuation of PTSD symptomatology. Results indicated evidence of high prevalence of PTSD among the injured. No significant differences in PTSD prevalence for demographic, situational, and trauma-related variables were found except for the age factor. Prevalence of PTSD among adolescents was significantly

higher than among adults. It seemed that the injury itself was so intensely overwhelming that the other variables were overshadowed. Implications for further research and stress management techniques were discussed.

Moisander, P. A., & Edston, E. (2003). **Torture and its sequel — A comparison between victims from six countries.** *Forensic Science International, 137*, 133-140. The aim of the study was to compare torture victims from six different nations and analyse differences and similarities. From the files of the Centre for Trauma Victims in Stockholm (KTC), 160 patients were selected: 53 patients from Bangladesh, 21 from Iran, 16 from Peru, 24 from Syria, 25 from Turkey, and 21 from Uganda. The data were classified into: (i) information about social conditions and circumstances pertaining to alleged torture, (ii) type of trauma and torture methods, and (iii) acute and late sequel to torture. Descriptive and non-parametric statistics were used in the analyses. There was a strong male dominance in all but the Ugandan group where 43% were women. The majority in all but the Turkish group had college exams and/or university studies. Over 84% were members of a political organisation except in the Iranian and Syrian groups, where more than 40% had no political affiliation. The majority in all groups had travelled to Sweden alone to apply for asylum, but most refugees from Turkey, Iran, and Syria had close relatives already living in Sweden. The stories of circumstances and torture methods were similar within each group but differed a great deal between groups. Typically, in Bangladesh, Peru, and Turkey, the periods under arrest were short: from a few hours to 3 days. In Iran, Uganda, and Syria, the time in custody varied from several months to several years. A prison sentence preceded by trial was common only in Iran. Many patients, especially from Bangladesh and Turkey, had been arrested several times. Sensory deprivation by isolation and blindfolding was common in all countries except Uganda and Peru. Beating with fists, sticks, truncheons, etc. were reported in 100% in every group. In Bangladesh, police batons (lathi) were used more commonly than in any other group. Whipping with electric cords occurred frequently only in Iran and Syria. Rape was most often reported among the Ugandans. Genital torture was frequently alleged by patients from Bangladesh and Turkey. Suspension was common in all countries except for Uganda. Falaka, i.e. beating of the soles, and electric torture were common (>60%) in Bangladesh, Iran, Syria, and Turkey. Sharp injuries inflicted with knives and bayonets were often seen among the Bangladeshi and Ugandans. Burning injuries due to cigarettes were commonly seen only in patients from Bangladesh. Some methods were found to be almost exclusive for each country: "water treatment" (Bangladesh), the "tyre" (Syria), "telephono" and "submarino" (Peru). The sequel of torture differed in some respects between groups. Fractures were more common among Iranians. Patients from Uganda and Bangladesh had numerous scars. Subjectively reported symptoms were most frequent among Bangladeshi, especially joint pain and ear, nose, and throat symptoms and least frequent among Ugandans. PTSD diagnosed on the basis of a psychiatric interview and psychological tests was found in 69-92% of patients in all groups. The study shows significant differences between countries regarding circumstances, torture methods, and sequel to torture. This knowledge is of value to forensic specialists documenting alleged torture and essential for fair and valid forensic statements.

Neria, Y., Besser, A., Kiper, D., & Westphal, M. (2010). **A longitudinal study of posttraumatic stress disorder, depression, and generalized anxiety disorder in Israeli civilians exposed to war trauma.** *Journal of Traumatic Stress, 23*, 322-330. This 3-wave longitudinal study examined the mental health consequences of the Israel-Gaza 2008-2009 war among young Israeli civilians. Data on PTSD, major depressive disorder (MDD), and generalized anxiety disorder (GAD), and their predictors were collected during the war, and 2 and 4 months after ceasefire. Results showed a sharp decline in symptom levels of PTSD, MDD, and GAD over time. Perceived social support during the war moderated the effects of immediate emotional response on subsequent levels of PTSD, MDD, and GAD. These findings underscore the importance of social support and immediate emotional response to trauma in predicting trauma-related psychopathology, and highlight the potential need for providing early care to exposed individuals exhibiting immediate and severe emotional responses.

Parvaresh, N., & Bahramnezhad, A. (2009). **Post-traumatic stress disorder in Bam-survived students who immigrated to Kerman, four months after the earthquake.** *Archives of Iranian Medicine, 12*, 244-249. The 6.3 Richter earthquake in Bam killed 26,000 and injured 30,000 people, and destroyed 85% of houses according to the literature. We assessed the rate of PTSD and psychological problems in 433 Bam students in Kerman four months after the earthquake and their relations with demographic factors, family loss, house destruction, and body injury. PTSD was detected in 36.3% of the students older than 15 years of age and 51.6% of the students younger than 15. Behavioral problems were present in 31.3% of the children. Body injury and living with family were correlated with PTSD and symptoms in students older than 15. Female sex was correlated with PTSD and behavioral problems in students younger than 15. [abstract adapted].

Pat-Horenczyk, R., Qasrawi, R., Lesack, R., Haj-Yahia, M., Peled, O., Shaheen, M., et al. (2009). **Posttraumatic symptoms, functional impairment, and coping among adolescents on both sides of the Israeli-Palestinian conflict: A cross-cultural approach.** *Applied Psychology, 58*, 688-708. This study assessed the effects of the ongoing violence on the mental health of Palestinian and Israeli youths. Parallel instruments were developed and adapted, as part of a collaborative project, in order to assess, in each society: (1) differential rates of exposure to the conflict, (2) the association between exposure and the severity of posttraumatic symptoms (PTS), and (3) the inter-relationships among PTS, functional impairment, somatic complaints, and coping strategies. Participants were 1,016 Israeli and 1,235 Palestinian adolescents. A self-report questionnaire assessed exposure. PTS was measured using the UCLA PTSD Reaction Index, functional impairment and somatic complaints were measured with the DISC, and coping strategies were assessed with Brief Cope. In both societies, greater exposure to conflict-related violence was associated with more PTS and more somatic complaints, with girls reporting more distress than boys. A total of 6.8 per cent of the Israeli students and 37.2 per cent of the Palestinian students met criteria for PTSD. In both societies, but more pronounced in the Palestinian Authority, adolescents reported significant levels of functional impairment, mainly in the area of school functioning. Students with PTSD reported more somatic

complaints as well as greater functional impairment. The results show the serious psychological impact of the ongoing violent conflict on Israeli and Palestinian students and point to the need to develop appropriate school-based interventions to address their mental health needs.

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.** *American Journal of Psychiatry, 163*, 667-673. The authors evaluated psychological responses to continuous terror after 10 months of escalating hostilities against civilians in Israel. The study's participants were randomly selected adults living in two suburbs of Jerusalem, one frequently and directly exposed to acts of terrorism ( $n = 167$ ) and the other indirectly exposed ( $n = 89$ ). Residents of the directly exposed community reported more frequent exposure to terror and deeper disruption of daily living. Notwithstanding, the directly and indirectly exposed groups reported comparable rates of PTSD and similar levels of symptoms: 26.95% of the directly exposed group and 21.35% of the indirectly exposed group met DSM-IV PTSD symptom criteria (criteria B through D), and about one-third of those with PTSD symptoms (35.7% in the directly exposed group and 31.5% in the indirectly exposed group) reported significant distress and dysfunction. Subjects who did not meet PTSD symptom criteria had very low levels of PTSD symptoms, and normal levels of other symptoms. Exposure and disruption of daily living contributed to PTSD symptoms in the directly exposed group. Disruption of daily routines contributed to symptoms in both groups. Continuous terror created similar distress in proximal and remote communities. [abstract adapted].

Thabet, A. A., & Vostanis, P. (2000). **Post traumatic stress disorder reactions in children of war: A longitudinal study.** *Child Abuse and Neglect, 24*, 291-298. To establish rates of PTSD reactions and general mental health problems in children who had experienced war trauma, we conducted a longitudinal study in the Gaza Strip with 234 children aged 7 to 12 years, who had experienced war conflict, at 1 year after the initial assessment, that is, during the peace process. The rate of children who reported moderate to severe PTSD reactions at follow-up had decreased from 40.6% ( $n = 102$ ) to 10.0% ( $n = 74$ ). 49 children (20.9%) were rated above the cut-off for mental health problems on the Rutter A2 (parent) Scales, and 74 children (31.8%) were above the cut-off on the Rutter B2 (teacher) Scales. The total scores on all three measures had significantly decreased during the 1-year period. The total CPTS-RI score at follow-up was best predicted by the number of traumatic experiences recalled at the first assessment. [abstract adapted].

This issue of the *PTSD Research Quarterly* is the second installment in an occasional series of issues addressing the epidemiology of trauma and PTSD around the world. Issue 20(4) summarized research on trauma and PTSD in Latin America. In future issues, we intend to focus on other areas in Europe, Asia, and Australia.

## CITATIONS

Ahmad, A., Mohamed, H. T., & Ameen, N. M. (1998). **A 26-month follow-up of posttraumatic stress symptoms in children after the mass-escape tragedy in Iraqi Kurdistan.** *Nordic Journal of Psychiatry, 52*, 357-366. Two months after a military attack, 20% of a sample of displaced children met DSM-III-R criteria for PTSD. After a decrease in symptoms at the 4-month follow-up, the 14-month follow-up showed a significant increase in PTSD-related symptoms, which persisted at the 26-month follow-up.

Ahmad, A., Sofi, M. A., Sundelin-Wahlsten, V., & Von Knorring, A.-L. (2000). **Posttraumatic stress disorder in children after the military operation "Anfal" in Iraqi Kurdistan.** *European Child and Adolescent Psychiatry, 9*, 235-243. Five years after a military attack, 45 families were randomly selected among the survivors in two displacement camps. PTSD was reported in 87% of index children and 60% of their caregivers. Childhood PTSD was related to child trauma score and duration of captivity, but not to maternal PTSD.

Basoglu, M., Salcioglu, E., & Livanou, M. (2002). **Traumatic stress responses in earthquake survivors in Turkey.** *Journal of Traumatic Stress, 15*, 269-276. In a sample of 1,000 people from 3 camps and 2 prefabricated housing sites in the epicenter region, estimated rates of PTSD and major depression were 43% and 31%, respectively. Traumatic stress symptoms related to more intense fear during the earthquake, female gender, having been trapped under rubble, death of a family member, past psychiatric illness, having participated in rescue work, and lower education.

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.** *Journal of the American Medical Association, 290*, 612-620. In a random sample of 512 Israeli adults, 16% had been directly exposed to a terrorist attack, 37% had a family member or friend who had been exposed, 77% had at least 1 trauma-related symptom (the average was 4), and 9% met symptom criteria for PTSD. However, the majority of respondents expressed optimism about their personal future and the future of Israel and believed they would function well in a terrorist attack.

De Jong, J. T. V. M., 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.** *Journal of the American Medical Association, 286*, 555-562. Gaza ( $n = 585$ ) was one setting studied in this four-setting study. The prevalence of PTSD was 18% in Gaza compared to 37% in Algeria, 28% in Cambodia, and 16% in Ethiopia. Risk factors in the Gaza sample included torture and poor quality of camp.

Elbedour, S., Onwuegbuzie, A. J., Ghannam, J., Whitcome, J. A., & Heine, F. A. (2007). **Post-traumatic stress disorder, depression, and anxiety among Gaza Strip adolescents in the wake of the second Uprising (Intifada).** *Child Abuse and Neglect, 31*, 719-729. In a sample of 229 Palestinian adolescents living in Gaza, 69% had PTSD, 40% reported moderate or severe levels of depression, and 95% had severe anxiety levels.

Farhood, L., Dimassi, H., & Lehtinen, T. (2006). **Exposure to war-related traumatic events, prevalence of PTSD, and general psychiatric morbidity in a civilian population from Southern Lebanon.** *Journal of Transcultural Nursing, 17*, 333-340. In a sample of 256 adults from southern Lebanon, 98% had experienced, witnessed, or heard of a war-related traumatic event, and 29% met criteria for current PTSD.

Gelkopf, M., Solomon, Z., Berger, R., & Bleich, A. (2008). **The mental health impact of terrorism in Israel: A repeat cross-sectional study of Arabs and Jews.** *Acta Psychiatrica Scandinavica, 117*, 369-380. Two telephone surveys ( $n = 512$  and 501) on separate representative samples of adults were conducted 19 months and 44 months after a series of terrorist attacks began. After 19 months, Arab Israelis and Jewish Israelis reacted similarly, but after 44 months, PTSD increased 3-fold and resiliency almost disappeared in the Arab population.

Gorst-Unsworth, C., & Goldenberg, E. (1998). **Psychological sequelae of torture and organised violence suffered by refugees from Iraq: Trauma-related factors compared with social factors in exile.** *British Journal of Psychiatry, 172*, 90-94. In a sample of 84 male Iraqi refugees, social factors, particularly "affective" social support, proved important in determining the severity of PTSD and depression, particularly when combined with a severe level of trauma or torture.

Hagh-Shenas, H., Goodarzi, M. A., Farajpoor, M., & Zamyad, A. (2006). **Post-traumatic stress disorder among survivors of Bam earthquake 40 days after the event.** *Revue de Santé de la Méditerranée Orientale, 12*, S118-S125. In a highly bereaved sample of 145 earthquake survivors, 81% met DSM-IV criteria for PTSD. Current psychological distress was related to neither demographic variables nor history of psychiatric illness.

Khamis, V. (2005). **Post-traumatic stress disorder among school age Palestinian children.** *Child Abuse and Neglect, 29*, 81-95. In a sample of 1,000 children aged 12 to 16 years, 55% had experienced at least one lifetime trauma and 34% had PTSD. The child's experience of anxiety in home environment was an important predictor of distress in the final model.

Mohammadi, M.-R., Davidian, H., Noorbala, A. A., Malekafzali, H., Naghavi, H. R., Pouretamad, H. R., et al. (2005). **An epidemiological survey of psychiatric disorders in Iran.** *Clinical Practice and Epidemiology in Mental Health, 1*, 16. In a nation-wide epidemiological survey of lifetime psychiatric disorders in Iran, over 25,000 individuals were selected through a clustered random sampling method. Prevalences were 10.8% for any disorder, 8.4% for any anxiety disorder, 4.3% for any mood disorder, and < 1% for PTSD.

Thabet, A. A., Abu Tawahina, A., El Sarraj, E., & Vostanis, P. (2008). **Exposure to war trauma and PTSD among parents and children in the Gaza strip.** *European Child and Adolescent Psychiatry, 17*, 191-199. In a sample of 100 Gaza families (200 parents and 197 children aged 9-18 years) virtually all participants had experienced traumatic events. Among parents and children, respectively, 60% and 70% met study criteria for PTSD.

## PILOTS UPDATE (Author Name Disambiguation)

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There are over 45,000 author names that appear in the 41,000 publications indexed in the PILOTS Database. Had we followed the usual practice of bibliographic databases, that number would be higher still.

Most databases make no attempt to harmonize discordant names for the same person, or to disambiguate multiple authors with similar names. They leave it to the user to anticipate all the possible variations under which a particular person's name might appear, and to include them in the search commands. To make matters worse, some databases (like all too many journals) routinely reduce even the most flamboyant name to a surname and initials.

People employ pseudonyms, change their names when they marry or divorce, use longer or shorter versions of their names when the mood strikes them (or their editors or publishers), and indulge in many other alterations of nomenclature that confound readers and dishearten bibliographers. Writers who have moved from one country to another sometimes have their names changed (at least for bibliographic purposes) through no intention of their own. A Dutch writer may discover that in America his surname begins one or two words earlier than it did back home. (A name like "Van den Hoorn" is commonly alphabetized in the Netherlands or Belgium under "H" but often in North America it is alphabetized under "V".) An Icelander's patronymic is usually interpreted by English speakers as a surname. ("Helga Thorsdottir" would be listed under "H" in the Reykjavik telephone directory, but under "T" in an American index or library catalog.)

Library catalogers have traditionally followed a different procedure. Their goal has been to enable library users to find all of the books by a particular writer in the library's collection. To that end they have developed authority files that establish a single preferred form of each name; they use that single form in cataloging the writer's work, regardless of the name that might appear on the title page, and they add cross-references to library catalogs as an aid to readers.

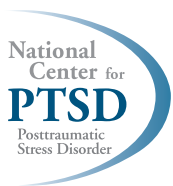
Since its beginning the PILOTS Database has followed traditional library cataloging practice rather than that of other bibliographic databases. We have attempted to index all of a writer's work under

a single form of his or her name, using the most complete form of that name that we can discover. Despite our best efforts there are names that defeat us. Telling one "J. Smith" or "C. Lee" from another can be impossible if the journals in which their work appears are as economical with details of author affiliation as with their authors' forenames.

There are some other problems that arise. It is not practical to build into the PILOTS Database the sort of cross-reference structure that most library catalogs provide. So we have no way of linking the variant surnames that may arise when a woman's name changes incident to marriage or divorce, or when a writer from a country that does not employ the Roman alphabet has work published in a Western language. (The same Russian or Israeli writer's name may be rendered in three different ways when transliterated into English, French, and German.)

Some pending developments in the information industry offer solutions to these problems. The success of the International Standard Book Number (ISBN) and International Standard Serial Number (ISSN) in reducing bibliographic ambiguity has led to calls for an International Standard Author Number that would unambiguously identify and differentiate individual writers. Poets, essayists, and novelists might regard this as a threat to their individuality, but scientists and scholars are expected to embrace it. If one's career prospects are driven by the impact of one's publications, that creates a strong incentive for accepting a technology intended to assure one's identification with all of those publications.

ProQuest, the company whose CSA Illumina subsidiary hosts the PILOTS Database, will soon be rolling out a new user interface containing many new features designed to enhance the experience of searching. One of these is COS Scholar Universe, which provides profiles of two million academics, researchers, and scholars. This will make it easier for us to ascertain whether two similar names describe the same person, improving our ability to harmonize and differentiate author names in our indexing. And it will make it possible for PILOTS Database users to learn more about the people whose publications their searches have identified.



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