Children Exposed to Warfare: A Longitudinal Study

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Following the 1991 Gulf War a group of 94 children in Iraq were interviewed at 6 months, 1 year, and 2 years after the war. The group was exposed to the bombing of a shelter where more than 750 were killed. Selected items from different inventories, including the Impact of Event Scale (IES) assessed children’s reactions. Results reveal that children continue to experience sadness and remain afraid of losing their family. Although there was no significant decline in intrusive and avoidance reactions as measured by the IES from 6 months to 1 year following the war, reactions were reduced 2 years after the war. However, the scores were still high, indicating that symptoms persist, with somewhat diminished intensity over time.

KEY WORDS: children; war; Iraq; Impact of Event Scale.

Wars vary in the stressors involved and the consequences they engender. The short, deadly Gulf War in January and February of 1991 stands in dramatic contrast to the conflict between forces during World War II, or the close personal fighting in Yugoslavia or Rwanda. The Gulf War affected some countries directly, many others indirectly. Reports have been published about the effects on the civilian population and about various mental health services provided in different countries, especially in Israel (Ben-David & Lavee, 1992; Ben-Zur & Zeidner, 1991; Klingman, 1992a, 1992b, 1992c; Zeidner, 1993) and Kuwait (Llabre & Hadi, 1994; Nader, Pynoos, Fairbanks, Al-Ajeel, & Al-Asfour, 1993). There are, however, few reports from Iraq where extensive bombing took place.

As the duration of the Gulf War was short compared to most wars, there supposedly were few major structural changes in the nurturing family and community ecology (Levy-Shiff, Hoffman, & Rosenthal, 1993). This would involve less of a threat to children from a developmental perspective. However, as trauma may also influence the adult system, this system’s capacity for caring or nurturing their children may have been reduced. There are few, if any, longitudinal studies of children during or following war. Although not thoroughly researched, reports suggest that greater levels of exposure to trauma in children are correlated with more PTSD symptoms (Bradburn, 1991; Nader et al., 1993; Pynoos, Frederick et al., 1987).

This study, apart from being one of the few studies of the psychosocial effects of the Gulf War on the children of Iraq, represents an effort to study the effects of war exposure on children over time. However, the underlying psychological processes that causes the course of reactions within and over time is a very complex topic that is not focused in this article.

The bombing of the Al Ameriyah shelter took place on February 13th, 1991. This modern shelter was used as a community center during the war. The number of people reported killed range from a low of 500 to more than 2000. A conservative estimate is that 1000 people were killed. Soon after the bombing, large crowds of both children and adults gathered outside the shelter and became witnesses to gruesome scenes and frantic rescue activity and were exposed to strong sensory impressions in the form of smells, sights, and screams. During the following days, people watched the extraction of burnt bodies from the shelter.

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Method

Participants

Six months following the Gulf War, the psychological impact on children and their families was assessed as part of an international study team that comprehensively surveyed the impact of the Gulf crisis on the health and welfare of the Iraqi population (Dyregrov & Raundalen, 1991). In August/September 1991, a total of 214 Iraqi children and adolescents aged 6–18, with approximately half the group from an area surrounding the shelter of Al Ameriyah in Baghdad and the other half from the southern city of Basra, was interviewed. On the invitation from UNICEF, children were reinterviewed in 1992 and 1993. In January/February of 1992, 101 children from the shelter area in Baghdad and 81 children from Basra were interviewed. In April 1993, 104 children of the Al Ameriyah group in Baghdad were reinterviewed. Basra was inaccessible during that visit. A total of 94 of the original 107 children living in the area close to the Al Ameriyah shelter have been interviewed three times (a response rate of 88%).

The mean age of the children was 11.5 years in 1991 (range 6–17). The children were grouped in three age groups, 6–9 years (26%), 10–13 years (47%), and 14–17 years (27%). The gender-distribution was 47% girls and 53% boys. There were no significant differences between the number of girls and boys in the three age groups. Almost all children lived with their families.

Measures

In 1991 a semistructured interview was used to gather demographic information, information about losses, separations and exposure to war events. The questions on exposure were based on the War Trauma Questionnaire (Mackosud & Aber, 1996). In addition, items from the Child Behavior Inventory (CBI) and a Posttraumatic Stress Reactions Checklist (PTSRC) were used. These measures were developed in collaboration between the Center for Crisis Psychology, in Bergen, Norway, and Columbia University in New York, USA. Finally, the Impact of Event Scale (IES—Horowitz, Wilner, & Alvarez, 1979) was included. This scale summarizes the impact of trauma on two dimensions, intrusion, and avoidance. Intrusion is characterized by distressing thoughts, feelings, and nightmares (7 items), whereas avoidant thinking and behavior, as well as psychic numbing (8 items) characterize avoidance. The IES scale is widely used internationally (Paton, 1990), and has been used with populations affected by war (Kuterovac, Dyregrov, & Stuvland, 1994; Sewarzwald, Solomon, Weisenberg, & Mikulincer, 1987).

In 1992 and 1993, the Impact of Event Scale was readministered, and in addition some selected items from the CBI and PTSRC (see Table 2) were used. For the three years 1991, 1992, and 1993 the internal consistency of the Impact of Event Scale, measured by Cronbach’s alpha was .77, .72, and .76 for intrusion, and .61, .64, and .61 for avoidance respectively. The reliability of avoidance was low, with an error variance from 36 to 39%. This is reflected in low average inter-item correlation (.14, .18, .17) and a big range in the same correlation (.99, .60, .44). Because of low reliability and a large range, item-analyses (correlation, alpha if item deleted, item-total correlation, and squared multiple correlation) were used to obtain a new and more homogeneous avoidance-scale. This scale consisted of the following items: “I tried to remove it from memory,” “I have stayed away from reminders of it,” “I have tried not to talk about it,” and “I have tried not to think about it.” The Cronbach’s alpha was .60 (1991), .73 (1992), and .57 (1993), with average inter-item correlation .28, .41, and .25. To compare the new scale consisting of four items with the original scale with eight items, four new hypothetical items with the same inter-item correlation were added. The analyses showed that an 8-item scale with the same kind of items as in the 4-item scale resulted in Cronbach’s alpha = .75, .85, and .72. The new scale still had relatively low reliability-coefficients, but was a more homogeneous measure. It was therefore decided to use the 4-item avoidance scale for further analyses. The two subscales were normally distributed, a necessary condition for doing parametric statistics. An 8-item shortened form of the IES has since this study was conducted been developed as a consequence of problems encountered when using the adult scale with children (Dyregrov & Yule, 1995; Yule, 1998). The four items comprising the new avoidance subscale are identical to the four items resulting from the analysis that was conducted to form a more homogeneous scale in this study. The recommended clinical cutoff point for this scale is a score of 17 or above (Yule, 1998).

To achieve a better understanding of sensory exposure outside the shelter, some specific questions about this were included in 1993, along with grief items from a study by Pynoos, Nader, Frederick, Gonda, and Stuber (1987). The internal consistency of the 8-item grief scale was .69. Item-analyses showed that the scale became more reliable when the items “Have you changed some games you play because they remind you of her/him?” and the item “Have you felt that you wanted to be more like her/him?” were deleted (Cronbach’s alpha = .74 for the 6-item scale).

The instruments were translated into Arabic by one of the interpreters and then retranslated into English by