Traumatic experience and sleep disturbance in refugee children from the Middle East

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Background: Sleep disturbance is frequently reported in children after traumatic experiences associated with organised violence. The aim of this study was to identify specific traumatic risk indicators and modifying factors for sleep disturbance among recently arrived refugee children from the Middle East. Methods: The study group comprises 311, 3-15 year old refugee children from the Middle East. On arrival in Denmark, their parents participated in a structured interview about their children's health and history of exile and eventual exposure to war, organised violence and human rights violation. Results: A family history of violence (grandparent's violent death before the birth of the child or parental exposure to torture) as well as a stressful present family situation (father scolds the child more than previously) were the strongest predictors of prevalent sleep disturbance in the children. Arriving in Denmark with both parents rather than one was a modifying factor, so the effect of traumatic experience on sleep patterns later in childhood was mediated through parental presence and behaviour. Conclusion: This study indicates that the family environment is of primary importance for childhood sleep disturbance following traumatic experiences connected with war and other organised violence.

Keywords: Middle East, refugee children, sleep disturbance, traumatic stress

Thirty to fifty percent of adults have experienced sleep disturbance in childhood. Nightmares appear to be the most common sleep disorder, 7-15% of children experiencing them so often and so severely that nightmares constitute a problem. Sleep disturbance has been found to be associated with maternal tension, depression or ambivalence towards the child, insecure maternal attachment, unaccustomed maternal separations, various types of family stresses and children's self-reported anxieties. Disturbed sleep is common following traumatic experiences and has been documented after burn injuries and exposure to a hurricane, a flood and a sniper attack. Follow-up studies have indicated that the occurrence of sleep disturbance decreases with time since exposure, although repetitive nightmares have been documented to appear several years after a kidnapping. Sleep and dreaming disturbances are central to the diagnosis of post-traumatic stress disorder (PTSD). A major component of PTSD is hypervigilance or an increased level of arousal and agitation, which can cause sleep disturbance. An experimental study which observed cortisol levels and skin conductance following stress supported the hypothesised positive relationship between arousal level and sleep behaviour.

Several studies of children subjected to war and other organised violence have reported frequent sleep disturbance and nightmares (table 1). Hjern et al. found that 55% of immigrant children suffered from sleep disturbance (including nightmares) five months after arrival in Sweden (40% after 18 months) and that sleep disturbance was associated with the experience of events of organised violence. In their retrospective investigation of children of torture survivors, Lukman and Bach-Mortensen found that 17% had sleep difficulties, 12% had nightmares and nightmares were more frequent in children born before the imprisonment and torture of their parents than in children born later. Some studies have failed to document an association between experiences of war and sleep disturbance. This could indicate that some degree of exposure may result in selfprotective, adaptive, cognitive styles which allow effective functioning. Sadeh suggested two seemingly competing avenues for possible stress-related effects on sleep which might explain the divergent results:

- a biobehavioural 'turn-on' reaction – stress leads to increased arousal resulting in difficulties initiating and maintaining sleep;
- a 'shut-off' reaction – failure to cope with stress may lead to a systematic withdrawal and turning away from external and internal stimuli by significantly decreasing activity level and extending and deepening sleep.

The 'turn-on' reaction has been proposed to follow after single-shock trauma (which was identified by Ten as type I trauma), while the 'shut-off' reaction is the result of long-standing or multiple traumatic ordeals (type II trauma).
Studies focusing on the frequencies of sleep disturbance in various traumatised populations or studies grouping different types of traumatic experiences into main types based on various criteria (e.g. exposed or not exposed) are not sufficient for understanding the nature of these divergent processes. Thus, the purpose of the present study was to identify specific traumatic risk indicators and modifying factors for sleep disturbance among children in recently arrived refugee families from the Middle East.

MATERIAL AND METHODS

The present study group comprised 311 refugee children from the Middle East (160 boys and 151 girls with a mean age of 7.5 years and range 3–15 years), who were consecutively registered in Denmark as childhood asylum seekers accompanied by at least one parent during 1 February 1992 – 30 April 1993. The response rate was 90.4%. Twenty-two children were from Lebanon, 168 were from Iraq, 32 were from Iran, 13 were from Syria, 75 were stateless Palestinians and one was from Turkey. Eighty-eight children were of Palestinian ethnicity and 103 were Kurds. Twenty-six children had grown up in Kuwait, but were Iraqis or stateless Palestinians. The 311 children originated from 146 families and 187 of them arrived in Denmark with both of their parents.

Shortly after arrival in Denmark (median latency of 7 days) their parents participated in a structured interview with closed questions about their children’s health and history of exile and eventual exposure to war conditions, organised violence and human rights violation. Three questions on sleep disturbance focused on nightmares, difficulty in falling asleep and difficulty in staying asleep. Each problem was allocated to one out of three occurrence levels. For the statistical analysis, sleeping problems were formulated strategy. The independent variables were divided into four groups according to a chronological time perspective: i) present effect formulation (gender, age, language and interview situation), ii) past-past background (social and demographic situation and family exposure before the birth of the child), iii) past-trauma complex (traumatic experience of war and other organised violence) and iv) past-present-present life context (family situation at arrival in Denmark). The multivariate logistic regressions were carried out first according to each time compartment, age and gender being included in all analyses. Thereafter, significant information from each of these analyses was combined to constitute more compre-

Table 1 Literature review of sleep disturbance among children exposed to war or other organised violence

<table>
<thead>
<tr>
<th>Reference</th>
<th>Country of investigation</th>
<th>Study group</th>
<th>Age (years)</th>
<th>Informant</th>
<th>N</th>
<th>Sleep disturbances (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Total Exposed Not exposed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chimienti et al. (1989)</td>
<td>Lebanon</td>
<td>Random community sample</td>
<td>1039</td>
<td>3–9</td>
<td>Mothers</td>
<td>31a 36b 23a</td>
</tr>
<tr>
<td>Kinzie et al. (1980)</td>
<td>USA</td>
<td>Refugees from Cambodia</td>
<td>40</td>
<td>17</td>
<td>Children</td>
<td>40a–55a</td>
</tr>
<tr>
<td>Realmuto et al. (1992)</td>
<td>USA</td>
<td>Refugees from Cambodia</td>
<td>46</td>
<td>12–23</td>
<td>Children</td>
<td>28b–55a</td>
</tr>
<tr>
<td>Hjem (1990)</td>
<td>Sweden</td>
<td>Refugees from Chile and Middle East</td>
<td>63</td>
<td>2–15</td>
<td>Parents</td>
<td>55c</td>
</tr>
<tr>
<td>Hjem et al. (1991)</td>
<td>Sweden</td>
<td>Refugees from Chile</td>
<td>50</td>
<td>2–15</td>
<td>Parents</td>
<td>75c 14c</td>
</tr>
<tr>
<td>Cohn et al. (1985)</td>
<td>Denmark</td>
<td>Refugees from Chile</td>
<td>85</td>
<td>–</td>
<td>Parents</td>
<td>55c</td>
</tr>
<tr>
<td>Lukman and Bach Mortensen (1995)</td>
<td>Denmark</td>
<td>Refugees from Latin America (80%)</td>
<td>76</td>
<td>0–19</td>
<td>Parents</td>
<td>12c–17b</td>
</tr>
</tbody>
</table>

a: Nightmares; b: Sleep disturbance; c: Sleep disturbance including nightmares.
Type of event

- War-related context:
  - Lived under conditions of war
  - Taking shelter for bombing
  - Residence change due to war
  - Been on the run with the parents
  - Lived in a refugee camp in home country
  - Lived in a refugee camp elsewhere

- Witnessing violent acts:
  - Bombing
  - Street shooting
  - House search
  - Arrest of family member
  - Torture, killing, intimidation of family member
  - Torture, killing, intimidation of person outside the family

- Loss and separation:
  - Death or disappearance of parent
  - Separation from a parent lasting > one month

- Direct exposure to violence:
  - Detained
  - Beaten/kicked by official
  - Family exposure of parent

Table 2 Prevalence (%) of sleep disturbance in 311 Middle Eastern refugee children aged 3–15 years in Denmark in 1992–1993

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Symptom 'rare'</th>
<th>Symptom 'sometimes'</th>
<th>Symptom 'frequent'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nightmares</td>
<td>194</td>
<td>62.4</td>
<td>58</td>
</tr>
<tr>
<td>Problems falling asleep</td>
<td>225</td>
<td>72.3</td>
<td>24</td>
</tr>
<tr>
<td>Problems staying asleep</td>
<td>203</td>
<td>65.3</td>
<td>52</td>
</tr>
</tbody>
</table>

Figure 1 Proportion (%) of exposure to war and other organised violence in 311 Middle Eastern refugee children aged 3–15 years in Denmark in 1992–1993.

Increased by year. The variable Iranian nationality, which was a significant background variable, appeared not to be significant in the combined models, but it correlated with the father's imprisonment ($r_s = 0.2$ and $p<0.01$), the mother's torture ($r_s = 0.2$ and $p<0.001$) and parental torture ($r_s = 0.2$ and $p<0.01$). Introduction into the analysis of information of age level at, intensity of and time elapsed since the first violent experience did not influence the results.

DISCUSSION

In the present study, sleep disturbance was determined equally by background factors, violent experience and present life context. The most important predictors were 'grandparents' violent death before child's birth', 'mother tortured', 'father scolds the child more' and 'both parents in Denmark' (modifying factor). The study encompasses refugee children from the Middle East and the results cannot be generalised to other refugee populations or to children exposed to war and other organised violence who still live in their home country.

An interview with parents was chosen based on practical and ethical considerations, but previous studies have documented a parental tendency to under-report children's emotional symptoms after traumatic experi-
erences, which entails a reduced probability of finding an actual relationship. To reduce this tendency, questions were phrased concerning a concrete behaviour that could be observed relatively easily by the parents.

In this study, selected sleep behaviours were considered characteristics of a common underlying trait, a procedure which has also been followed in other studies and which is supported by the high correlations found between the three different types of sleep disturbance. Single traumatic experiences in other studies have been found to cause acute sleep disturbance ("turn-on" reaction). The hypothesis that long-standing or multiple traumatic ordeals should result in withdrawal leading to extended and deepened sleep ("shut-off" reaction) was not confirmed in the present study. It is possible that living in situations of prolonged trauma causes a constant state of arousal, which influences sleep behaviour, similar to that which has been found following acute stress. Whereas long-standing exposure to violent environments, e.g. refugee camp residence, also predicted anxiety in the Middle Eastern refugee children, sleep disturbance was mainly predicted by more specific and eventually cumulated violent exposures towards family members, e.g. parental torture. Falling and staying asleep is conditional on the child's conception of security which is usually provided by parents. Children who have experienced long-standing or repeated traumatic events might lose trust in their parents' ability to protect them, a situation which has been found to be associated with anxiety-related sleep disturbance. According to attachment theory, a mother's own past interpersonal relations are of primary importance for the quality of her own parenting. This might explain why a grandparent's violent death was found to be an important predictor of sleep disturbance in children.

Sleep disturbance might also be associated with a lack of parental resources for caretaking, as a result of parents' own exposure to traumatic events. Other studies have documented associations between mothers' emotional reactions, e.g. depression and sleep disturbances in children. Zuckerman et al. suggested that stressful life events mostly affect children indirectly, as they are mediated by maternal affect and change in responsibility and caretaking. Our findings seem to support this suggestion. In the present study, no direct measure was used for parental emotional state, but it is well documented that torture produces a wide range of emotional sequelae in the victim, such as sleep disturbance with frequent nightmares, chronic anxiety, depression, memory defects, loss of concentration and change in self-perception. This might lead to parental withdrawal of attention and care from the child.

In summary, this study indicates that the family environment is of primary importance for childhood sleep disturbance following traumatic experiences connected with war and other organised violence. It is suggested that the effect could be understood both as a result of a change in the child's conception of parenthood (lack of parental ability to provide protection) and as a result of the effect of violence on actual parental behaviour towards the child. This is highly clinically relevant.

Table 3 Significant multiple logistic regression estimates of sleep disturbance in 311 Middle Eastern refugee children aged 3–15 years in Denmark in 1992–1993

<table>
<thead>
<tr>
<th>Significant predictors</th>
<th>n</th>
<th>OR</th>
<th>Background</th>
<th>Violent</th>
<th>Background</th>
<th>Violent</th>
<th>Present life</th>
<th>Background, violent</th>
<th>Background, violent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Background</td>
<td></td>
<td></td>
<td>Background</td>
<td>Violent</td>
<td>Background</td>
<td>Violent</td>
<td>Present life</td>
<td>Background, violent</td>
<td>Background, violent</td>
</tr>
<tr>
<td>Iranian</td>
<td>32</td>
<td>3.6****</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Kurds</td>
<td>103</td>
<td>1.8*</td>
<td></td>
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<tr>
<td>Father: years educated</td>
<td>116</td>
<td>1.1****</td>
<td></td>
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<td></td>
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<tr>
<td>Grandparents' violent death before child's birth</td>
<td>23</td>
<td>3.9****</td>
<td></td>
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<td></td>
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<td></td>
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<tr>
<td>Violent experience</td>
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<td></td>
<td></td>
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<tr>
<td>Taken shelter for bombing</td>
<td>234</td>
<td>2.4***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Separated from father for more than 1 month</td>
<td>184</td>
<td>1.6*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Father imprisoned</td>
<td>186</td>
<td>0.4*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Mother tortured</td>
<td>33</td>
<td>3.1***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent(s) tortured</td>
<td>159</td>
<td>3.2****</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Present life context</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Both parents in Denmark</td>
<td>189</td>
<td>0.4**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father scolds the child more</td>
<td>41</td>
<td>3.3**</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

- Background: nationality, ethnicity, parental education (years), religion, social class, number of siblings at birth, violent death of grandparent(s) and parental torture before child's birth and school participation. Violent experiences: war-related living conditions, witnessing violent acts, loss of and separation from parent(s) and direct and parental exposure to organised violence. Present life context: gender, age, family structure at examination, change in parental behaviour towards the child, child's information of family exposure and reason for escape.

For steps of analysis see the text.

a: OR denotes the per year probability increase as concerns the dependent variable.

* p<0.05, ** p<0.025, *** p<0.001, **** p<0.005, ***** p<0.0005
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REFERENCES


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