

# Post-traumatic stress disorder in children exposed to violence

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**Objectives.** To investigate to what extent local children exposed to community violence develop post-traumatic stress disorder (PTSD), whether the symptom profile is typical or atypical, and how detection can be improved.

**Design.** A cross-sectional study of two samples of children with a high risk of past exposure to violence.

**Setting and subjects.** Sixty Xhosa-speaking children aged 10 - 16 years; 30 from the Children's Home which serves Khayelitsha, and 30 from a school in a violent area of Khayelitsha.

**Outcome measures.** A shortened version of the Survey of Exposure to Community Violence (SECV) was administered to determine exposure to violence. Structured questionnaires and a clinical assessment were used to elicit symptoms and make psychiatric diagnoses.

**Results.** All 60 children reported exposure to indirect violence, 57 (95%) had witnessed violence, and 34 (56%) had experienced violence themselves. Twenty-four (40%) met the criteria for one or more *DSM-III-R* diagnoses and 13 (21.7%) met the criteria for PTSD.

**Conclusions.** Community violence places children at a high risk of developing serious psychiatric disorders and many children develop PTSD. None of the children in the school sample had received intervention prior to the study, pointing towards an urgent need for increased community and professional awareness of children at risk.

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Recent international research suggests that an alarmingly high number of children experience or witness violence.<sup>1-3</sup> Exposure to violence is increasingly recognised as a major public health problem,<sup>4,5</sup> and a number of studies have focused on the psychological effects of political violence on South African children.<sup>6-11</sup> However, the impact of ongoing community violence has been neglected, despite high levels of violence in historically disadvantaged communities.<sup>12</sup> Westaway attributes what she considers to be a remarkable failure to recognise stress-related symptoms in children in

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South Africa to an unacceptable level of ignorance, overloaded services and the reluctance of professionals to confront traumatic events.<sup>12</sup> Parents also find it difficult to acknowledge violence-related symptomatology in their children as it confronts them with their own helplessness in the face of traumatic experiences.

The coining of the term post-traumatic stress disorder (PTSD) and its inclusion in standard psychiatric nomenclature has helped to draw attention to the profound psychological impact of trauma. Despite criticisms that it overemphasises symptomatology and that it is less appropriate for children,<sup>12-14</sup> the construct provides a useful framework within which to consider responses to violence.<sup>15</sup> However, the point has been made that the term PTSD may be a misnomer where exposure to trauma is continuous,<sup>11</sup> and as little is known about children's reactions to ongoing community violence, the use of the term in this context remains contentious.<sup>2,3,16</sup>

Emotional sequelae in situations of continuous violence may resemble those of children living in situations of war, where the risk of serious adult disorder and personality problems are greatly increased.<sup>3,16,17</sup> Recent research on the impact of traumatic experiences and community violence indicates that in addition to their developing PTSD, and anxiety and depressive disorders, children's functioning may be impaired in a number of domains. An association with externalising behaviour disorders,<sup>1,3</sup> an increase in substance abuse, and behavioural, social and health problems, as well as suicide attempts have been noted.<sup>15,18</sup> Survivors may be at risk of becoming perpetrators of violence themselves in later life.<sup>15,19,20</sup> Children who have prior physical or emotional problems, who come from multiple-problem families,<sup>17,21,22</sup> or who have experienced deprivation<sup>23</sup> or bereavement are considered to be at greater risk, especially when there is little community and family support.<sup>12</sup>

The majority of treatment approaches involve abreaction,<sup>24</sup> but where violence is ongoing, survivors may need to defend themselves against painful memories.<sup>15,23,25</sup> Social and family support also facilitate recovery and, where resources are limited, school programmes utilising teachers may well be the most appropriate. Richman stresses the importance of considering the cultural and contextual appropriateness of interventions and suggests that group activities which allow for the symbolic expression of traumatic experiences such as art, dance and story-telling, may be more effective than individual therapy.<sup>14</sup>

A recent epidemiological study of psychiatric disorder among black children and adolescents in Khayelitsha using the Diagnostic Interview Schedule for Children (DISC) (see below) revealed a rate of PTSD of only 0.4%, compared with 2.2% for major depression and 1.8% for panic disorder.<sup>26</sup> The aim of the present study was to investigate to what extent children exposed to community violence in Khayelitsha develop PTSD or other psychiatric disorders, whether the symptom profile is typical or atypical according to the *DSM-III-R*,<sup>27</sup> and how detection can be improved. (*DSM-III-R* rather than *DSM-IV* criteria were used, because the instrument (DISC) used is based on these criteria.) This information has important implications for the development of intervention programmes which may be useful nationally in communities with high levels of violence.

## Methods

### Sample

The samples comprised subjects likely to have had significant exposure to community violence: 60 Xhosa-speaking black children aged 10 - 16 years, 30 from the Children's Home which serves Khayelitsha, and 30 from a primary and a high school in an informal settlement area of Khayelitsha, known for high levels of community violence. Khayelitsha is a large, rapidly growing township on the outskirts of Cape Town. The sample comprised 36 (60%) boys and 24 (40%) girls, with an equal spread of younger and older children.

### Measures

A shortened version of the self-report Survey of Exposure to Community Violence (SECV)<sup>28</sup> was used to determine whether children had experienced and/or witnessed violence (excluding media exposure). The SECV was translated into Xhosa by a bilingual linguist and back-translated by a bilingual social worker.

Levonn, a cartoon-based 40-item questionnaire, developed to identify the presence of distress symptoms in children who have been exposed to violence, was administered to all the children in the sample.<sup>29</sup> The cartoons were modified to depict situations which would be familiar to children growing up in black townships and informal settlement areas, and the name of the child depicted was changed from Levonn to Andile.

A semi-structured clinical interview over two sessions was used to detect the presence of PTSD. In view of the reported difficulty in getting children to discuss the feelings evoked by traumatic experiences<sup>12,24</sup> it was felt that two sessions would allow the interviewer to establish better rapport and trust and would increase the likelihood of eliciting PTSD symptoms. Clinicians used *DSM-III-R* criteria to determine the presence of PTSD or any other psychiatric disorder. Free play and drawings of traumatic experiences formed part of the assessment. The medical history of the child, description of traumatic events, course and outcome of symptoms following exposure to violence, and recommendations with regard to intervention were also documented.

To provide independent diagnostic evaluation, selected modules of the Xhosa translation of the Diagnostic Interview Schedule for Children (DISC), version 2.1 were used, namely the child modules for major depressive, dysthymic, conduct and anxiety (panic) disorders.<sup>26,30,31</sup> These modules were selected because these disorders are commonly associated with exposure to violence; in the case of anxiety disorders, only the panic disorder module was used, because panic disorder was the only anxiety disorder detected in the Khayelitsha epidemiological study with reasonable frequency.<sup>26</sup> Because of the low rate of PTSD detected by the DISC in that study, the PTSD module was not used in the present study. Although the use of both parent and child modules of the DISC is preferable, only child modules were used in the present study because it was not possible to locate all the parents of the Children's Home sample.

## Procedure

The SECV was administered in a group setting to all 35 10 - 16-year-old children at the Children's Home, as well as 213 children from randomly selected classes from a primary and high school. As it was found that all the children reported exposure to violence, the SECV was not used for selection purposes. A random sample of 60 children who had completed the SECV (Children's Home 30 and school 30) was selected for inclusion in the study. The Levonn questionnaire and the DISC were then administered individually at the children's place of residence by a trained community mental health worker experienced in DISC administration. After receiving training in child trauma interviews two clinical psychologists, assisted by interpreters, conducted assessment interviews with each child at the Empilweni community mental health centre in Khayelitsha.

## Results

### Exposure to violence

All 60 subjects reported exposure to indirect violence, 57 (95%) had witnessed violence and 34 (56%) had experienced violence directed at them. Only 3 children (all from the Children's Home group) had not witnessed or experienced any violence other than hearing about incidents.

The type of violence children had experienced included being chased by strangers or gang members, being physically or sexually assaulted, and being threatened; 27 children (45%) had witnessed at least one killing; 33 (55%) had witnessed at least one stabbing, shooting, or other violent fight or attack; 20 (33%) had seen at least one dead body; 24 (40%) reported having heard gunshots. The majority of events reported by the children had occurred during the previous year.

The following are examples of violence witnessed by the children: Luthando saw members of the community hacking a man to death after he shot a woman. Vuyokazi saw a man being shot repeatedly while he was kneeling with his hands up in a gesture of surrender. On his way home from school, Xoliswa saw a gang fight in which two gang members had their heads hacked off. Bulelani saw a man beaten to death with bricks by community members, after he had slit a woman's throat.

### Levonn (Andile)

All the children reported symptoms on the Levonn questionnaire. Recurrent recollections of the traumatic event (59), avoidance of thoughts and feelings associated with the event (51), poor sleep (46), restricted range of affect (43) and diminished interest and pleasure (41) were the most commonly reported symptoms of PTSD. Other post-traumatic stress symptoms reported by a majority of the sample were intense distress at reminders (39), a feeling of detachment from others (39), poor concentration (37), sense of foreshortened future (37), avoidance of activities (36), irritability (36) and distressing dreams (24).

## Clinical interview

On the basis of the clinical interview, 13 children (21.7%) met the criteria for a *DSM-III-R* diagnosis of PTSD, 8 from the Children's Home and 5 from the school sample. There was no gender difference. The symptom profile of the 17 diagnostic criteria of the *DSM-III-R* is given in Fig. 1. The full range of *DSM-III-R* PTSD symptoms was experienced by the sample: the most common were avoidance of thoughts and activities associated with the trauma, difficulties in sleeping and hypervigilance. The least common were inability to recall important aspects of the trauma, restricted affect and physiological reactivity.

Nineteen children (21.6%) were diagnosed with dysthymic disorder, 4 (6.6%) with major depressive disorder (MDD) and 1 with conduct disorder (Table I). The rate of dysthymic disorder was higher in the Children's Home group (53.3%) than the Khayelitsha group (10%). Almost all the children with PTSD had co-morbid disorders: 11 met the criteria for 2 disorders, mostly PTSD and dysthymic disorder, and 1 for 3 (Children's Home 8, school 4 children). Of the 47 children in the sample who did not have PTSD, 11 had other psychiatric disorders.

Table I. Clinician diagnoses (based on *DSM-III-R*)

	Children's home	School sample	Total
PTSD	8 (26.6%)	5 (16.6%)	13 (21.6%)
Dysthymic disorder	16 (53.3%)	3 (10%)	19 (31.6%)
MDD	1 (3.3%)	3 (10%)	4 (6.6%)
Conduct disorder	1 (3.3%)	0	1 (1.6%)

### Case illustration of a child exposed to violence

Xolile is a 14-year-old boy, who is currently in standard 5 (grade 7) and hopes to become a mathematics teacher. He lives with his mother and three older siblings in a shack in Khayelitsha. A year ago he and a friend were treated for minor shrapnel wounds after a hand grenade explosion at a local shopping centre where others were seriously injured. Soon after that he saw a man being shot dead after stealing a car. He also witnessed a man shooting another in the stomach after a domestic quarrel. Six months ago his older brother died in his arms after being stabbed. After the grenade explosion he felt sad and distressed, often cried, had nightmares about the incident and struggled to concentrate at school. He is unable to recall important information relating to the experience and avoids the area where the explosion occurred. He said that although he felt very frightened after the two shooting incidents, he was not that deeply affected. He has been having repeated flashbacks of his brother's death and often dreams of happier times with him. Upon waking he feels very distressed and fearful. He said that he tries to play with friends to distract himself when feeling sad and distressed. However, he prefers staying indoors and when he is outside he is vigilant at times. The psychologist who interviewed Xolile described him as emotionally blunted.

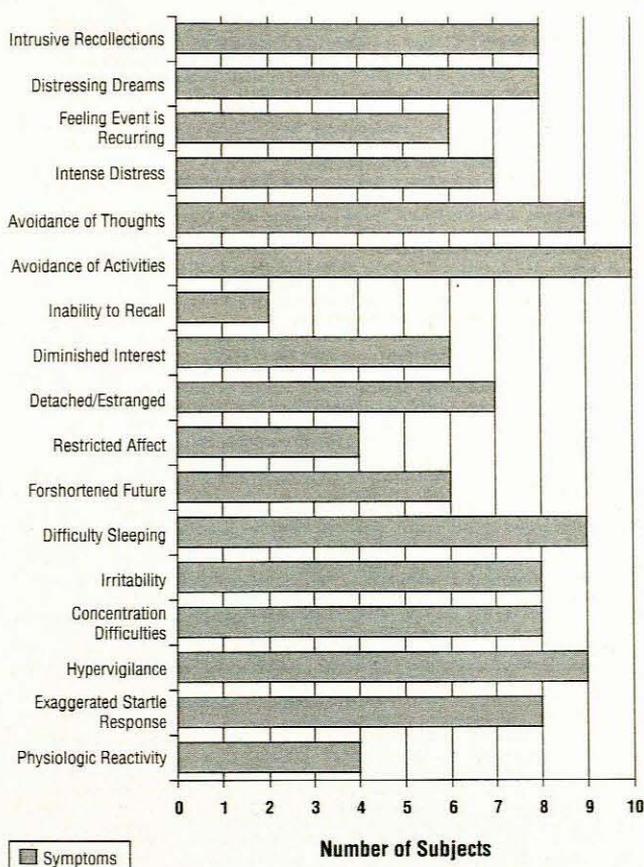


Fig. 1. Symptom profile of children diagnosed with PTSD.

A further 25 children (Children's Home 13, school 12) reported psychiatric symptoms which did not meet the criteria for psychiatric disorder, and these comprised mainly post-traumatic stress or dysthymic symptoms. Only 11 children (Children's Home 3, school 8) had no symptoms.

### DISC

The DISC confirmed the high rate of psychiatric disorders diagnosed by clinical assessment. Thirteen children (21.6%) met the criteria for dysthymic disorder, 3 (5%) for major depressive disorder, 1 (1.6%) for conduct disorder and none for panic disorder. According to the DISC 34 children had major depressive, dysthymic or panic symptoms, but did not meet the criteria for psychiatric disorder.

### Discussion

The results suggest that the prevalence of psychiatric disorder in local children exposed to community violence may be much higher than is currently recognised; clinicians found that 40% of the children in this high-risk sample had one or more psychiatric disorders. This compares with 18.8% in a random sample of 6 - 16-year-olds in Sites B and C in Khayelitsha.<sup>26</sup> It cannot be ascertained, however, whether the psychiatric disorders other than PTSD that were present in the high-risk sample were the result of exposure to violence or due to other factors.

The prevalence of PTSD (21.6%) reported by the clinicians in the high-risk sample is much higher than that elicited by the DISC in the random sample (0.4%) and in community settings elsewhere (1 - 6.3%).<sup>16</sup> It approaches that of children in war situations (25 - 50%),<sup>32-33</sup> with the prevalence of PTSD in the Children's Home sample (26.6%) falling in this range. These findings support our earlier impression that the DISC version 2.1 under-detects PTSD in this population, and that exposure to violence does result in a significant risk of developing PTSD.

The study found a very high rate of exposure to violence; nearly all the children (95%) had been exposed to violence and had personally witnessed either a violent attack or the result of violence, such as a dead body. More than half of the children (57%) had actually survived personal violence. From the clinical interviews it was apparent that personal experience of violence was associated with a higher risk of developing PTSD than the witnessing of violence; 9 (26%) out of 34 who had experienced violence developed PTSD, compared with 4 (15%) of the remainder of the sample. Although 25 of the children who had experienced personal violence did not develop PTSD, most had post-traumatic symptoms or other psychiatric disorders.

The higher rates of PTSD (26.6%) and dysthymic disorder (53.3%) in the Children's Home than in the school sample (16.6% and 10%) respectively, are not surprising given that the former children come from the most dysfunctional families. In addition to being exposed to neighbourhood violence, they have usually experienced extreme personal abuse and neglect, have lost their families, have been dislocated from their communities, and seldom had support when they most needed it. The rates of dysthymic disorder and MDD found in the school sample (both 10%) are considerably higher than those found in the random sample (4% and 2.2%, respectively).<sup>26</sup> Because the sample size is small, these may be chance findings. On the other hand they may represent the effects of exposure to violence. The absence of panic disorder is surprising given the significant rate reported in the random sample, but may also be an effect of small sample size ( $N = 26$ ). We are investigating the possibility that at least some of the cases of panic disorder in the random sample were misdiagnosed cases of PTSD.

The study provides convincing evidence that PTSD, as defined in the *DSM-III-R*, occurs in local children exposed to violence. All 17 symptoms, across all three categories (re-experiencing, avoidance of stimuli and increased arousal) were found at clinical interview, and confirmed by the Levonn questionnaire, although differences were found in the rates of symptoms. Both found the following 8 symptoms to fall among the 11 commonest symptoms (7 or more of the 13 children diagnosed with PTSD reported them at interview, and 36 or more children in the total sample reported them on the Levonn questionnaire): intrusive recollections of the event, intense distress at reminders of the event, avoidance of thoughts and activities associated with the trauma, a feeling of detachment or estrangement from others, difficulty in sleeping, irritability and concentration difficulties. Both found inability to recall important aspects of the trauma, and physiological reactivity upon exposure to reminders, to be less common symptoms. Restricted range of affect was reported more commonly on the Levonn questionnaire than at clinical interview.

Of the 13 children with a PTSD diagnosis, 10 (77%) scored above the mean on the Levonn questionnaire. The relatively short administration time of the Levonn questionnaire, and the fact that it uses both auditory and visual media and can be administered by lay interviewers, suggest that it may prove to be a useful screen for PTSD in community settings.

The finding that classic PTSD symptoms were identified in a significant percentage of children in this sample by both clinicians and community workers indicates that previous under-reporting of PTSD is not due to atypical responses to exposure to violence, or concealment of symptoms by affected children. This leads us to conclude that lack of awareness of the effects of exposure to violence specifically and of mental health problems and services generally, are responsible for the under-detection of PTSD.

All children in South Africa have a right to essential mental health care and the extremely high rates of untreated violence-related symptoms and disorders found in this study call for a national programme of action. There are a number of strategies through which identification can be improved. Creative information campaigns about identifying PTSD symptoms in children and how to respond to them can be used to raise the awareness and concern of parents, primary care workers and others who work with children. Teachers, child-care workers and all professionals who work with children need to receive training in non-threatening interview techniques.<sup>12</sup> As a start, all children who manifest unexplained symptoms or changes in behaviour or functioning, should be asked specifically whether they have experienced or witnessed violence. Examples of violence should be given, together with examples of post-traumatic stress symptoms.

Children's homes, in particular, require assistance to improve support for children and care-workers, as well as supervision and referral services. Screening instruments such as Levonn can be used to identify children most in need of intervention. Group interventions involving storytelling, drama, music and singing may be the most appropriate but, where the symptoms are due to family violence, additional interventions will be required. Ideally, trauma centres where information, support and group intervention are available, and from where referrals can be arranged, should be developed in communities where there are high levels of violence.

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