Exposure to violence and post-traumatic stress disorder in a rural adult population in South Africa

Summary

The purpose of the study is to identify exposure to violence and its consequences for health in an adult community in rural South Africa. The instruments used for the interviews included a 24-item Exposure-to-Violence checklist, a post-traumatic stress disorder (PTSD) interview schedule, and the Self-Reporting questionnaire (SRQ-20). The sample included 132 adults: 48 (35%) males and 84 (65%) females in the age range of 19-74 (mean age 33, SD=14.3). Fifty-seven (41%) reported that they had undergone a traumatic experience during their lifetime. Eleven (8%) adults were classified as having a PTSD. With increased exposure to violence, the PTSD score increased but the SRQ score (indicative of minor psychiatric morbidity) did not.

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Violent crime is a predominant contributing factor to the development of mental health problems, most commonly post-traumatic stress disorder (PTSD) (Hansen et al 1995: 134).¹

Most studies in South Africa have investigated exposure to violence and its consequences for health in an urban context (Gilbert 1995: 873). Data from surveys done by the Human Sciences Research Council (Glanz 1989: 45) show that 22% of urban black respondents reported in 1981 that they, or a family member living with them, had suffered the loss of money or goods to the value of more than R20 in the previous 18 months; 8% reported robbery with violence; 20% assault that caused pain and injury; and 4% rape. Straker et al (1996: 52) found in a study among the youth of Alexandra township in 1992 that exposure to violence was excessively high, e.g. 83% had been exposed to assault, 83% to killing, 49% to rape, 61% to arrest/detention, and 13% to eviction.

Several population studies of trauma and PTSD have now been done indicating that, on average, a quarter of all individuals exposed to extreme traumatic stressors that meet criterion A for the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) (American Psychiatric Association 1994: 424-9) go on to develop PTSD (Green 1994: 341). For example, Breslau et al (1991: 218) indicate that among urban American young adults a threat to one’s life, seeing others killed or badly injured, and physical assault all produced life-long PTSD rates of around 25%, while accident victims rated 12% and rape victims 80%. On the other hand, other studies have found much lower rates of life-long PTSD in the general population, e.g. 1% (Helzer et al 1987: 1631). Straker et al (1996: 51), using the General Health questionnaire (GHQ-12) (but with a higher cut-off score of 6), found that more than 20% of the South African township youth studied showed psychopathology associated with PTSD.

Few or no studies on the effects of violence and trauma have been done in rural areas of South Africa. The purpose of the present study,

¹ This research was supported by a grant from the University of the North. The anonymous reviewers are thanked for their valuable comments.
therefore, was to identify exposure to violence and its consequences for health in a rural South African adult community.

1. Methodology

1.1 Sample
The sample included 132 adults; 48 (35%) males and 84 (65%) females in the age range of 19-74 (mean age 33, SD=14.3). The ethnicity of the group was Northern Sotho.

The field site for the study was about 40 kilometres northeast of Pietersburg in the Northern Province of South Africa. Approval for the study was obtained from community leaders.

The site area consists of eight villages with a total population of 8,071. From the eight villages, one was chosen at random for the study. In the selected village all households including an adult were interviewed. In the case of more than one adult, a single adult was chosen for interview by using the birth date method (the adult whose birthday fell nearest to the interview date was selected).

The population of the area is adversely affected by conditions such as overcrowding, lack of electricity and clean water, poor sanitation, poor roads and transport facilities, a high unemployment rate and poorly equipped schools, all of which are impediments to the development of a healthy community. The rate of formal education in the adult population is relatively high: 76% of the population above 15 years of age have at least four years of formal schooling. A large percentage of men are migrant workers (in the age group 25-49 about 40%) (Alberrs 1996: 13).

A postgraduate research assistant was specifically trained to conduct the study.

1.2 Instruments
The following measurement instruments were used:
• A 24-item Exposure-to-Violence checklist developed on the basis of a literature review, which details various forms of violence commonly experienced in South Africa (Straker et al 1996: 46,
Participants were required to indicate whether they had experienced or witnessed violence during their lifetime. Responses were scored as 'yes' or 'no'. Participants furthermore were asked to indicate the type of violence they had experienced. The qualitative responses were recorded in Northern Sotho and subsequently translated into English.

The interview schedule was pilot-tested twice on a sample of 15 participants, and the test-retest reliability was 0.89. The translation from English into Northern Sotho was double-checked by two bilingual researchers by means of back-translation. The inter-rater reliability was found to be 0.8. The Cronbach alpha and the split-half reliability coefficients for the Self-Reporting questionnaire were both 0.75 for this sample.


The instrument is based on the DSM-III-R and has five parts, taking the form of a structured interview. The first part (A) relates to the existence and the type of the traumatic event. The next 17 questions constitute a standard psychological scale divided into three parts: trauma re-experiencing (B), avoidance (C), arousal (D). The assessment of the 17 symptoms is made on a scale from 1 ('no' or 'never') to 7 ('extremely' or 'always'). PTSD criteria are met by the following responses: Section A: 'yes' for history of trauma; Section B: at least one '4' or higher response to items B-1, B-2, B-3, and/or B-4; Section C: at least three '4' or higher responses to items C-1, C-2, C-3, C-4, C-5, C-6, and/or C-7; Section D: at least two '4' or higher responses to items D-1, D-2, D-3, D-4, D-5, and/or D-6.

This structured interview schedule was pilot-tested twice on a sample of 15 participants, and the test-retest reliability was 0.82. The translation from English into Northern Sotho was also double-checked by two bilingual researchers by means of back-translation. The inter-rater reliability was found to be 0.8. The Cronbach alpha and split-half reliability coefficients for the PTSD interview schedule were 0.78 and 0.75 respectively.

Peltzer/Exposure to violence

This instrument was included since comorbidity is frequently associated with PTSD, and some kind of screening for the presence of other psychiatric syndromes is therefore necessary (Litz & Roemer 1996: 156) along with an additional measure for minor psychiatric morbidity. It consists of ten depressive items (eg 'Do you feel unhappy?'), five anxiety items (eg 'Are you easily frightened?'), and five somatic items (eg 'Do you have uncomfortable feelings in your stomach?'). Participants were asked to answer 'yes' or 'no'. Each of the 20 questions was scored 1 or 0, a score of 1 indicating that the symptom had been present during the past month; a score of 0 indicating that it had been absent.

The interview schedule was pilot-tested twice on a sample of 15 participants, and the test-retest reliability was 0.86. The translation from English into Northern Sotho was double-checked by two bilingual researchers by means of back-translation. The inter-rater reliability was found to be 0.9. The Cronbach alpha and split-half reliability coefficients for the Self-Reporting questionnaire were 0.88 for this sample.

The statistical technique used in this study was correlation.

2. Results

2.1 Exposure to violence

The frequencies and percentages of respondents reporting exposure to various forms of violence, in rank order of frequency, are given in Table 1.

The ten most frequently experienced forms of violent and other crimes are theft, physical assault, vehicle theft, harassment, the disappearance of a family member, the murder of relative/friend, the murder of stranger(s), gender violence, crime involving firearms, and racial violence. Males experienced more theft, physical assault, vehicle theft and crime involving firearms than did females, whereas women experienced more gender violence, harassment, disappearance of family members, murders, child abuse and witchcraft-related violence. The most commonly witnessed forms of violence were physical assault, raids (mostly involving liquor), harassment, murder,
Table 1: Frequency of forms of violence experienced and witnessed, by gender in percentages (N = 132)

<table>
<thead>
<tr>
<th>Form of violence</th>
<th>Violence experienced</th>
<th></th>
<th></th>
<th>Violence witnessed</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Men</td>
<td>Women</td>
<td>Total</td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>Theft</td>
<td>37</td>
<td>30</td>
<td>7</td>
<td>16</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>Physical assault</td>
<td>28</td>
<td>22</td>
<td>5</td>
<td>43</td>
<td>22</td>
<td>21</td>
</tr>
<tr>
<td>Vehicle theft</td>
<td>19</td>
<td>15</td>
<td>4</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Harassment</td>
<td>12</td>
<td>5</td>
<td>7</td>
<td>19</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Disappearance of family member</td>
<td>13</td>
<td>5</td>
<td>8</td>
<td>10</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Murder of relative/friend</td>
<td>12</td>
<td>3</td>
<td>9</td>
<td>24</td>
<td>16</td>
<td>8</td>
</tr>
<tr>
<td>Murder of stranger(s)</td>
<td>11</td>
<td>4</td>
<td>7</td>
<td>23</td>
<td>18</td>
<td>5</td>
</tr>
<tr>
<td>Gender violence</td>
<td>10</td>
<td>0</td>
<td>9</td>
<td>20</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>Crime involving firearms</td>
<td>14</td>
<td>12</td>
<td>2</td>
<td>16</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>Racial violence</td>
<td>11</td>
<td>6</td>
<td>5</td>
<td>17</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Loss of property, job (1)</td>
<td>10</td>
<td>5</td>
<td>5</td>
<td>11</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Sexual abuse and rape</td>
<td>10</td>
<td>0</td>
<td>10</td>
<td>11</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Raids (mainly liquor-related)</td>
<td>9</td>
<td>4</td>
<td>5</td>
<td>26</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>History of child abuse</td>
<td>8</td>
<td>2</td>
<td>6</td>
<td>18</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>Witchcraft violence</td>
<td>8</td>
<td>3</td>
<td>5</td>
<td>10</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Inter-group violence (2)</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>19</td>
<td>16</td>
<td>0</td>
</tr>
<tr>
<td>Torture</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>8</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Forced evacuation</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Other (3)</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>11</td>
<td>10</td>
<td>3</td>
</tr>
</tbody>
</table>

(1) Social and family environment as a consequence of political repression
(2) Political, taxi violence, land disputes
gender violence, racial violence and child abuse. Women had witnessed in particular physical assault, raids and harassment, whereas men had witnessed mostly physical assault, murder, inter-group violence and gender violence.

On the 24-item Exposure-to-Violence scale most participants indicated that they had experienced and/or witnessed various forms of violence and other crimes.

2.2 Post traumatic stress disorder (PTSD) and minor psychiatric morbidity (SRQ)

Fifty-seven subjects (41%) reported that they had had a traumatic experience. Eleven (8%) of the total sample could be classified as having a PTSD in terms of the scale. On the PTSD subscales B, C and D the following number of subjects had a PTSD score: B, trauma re-experiencing (n=26); C, avoidance (n=28); D, arousal (n=26). For men the total mean for PTSD was 29.56 (SD=14) and for women 33.03 (SD=22.71). The total item mean score for PTSD (B,C and D) was 1.9 (SD =1.2).

The item mean scores for the PTSD subscales were: PTSD-B = 1.7 (SD =1.2); PTSD-C = 2.0 (SD =1.3); PTSD-D = 1.8 (SD =1.5). Thus subscale C (avoidance) had the highest means, followed by subscale D (arousal) and subscale B (re-experiencing).

For men the total mean for the SRQ was 12.22 (SD =7.33) and for women 7.98 (SD =5.23), indicating a higher minor psychiatric morbidity in men than in women.

Table 2 indicates the correlations between exposure to violence, PTSD cases, gender and outcome measures.
Table 2: Correlations between exposure to violence, PTSD cases, gender and outcome measures

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Dependent variable</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure to violence</td>
<td>PTSD score</td>
<td>10.73</td>
<td>&lt;0.02</td>
</tr>
<tr>
<td></td>
<td>SRQ score</td>
<td>10.71</td>
<td>&lt;0.07</td>
</tr>
<tr>
<td>PTSD cases</td>
<td>SRQ depressive score</td>
<td>12.05</td>
<td>&lt;0.0008</td>
</tr>
<tr>
<td></td>
<td>SRQ anxiety score</td>
<td>3.67</td>
<td>&lt;0.055</td>
</tr>
<tr>
<td>Gender</td>
<td>Exposure to violence</td>
<td>10.71</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td></td>
<td>PTSD score</td>
<td>0.002</td>
<td>&lt;0.9</td>
</tr>
<tr>
<td></td>
<td>SRQ score</td>
<td>14.182</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

There is a significant correlation between exposure to violence and PTSD score. The sample was split into PTSD cases and non-cases and separately correlated with SRQ subscales. The SRQ depressive score was significantly associated with subjects identified as suffering from PTSD. The SRQ anxiety score was not. Finally, there was a significant positive correlation between female gender and SRQ score.

3. Discussion

The frequency of respondents reporting exposure to various types of violence is less in this rural sample than in urban South African contexts, especially before the political transition in 1994 (Glanz 1989: 46, Straker et al 1996: 52). The major forms of violence found in this study could be classified as familial and criminal. Barbarin et al (1998: 283) note that in South Africa violence has shifted in form from state-sponsored attacks on opponents of apartheid to politically motivated inter-ethnic conflict and finally to community violence which can be classified as familial and criminal. Smit (1992: 212) points out that violence in South Africa can be explained in terms of a competition between possessor and dispossessed for a commodity. In this sample 41% of people reported that they had had a traumatic experience, a finding which may be similar to other studies. Litz & Roemer (1996: 157) found that between 25% and 69% of the general population experienced at least one traumatic event during their
lifetime. (The percentage varied widely due to differing definitions of a traumatic event.)

The type of violence experienced in this sample is similar to that found in other studies, e.g., in relation to physical attack or seeing someone being hurt or dying (Helzer et al. 1987: 1634), or to what Ullman & Siegel (1996: 706) or Norris (1990: 1707) found in adult American samples. The traumatic events experienced, as reported in the latter studies, included combat or war-related experiences (13%), serious accident (11%), seeing people hurt or killed (15%), natural disasters (11%), a threat or close call (8%), sexual assault (11%), physical assault (5%), or some other event that was distressing to the respondent (26%). In line with results from other studies (Hansen et al. 1995: 135), this study also found that men (22%) run a higher risk of being assaulted than women (5%).

This study established that there is a positive relationship between exposure to violence and symptoms of post-traumatic stress, which concurs with other studies (Ullman & Siegel 1994: 328). Minor psychiatric morbidity did not increase with exposure to violence but depression did, indicating comorbidity between depression and PTSD. Kilpatrick et al. (1987: 481) also found a high comorbidity of depression (82%) among victims of crime suffering from PTSD. This was the case among especially assault victims and victims who had experienced the homicide of a family member or friend (Hansen et al. 1995: 134). A finding inconsistent with past research was that being female was not significantly correlated with post-traumatic stress symptoms. Breslau et al. (1991: 219) found among an urban population of American young adults that female gender, neuroticism, and early separation (a childhood history of having had caretakers other than parents for at least a period of months) were associated with increased risk of PTSD after exposure to violence.

In conclusion, post-traumatic stress disorder is one of the most common psychological disorders associated with exposure to violence. Exposure to violence increases the risk of a myriad of mental health and adjustment problems such as depression, substance abuse, sexual dysfunction, life-style changes and social adjustments that need further investigation (Hansen et al. 1995: 135).
Green (1994: 344) found in a community survey that PTSD was significantly associated with the diagnoses of somatisation disorder, schizophrenia, panic disorder, social phobia, drug use, major depression, agoraphobia, simple phobia, and generalised anxiety.

(Mental) health professionals should routinely screen for PTSD among clients who have experienced crimes or other potentially traumatic events (Hansen et al. 1995: 151). Gilbert (1996: 884) emphasises that primary health care centres in South Africa will need to treat basic trauma efficiently if they are to have any relevance to the needs of the communities in which they serve. Biehl & Miller (1998: 21) describe a programme addressing domestic violence by training township women as community workers. Peeke et al. (1998: 12) describe the difficulties of working with emotional trauma in a South African community as follows: unreliable community resources, the amount of trauma workers are exposed to, and the personal impact of
Bibliography

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