Post-traumatic stress disorder as a public health concern in South Africa

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This article briefly surveys the extent to which traumatic events are a feature of life all over Africa and provides a comprehensive review of research that documents the pervasiveness of traumatic events in South Africa and the prevalence of PTSD symptoms. The material reviewed includes statistics on crime, violence and accidents, research from clinical settings, and surveys. Several provide evidence for the causal link between traumatic events and the development of PTSD. These studies show that PTSD has been and continues to be a significant problem for public health in South Africa, affecting individuals in all sectors of society and as much a concern with respect to children as to adults.

Keywords: Africa, epidemiology, post-traumatic stress disorder, public health, South Africa, trauma

Introduction

The aim of the present paper is to show that post-traumatic stress disorder (PTSD) and related psychological conditions are a significant public health problem in Africa as a whole and in South Africa in particular. Some African literature is reviewed that points to the catastrophic impacts of war and other sources of violence on the continent. For South Africa an extensive review is presented of the clinical and epidemiological literature which shows that PTSD is a significant public health problem which calls for appropriate strategic planning on the part of those responsible for resourcing mental health.

Trauma and PTSD in Africa and South Africa

A significant body of South African research is built around the prevalence of PTSD symptoms and strongly suggests that they constitute a significant public health concern. The emotional and behavioural problems associated with PTSD can have serious consequences for work and relationships. In severe cases, individuals may not be able to maintain their occupations and, if in formal employment, have to be medically boarded. In addition, the disorder takes a severe toll on relationships especially with intimates and in the family. The review that follows shows that these are significant problems in Africa and particularly in South Africa. In this review, ‘PTSD’ will refer to a diagnosis made using the criteria set out in either the ICD-10 (World Health Organization, 1992) or the DSM-IV-TR: Diagnostic and statistical manual of mental disorders (American Psychiatric Association, 2000) or on the basis of a rating scale based on one of these. ‘PTSD symptoms’ will refer to the various symptoms associated with PTSD whether they occur in the immediate aftermath of the trauma (as in Acute Stress Disorder [ASD] and Acute Stress Reaction [ASR]) or weeks or months later. For a discussion of the relationship between PTSD and ASD and ASR, see Edwards (2005, this issue).

Africa: A brief overview

Across Africa, catastrophic civil wars and natural disasters have been a source of trauma on a massive scale and accidents and assaults are an everyday occurrence. No attempt will be made to offer a full review. Rather, a few studies from Africa will be examined which provide insights into the short and long term effects of traumatic events. Odejide, Sanda and Odejide (1998) examine some of the lasting impacts of the Nigerian civil war that began in 1966 with massacres of Igbo people, who responded by declaring the independent state of Biafra. Although no reliable figures are available, by the time it ended in 1970, ‘Igbo losses of lives and property were massive enough to be devastating’ (p. 378). In the absence of formal research they draw on literature to describe how ‘traumatised young demobilized men took to robbery and unleashed terror on their own kith and kin’ and to argue that ‘an age group born during the civil war ... exhibiting disruptive behaviours such as muggings, lawlessness and disregard for elders, was a creation of the social and educational limbo created by the war’ (p. 381). They summarise the DSM definition of PTSD and although they offer no descriptions and figures, clearly imply that this symptom picture was and continues to be common as a result of criminality, ongoing political/ethnic conflicts, and abuse of power (including detention and torture) by government.

Some of the impact of the civil war in Mozambique has been documented by Peltzer and Chongo (2000). Eight million people were negatively affected, including three million children, the majority of whom lost their homes. At the end of the war in 1992, there were two million landmines, mainly on the roads, and thousands of civilians have been killed or disabled by them. Large numbers of political detainees were imprisoned and tortured, although no figures were available. Tens of thousands of Jehovah’s Witnesses suspected of being Renamo supporters were persecuted by government forces. Some were imprisoned,
some deported, many were tortured, some using a form of crucifixion. A few years later Renamo forces attacked and ransacked their homes and forcibly recruited them to fight against the government. After the war, ‘ill-trained and ill-disciplined police forces, private security forces, and local officials continued to commit human rights abuses, including extra-judicial killings and excessive use of force’ (pp. 82-3) and many cases of torture of prisoners have been documented. In a small and rather poorly controlled research study, Peltzer and Chongo documented some of the psychological consequences of these events. They administered the Harvard Trauma Questionnaire and a measure of depression to a sample of 71 individuals from four subgroups: ex-political prisoners, Jehovah’s Witnesses, demobilised soldiers, and ‘vulnerable population’ (a phrase that is unfortunately not fully explained). Two thirds of the sample had been in situations in which they had been at risk of dying, over half had been tortured. In each of the subgroups, over two thirds showed evidence of depression, 14% had symptoms consistent with a diagnosis of PTSD, 25% reported nightmares, and nearly 50% reported avoiding thoughts that reminded them of traumatic events.

In many African countries war and instability continue to contribute to Africa’s preeminent position in world poverty and to add to the already existing legacies of trauma that still have to be tackled (Commission for Africa, 2005). In Sierra Leone, a 10 year civil war that lasted until 2002, left 50 000 dead. De Jong, Mulhem, Ford, Van der Kam and Kleber (2000) surveyed residents of Freetown, after a period of intense violence in 1999 and found that 99% of respondents displayed high levels of PTSD symptomatology. Many traumatised individuals become refugees and immigrants. Dinicola (1996) provides a brief description of the treatment of a Somali mother and child, both with PTSD, who were making a new life in Canada. Kinzie (2001) describes depression and PTSD in a Congolese woman given political asylum in the USA after losing husband, grandparents and probably parents in the civil war there. On South Africa’s border, state initiated or supported organised violence is ongoing in Zimbabwe, especially since the elections of 2000 and there is extensive documentation of assault and torture of opponents of the government, as well of farm workers targeted by ‘war veterans’ repossessing white owned farms. Although there are no reliable figures for the number of Zimbabwean refugees in South Africa, it is estimated to be at least tens of thousands. In a recent study of 48 political refugees, Pigou (2004) found that most had experienced organised violence and torture on several occasions. Two thirds had been attacked in public and nine had been tortured in detention. Thirty-five of them had ‘a clinically significant psychological disorder’ (p. 24) that included ‘Mixed Emotional Disorder’, Depression and Somatoform Disorder (although the method of arriving at diagnoses was not reported).

Even where political stability is achieved, the legacy of psychological suffering may remain for decades. King (2002) offers a first hand account of her experience of the 1994 genocide in Rwanda. Driven from her home, she slept in the bush and on several occasions narrowly escaped death at the hands of Hutu militia. Hutu neighbours who tried to assist her were themselves targeted and killed. She was eventually captured and marched away at gun point with a group of 14: Only seven of us survived. During that time I lost two of my beloved brothers and many of my family members. I saw many people killed, including relatives and others that I knew. ... After genocide, the country was full of bodies, blood and bad smells.

Makumana (2004) has described how, ten years after the genocide, many rape survivors still live in a state of numbness and shock and feel as if they are only half alive. PTSD is likely to be an aspect of this legacy for a significant number of individuals and prolonged and concerted action on many fronts, political, societal and individual, will be needed if psychological scars are to be healed and a nation built that does not pass on the legacy of trauma from one generation to the next.

South Africa at the end of apartheid era

The most systematic research on the psychological consequences of trauma in Africa has been conducted in South Africa, where the effect of political and criminal violence has been extensively documented. Historically, thousands were exposed to traumatising events as a consequence of the political violence under the apartheid regime, either as a direct result of the actions of the military or the police, or through being caught up in violence and conflict occasioned by politically motivated violent activity (Silove and Schweitzer 1993; Straker 1994). The impact of specific traumatising events and the specific symptoms of PTSD are only part of a broader picture of shattered communities. Thousands are struggling with the impact of human rights abuses and economic and social hardship in which not only adults, but also children were widely affected (Simpson 1993a). Nevertheless, PTSD was, and continues to be a significant problem in the domain of public mental health and it is the aim of this section of the paper to summarise studies that provide the evidence for this.

A few studies examined the effects of violence during the last years of the apartheid regime. Many psychologists worked with political detainees after their release and documented the abuses to which they were subjected. A high proportion were tortured and many of these were suffering from PTSD when seen at treatment centres, although no quantitative findings have been reported (Dowdall 1992; Simpson 1993b, 1993c; 1995; Solomons 1989; Swartz, Dowdall, and Swartz 1986). Dawes and Tredoux (1989) and Dawes, Tredoux and Feinstein (1989), who studied children in families affected by ongoing vigilant-led violence in the Crossroads squatter area, reported a 10% prevalence of PTSD, and a further 32% exhibited stress symptoms which were not sufficient to merit a diagnosis of PTSD. Some two thirds of the children’s mothers suffered from PTSD and maternal PTSD predicted PTSD symptoms in the children. Swartz and Levett (1989) examined the effects on children of political repression and the violence that was endemic in many communities. Although there was evidence of anxiety symptoms in children as a result of the oppressive conditions, these authors also noted the remarkable resilience of many children. Children’s responses could also depend on that of their parents. In one family, ‘children
seemed to be more disturbed by their mother’s prolonged anxiety responses to a particular traumatic event than by the event itself (p. 743).

Kwazulu-Natal in particular has been plagued by ongoing violence associated with conflicts between communities, related to affiliation to either the ANC or IFP political parties, violence that has persisted well into the period of democracy. Following an outbreak of violence in 1990, Michelson (1994) interviewed 95 residents who had been displaced and been living in special camps for at least three months. Over half had had their house destroyed, 41% had witnessed an assault, 25% had had a friend killed, and many had witnessed a killing (7% of a family member, 26% of a friend and 31% of someone else). Eighty-seven per cent reported symptoms consistent with a diagnosis of PTSD, and PTSD scores were highest for those who had witnessed a friend or family member being killed, intermediate for those who had lost a friend or family member but had not witnessed it, and lowest for those who had not lost a friend or family member at all. Those who were injured during the conflict also had higher PTSD scores than those who remained uninjured.

Magwaza, Killian, Petersen, and Pillay (1993) studied children aged two to seven in a rural area of KwaZulu-Natal affected by political violence. When asked to draw, 84% drew actions associated with violence (fighting, running away, houses burning). Using a PTSD checklist completed by teachers, they found that only 26% showed less than four symptoms (classified as ‘normal’), 61% had four to six symptoms (classified as ‘mild’), and 12% had more than six (classified as ‘severe’). They found a relationship between degree of violence in the community and frequency of symptoms, in that 88% of children from an area in which there was a higher level of violence displayed four or more symptoms as opposed to 55% of the children from a somewhat less violent area. It is interesting that children with more PTSD symptoms portrayed less violence in their drawings, and the authors hypothesised that the capacity to represent violent events protects against the development of symptoms. During 1994, Govender and Killian (2001) studied adolescents at KwaZulu-Natal schools in areas affected by political violence and found that 86% had witnessed houses being attacked or burned, and 27% had had their own home attacked. Seventy-three per cent had witnessed violence at school, 22% had had a friend killed in violence and 7% had witnessed a friend being killed. Current symptoms of PTSD were reported by much of the sample: 62% described behavioural avoidance motivated by fear, 42% reported constant vigilance, 41% reported flashbacks, and 27% reported nightmares.

The plight of children and adolescents is reflected in police statistics that showed 41% of rape victims were under 18, and 15% were under 12 years old (Protecting children against violence in schools, 2003). Smith and Holford (1993) from the Child Adolescent Family Unit at the University of Witwatersrand provide a window into the tragic and appalling events which lie behind the statistics. Twenty-seven of these had PTSD and the remainder had many PTSD symptoms. Six of them had been raped, and three had witnessed someone close to them being raped. Seven of the cases involved criminal violence including assaults, murders, robberies and rapes perpetrated by strangers. One four-year-old girl watched her mother being beaten to death by burglars who also beat her father unconscious and locked her, her father and infant sister in a cupboard where they remained for four hours. In 17 cases the violence was domestic. For example, in one case, a 6-year-old girl was raped by her father who then raped a 14-year-old boy neighbour and shot himself. She found the dead bodies. In another case, a brother (15) and sister (14) watched a parental quarrel during which the father shot the mother who slowly bled to death. In 11 cases the violence was political. In one case, an eight-year-old girl was present when security police arrived and beat and arrested her father, threatened the children and ransacked the home. From the brief descriptions, most of the other cases of political violence seemed to involve conflict between rival political factions.

Several psychologists were involved directly, either as consultants, counsellors or researchers, with the public hearings held by the Truth and Reconciliation Commission (TRC) which released its report in March 2003 (Dowdall, 1996; Friedman 2000; Gobodo-Madikizela 2004). In a series of public hearings in all major cities, that began in East London in April 1996, and continued until 1998, perpetrators of atrocities who were willing to tell the truth about what they had done were offered amnesty, and their victims or the families of victims in turn had the opportunity to hear the truth about what had really happened and to tell of their experiences. A large proportion of those who testified to the TRC were still suffering from PTSD 10-15 years after the traumatic events to which they were exposed. Pillay (2000) reported percentages of those with PTSD ranging from 0% at Empangeni, through 25% in Newcastle, 34% in the Free State, 48% in Durban, and 56% in Port Shepstone. Magwaza (1999) studied a sample of black individuals who had testified at the TRC and who had a diagnosis of PTSD, 36 of whom had witnessed the death of a family member and 29 of whom had been detained and/or tortured. She compared these to a control group of individuals who had not been exposed to significantly traumatic events, but who were otherwise matched in terms of ethnicity, church membership, gender and age. Compared to the controls the traumatised group experienced the world as less meaningful and the environment as more threatening. However, there was no difference in self-worth between the two groups, although within the PTSD group the torture/detention group had lower self-worth than those who had suffered the death of a family member.

**Criminal violence: An ongoing traumatising environment**

Despite the demise of apartheid and the advent of democracy, PTSD remains a significant public health concern. Not only are there those suffering from chronic PTSD as a result of past violence and human rights abuses, but rates of domestic and criminal violence in South Africa are high. Table 1 summarises statistics released by the South African Police Service (2005) in September 2005 for the 2004/5
Table 1: Rates of violent crime in South Africa for 2001/2 and 2004/5, with some comparative figures from the USA

<table>
<thead>
<tr>
<th>Crime</th>
<th>South Africa*</th>
<th>USA 2002**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2001/2</td>
<td>2004/5</td>
</tr>
<tr>
<td>Murder</td>
<td>21405</td>
<td>18793</td>
</tr>
<tr>
<td>Attempted murder</td>
<td>31293</td>
<td>24516</td>
</tr>
<tr>
<td>Assault with intent to do</td>
<td>26 4012</td>
<td>24 9369</td>
</tr>
<tr>
<td>grievous bodily harm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rape</td>
<td>54293</td>
<td>55114</td>
</tr>
<tr>
<td>Indecent assault</td>
<td>7683</td>
<td>10123</td>
</tr>
<tr>
<td>Kidnapping</td>
<td>4433</td>
<td>2618</td>
</tr>
<tr>
<td>Abduction</td>
<td>3132</td>
<td>3880</td>
</tr>
<tr>
<td>Robbery with aggravating</td>
<td>11 6736</td>
<td>12 6789</td>
</tr>
</tbody>
</table>

* Source: South African Police Service Crime Information Analysis Centre Statistics for 2004/5
** Source: Crime in the United States 2002 (Federal Bureau of Investigation, 2002)
+ USA figures for ‘Murder and non-negligent manslaughter’
++ USA figures for Aggravated Assault

year with the figures for 2001/2 given for comparative purposes. Some figures from the Federal Bureau of Investigation’s (2002) crime statistics for 2002 are also included for comparative purposes, although the way in which some of the crimes are classified may not be the same as in South Africa.

These rates are exceptionally high in world terms although in the case of most categories there appears to be a marked reduction since 2001/2. It can be seen that there are comparable levels of crime in the USA in the District of Columbia, the crowded inner city that includes Washington, DC. In the USA, crime is higher in crowded inner city areas than in suburban and rural areas, so that figures are much higher here than in other states. Rates of rape and indecent assault in South Africa are particularly high, and it is widely recognised that the actual figure may be two or three times higher since sex crimes are often not reported. The increase in rape in South Africa since 2001/2 could in part be due to an increase in reporting as a result of public awareness campaigns. In the USA, there is marked variability among the rates of rape yet even the very high rate in New Mexico is about half the South African rate. Within South Africa there is also considerable variability between provinces with respect to rates of particular crimes. For example the rate of assault with intent to do grievous bodily harm in the Northern Cape is nearly 2½ times the national rate, and in Gauteng, robbery with aggravating circumstances is more than twice the national rate and carjacking is nearly three times the national rate. Another way of looking at the toll of human suffering occasioned by the high rate of violent crime is through the use of the Disability Adjusted Life Years per 1000 000 statistic (DALY) that estimates years of life lost or lived with disability as a result of injuries and therefore provides a measure of negative impact on population health (Bradshaw, Groenewald, Laubscher, Nannan, Nojilana and Norman 2003). A lower figure indicates a better quality of life. For 2000, South Africa’s DALY as a result of homicide and violence was 2 573, compared to 1 288 for sub-Saharan Africa as a whole, and only 81 for Mauritius and 59 for Australia.

**PTSD in current South African clinical contexts**

Ensink, Robertson, Zissis, and Leger (1997) documented the impact of violence on vulnerable children (aged ten to 16) in the Western Cape, 30 from a children’s home serving Khayelitsha, and 30 from a primary and high school serving an informal settlement in Khayelitsha known for its high levels of community violence. All children had at least indirect exposure to significant violent events, most of it recent. Fifty-six per cent had been the direct target of violence, 55% had witnessed a stabbing, 45% had witnessed a killing, several had been chased by gang members, others had been sexually assaulted. One child saw two gang members have their heads hacked off during a gang fight. One saw a man who had slit a woman’s throat being beaten to death by community members. One child had suffered minor injuries in a grenade explosion at a supermarket that severely wounded others, had seen a man who was stealing a car shot dead, had seen a man shoot another in the stomach in a quarrel, and, most traumatic of all, had held his brother in his arms while he died of stab wounds. This is one of the few studies in which a diagnosis was made on the basis of a thorough psychiatric interview (that took place over two sessions). The rates of PTSD are therefore particularly trustworthy. All but two of the children had at least one psychiatric disorder. At the children’s home 26.6% had PTSD, and 16.6% of children from the school had PTSD. In addition, 53.3% from the children’s home and 10% from the school had dysthymic disorder. There were a few cases of Major Depressive Disorder (6.6%) and Conduct Disorder (1.6%).

Qualitative studies from clinical contexts document the terrible sequelae of trauma that health professionals are routinely faced with. Peeke, Moletsane, Tshivula and Keel (1998) provide several clinical descriptions of the kinds of cases that create dilemmas for clinicians faced with individuals who are chronically abused and disempowered within a community in which gender discrimination and violence are the norm. They describe a case of gang rape: a 22-year-old black lesbian woman was abducted and ‘jackrolled’ for four days. This meant that a group of men who were prejudiced against her sexual orientation punitively raped...
her in succession, perhaps as a way of trying to make her heterosexual. She had already had a prior experience of rape. Male police were unsupportive and she was so afraid that she withdrew the charges she had wanted to lay. Leibowitz, Mendelsohn, and Michelson (1999) describe the context of the Alexandra Clinic in Gauteng where 85 sexually abused children (mostly girls aged four to seven) were seen during a single year, 1995. In 44 cases the perpetrator was known to the child and in 17 cases there was recurrent abuse. They describe a clinical approach for dealing with such cases which is developed further by Leibowitz-Leyv (2005, this issue). Eagle (2005, this issue) describes the trauma clinic of the Centre for the Study of Violence and Reconciliation in Johannesburg, where many trauma victims suffering from PTSD are seen on a regular basis. Malose (2004) reports from the same clinic that cases of PTSD following rape are common.

A study of 1 050 black and white women who visited general medical practitioners during 1997 in various parts of South Africa (although about half were in the Western Cape) showed the extent to which domestic violence is a problem across a range of socio-economic groups (Marais, de Villiers, Möller and Stein 1999). 21.5% reported being victims of domestic violence on at least one occasion, in the majority of cases at the hands of a boyfriend, husband or ex-husband. This figure is similar to that reported in the USA. About half of the affected women were black and the other half white. In 50% of cases the events in question had happened at least five years previously: 42% no longer had contact with their assailant, although 37% still lived with the assailant. In the majority of cases the violence involved physical assault. Fifty-three per cent had been beaten up and left in continuing pain, 18% had severe injuries, 11% had been wounded by a weapon, 26% had been threatened with a weapon, 32% had been raped. The women exposed to violence were compared with a matched control group who did not report having been victims of violence. PTSD was diagnosed using a symptom check list and was present in 35% of those exposed to domestic violence, but in only 3% of controls. Women with PTSD and/or depression had been exposed to higher levels of violence. Major depression was present in 48% of the exposed group and 19% had made suicide attempts, whereas for those not exposed the figures were 11% and 6% respectively. PTSD and depression were present across all socioeconomic groups. The study documents the widespread occurrence of domestic violence against women and provides evidence of a causal relationship between victimisation and the development of PTSD and depression. Few of the affected women reported the violence to their doctors and the doctors themselves were surprised at the frequency with which domestic violence lay behind apparently unexplained medical symptoms.

A similar lack of awareness on the part of health professionals of the medical/psychiatric consequences of violence emerged in a similar study of Xhosa-speaking individuals attending a primary health care clinic in Khayelitsha, Cape Town (Carey, Stein, Zungu-Dirwayi, and Seedat 2003). Exposure to violence was investigated in males and females and it was found that 94% had experienced at least one traumatic life event. The most common events were being held up or threatened with a weapon (females 28%; males 53%) discovering a dead body (females 41%; males 42%); experiencing a serious threat to the life of a loved one (females 33%; males 42%) and assault (25% of women reported assault by their partner, 41% of males reported assault by a non-family member). Forty-four per cent of these patients had suffered from PTSD at some time in their lives and 20% currently met the criteria for PTSD; the mean duration was nearly five years. Health professionals were unaware of the relevance of violence to medical symptomatology. In no case did the medical records reflect a recognition of the significance of the trauma, a diagnosis of PTSD or any indication that any medication had been prescribed to address the PTSD symptoms.

Survey studies of students

These observations in clinical settings are complemented by several survey studies that have examined PTSD symptoms and exposure to traumatising events in secondary and tertiary students. In a survey of Pretoria Technikon students, Hoffman (2002) found a much higher exposure to traumatic events in the preceding year, compared to studies in North America: for females, 10% had experienced unwanted sexual activity (including rape, date rape and ‘forced sex’); for both genders, 19% had witnessed serious injury or death, 13.5% had been victims of violent robbery, and 8% of physical assault. ASD/PTSD symptoms were reported by a high proportion of those exposed to trauma. For example, all females exposed to unwanted sexual activity reported intrusive thoughts and behavioural avoidance and 59% experienced nightmares; victims of physical assault experienced intrusive thoughts (75%), behavioural avoidance (80%) and nightmares (45%). However no information about the duration of these symptoms was obtained.

In the Western Cape exposure to violence on the part of children and adolescents is mainly the result of criminal activity and conflicts between rival gangs. Nevertheless, Ward, Flisher, Zissis, Muller and Lombard (2001) found high rates of exposure to violence in a sample of 104 Grade 11 students at Cape Town private schools where respondents were ‘likely to be drawn from relatively wealthy families and in most cases to have come from safer communities than students in publicly funded schools’ (p. 299). No information on ethnicity was provided. Scores on a Safety Index indicated that most respondents felt safe most of the time. Nevertheless, ‘rates of exposure to violence ... were unacceptably high’ (p. 297): 30% reported being a victim of violence perpetrated by a stranger, and 48% of violence perpetrated by a person known to them. Seventy per cent had witnessed violence perpetrated by a person known to them and 80% by a person who was a stranger. Based on responses to the Harvard Trauma Scale, 6% of respondents had scores that suggest that they might meet the full criteria for PTSD and nearly 20% endorsed more than 15 PTSD symptoms. About 10% had Beck Depression Inventory scores indicating mild to moderate levels of clinical depression.

Seedat, Van Nood, Vythilingum, Stein, and Kaminer (2001) documented high levels of exposure to violence in another study of Western Cape adolescents at one ‘lower socio-economic’ and two ‘higher socio-economic’ schools. Forty-nine per cent of respondents were white and 45%
were coloured. The mean number of incidents of childhood trauma (verbal, physical, and sexual abuse) was 3.5. On a checklist of DSM-IV traumatising events the mean score was 2.3. Sixty-three per cent had witnessed violence in the street, 32% had been robbed or mugged, 30% had seen family members injured, beaten or killed. Seventeen per cent of females and 5.4% of males had been sexually assaulted. 14.7% of females and 8.5% of males had scores suggesting they would meet the criteria for PTSD. The larger the number of childhood or DSM-IV traumas reported, the greater was the chance that the individual would have scores indicating PTSD.

A third Western Cape study of adolescents at schools in Cape Town also included cross-national comparisons with adolescents in Nairobi (Seedat, Nyamai, Njenga, Vythilingum, and Stein 2004). In each city, seven public and two private schools were included. Members of the Nairobi sample were almost all black, while the Cape Town sample included 21% black, 42% mixed race and 32% white. More than 80% of respondents in both countries had been exposed to at least one severe trauma, with a mean number of 2.5. Well over half had witnessed violence in the street, a third had been robbed or mugged, and about 25% in South Africa and 15% in Kenya had been in serious accidents. However, Kenyans reported higher rates of witnessing violence, being physically beaten by a family member or being sexually assaulted. Over 10% of boys and girls reported sexual assaults, the highest rate being in Kenyan boys (24%). A degree of self-reported PTSD symptoms likely to indicate an actual PTSD diagnosis (PTSD positive) was found in more South Africans (22%) than Kenyans (5%). However there were no gender differences. In each country PTSD positive respondents reported exposure to more traumas than other respondents, and events most strongly associated with being PTSD positive were sexual assault, physical assault by a family member and serious accidents. PTSD positive respondents had a mean of 20 on the Beck Depression Inventory, a score in the normal range. This study is a reminder that violence is not limited to South Africa and cannot all be attributed to the legacy of apartheid. The kinds of economic, social and political conditions that support climates of violence are, sadly, all too widespread in Africa.

**Studies of other vulnerable South African populations**

In a series of studies, Peltzer has documented exposure to traumatising events and the degree of PTSD symptomatology in a broad range of samples, mostly in Limpopo Province. In a random sample of Northern Sotho children (aged six to 16) from a rural area northeast of Pietersburg, 67% had been exposed either directly or vicariously to potentially traumatising events (Peltzer 1999). Direct victimisation included sexual assault, being in serious motor vehicle accidents, and being abducted and threatened with death in a ritual. Vicarious victimisation included such events as seeing a shop owner shoot an alleged thief, and death of a relative or close friend by suicide or criminal assault. 8.3% met the criteria for PTSD based on a clinical interview and 53% reported more than four PTSD symptoms on the Reporting Questionnaire for Children. There was a correlation of .53 between degree of exposure to bad experiences and PTSD symptomatology.

Peltzer (2000) studied 36 male and 92 female adult black victims of violent crime obtained by snowball sampling in Pietersburg. One third were female rape victims, a quarter, mostly female, had been physically assaulted and others had been victims of attempted murder, armed robbery or threatened with a weapon. The crime had taken place within the last year in 30% of cases, and up to eight years ago in the remainder (mean = 34 months). Prevalence of PTSD was estimated as 42% on the basis of the Impact of Events Scale (IES) - Revised; when estimates were based on the Post-Traumatic Symptom Scale, 25% met the criteria. The exact figure is not important, but scores on these scales clearly show that a large number of interviewees were experiencing significant PTSD symptoms. In a later study, Peltzer (2003) interviewed 128 male taxi drivers and 127 taxi passengers (58 male and 69 female) in Pietersburg. Exposure to traumatising events was considerably higher than in similar studies overseas: 95% had been exposed to at least one with a mean exposure of 3.2 events that included witnessing serious injury or death, having a close family member murdered, being physically or sexually assaulted. Thirty per cent of the drivers and 15% of passengers had been involved in serious road accidents. PTSD symptoms were higher in women than in men and were associated with number of traumatic events, being seriously injured and perceived threat to life. The rate of PTSD, as estimated from responses to the PTSD Symptom Scale was 8.2%, relatively low considering the degree of exposure in this sample.

Two other qualitative studies document some of the effects of criminal violence. In a review of the work of the Trauma Clinic in Cape Town, Van Wyk and Edwards (2005, this issue) describe several case examples of the impact of criminal violence in a wide range of contexts. In a phenomenological study of four white victims of hijacking, McGregor, Schoeman and Stuart (2002) classic PTSD symptoms are described, including increased vigilance, flashbacks and avoidance. Phenomenological researchers often claim that by not bringing a medical or clinical perspective to bear on the interview process they can often get to a more human understanding of the phenomenon being investigated. This perspective ignores the fact that much of the clinical theory has a strong phenomenological basis. A consequence in this study is that the authors did not investigate the course of the negative consequences or provide information with respect to frequency or duration.

PTSD is a common consequence of motor vehicle accidents (MVAs) (Harvey and Bryant, 1999; Mayou, Ehlers and Hobbs 2000; Murray, Ehlers and Bryant 2002; Scotti, Ruggiero and Rabelais 2002; Taylor, Koch, Fecteau, Fedoroff, Thordarson and Nicki 2001). These are a serious problem throughout Africa, where limited resources in terms of policing mean that driving without a licence, driving under the influence of alcohol, and breaches of the basic safety rules of driving are all too common. South Africa is no exception. Bradshaw et al. (2003) observe that figures for total annual MVA fatalities in South Africa vary, possibly because some figures reflect deaths at the scene, and others include deaths that occur subsequently. They estimated that there were 18 446 MVA fatalities in 2000.
with higher degree of exposure to victims of trauma. How-} \[\text{relatively low cut-off and it is not possible to estimate the} \]

high symptom group, identified on the basis of a score \[\text{according to PTSD symptoms on the basis of the IES-R. A} \]

accident scenes. Marais and Stuart (2005) studied 50 \[\text{includes journalists who frequently attend crime and} \]

tentially (Badenhorst and Van Schalkwyk 1992). \[\text{detection of PTSD and for addressing the problem therapeu-} \]

over a decade, procedures have been in place for the \[\text{relations without the underlying cause being recognised. For} \]

their job and vulnerable to develop poor interpersonal \[\text{concern in the mining industry that has often gone} \]

Workplace accidents can be similarly traumatic especially in \[\text{the mining industry where fatal accidents occur regularly. For} \]

Occupational risk and PTSD \[\text{exposure to traumatic events, significantly more than for the} \]

PTSD is a common problem in occupations which rou-

fulness without the underlying cause being recognised. For \[\text{over a decade, procedures have been in place for the} \]

PTSD is a common problem in occupations which rou-

}{p. 55, Table 3.4}, while figures from the ArriveAlive (2005) \[\text{website range from 11 000 to 12 300 for 2001 to 2003 with} \]

fatalities in 2003 involving 3 356 drivers, 3 728 passengers \[\text{and 5 269 pedestrians. With respect to MVAs, the DALY for} \]

South Africa (as well as that for sub-Saharan Africa in general) is four times higher than that for Australia and three \[\text{times that for Mauritius (Bradshaw et al, 2003). Peltzer and} \]

Renner (2004) found that in both groups there was a significant decrease in self-reported \[\text{general health, quality of life and quality of family life after the} \]

accident. Where the driver was a family member, passengers \[\text{reported a greater decrease in quality of family life, as} \]

comparing those for whom the driver was not a family \[\text{member. Mean scores on the Intrusion and Avoidance sub-} \]

scales of the IES were higher than in the Peltzer (2000) study \[\text{of victims of violent crime. No estimate was made of the} \]

prevalence of PTSD because the Hyperarousal subscale was \[\text{not administered, however the significance of the degree of} \]

symptomatology in this study can be seen from the fact that \[\text{prevalence was estimated at 42% in the Peltzer (2000) study.} \]

reported a greater decrease in quality of family life, as \[\text{compared to those for whom the driver was not a family} \]

member. Mean scores on the Intrusion and Avoidance sub- \[\text{scales of the IES were higher than in the Peltzer (2000) study} \]

of PTSD in this study can be seen from the fact that \[\text{prevalence was estimated at 42% in the Peltzer (2000) study.} \]

Effects of exposure to traumatic events \[\text{were reported by a larger percentage: avoidance of thoughts} \]

(42%), numbing (41%), avoidance of places (35%), intrusive \[\text{recollections (36%), nightmares (30%), irritability/anger} \]

(35%). On the basis of the Zung Self-rating Depression Scale, 17% of the sample were clinically depressed \[\text{and another scale measuring personal exposure to danger} \]

or witnessing traumatic events.

In a study nearing completion at the University of \[\text{Stellenbosch, Möller (personal communication, 2004) and} \]

colleagues found that nearly a third of emergency services \[\text{personnel met criteria for PTSD. In the military exposure to} \]

death and serious injury during combat is an occupational \[\text{hazard. However, in a study of 198 Zulu-speaking members} \]

of the South African National Defence Force, Seedat, le \[\text{Roux and Stein (2004) found that military personnel had} \]

often been exposed to many other sources of trauma. Many \[\text{of them had been members of other military organisations} \]

prior to 1994 and had joined the SANDF as part of the \[\text{programme of integration. The mean number of traumatic} \]

events to which they had been exposed was 4.3, and 89% \[\text{had been exposed to at least one. While 40% reported} \]

exposure to a war zone, 46% reported having been physically \[\text{assaulted, 43% reported motor accidents and 33%} \]

other forms of accidents. 5.6% reported having been sexually \[\text{assaulted. Furthermore, these military members also} \]

admitted to having inflicted trauma on others. Sixty-six \[\text{per cent had physically assaulted another (only half of these} \]

in a combat situation), 22% had killed someone (about 40% \[\text{of these occurred outside a combat situation), 27% had} \]

inflicted serious, life-threatening injury (only about one \[\text{third of these in a combat situation), and 12% had committed} \]

rape (less than half of these in a combat situation).

The CAPS-1 was used to determine PTSD symptomatol- \[\text{ogy. This is a well validated clinical interview that serves as} \]

a basis for a firm diagnosis, although for this study it was \[\text{converted into a self-report form. Ninety-two per cent} \]

reported onset of PTSD symptoms following a specific \[\text{traumatic event and 26% reported PTSD symptoms lasting} \]

at least six months. Twenty-five per cent currently met \[\text{the criteria for PTSD, and this group had a mean of 5.2} \]

exposures to traumatic events, significantly more than for the \[\text{non-PTSD group which had a mean of four exposures. The} \]

inflicting of severe injury on another was positively associ- \[\text{ated with a diagnosis of PTSD: 39% of the PTSD group} \]

had inflicted such injuries. Some PTSD symptoms were \[\text{reported by a larger percentage: avoidance of thoughts} \]

(42%), numbing (41%), avoidance of places (35%), intrusive \[\text{recollections (36%), nightmares (30%), irritability/anger} \]

(35%). On the basis of the Zung Self-rating Depression Scale, 17% of the sample were clinically depressed \[\text{and about one third of these also had PTSD. There was a} \]

significant but very weak association (r = .16) between \[\text{measures of Depression and PTSD. Half of those with} \]

PTSD reported excessive use of alcohol.

Exposure to traumatic incidents is also common in the \[\text{police. Kopel and Friedman (1997, p. 307)) cite the follow-} \]

ing from a South African newspaper in 1994:

To be a policeman in South Africa's black townships is \[\text{to spend much of the time acting as a mortuary} \]

assistant, picking up mangled and charred bodies, \[\text{bodies with their faces shot off by AK-47 rounds, bodies} \]

that have been lying around for days and have \[\text{become carrion for roving packs of dogs.} \]

While this represents relatively extreme conditions even \[\text{for the years before the first democratic elections, it is a} \]

reminder of the degree ofatrocity to which police were and
still are routinely exposed. Pienaar and Rothmann (2005) suggest that an index of the extremely stressful nature of South African Police work is the alarming suicide rate. In 1995 it was reported to be 200 per 100 000 members per annum. Although it reduced to 110 in 1999, it rose to 130 in 2000. The extent of the problem can be seen from rates reported from Germany (23), North East USA (25) and New York (29). Pienaar and Rothmann (2005) administered a measure of suicidal ideation to a sample of 1 781 police at stations across the whole of South Africa. They identified a high ideation group of 147 (8.3%) who scored above the 97th percentile. Blacks and Indians were more at risk than whites and coloureds; those with lower educational qualifications were more at risk, as were those of lower rank (constables and sergeants). Alcohol consumption was higher in the high ideation group than in the rest of the sample. There is clearly a need for more psychological support for police suffering depression, but Kopel and Friedman (1999) reported that police members were often unwilling to use a 24-hour crisis line set up for their benefit. In their study of 55 members of Internal Stability Units in Gauteng (78% white, 22% black), Kopel and Friedman (1997, 1999), found that 69% had seen dead bodies in the townships, 64% had heard conversations among other policemen about colleagues being killed or seriously injured in a township, 60% had seen fellow police injured by rocks thrown by a crowd, and 56% had been troubled at the sight of burning property. Traumatic events that were reported less frequently (<30%) included being wounded, handling corpses, encountering landmines, and being ambushed. PTSD symptoms were measured with the Avoidance and Intrusion sub-scales of the IES. This is an inadequate basis for making a diagnosis of PTSD since there is limited information about duration of symptoms and no measure of hyperarousal (a hyperarousal sub-scale was introduced into a later revised version of the scale). Kopel and Friedman’s estimate of 49% PTSD is almost certainly inflated. On the Avoidance sub-scale, the mean of 15.7 was similar to that for American firefighters as well as to that obtained by Peltzer (2000) for crime victims (17). Peltzer and Renner (2004) reported a rather higher mean (20) for traffic accident victims. On the Intrusion sub-scale, the mean of 8.7 was also close to that of American firefighters (11.5) but lower than Peltzer’s (2000) crime victims (15) and Peltzer and Renner’s (2004) traffic accident victims (17). As Kopel and Friedman (1997) observe, these policemen, like many other professionals with high exposure to traumatic events, may have adapted at keeping intrusions at bay by ‘denial or psychic distancing’ (p. 313).

Jones and Kagee (2005) also reported high levels of exposure to traumatic incidents among South African police in the Western Cape. Of their sample of 97, 50% had experienced the violent death of a colleague, 78% had investigated a shooting incident and 77% had seen a victim of violent assault. There was no association between PTSD symptoms and rank, years of service or education level (in contrast to the findings of Pienaar and Rothmann, 2005, on suicide ideation summarised above). The mean score on the PTSD Symptom Scale fell in the range for moderately severe PTSD symptoms. Nearly 30% reported significant levels of PTSD symptoms, a finding in accord with other South African studies that they cite. Nearly 10% had scores in the severe range, indicating that they would likely receive a diagnosis of PTSD on diagnostic interview. Peltzer (2001) found a similar level of PTSD symptoms among police in Limpopo.

Conclusions

The epidemiological evidence shows that traumatising events associated with PTSD are a common occurrence in South Africa and survey studies based on self-report data from several different contexts show an alarmingly high degree of exposure in many settings and suggest that this exposure is a significant contributing factor to the high incidence of PTSD symptoms. It is important to note that although many of the researchers report rates of PTSD in their samples, this is often on the basis of self-report survey instruments only and, even where they have good psychometric properties, they cannot serve as a sound basis for making a formal diagnosis (Di Girolamo and McFarlane 1996). Furthermore such instruments tend to overestimate the prevalence of PTSD (Greenberg, Uhlimansiek, Resick, and Mechanic 2004; Schnyder and Moergeli 2003). Nevertheless, conclusions from the survey data are consonant with case studies and qualitative accounts by clinicians that document work at the ‘coal face’ with individuals with PTSD and depression as a consequence of exposure to traumatising events. Taken together, these interlinking sources provide incontrovertible evidence that traumatic stress syndromes are very real, and that large numbers of South African adults and children are affected on a chronic basis, only a small percentage of whom receive any form of counselling or professional help. They show that the sequelae of traumatising events constitute a significant public health problem in South Africa and that attention needs to be given to providing clinical services to those affected. This kind of documentation can serve as an important tool for motivating action to address these phenomena at government, societal, and individual levels. It can also serve as an indicator for the future. If researchers repeat these studies a decade or two from now, will they find the same levels of symptomatology or will there have been changes for the better?

Notes

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