

# Treatment utilisation and trauma characteristics of child and adolescent inpatients with posttraumatic stress disorder

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## Abstract

*Objective.* Few empirical studies have addressed the impact of trauma exposure and posttraumatic stress disorder (PTSD) on treatment utilisation and outcome in South African youth. This study was undertaken to document demographic, clinical, and treatment characteristics of child and adolescent inpatients with PTSD.

*Design.* A retrospective chart study of all patients presenting to a child and adolescent inpatient unit was conducted between 1994-1996. For children and adolescents diagnosed with PTSD; demographic, diagnostic and treatment variables, including trauma type, family history, and delays in treatment seeking, were documented.

*Setting.* Child and Adolescent Psychiatric Inpatient Unit, Tygerberg Hospital, Cape Town.

*Subjects.* Children and adolescents (2 to 18 years) presenting to an inpatient unit (n=737).

*Results.* 10.3% (n=76) met diagnostic criteria for PTSD. Gender differences were clearly evident: PTSD was six times more prevalent in girls (65 with PTSD were female and 11 were male); girls were most likely to have experienced rape or sexual abuse while boys were most likely to have witnessed a killing. Psychotherapy was the most common intervention for PTSD, followed by treatment with a tricyclic antidepressant. 97.4% of children and adolescents who were treated were improved at treatment endpoint. Delays in seeking treatment and problems with the primary support group were highly prevalent.

*Conclusion.* PTSD is a common disorder that is responsive to treatment with psychotherapy and/or tricyclic antidepressants in child and adolescent inpatients. These findings underscore the importance of early identification and treatment of childhood PTSD in mental health settings, in particular tertiary service institutions.

## Introduction

Despite international research showing that an alarmingly high number of children are exposed to trauma as victims or witnesses and consequently develop posttraumatic stress disorder (PTSD) (Pine & Cohen, 2002:519-531; Donnelly & Amaya-Jackson, 2002:159-170; Giaconia et al., 1995:1369-1381, Pynoos et al., 1993:239-247), empirical studies of PTSD in children have lagged behind those of adult populations. Reported prevalence rates of PTSD in "at-risk" children (those who have been exposed to trauma) vary widely. The prevalence of PTSD after single incident traumas ranges from 5% of children exposed to a hurricane (Shannon et al., 1994:80-93) to 77% of children di-

rectly threatened in a school sniper attack (Pynoos et al., 1987:1057-1063). High rates of PTSD have also been reported among children exposed to chronic traumas such as ongoing political violence, war and displacement (Servan-Schreiber et al., 1998: 874-879; Stuvland et al., 1994), urban community violence (Fitzpatrick & Boldizar, 1993:424-430), and repeated physical and sexual abuse (Ackerman et al., 1998:759-774). A community study of trauma amongst youths found that by the age of 18 years, 40% had experienced a qualifying trauma and 6% met DSM-III-R criteria for lifetime PTSD (Giaconia et al., 1995:1369-1381).

Although South Africa is characterized by high levels of community violence and trauma, few empirical studies have docu-

**Table 1**  
**Comorbid Axis I, II, III and IV diagnoses for PTSD subjects**

AXIS I	%	AXIS II	%	AXIS III	%	AXIS IV	%
Enuresis	5.3	Mental Retardation	5.3	Epilepsy	3.9	Problems with primary support group	89.3
Encopresis	1.4	Borderline IQ	9.2	Overdose	14.5	Educational problems	2.6
None	93.3	Borderline Personality Traits	2.6	Vaginal discharge	7.9	Socio-economic problems	5.3
		Histrionic Personality Traits	2.6	Injuries/Wounds	6.6	Teenage pregnancy	1.4
		None	80.3	Asthma	2.6	MVA	1.4
				Burns	1.4	None	0
				None	63.1		

N = 76

- **Axis I** - Clinical disorders and other conditions that may be a focus of clinical attention
- **Axis II** - Personality disorders; mental retardation
- **Axis III** - General medical conditions
- **Axis IV** - Psychosocial and environmental problems

mented rates of trauma exposure and PTSD among South African children and adolescents. A study of 60 South African children aged 10 to 16 years residing in a historically disadvantaged community found that 56% had been victims of violence, 95% had witnessed violence, and 21.7% met criteria for PTSD (Ensink et al., 1997:1526-1530). A study of pre-school children living in South African townships documented PTSD in over 70% (Magwaza et al., 1993:795-803). These findings indicate that South African youth are at a high risk for both violence exposure and PTSD symptomatology. Furthermore, exposure to one type of violence appears to be related to other types of violence, and symptoms of PTSD and depression appear to be common to most types of violence exposure (Ward et al., 2001:297-301). To date, however, there has been a notable lack of treatment outcome studies in child and adolescent PTSD. Given the current fiscal pressure on the health system to prioritize interventions in this country, there is an impetus to identify those children who are most at risk for trauma exposure and PTSD, and to evaluate the efficacy of current interventions. The present study aims to provide preliminary data on this by evaluating demographic, diagnostic profiles and treatment profiles of a large sample of children and adolescents presenting to an inpatient psychiatric unit in Cape Town, South Africa.

## Method

A retrospective patient chart review of all patients (n = 737) presenting to the child and adolescent inpatient psychiatric unit during the period 1994 – 1996 was conducted. For all pa-

tients with a documented chart diagnosis of PTSD (DSM-IV) (APA, 1994), the following data were collected from the charts: age; gender; comorbid diagnoses; type of trauma; length of time between trauma onset, symptoms, and hospital visits; family medical and psychiatric history; history of suicide attempts; treatment and treatment outcome. Treatment outcome was rated by the chart reviewer using the Clinician Global Impression Rating Scale (Guy, 1976), a global score of illness severity and improvement. These ratings were based, for every child and adolescent, on the treating clinician's overall assessment of response to treatment.

## Results

### PTSD and trauma exposure

A diagnosis of PTSD was documented in 10.3% of children and adolescents. The mean age was 11.87 years (SD = 4.47, range 2-18 years). Of patients meeting criteria for PTSD, 85.5% were female and 14.5% were male. The majority resided in the Cape Flats (44.7%) and Northern Suburbs (36.8%) regions, reflective of the demographic composition of patients presenting to the hospital as a whole.

Multiaxial diagnoses for subjects with PTSD are shown in Table 1. Axis II diagnoses were documented in 19.7% of subjects, with borderline IQ the most frequent diagnosis. Among the 36.9% of subjects who had an Axis III diagnosis, drug overdose was most common. Problems with the primary support group were the most frequently reported Axis IV diagnosis (89.3% of all PTSD subjects).

**Table 2**  
Trauma exposure among PTSD subjects

Acute trauma	%
Rape	39.5
Witness a killing	21.0
Loss of loved one	3.9
<b>Chronic trauma</b>	
Physical abuse	3.9
Sexual abuse	30.3
Physical and sexual abuse	1.4

N = 76

Table 2 shows types of trauma exposure. The majority (64.4%) of patients with PTSD had histories of exposure to an acute (single incident) trauma. Most common traumas were rape, followed by witnessing a killing, and losing a loved one. Fewer had experienced chronic (ongoing, repeated) traumas. These were predominantly in the form of sexual abuse, physical abuse, and combined physical and sexual abuse. Boys and girls were at risk for different types of traumas, as shown in Figure 1. Rape and sexual abuse were most commonly reported by girls, while witnessing a killing was most frequently reported by boys.

Approximately one fifth of patients with PTSD had attempted suicide. Drug overdose was the most common method used. A family history of medical or psychiatric illness was present in approximately one quarter (25.3%) of patients with PTSD. A family history of alcohol and/or drug abuse was most common (15.7%), followed by depression (5.3%).

**Table 3**  
Time elapsed between occurrence of trauma and visit to the psychiatric unit

Period of time	%
Days ago	5.3
Within 3 weeks	1.4
1 - 3 months	23.7
4 - 6 months	17.1
7 - 9 months	10.5
1 - 2 years	22.3
3 - 4 years	7.9
5 - 6 years	7.9
More than 6 years	3.9

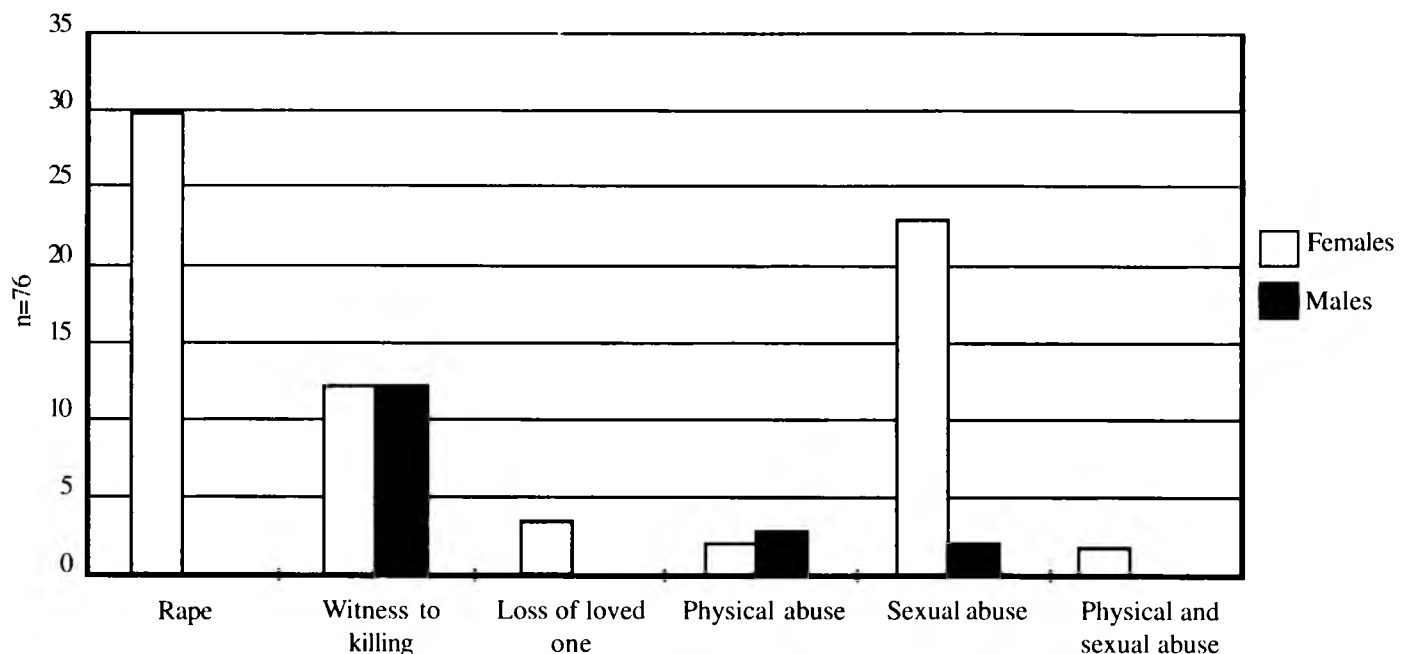
N = 76

## Treatment

The time lapsed between the traumatic event and the first hospital visit, and the time lapsed between the onset of PTSD and the first hospital visit are shown in Tables 3 and 4, respectively. For the majority of patients (93.3%), the traumatic event had occurred one month or more before the first visit, while PTSD symptoms had been present for several months before seeking treatment (52.6% of subjects).

Treatment modalities are shown in Table 5. The majority (97.4%) with PTSD had received inpatient or outpatient psychotherapeutic intervention and/or medication. Approximately a quarter of patients (23.6%) had been previously admitted to hospital for PTSD. Tricyclic antidepressants were the most frequently

**Figure 1 Trauma exposure by gender**



**Table 4**  
**Time elapsed between onset of PTSD symptoms and visit to the psychiatric unit**

Period of time	%
Days ago	17.1
Weeks ago	28.9
Months ago	52.6
Years ago	1.4

N = 76

**Table 5**  
**Treatment modalities**

Modality	%
Admission	23.6
Medication	56.5
Psychotherapy	94.6
Family therapy	1.4
External referral	2.6

N = 76

**Table 6**  
**Type of medication**

Type	%
Imipramine	36.7
Fluoxetine	11.8
Amitriptyline	2.6
Paroxetine	2.6
Carbamazepine	1.4
Hydroxyzine	1.4

N = 76

**Table 7**  
**Outcome (Clinical Global Impression - CGI)**

CGI	%
Very much improved	7.9
Much improved	34.2
Minimally improved	30.3
Not improved	2.6
Minimally worse	0.0
Much worse	0.0
Very much worse	0.0

N = 76 25% defaulted treatment

prescribed medication treatment (see Table 6).

Follow-up appointments were adhered to in 73.7% of cases, while 14.5% of patients with PTSD patients had defaulted their first follow-up. The majority of follow-up appointments (56.6%) were scheduled on a monthly basis. Of patients who completed treatment, 97.4% were improved at the treatment endpoint (see Table 7).

## Discussion

In general, tertiary level child and adolescent units assess and treat patients who are too ill or distressed to be treated at primary or secondary care level. The prevalence of PTSD in 10.3% of child and adolescent patients seen at tertiary care level highlights the severity of the disorder, and suggests that PTSD may account for a significant portion of all severely distressed child and adolescent psychiatric inpatients.

In line with international findings, PTSD in this sample was more prevalent among girls (Pintos et al., 1993:239-247; Yule, 1992:82-98). Although this may be reflective of a referral bias rather than an actual gender difference, the 6:1 ratio mimics that found in a community study of American adolescents (Giaconia et al., 1995:1369-1381).

With regard to trauma exposure, rape and sexual abuse were the most common index traumas, together accounting for almost 70% of trauma exposure in the PTSD sample. There were clear gender differences in the type of trauma exposure: rape and sexual abuse were the most common traumas in girls, while witnessing a killing occurred most frequently in boys. These findings suggest that boys and girls are at high risk for different forms of violence that may require differentially focused interventions.

Among patients with PTSD, problems with the primary support group were common. While this may not be a finding that is peculiar to the PTSD subsample, but rather generalisable to the community serviced by the hospital, this does imply that interventions should incorporate some focus on the primary support group.

With regard to treatment utilisation, less than a third of patients with PTSD visited the hospital within 3 months of the traumatic event, with over half seeking treatment months after the onset of symptoms. The failure to seek help timeously may have impacted on the high rates of PTSD seen. Further, it is notable that one fifth of child and adolescent patients had attempted suicide.

For the PTSD sample as a whole, psychotherapy was the most common form of treatment, followed by medication (most commonly a tricyclic antidepressant). More than 50% had received a combination of psychotherapy and medication. These findings are consistent with previous reports of tricyclic antidepressant efficacy in PTSD (Kosten et al., 1991:366-371). However, there are no controlled trials of medication, or of medication versus psychotherapy, in this population. The relatively high response rate indicates that such agents deserve controlled study. Although a quarter of patients defaulted treatment, 72.4% of those who completed treatment were either 'very much improved', 'much improved' or 'minimally' improved. This suggests that current interventions are efficacious, although there should be a greater emphasis on treatment compliance and maintenance.

In conclusion, early identification and referral may facilitate

treatment at primary or secondary care levels before symptoms become incapacitating. While the findings presented here are limited by the lack of a standardised assessment protocol and the absence of a control group, they provide important preliminary data on child and adolescent PTSD and its treatment in the South African context, and should be supplemented by future epidemiological and controlled treatment studies.

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