

A PSYCHIATRIC STUDY OF ZULU MALE CERTIFIED PATIENTS, COMPARING  
THOSE WHO HAD BEEN EXPOSED TO EXTREME CIVIL UNREST BEFORE  
ADMISSION, WITH THOSE WHO HAD NOT BEEN SO EXPOSED: WITH SPECIAL  
EMPHASIS ON POST-TRAUMATIC STRESS DISORDER

by

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## ABSTRACT

The Midlands Hospital Complex, Pietermaritzburg, is the major psychiatric hospital serving the province of Natal, including the territory of KwaZulu. Since approximately 1985, there has been an increasing level of violent civilian unrest in many parts of this area. During the time of collection of data for this study (January 1990 to June 1990), the level of exposure to violence varied from extreme, with conflict resembling civil war, to low, where patients came from tranquil, pastoral areas, with no more than average socio-economic stressors. This study compared adult male Zulu certified patients who had been exposed to severe violence with those who had not, during the period of 1 January 1990 to 30 June 1990.

Using the criteria of the Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised (DSM-III-R) (American Psychiatric Association 1987), Brief Reactive Psychosis, Post-traumatic Stress Disorder (PTSD) and Paranoid Schizophrenia were significantly more common in the high-unrest group. PTSD occurred in about 14% of the 65 high-unrest patients, which is higher than reported previously in the annual reports issued by this hospital. The features did not differ substantially from those described in DSM-III-R. An unexpected finding was that the PTSD patients as a group had better pre-morbid functioning than the other high-unrest patients.

Relevant literature is reviewed, and the significance of the findings is discussed. It was concluded that the role of the current unrest in the development of mental illness in Zulu men may well have been underestimated previously, and that a larger study is needed. It was also concluded that specific programmes for victims of PTSD were desirable.

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In this research the statistical planning  
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Miss Eleanor Gouws,  
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PREFACE

This study represents original work by the author, and has not been submitted in any form to another University. Where use was made of the work of others it has been duly acknowledged in the text.

The research described in this dissertation was carried out in the Department of Psychiatry, University of Natal, under the supervision of

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CHAPTER 1  
INTRODUCTION

1.1 BACKGROUND TO THE STUDY

The province of Natal, including KwaZulu, has been marked by violent civilian unrest for a number of years. It is difficult to assign an exact date of onset, because there has never been a formal "declaration of war". It has certainly been more extreme since 1985, and there has been an even more marked upsurge since February 1990, when the restrictions on previously banned organizations were removed. Confrontation between political groups striving for radical changes on one hand, and powerful, well-organised traditionalists on the other, has steadily increased. For some years, this conflict was very largely confined to the urban and peri-urban areas, and the remote rural areas were relatively spared. By June 1990, this had changed, and fewer areas were immune (Sole 1990).

The chief victims of the unrest have been black. Asian and white residents of the Province have been affected by the general increase in crime associated with poverty and rising unemployment, but political violence has affected most of them only indirectly. For black people in the areas of conflict, however, exposure to violent confrontation has become almost a feature of daily life.

The nature of the violence associated with the political unrest has also varied. Media reports are not the best source of information. Variable, intermittent restrictions on the media were in force for years, and were only lifted in February 1990. Rumours and gossip became rife. Sensational (and partial) reporting, and sometimes blatant untruths, have made objective, accurate information difficult to obtain. There is no doubt, however, that widespread burning of homes, looting, killing of cattle, destruction of crops, severe assaults, and murders, often of a most gruesome nature, have been common. Continuing feuds, with revenge-taking, and flight of affected families, maintain the social disruption. Most victims have lost, or abandoned, everything they possess. Many have become unemployed because they have had to flee, and have lost contact with their families. Other families have been rent by opposing political affiliations of different members, or generations.

Psychosocial stressors of the above severity are in the category of catastrophic (6), in the Diagnostic and Statistical Manual, Third Edition, Revised, of the American Psychiatric Association (page 11). (DSM-III-R). In a community in which the extended family system is important, and provides mutual support even to quite distant relatives, family disruption is more devastating than it would be in an average, Western nuclear family.

## 1.2 EXPERIENCE AT MIDLANDS HOSPITAL

The Midlands Hospital Complex, Pietermaritzburg, Natal, is one of the two Psychiatric Hospitals in the Province authorised to receive patients certified as mentally ill under sections 9 and 12 of the Mental Health Act No 18 of 1973.

Although a full DSM-III-R multi-axial diagnosis is not recorded by the Hospital Administration, a final diagnosis is required by the Registry, on discharge of the patient, for statistical purposes. During 1989, in informal discussions with psychiatric and nursing colleagues, the rarity of the diagnosis of Post-traumatic Stress Disorder (PTSD) in this hospital was often commented upon. Other disorders in which environmental stressors play a prominent role, such as Brief Reactive Psychosis and Adjustment Disorders, also seemed to be diagnosed less frequently than expected. It was inconceivable that PTSD, in particular, should not occur in our patient population, when it has been so amply demonstrated in other groups exposed to military combat, atrocities or social chaos. (Bleich et al. 1986, Solomon et al. 1987, Mollica et al. 1987, Bell et al. 1988, Kinzie et al. 1988, Feinstein 1989).

Several questions presented themselves:

1. Is PTSD indeed unusually rare in Zulus?
2. Are the features of PTSD in this population sufficiently

different from the classical DSM-III-R criteria to make a valid diagnosis difficult to sustain?

3. Are other diagnoses, particularly in the schizophrenic spectrum, being too readily applied, almost out of habit, and because of a low index of suspicion?

4. Are most cases of PTSD in the community being treated by outside agencies, or not being treated at all?

The circumstances of Midlands Hospital provide an unusual opportunity for the study of the effect of civil violence on the patterns of psychiatric illness. The black patients are almost all Zulu-speaking, and probably have as homogeneous a genetic endowment as can be found in most populations. They come from a wide variety of home environments, ranging from sophisticated cities and towns, with modern amenities, through severely deprived squatter areas, to remote, traditional, pastoral communities, fairly untouched by Western influences. Poverty, unemployment and deprivation are common, but exposure to political violence was still variable at the time of collection of data for this study. Some of the patients had endured severe conflict for most of their adult lives; others had experienced discrete episodes of extreme stress; still others were genuinely hardly aware of the conflict, and had not yet been affected by it.

### 1.3 PURPOSE OF THIS STUDY

The starting hypothesis was that the incidence of Post-traumatic Stress Disorder and Brief Reactive Psychosis must be higher than reported previously in this hospital. It was also felt that patients exposed to high and low levels of violence before admission might show other differences in their patterns of psychiatric illness.

This study was undertaken to compare these patterns in Zulu patients subjected to high and low levels of civil disruption and unrest before their admission to hospital, with particular emphasis on the occurrence of Post-traumatic Stress Disorder (PTSD).

## CHAPTER 2

## REVIEW OF THE LITERATURE

## 2.1 STRESS AND THE DEVELOPMENT OF PSYCHIATRIC ILLNESS

From time immemorial, mankind has pondered on the causes of illness and misfortune. Common sense and universal experience would suggest that major external stressors must have an effect on our lives. Writers like William Shakespeare and Charles Dickens gave vivid descriptions of the terror, nightmares and tremors that can follow catastrophes and personal tragedies. It is probably true that this association has been recognized in all cultures, since the earliest times.

It is comforting and reassuring to be able to ascribe unpleasant and possibly "shameful" symptoms to tangible organic causes. In the 19th century, there were many colourful theories that "molecular disarrangement", or "vascular changes in the spinal cord" could cause symptoms we would now call psychiatric. Titchener and Ross (1974) recount how John Eric Erichsen, in the early 1800s, described symptoms "following train accidents which may assume the form of a traumatic hysteria, neurasthenia, hypochondriasis, or melancholia". He called this syndrome "railway spine", and attributed it to organic causes. This condition remained in respectable medical texts as "Erichsen's disease" for many decades. The theory of organic damage to the nervous system persisted until after World War I, in the concept

of "shell shock", implying actual physical damage by noise and shock waves, including deafness (Gabriel 1987, p. 54). In 1837 Brodie recognized that "fear, suggestion, and unconscious simulation are primary factors" in the causation of some hysterical symptoms. Charcot compared the features of "traumatic neurosis" to the changes seen in hypnosis, and was one of the first to doubt the organic theories (Titchener and Ross 1974).

Claude Bernard's physiological studies on homeostasis and the maintenance of the equilibrium of the internal milieu led on to the studies of Walter Cannon in the 1920s. He studied the adaptive changes in animals in response to fear or rage. He pioneered the study of the catecholamines and changes in the autonomic nervous system that prepared stressed animals for "fight or flight". Wolff in the 1950s extended this work to the investigation of the human response to stress. The above studies are summarised by Eisendrath (1988).

Hans Selye (1976) described the effects of stress less severe than that needed to provoke the "fight or flight" response. His "general adaptation syndrome" has three phases: the alarm reaction; the stage of adaptation; and the stage of exhaustion. The syndrome involves physiological changes to the central nervous system, the autonomic nervous system and the endocrine system. Knowledge of the intimate and complex relationships between the cerebral cortex, the hypothalamus, the anterior and posterior pituitary, the pineal and the peripheral endocrine

system is advancing rapidly. Research on the organic effects of stress involves several technologically advanced disciplines: psycho-immunology, psychoneuro-endocrinology, developmental psychobiology and molecular genetics. These are beyond the scope of this paper.

Since the days of Charcot, Freud and other early psychological writers have proposed many psychodynamic theories. Most centre on the idea that the mind has a "stimulus barrier" which protects it against sudden disturbances of equilibrium. With the passage of time, this barrier becomes "toughened" by the continuous "impact" of stimuli. Its resilience and toughness vary with age, exposure to impinging stimuli, genetic factors, early experience and many other variables. "Disorganization and imbalance of mental functions" (Titchener and Ross 1974) occur when the level of external excitation or stimulation exceeds the capacity of the stimulus barrier to resist its intrusion. It is obvious that a behavioural explanation, involving conditioning theory, could be equally convincing.

The investigation of the role of stressful life events, and stressful social circumstances, in the aetiology of psychiatric illness, falls into two areas: the study of behaviour in extreme situations "that would put most men and women to the test" (Titchener and Ross 1974); and human response to the stressful aspects of everyday life.

## 2.2 EVALUATION OF STRESS OF EVERYDAY LIFE

### 2.2.1 Epidemiological studies

Most of the well-designed, significant studies of the relationship of stress and social circumstances to the development of mental illness have been done in North America and Europe. (Morrissey 1988, Kaplan and Sadock 1988). The same authors also review the major epidemiological studies referred to in the following four paragraphs.

Between 1922 and 1934, Faris and Dunham studied 35000 consecutive admissions to mental hospitals in the Chicago area. It was clear that the admission rate was highest for the lowest socio-economic group, from the deprived central-city areas, and diminished progressively in the more affluent suburban areas.

A survey by Hollingshead and Redlich in 1950 revealed a definite relationship between social class and mental illness in New Haven, Connecticut. Psychotic illnesses were most frequent in the lowest socio-economic classes, which also had the highest rates of psychiatric disability. The higher classes had a preponderance of neurotic illnesses. The fact that the higher classes were assessed primarily by private psychiatrists, and the lower classes by state psychiatrists, probably introduced some bias. The broad findings, however, have not been disputed.

The 1952 Stirling County study in Nova Scotia was of a rural population of 20000 people. Though criticized for its use of lay interviewers, it showed that psychiatric illness increased with age and poverty. Women were also affected more than men.

The Monroe County, New York, case register has been recording the epidemiology of all psychiatric admissions in that county since 1960. Although there is no "final" report, the data are consistent with the findings of the Faris and Dunham and the Hollingshead and Redlich studies. The St Louis Epidemiologic Catchment Area (ECA) Survey also records all psychiatric diagnoses (according to DSM-III criteria) in that area, with comparable results.

The Midtown Manhattan Study of 1954 involved 1600 randomly selected adults from the general population. It took account not only of demographic characteristics of the sample, but also of ten specific stressful factors, though not individual "events". The preponderance of psychiatric symptoms in the lowest socio-economic groups was very marked, and was not fully accounted for by the incidence of stress factors. Social class itself played a major role.

#### 2.2.2 Studies of life events

Morrissey (1988) reviews some of the numerous studies done on the influence of major events or life changes on the development

of psychiatric illness. Brown and Birley found that 60% of patients with acute onset or relapse of schizophrenia had had a major life change within the three-week period before the interview, compared with 19% of controls (Camberwell Study). Brown and Harris's study compared depressed women (outpatients) with normal controls. Their findings were that recent stressful life events (mainly "losses") were significantly more common among depressed women, who also tended to have fewer intimate relationships, three or more children, and to have lost their mothers early in life. All of these conditions were more frequent in the lower classes.

The best known quantitative study of the effect of life events is that of Holmes and Rahe, quoted in Morrissey (1988), and in almost all standard psychiatric text books. A series of life stresses, ranging from "death of a spouse" to "Christmas" and "minor legal violations", are assigned numerical values. A total above 300 in one year predicts an 80% chance of illness in the near future. There are many other such scales, mostly derived from the Holmes and Rahe Social Readjustment Rating Scale.

All such scales have been standardized on Western, "First World" populations, and their usefulness in unsophisticated, "Third World" patients has not been established. No reference could be found to a quantitative life events scale applicable to any African population.

The role of social change, urbanisation, industrialization, the breakdown of the extended family system and the decline of traditional beliefs and practices in Nguni people (which includes Zulus), has been widely discussed in anthropological and sociological circles (Cheetham and Griffiths 1980). Such concepts are difficult to quantify, and open to subjective interpretation by investigators from other cultural backgrounds. Bodemer (1987) reviews the difficulties inherent in applying DSM-III criteria to people whose concept of the causation of all illness differs so much from that of Western populations.

### 2.3 EVALUATION OF STRESS IN EXTREME SITUATIONS

To use the words of the DSM-III-R (p. 250), an "event that is outside the range of human experience and would be markedly distressing to almost anyone" is a special class of stressor. Examples given are "a serious threat to one's life or physical integrity; serious threat or harm to one's children, spouse, or other close relatives and friends; sudden destruction of one's home or community; or seeing another person who has recently been, or is being, seriously injured or killed as the result of an accident or physical violence".

This description is taken from Criterion A of the diagnostic criteria for Post-traumatic Stress Disorder. This would cover

the effects of natural disasters, accidents, and human conflict, cruelty or neglect, whether on an individual or a mass basis.

DSM-III-R (page 11) classifies the severity of psychosocial

stressors into 6 groups:	1	None
	2	Mild
	3	Moderate
	4	Severe
	5	Extreme
	6	Catastrophic

These are further sub-divided into acute events and enduring circumstances. Examples of mild acute events would be a lover's tiff, starting or leaving school, or a child leaving home. Mild enduring circumstances might be job dissatisfaction, or living in a high-crime neighbourhood. Catastrophic acute events would include death of a child or a devastating natural disaster. Catastrophic enduring circumstances might be captivity as a hostage, or a concentration camp experience. The severity of the stressors increases progressively between these two extremes.

A single scale of severity for such stressors would be almost impossible to devise. The catalogue of possibilities would be enormous, and open to great subjective interpretation, and cultural variation. Nevertheless, many such scales have been constructed, usually on an ad hoc basis for specific situations.

Horowitz et al. (1979) devised an "Impact of Events Scale", which uses 15 standard questions to measure avoidance and intrusion during the week before the test. It has been valid-

ated, and is used to monitor progress of therapy in stress-response syndromes.

Lund et al. (1984) constructed the "Combat Exposure Scale", which uses 7 standardised questions. These elicit symptoms which form the basis of the DSM-III-R criteria for PTSD. It is used for assessing veterans of the Vietnam war. With subsidiary interviews, it can also be used in a quantitative way. In conjunction with a statistical manoeuvre, the Guttman Scaling Technique, it has been used to assess the cumulative build-up of stress from multiple events, especially the loss of homes etc in natural disasters.

Pitman, Altman and Macklin (1989) evaluated 156 Vietnam veterans who had been wounded in combat, and compared the diagnostic accuracy of various scales and structured clinical interviews. Much of the evaluation was retrospective, or based on postal questionnaires, which may compromise the value of the study.

The DSM-III-R Severity of Social Stressors Scale (for recording on Axis IV of the Multi-axial Diagnosis), would include them all as "Catastrophic - level 6", for both adults and children.

Paykel (1978), in his review of the importance of life-events in the causation of psychiatric illness, discusses the concepts of relative risk and attributable risk of developing specific disorders as the result of various stressors. He supports

Browne's division of threats into markedly threatening events, moderately threatening events and events of little or no threat. He believes that more specific quantification of stressors is of little validity. Other systems are mentioned, but discarded. Solomon et al. (1987, 1988) discuss Combat Stress Reaction and PTSD in Israel. They mention rating scales, but give no details.

#### 2.4 FACTORS INFLUENCING RESPONSE TO STRESS

Common sense, and wide experience in many situations, suggests a direct relationship between the intensity of a stressor and its effect. Watson's (1987) review of a wide miscellany of cases of "inescapable horror" in Australasia and South-east Asia supports this view. However, Ingraham and Manning, (quoted in Gabriel 1987, page 74), compared the intensity of exposure to combat in Vietnam with the duration of exposure. That war was regarded in military circles as a "low intensity" war, but it lasted for ten years. In the first few years of the war, "medical evacuations" included only 6% sent home for psychiatric reasons. In the last few years, when the intensity had dropped to a fraction of what it had been earlier, over 50% were "psychiatric evacuations". Lund et al. (1984), in a study of Vietnam veterans, also found a remarkable correlation between length of exposure to combat and development of mental illness. In particular, they found a 100% incidence of PTSD in soldiers sent into the war zone for a third tour of duty. A "tour" was a year (6 months for officers).

Utopia", in which communities co-operate, and temporarily put aside old conflicts and prejudices. This certainly mitigates the horror, and provides mutual support (Schlebusch 1987). The sight of maimed people, mutilated bodies and atrocities is more repulsive for most people than destruction of property and personal injury. Participating in violence tends to produce the denial (or avoidance) pattern of PTSD, whereas witnessing it tends to emphasise the re-experiencing pattern (Kinzie 1988).

Laufer et al. (1985) studied 183 white and 68 black Vietnam veterans from a number of centres around the United States, using another Stress Scale, (Boulanger et al., referred to by Laufer). They demonstrated that the type of trauma ("normal" military combat, passive exposure to "abusive violence", or active participation) influenced the pattern of PTSD symptoms. "Abusive violence" seems to be a euphemism for "atrocities". This finding is very similar to Kinzie's 1988 study.

The setting of the stressor affects its impact. An isolated act of violence, such as a rape while alone, is more traumatic than being attacked in a group setting, with at least some mutual support. (Kinzie 1988). The predictability of a stressor has been shown, both clinically and experimentally, to influence its impact (Atkinson et al. 1983; p444).

Social support influences the effect of stress. As in the case of "natural" disasters, community stresses may "bring out the

best in people" (Atkinson et al. 1983). Bleich et al. (1986) feel that the positive attitude of the Israeli public towards their soldiers limited the severity (but not the incidence) of PTSD in survivors of the 1982 Lebanon War (Israel's longest). Ramsay and Stansfield (1988) agree with this view, and draw attention to the different attitude of the general public in the USA to the soldiers who fought in the Vietnam War.

Ramsay and Stansfield (1988) also discuss critically the reasons why some people are more susceptible to severe trauma than others. Non-specific variables such as isolation, boredom, poor diet, physical discomfort and exhaustion may play a part. Personality factors such as introversion and neuroticism are also mentioned. Atkinson et al. (1983) discuss such factors as the person's feeling of competency, cognitive evaluation of the stress, and control over the duration of the stress.

Mollica et al.'s studies (1987) reveal differences between Laotian, Cambodian and Vietnamese refugees, and hypothesize that cultural, and perhaps even constitutional factors may play a part. This is in agreement with Laufer et al.'s 1985 study, which detected significant racial differences in the response to combat stress.

Using Research Diagnostic Criteria (RDC), Halbreich et al. (1988) investigated the basal plasma cortisol and dexamethasone suppression test (DST) in 87 outpatients who met the criteria

for "major depressive disorder - endogenous subtype". Fourteen of them also met the DSM-III-R criteria for PTSD. All 14 had normal DSTs, and normal basal cortisol, whereas 26 of the remaining 73 patients were non-suppressors, and 46 had raised cortisol levels. This affords some support to the view that physiological factors have a role in the response to stress, and also that PTSD may be an independent psychiatric disorder, and not "a melange of anxiety state, depressive illness and phobic disorder" (Ramsay and Stansfield 1988).

#### 2.4.1 Summary of factors affecting response to stress

Wilson (in Ochberg 1988 p 228), eloquently describes how factors in the person (e.g. personality traits, early life experiences, family background, belief system, coping patterns) interact with trauma dimensions (e.g. severity, duration, type of trauma, suddenness) and societal variables (e.g. attitude toward victim, support network, cultural rituals of sanction and recovery) in determining how the stressful life experience is assimilated into the self-structure. The societal variables provide the "recovery environment", which is as important as all the other variables in adaptation and recovery.

## 2.5 POST-TRAUMATIC STRESS DISORDER

"Posttraumatic Stress Disorder" (PTSD) first appeared in the third edition of the Diagnostic and Statistical Manual (DSM-III) (American Psychiatric Association 1980), although the symptoms of the disorder have been recognised since at least the time of the American Civil War. Kinzie (1988) summarizes the descriptions of "soldier's heart" applied to victims of that war, and to the "shell shock" described after World War I. In the early 1900s, psychological theories of the causation of these syndromes began to compete with the physical theories. It was supposed that "traumatic neurosis" resulted from the reactivation of dormant, unresolved childhood conflicts. The trauma was not regarded as causal in itself, only as a precipitant in a predisposed individual.

Investigations of World War II victims (military and civilian), survivors of Nazi death camps, and events like the atomic bombing of Japan, and the Boston Coconut Grove fire of 1941, revealed that few of those affected escaped severe symptoms. "Traumatic neurosis" was diagnosed in 85% of death camp survivors, 26 of 46 (57%) of those from the Coconut Grove fire, and 80% from the Buffalo Creek disaster. The theory was rejected that only those with a childhood predisposition "broke down" (Kinzie 1988). However, such ideas die hard. Even during the Korean and Vietnam Wars many American officers clung to the traditional view that psychiatric symptoms after stress were

signs of "weakness", "cowardice", "lack of moral fibre", or "defect of character" (Gabriel 1987, p 71 - 73). "Cowardice in the face of the enemy" is still a capital offence in many armies.

The first Diagnostic and Statistical Manual (American Psychiatric Association 1952) introduced "gross stress reaction", whose description was very similar to PTSD, although it only recognized brief symptoms. The second edition (DSM-II) (American Psychiatric Association 1968) omitted this diagnosis as too vague, and not a valid clinical entity. The nearest disorder to it was "transient situational disturbance", with emphasis on transient and acute illness. Work on survivors of military trauma (such as Vietnam), and civilian disasters like the eruption of Mount St Helens, showed such consistent patterns of persisting illness that the "new" diagnosis of PTSD appeared in DSM-III (American Psychiatric Association 1980; Green et al. 1985). Later research supported the disorder's validity, and some diagnostic criteria were altered in DSM-III-R in 1987 (Brett, Spitzer and Williams 1988). The division into acute and chronic categories was omitted from DSM-III-R, although Kinzie (1988) believes that such a dichotomy is still clinically useful.

Brett, Spitzer and Williams (1988) give an excellent review of the current status of the entity of PTSD. They discuss the question of the reclassification of PTSD from the Anxiety Disorders to the Dissociative Disorders, which has been propos-

ed, but seems not to be widely supported. They feel that until the concept of "dissociation" is better defined and placed on a sounder footing, assigning PTSD to that group of disorders is arbitrary, with no scientific validity,

The DSM-III-R (p. 249) allows concurrent Axis I diagnoses of Anxiety, Depressive and Organic Mental Disorders. There is considerable diagnostic overlap with PTSD, and Brett et al.'s overview (1988) mentions that in a group of post-Vietnam PTSD sufferers, PTSD was the sole diagnosis in only 16%; 56% had one additional diagnosis, 20% had two additional diagnoses, and 8% had three. Alcoholism and drug dependence accounted for the majority of these additional diagnoses.

The recent literature on the biological features, personality characteristics, treatment, prognosis and sociology of PTSD is very extensive, in both psychiatric and sociological/political journals. This is beyond the scope of this study.

#### **2.6 DIAGNOSTIC SYSTEMS AND STATISTICAL REPORTING BY OFFICIAL AGENCIES AND HOSPITALS**

The two main internationally accepted diagnostic and statistical systems are the DSM-III-R, already described, and the World Health Organisation's (WHO) International Classification of Diseases and Causes of Death, ninth revision (ICD-9), or its

Clinical Modification (ICD-9-CM) (Commission on Professional and Hospital Activities 1978), which remains the system used by most international agencies like WHO and UNO, and most governments. This is because, unlike DSM-III-R, the ICD system classifies all diseases, not only mental ones. The ICD-9-CM categories of Schizophrenic Disorders (295) and Affective Psychoses (296) are reasonably compatible with DSM-III-R, though there are some differences. However, the category "Acute Reaction to Stress" (308), which has 6 sub-categories, has very different criteria from PTSD. "Prolonged Post-traumatic Stress Disorder" (309.81) is a sub-category of another "large" diagnosis, Adjustment Reaction. Although ICD-9-CM does give "exclusion" and "inclusion" criteria in some categories, it does not give such clear guidelines as DSM-III-R, and reference to original articles is often necessary. In research and clinical work the DSM-III-R system is increasingly used, even in many non-English speaking countries. The whole concept of diagnostic categories and "labelling" remains a controversial one (Carson et al. 1988, pp 15 & 82). The South African health authorities issue annual statistics according to the ICD-9 system.

A note on spelling: some American authorities, including the DSM-III-R and the American Journal of Psychiatry, prefer to use "posttraumatic". Many textbooks, (including American ones), all British and European journals, and virtually all psychological authors, use "post-traumatic". Both spellings are used in this study, according to the source quoted.

## CHAPTER 3

## PATIENTS AND METHODS

## 3.1 COMPOSITION OF SAMPLE

The study was confined to adult Zulu males who were certified under Section 9 or 12 of the Mental Health Act No 18 of 1973. The reason for this decision was that black female patients at this hospital are still received in a separate admission ward, with its own medical staff.

Voluntary and consent patients were not included, because many were transferred to a psychotherapy or long-term unit soon after admission, where contact was lost with them. No certification documents accompanied them, and the history was often sparse.

Black male patients arriving at the Fort Napier section of the Midlands Hospital Complex are admitted initially to one of two admission wards - Ward 15 or 16. These wards are on intake on alternate days, and the ward to which a patient is admitted is determined solely by the day on which he arrives.

Within each admission ward, the patient is assigned to one of the two ward doctors, with no selection criterion other than day of arrival.

The patient sample in this study consisted of all the Zulu male

certified patients under the author's care between 1 January 1990 and 30 June 1990, and comprised approximately one quarter of such patients in the hospital.

### 3.1.1 Exclusion criteria

The following patients were excluded:

1. Those who could not be clearly categorized as having been exposed to high or low levels of civil unrest and violence during the year preceding their admission. In most cases this was due to inadequate or unreliable history.
2. Those in whom a confident diagnosis could not be made because of poor history, atypical signs and symptoms, or a very short admission. The usual cause of the latter was abscondment, or early transfer to another unit.
3. Those in whom the major reason for certification was a predominantly organic condition, or significant mental retardation.

### 3.2 DIAGNOSIS AND DETERMINATION OF EXPOSURE TO VIOLENCE

#### 3.2.1 Admission procedure

On a patient's arrival at the admission ward, he was clerked by the author, or the doctor on duty, after the admission papers had been checked by the nurses, and necessary ward procedures documentation had been completed.

If relatives, or other escorts who were able to give a history accompanied the patient, as much history as possible was obtained from them.

#### 3.2.2 Clerking

The Midlands Hospital admission form contains sections for:

- Information from certification documents
- Identifying data
- Physical examination
- History from patient and others
- Previous psychiatric history
- Family history
- Personal and medical history
- Formal mental state examination
- Provisional multi-axial diagnosis
- Biopsychosocial plans of management

The author was assisted by senior members of the nursing staff (all Zulu), as interpreters, when needed. His own knowledge of Zulu was sufficient to be confident that questions and answers were being accurately translated.

A separate data sheet was completed for each patient (see Appendix 1). Much of the information in this was available from the routine history. Further information was obtained during subsequent interviews, and recorded as it became available. An attempt was made to check the history from collateral sources, although this was not always possible.

Where the history was consistent at repeated interviews, and was judged to be reliable by the multidisciplinary team, it was accepted.

### 3.2.3 Special investigations

No special investigations were performed for the sole purpose of this study. All the tests performed were clinically indicated in the assessment and management of the patient.

Full blood count (FBC), erythrocyte sedimentation rate (ESR) and serological tests for syphilis ("WR") are routinely performed on all admissions in this hospital. Other tests were done where necessary.

#### 3.2.4 Diagnosis

The diagnostic system used was the revised third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R) (American Psychiatric Association 1987), and the criteria were adhered to strictly.

No structured clinical interview or other specific diagnostic instrument was used. Although Buntting has devised a Zulu Structured Interview, it is based on the third edition of the Diagnostic and Statistical Manual (DSM-III), not the revised version (DSM-III-R) (personal communication). There are significant differences between the diagnostic criteria in the two versions.

In most cases, a confident Axis I diagnosis was not difficult. In some cases, the diagnosis was considered at the weekly multi-disciplinary Ward Round. The level of diagnostic confidence was recorded as high, fair or low. The latter were excluded from the study (Table II). In a few cases, the response of the patient to pharmacotherapy was of considerable diagnostic assistance. Axis I diagnoses are recorded in Table III.

Axis II Mental retardation was seldom difficult to diagnose. Personality disorders, in contrast, were more problematic. In discussing personality disorders, Buchan and Chikara (1980) emphasize that "there is an enduring quality to the abnormal

behaviour pattern", and also draw attention to the "different modal personalities" produced by different cultures. In this study, it was difficult to get information about the patients' early lives. Confident diagnoses of personality disorders were seldom made, therefore.

Some patients, who fulfilled the criteria for Antisocial Personality Disorder, had had confrontations with the law, or the school authorities, which could be confirmed. This was not the case in other Personality Disorders. Clinical impressions of personality traits were noted.

Axis III diagnoses were almost always straightforward, based on clinical examination and special investigations. A few patients were treated at a general hospital, from whom the diagnosis was obtained.

Axis IV diagnoses were obviously all-important in this study. Many sources of collateral information were used - relatives or friends; employers; social workers and landlords. District surgeons, magistrates and the police were occasionally helpful. Questions about political activities, participation in civil violence, atrocities, arson, looting, assaults and homicide were naturally threatening to patients, and to their families. The purpose of this study was patiently and tactfully explained, and reassurances about confidentiality were given. Trust was almost

always established eventually.

Axis V diagnoses, the Global Assessment of Functioning (GAF), were based on the information in the certification documents, and personal observation, for the CURRENT level. Assessment of functioning over the PREVIOUS YEAR was often speculative, because of poor longitudinal history. The statistical analysis was therefore done on the current GAF.

After discharge, the data on each patient were entered into a database from which statistical analysis was done. The patients' names and addresses were excluded, thus assuring anonymity.

### 3.3 CONSENT

Patients who were judged by the author to have enough insight to give meaningful consent to their inclusion in the study were asked to do so at the time of discharge. After the purpose of the study was explained, and they had been assured of anonymity and confidentiality, none refused. Where available, relatives were asked for consent where it was felt that the patient's consent would not be valid. This proved to be difficult in the majority of cases, and the Senior Medical Superintendent gave written consent for the remainder. A copy of the consent form is included as Appendix 2.

The Ethics Committee of the Medical School, University of Natal, gave written approval for this procedure.

#### 3.4 STATISTICAL ANALYSIS

Randomness of selection depended only on day of arrival at the hospital.

The Chi Square technique was used to determine significance. This test is less precise if there are fewer than 5 examples in any cell. In such cases, Fisher's Exact Test, which is designed for smaller samples, was used. The computations were done by Miss E Gouws, of the Institute of Biostatistics of the Medical Research Council.

## CHAPTER 4

## RESULTS

## 4.1 SAMPLE SIZE

During the study period, 143 adult male Zulu certified patients were admitted under the author's care. Of these, 33 cases were excluded from further analysis for the reasons discussed in Section 4.2. The remaining 110 cases fulfilled the criteria for inclusion in the study, and were accepted. Of these, 65 had been exposed to high levels of unrest and violence during the year before admission; the other 45 had low levels of exposure. See Table I.

TABLE I Summary of cases entered into study

Total certified males in study period	143
Exclusions	33
Total analysed	110
High unrest exposure	65
Low unrest exposure	45

## 4.2 EXCLUSIONS -

Thirty-three cases were excluded from analysis.

The commonest organic diagnoses were epilepsy (all forms), head injuries, mental retardation, and pellagra. Neurosyphilis,

cardiomyopathy, pneumonia and military tuberculosis (one of whom was in extremis on arrival) also occurred. Most were also malnourished. Several had multiple organic diagnoses.

Of the 4 cases with low diagnostic confidence, 3 absconded soon after admission, and one remained in hospital at the end of this study, still undiagnosed. All of these cases also had suspect or inadequate histories.

The reasons for exclusion are summarized in Table II.

**TABLE II        Reasons for exclusion from analysis**

Organic illness or retarded	19
History poor, or exposure level uncertain	8
Diagnostic confidence low	4
Faulty certification	2
<b>TOTAL excluded from analysis</b>	<b>33</b>

Cases with mild mental retardation, which was not considered to be the major reason for admission, were accepted for the study, if the other criteria were fulfilled.

#### 4.3        **AXIS I DIAGNOSES**

The final diagnoses on discharge are summarized in Table III. Significant differences between the high and low unrest groups are discussed after the table.

TABLE III Axis I diagnoses of high and low unrest groups

Diagnosis	Numbers of cases			
	HIGH UNREST		LOW UNREST	
	N	%	N	%
Alcohol amnestic disorder	1	1,5	1	2,2
Alcohol hallucinosis	3	4,6	3	6,7
Alcohol intoxication	1	1,5	2	4,4
Alcohol withdrawal delirium	2	3,1	2	4,4
Uncomplicated alcohol withdrawal	0	-	1	2,2
Cannabis delusional disorder	2	3,1	2	4,4
Cannabis intoxication	2	3,1	1	2,2
Organic hallucinosis	0	-	1	2,2
Organic delusional disorder	1	1,5	0	-
Organic personality disorder	0	-	1	2,2
Organic mental disorder NOS	0	-	1	2,2
Polysubstance dependence	0	-	1	2,2
Unspec. psychoactive substance delusional disorder	1	1,5	0	-
Unspec. psychoactive substance withdrawal	1	1,5	0	-
Schizophrenia, catatonic	2	3,1	0	-
Schizophrenia, disorganized	0	-	2	4,4
Schizophrenia, paranoid	* 12	18,5	* 2	4,4
Schizophrenia, undifferentiated	1	1,5	3	6,7
Schizophrenia, residual	6	9,2	9	20,0
Schizophreniform disorder	4	6,2	5	11,1
Delusional disorder, jealous	0	-	1	2,2
Delusional disorder, persecutory	0	-	1	2,2
Bipolar disorder, manic	1	1,5	1	2,2
Major depression	2	3,1	4	8,8
Brief reactive psychosis	** 10	15,4	** 1	2,2
Schizoaffective, bipolar	1	1,5	0	-
Schizoaffective, depressive	1	1,5	0	-
Adjustment dis, depressed mood	1	1,5	0	-
Post-traumatic stress disorder	*** 9	13,9	*** 0	-
Adult antisocial behaviour	1	1,5	0	-
TOTALS	65		45	

\* - significant at p = 0,0406 level

\*\* - significant at p = 0.0258 level

\*\*\* - significant at p = 0.0101 level

Statistically significant differences between the high and low unrest groups were present for three diagnoses:

paranoid schizophrenia,  
brief reactive psychosis,  
post-traumatic stress disorder.

There were no other statistically significant differences between the Axis I diagnoses of the two groups.

Second Axis I diagnoses, related to psychoactive substance use, were made in 33 (51%) of the high unrest patients, and 24 (53%) of the low unrest cases. The difference is not significant.

Axis I diagnoses are summarized into categories as follows:

ORGANIC SPECTRUM: all related to substance abuse  
(other organic cases were  
excluded from the study).

SCHIZOPHRENIC SPECTRUM: this includes schizophrenia of  
all types, schizophreniform dis-  
order, brief reactive psychosis,  
and delusional disorder.

AFFECTIVE SPECTRUM: this includes bipolar disorder,  
major depression, adjustment  
disorder with depressed mood,  
and schizoaffective disorder.

OTHERS: this includes post-traumatic stress disorder and adult anti-social behaviour (V code)

The numbers in each group are shown in Table IV.

**TABLE IV Comparison of Axis I Categories in high and low unrest groups.**

<u>Diagnostic group</u>	<u>Numbers of cases</u>	
	HIGH UNREST	LOW UNREST
Organic spectrum	14 (22%)	16 (36%)
Schizophrenic spectrum	35 (54%)	24 (53%)
Affective spectrum	6 (9%)	5 (11%)
Others	10 (15%)	0 (0%)
TOTALS	65 (100%)	45 (100%)

#### 4.4 AXIS II DIAGNOSES

Four patients with mild mental retardation were accepted for the study. Three were from the high unrest group, and one from the low unrest group. There are no statistically significant differences between these groups.

The diagnosis of Personality Disorder was far more problematic. Antisocial Personality Disorder was diagnosed in 9 of the 65 high unrest cases, and in none of the 45 low unrest cases. This appears highly significant. However, only 11 of the 65 high unrest cases came from rural areas; 36 of the 45 low unrest patients were rural. Collateral information was more easily obtainable from urban and peri-urban areas, from which most high unrest patients came. History about patients from remote areas was often incomplete, and these tended to be areas with less civil unrest. These data should therefore be accepted with reserve, and no inferences drawn from them.

No other personality disorders were diagnosed. The reason for this is made clear in Chapter 3. It must be emphasized that this does not mean that they do not occur in this population.

#### 4.5      **AXIS III DIAGNOSES**

Table V gives the physical illnesses diagnosed in the patients who were accepted into the study. There are no significant differences between the high and low unrest groups.

**TABLE V**      **Comparison of physical diagnoses  
of high and low unrest groups**

Diagnosis	Number of cases	
	HIGH UNREST	LOW UNREST
Malnutrition	3	4
Pellagra	4	4
Pulmonary tuberculosis	2	1
Varicella	2	1
Syphilis (not neurosyphilis)	1	0
Scabies	1	0
Fractured ribs	0	1
Deaf-mutism	0	1
TOTAL	13	12

#### 4.6      **AXIS IV DIAGNOSES**

As mentioned in Chapter 3, great patience was often needed in eliciting descriptions of the stressors to which patients had been exposed.

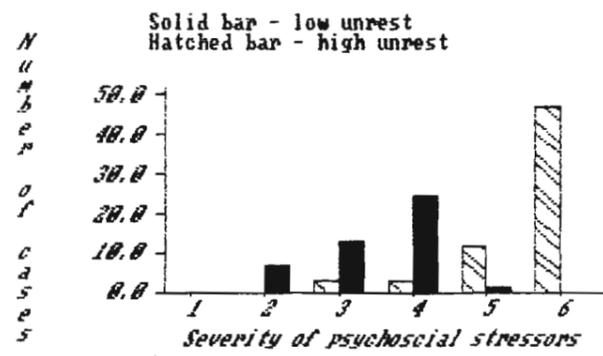
The correlation between the level of exposure to violence and the severity of stressors was highly significant ( $p = <0,0001$ ). This is reflected in Table VI.

TABLE VI Comparison of severity of psychosocial stressors in high and low unrest groups

Severity (DSM-III-R)		Numbers of cases	
		HIGH UNREST	LOW UNREST
1	None	0	0
2	Mild	0	7
3	Moderate	3	13
4	Severe	3	24
5	Extreme	12	1
6	Catastrophic	47	0
TOTALS		65	45

This difference is striking when displayed graphically:

GRAPH I Correlation of unrest exposure with severity of psychosocial stressors according to DSM-III-R.



It is possible that some patients who had been active participants in the violence deliberately minimized the severity of the stressors to which they had been exposed, because of a fear of repercussions. It is likely that the severity of the violence has, if anything, been under reported, rather than exaggerated.

#### 4.6.1 Other catastrophic stressors

The Natal floods of September 1987 were described as the "worst natural disaster in South African history." About 300 people died. At least 60000 were left homeless, and lost all their possessions. It is widely believed that these figures are underestimates (Schlebusch 1987).

Despite the fact that some patients had had their homes destroyed, and a few had lost relatives, not one patient, in either group, had symptoms which could be convincingly related to this natural disaster. The significance of this unexpected finding is discussed in Chapter 5.

#### 4.7 AXIS V DIAGNOSES

The Global Assessment of Functioning Scale, or GAF (DSM-III-R, p. 12) quantifies the psychological, social and occupational functioning of the patient on a hypothetical continuum from 90,

with minimal impairment, to 10, where impairment is profound. Current Global Assessment of Functioning for the high and low unrest groups is recorded in Table VII.

TABLE VII Current Global Assessment of Functioning

Level of function	Numbers of cases	
	HIGH UNREST	LOW UNREST
10	0	1
20	5	0
30	16	11
40	13	8
50	5	7
60	8	4
70	9	10
80	7	2
90	2	2
TOTALS	65	45

There are no statistically significant differences.

Dysfunction due to physical and environmental limitations is ignored. This poses a major problem for assessment of this study population - unemployment and poverty are so severe that some are functioning at a low level, not because of their mental state, but because of unemployment, poverty and privation.

#### 4.8 OTHER VARIABLES

No statistically significant differences between the two groups were detected in respect of age, marital status, occupation,

employment, or level of education. See Section 4.9.2, however.

Social stability was difficult to quantify. More of the high unrest cases lived in the bush, in squatter shacks, or had no fixed abode, than those with low unrest exposure. This was often very difficult to confirm. Statistical analysis of such uncertain data was not attempted.

#### 4.9 FEATURES OF POST-TRAUMATIC STRESS DISORDER IN THIS STUDY

##### 4.9.1 DSM-III-R criteria

A: Exposure to an event (or enduring stressful circumstance) that is beyond the range of usual human experience.

All the PTSD patients had had such exposure. Of the 9 cases,  
7 had had to flee from home;  
8 had seen at least one gruesome killing;  
all had seen arson, looting and severe assaults;  
5 admitted taking part in revenge killings;  
8 had been assaulted or tortured themselves;  
7 had lost more than 2 relatives or friends;  
the families of 7 had been scattered;  
8 had lost most or all of their possessions;  
all felt that they had had lucky escapes from death.

B: The traumatic event is persistently re-experienced.

All patients met this criterion. All had recurrent, unwelcome, intrusive recollections and dreams of the event. Hallucinations occurred in 6 patients: auditory in 1, visual in 2, and both auditory and visual in 3. Dissociative ("flashback") episodes occurred in all the patients. In all cases, the hallucinations were of brief duration, and disappeared without neuroleptic medication. In 1 case with visual hallucinations, there was no suspicion of substance abuse, but the visions were considered culturally acceptable. The other 5 with hallucinations all admitted cannabis or alcohol abuse. Six patients had persecutory ideas that seemed to be of delusional intensity, but were not bizarre.

C: Persistent avoidance of stimuli associated with the trauma, or numbing of general responsiveness.

All the patients met this criterion. Efforts to avoid thoughts or feelings associated with the trauma were not easy to demonstrate, but all said they wished to avoid situations arousing recollections of it. In 4 cases, psychogenic amnesia seemed to be present, but all eventually were able to recall the trauma. Feelings of estrangement from others, and a sense of a having no future were present, but were difficult to quantify. Restricted affect was not particularly striking.

D: Persistent symptoms of increased arousal.

These were very prominent in all the PTSD patients. All had sleep disturbances, difficulty concentrating, hypervigilance and an exaggerated startle response. Four had very noticeable irritability or angry outbursts while in hospital, and this had also been reported for the remaining 5 in the community, before their admission.

E: Duration of at least one month.

All patients met this criterion.

One patient had fled to a rural area, after extreme stress, and functioned well for over a year before he became ill. This case seemed to be a genuine delayed-onset type.

#### 4.9.2 Education

Of the 9 PTSD patients 7 (78%) had at least secondary education; of the remaining 56 high unrest patients, 31 (55%) had at least secondary schooling.

Though suggestive, this difference is not significant ( $p=0,205$ ).

#### 4.9.3 Employment

All of the PTSD patients were employed, or full-time students or scholars, at the time of their admission. Only 12 (21%) of the remaining 56 high unrest patients were employed.

This difference is highly significant ( $p < 0,0001$ ).

#### 4.9.4 Global assessment of functioning

The GAF of the PTSD patients is compared with the rest of the high unrest patients in Table VIII. Although suggestive, the number of PTSD patients was too low for valid analysis.

TABLE VIII      Global Assessment of Functioning:  
Comparison of PTSD patients with  
other high unrest cases

GAF level	Numbers of cases	
	PTSD CASES	OTHER HIGH UNREST CASES
20	0	5
30	0	16
40	0	13
50	1	4
60	2	6
70	2	7
80	3	4
90	1	1
TOTALS	9	56

#### 4.9.5 Substance abuse

Two of the 9 PTSD patients had no history of substance abuse. Of the remaining 7, 2 used alcohol, 2 alcohol and cannabis, 2 cannabis alone, and 1 polysubstances. In 3 of these the abuse was severe enough to warrant an additional Axis I substance-abuse diagnosis. In most, it was clear that the substance abuse had started, or become very much worse, as a reaction to the violence. Although not mentioned in the diagnostic criteria, it seemed that drugs were used as an avoidance mechanism.

#### 4.9.6 Associated features

Symptoms of depression and anxiety were universal. Six of the patients were treated with Imipramine, all with good results. Two cases, diagnosed initially as PTSD, were greatly worsened by Imipramine, and were eventually diagnosed as paranoid schizophrenics. Schizophrenia is well known to be aggravated by the use of tricyclic antidepressants.

Symptoms of survivor guilt were not present in any patient.

## CHAPTER 5

## DISCUSSION OF METHODS AND RESULTS

## 5.1 COMPOSITION OF THE SAMPLE

The reason for selecting this particular sample of patients was discussed in Chapter 3.

Confining the study to certified patients certainly improved the reliability of the history. However, it had the disadvantage that valid statistical comparisons could not be made with other series, which included all admissions. The omission of female patients is subject to the same criticism. It was unavoidable, however, with the present organization of the wards.

## 5.1.1 Exclusions and physical diagnoses

These were described in Chapter 4, and need no further comment.

## 5.2 DISTRIBUTION OF AXIS I DIAGNOSES

The Axis I diagnoses were listed in Table III, and summarized into wider groupings in Table IV.

Comparison of this study with earlier hospital statistics is hampered by the two different diagnostic systems in use.

In order to comply with Central Government statistical requirements, the Hospital Registry reports discharge diagnoses according to ICD-9. The wards and clinicians all use DSM-III-R. The conversion to ICD-9 coding is done by the clerical staff of the Registry. They could not recall having ever seen a discharge diagnosis of PTSD, but felt they would encode it as "308 Acute Reaction to Stress", if they encountered it. (Seipp, personal communication).

At the time of this study, the most recent figures available were those for the year ending on 31 October 1987. During that period, 2525 black adults (over 18) were admitted (both sexes). Of these, 704 were classified as "non-psychotic" and 1821 as "psychotic". There were 985 schizophrenic psychoses (39% of all admissions; 54% of "psychotic admissions"); 206 "affective psychoses" were diagnosed, with 41 "depressive disorders, not otherwise classified", among the "non-psychotic" patients. It is assumed that the "affective psychoses" referred to patients who would have been diagnosed as suffering from major depression with psychotic features, or mania, in DSM-III-R. It is clear that, although some individual diagnoses in the the two systems are comparable, the major groupings are not, and no statistical comparison is possible. (Midlands Hospital Annual Report 1988).

Only 7 (0,28%) cases of Acute Reaction to Stress were diagnosed in the 2525 admissions. Two children were diagnosed as having Prolonged Post-traumatic Stress Disorder.

Kaliski, Koopowitz and Reinach (1990) reported on the certified patients (of all races and both sexes) admitted to Sterkfontein Hospital, Krugersdorp, during a four week period. Their figures are interesting: of their black patients, 23% were placed in the schizophrenic spectrum, 20% in the affective spectrum, and 37% were given a diagnosis of toxic psychosis. No cases of PTSD or other anxiety disorders were mentioned. The catchment area of Sterkfontein Hospital includes the Reef and the industrial belt along the Vaal River, and is highly urbanized. It seems a reasonable assumption that a high proportion of their black patients are Westernized; they also live in a more prosperous area, with less unemployment and social deprivation. To judge by media reports, however, civil unrest and political violence are no less serious there than in Natal.

Although no formal comparison can be made between these series, striking discrepancies are discussed in the sections below.

#### 5.2.1 Low incidence of affective spectrum disorders

In the whole sample of 110 patients, only 11 (10%) had clear-cut affective disorders, by DSM-III-R criteria. Before concluding that the old myth that "Africans do not suffer from

depression" has any validity, it is important to re-emphasize that the sample excluded voluntary and consent patients, and those treated by community psychiatric clinics, general hospitals, and private practitioners. Many Zulu patients also consult traditional healers. As discussed by Cheetham and Griffiths (1980), "the extended family system and kinship ties provide for individual emotional security and encourage group reliance and group dependence". This lessens the feelings of isolation and rejection so common in depression, and reduces the chance of involuntary admission to a psychiatric hospital. These depressed patients are not recorded in this type of study.

All nine patients with PTSD also had some depressive symptoms. Their inclusion in the Affective Spectrum would almost have doubled the figure, and brought it closer to the Sterkfontein series. Therefore, this study does not support an unusually low rate of depression in Zulu males.

#### 5.2.2 Low incidence of "neurotic" disorders

Very few patients with "neurotic" disorders are likely to be certified. Therefore, in a study of this type a low incidence is to be expected. None were diagnosed. Inclusion of voluntary and consent patients might well have changed this.

Lamont (1988), in a study which included 4406 non-acute Zulu patients, diagnosed 138 (4,2%) cases of "neurosis" in 3323 out-

patients. He diagnosed none in 1083 inpatients (in a long-term institution). It seems likely that the reasons for this low incidence are similar to those mentioned above.

### 5.2.3 Incidence of schizophrenic spectrum disorders

Lamont's incidence of 606 (55,9%) cases of schizophrenia in 1083 long-term inpatients is almost identical to the incidence of schizophrenic spectrum disorders in this study.

Brief Reactive Psychosis is a special case. Whether it should be included among the schizophrenic spectrum disorders at all is a debatable point, because there is little evidence of a causal relationship with schizophrenia. The phenomenology is often similar, however, and they are grouped together here purely for convenience.

The difference in the incidence of brief reactive psychosis between the high and low unrest groups was not unexpected. All these patients recovered rapidly. All had been exposed to stressors of extreme or catastrophic severity. Once they were apsychotic and functioning normally, most were eager to be discharged, and few were willing to remain for longer-term psychotherapy. It is likely that these patients are at high risk of developing delayed-onset post-traumatic stress disorder in the future. Emergence of PTSD symptoms even decades after the trauma is very well described (Krell 1988). Longitudinal

follow-up of these patients would almost certainly reveal more cases of PTSD.

#### 5.2.4 Incidence of substance abuse disorders

Cases in which the history, symptoms and signs were diagnostic of substance abuse disorders were given the appropriate Axis I diagnosis, reported in Table III.

It was estimated that about three-quarters of the remaining patients used alcohol to excess, or smoked cannabis. A few used methaqualone, inhalants, glue, or traditional herbs or medicine. Three patients were addicted to anticholinergics (prescribed for side-effects of neuroleptics, but widely abused). One patient claimed to use cocaine and LSD (not substantiated).

The incidence of substance use in the sample had to be estimated, because exact determination was nearly impossible. Traditional brews and fermented porridges are almost universally used, especially in rural areas, and, though alcoholic, are regarded as food. They also have ritual importance in many ceremonies. Western liquor and various potent concoctions are popular, and the shebeen is almost the centre of social life in urban areas.

Cannabis smoking is a cultural tradition in rural areas. Mild recreational use is regarded as acceptable in mature men, though

use by women or adolescents is frowned on, as is severe intoxication. With urbanization and steady erosion of the old authoritarian tribal traditions, the young drug-abusing sub-culture has started mixing cannabis with drugs like methaqualone ("white pipe"), phenobarbitone, anticholinergics, neuroleptics, and a wide range of other drugs. Perhaps because of a fear of legal consequences, or revenge by dealers, questions about substance abuse often elicit evasive answers, even from relatives, and the true incidence is uncertain.

Although the actual figures were unfortunately not recorded, a number of patients volunteered that they used alcohol, cannabis, or both, in order to blot out feelings of despair, to help them sleep, or to expunge unbearable memories. This was the case in 7 of the 9 PTSD patients, (see Chapter 4). It is clearly being used as an avoidance mechanism, at least in some of them.

#### 5.2.5 Incidence of post-traumatic stress disorder

The occurrence of 9 cases in the 65 high unrest patients (about 14%), though far higher than previously diagnosed in this hospital, still falls short of the levels reported among victims of sudden calamities like the Boston Coconut Grove fire, the Buffalo Creek disaster, and the Mount St Helens eruption. Prolonged severe stressors, such as the Vietnam War, concentration-camp experiences, and Indo-Chinese civil wars, produced still higher rates of PTSD. Including the 10 cases of Brief Reactive

Psychosis from the high unrest group, as probable future sufferers, would give only a 29% incidence, which remains lower than most series. (See Chapter 2).

The author believes that a future longitudinal study, following the progress of all patients with a history of severe exposure to violence, who are given the discharge diagnoses of substance abuse disorders (all types), brief reactive psychosis, schizophreniform disorder, affective disorders, delusional disorders, and perhaps even paranoid schizophrenia, would reveal a higher incidence of cases of PTSD.

### 5.3 FEATURES AND DIAGNOSTIC CRITERIA FOR PTSD

As described in Section 4.9, all of the patients fulfilled the DSM-III-R criteria. Although "survivor guilt" seems not to occur in Zulu patients, and "restricted affect" seems not to be particularly striking, the other features did not differ from those described in the manual.

Although their exact "nature" is not specified, Criterion B (3), of the DSM-III-R (page 250) accepts that hallucinations may occur in PTSD. These were in fact common in the PTSD patients in this study (see Chapter 4). It is well known that auditory hallucinations can occur in almost anyone at times of stress, such as in the grieving period. They are also a prominent

feature of several culture specific syndromes in the Zulus. This may account for the particularly high incidence in this group of patients.

Mueser and Butler (1987) describe 5 cases of persistent auditory hallucinations in 36 Vietnam War veterans with PTSD, one of whom had been treated for schizophrenia without success, but improved with psychotherapy. Waldfogel and Mueser (1988) described the case of a 31-year old man with paranoid delusions, auditory hallucinations and alcohol abuse, who had been regarded as a paranoid schizophrenic. He had had numerous admissions, and been treated with neuroleptics, benzodiazepines and lithium, for 12 years, without any improvement. His illness was related to severe trauma in the US Army at the age of 18. All medication was withdrawn, he responded very well to psychotherapy, and he remained well 16 months later.

Substance abuse as an avoidance mechanism has already been discussed, and is so common that it might be considered for inclusion in Criterion C (1) among the "efforts to avoid thoughts or feelings associated with the trauma" (DSM-III-R).

Within the high unrest group, all of whom had been exposed to very severe stressors, it was striking that all those who were diagnosed as suffering from PTSD were in regular employment, or full-time students with part-time jobs, whereas only 21% of the remainder had jobs, a highly significant difference (see Section

4.9.3). Presumably, the threat of potential joblessness was added to the existing environmental stressors.

It is easy to speculate that those with jobs had more to lose, but this does not explain the particular form of their "break-downs". Probably those who were working were mainly people with better coping skills, and less vulnerability to psychotic decompensation at times of stress. There may be a tendency to "overdiagnose" schizophrenia in rural people, and affective disorders in urban dwellers, who seem to be higher functioning. The Kraepelinian concept of dementia praecox being a chronic, deteriorating condition, in contrast to manic-depressive psychosis, contributes to this tendency.

#### 5.4 STRESSORS

The determination of stressor severity has been described in Chapters 3 and 4. Relevant literature is reviewed in Chapter 2.

The main stressors encountered in this study have been divided arbitrarily into three categories. The first is the stresses of everyday life. The second is natural calamities. The third is man-made stress, which is further sub-divided into "negative" and "positive" stresses. These are more fully discussed in the sections which follow.

#### 5.4.1 **Stresses of everyday life**

These are the stresses which most people have to face sooner or later. Examples would be: coping with the turmoil of normal development; career and partner choices; average interpersonal difficulties; "normal" bereavements (expected deaths, or losing friends or relatives at appropriate ages, by non-violent means); financial anxieties; and coping with illness, ageing, offspring leaving home, retirement, etc.

No-one escapes at least some of these stressors. They may act as precipitants for the development of illness in vulnerable individuals, but they cannot be regarded as the prime causes of mental illness. Most people cope with them without psychiatric intervention, if they have adequate family or community support. Nguni people believe that personal misfortune (apart from minor ailments and infections - "umkhuhlane") has extraneous causes, such as angry ancestors forcing someone else to bewitch one for neglect of traditional rituals. These matters are usually dealt with effectively by traditional healers.

#### 5.4.2 **Natural calamities**

"Lightning and tempest; plague, pestilence and famine; locusts, murrain, and drought" (Provincial Synod 1954) would almost certainly be regarded as stresses of everyday life for most farmers or rural people, but city-dwellers might hardly notice

them. Natural disasters like volcanic eruptions, earthquakes, tornados and floods, however, are no respectors of persons, and affect all equally, but are infrequent, and of limited duration. They are not regarded by those affected as being caused by human malevolence, and after the initial shock, the "post-disaster Utopia" sets in, when all differences and prejudices are put aside for a while. (See Section 4.6.1).

Some of the patients must have been bereaved in the Natal floods of 1987, and many more must have lost homes and possessions. Two years later, however, none had symptoms attributable to this disaster, and some even seemed surprised at being questioned about it. Several reasons can be advanced to explain this. The mutual support in the post-disaster phase certainly mitigated the horror, particularly in a community with such strong kinship ties. The rural, unsophisticated patients lived simple, non-materialistic lives, well adapted to the environment, and built with readily available materials like mud, wooden poles and thatch. Few had electricity, modern expensive appliances, motor vehicles or elaborate furnishings, and their most precious possessions were undoubtedly cattle. Most had been able to lead their cattle to higher ground, and new homes were soon built. Help from neighbours was generous. As Kinzie (1988) pointed out, natural disasters are better tolerated than "manufactured" ones. Our high unrest patients were exposed to prolonged, man-made violence, both before and after the floods, which seemed minor in comparison.

#### 5.4.3 Man-made stressors

As pointed out by Kinzie (1988), these are always perceived as being worse than "acts of God". Many are "negative", such as chronic lack of employment opportunities; poor education; poverty and malnutrition; poor social services; the migrant labour system, with absent parents, and children being sent to relatives, who often regard them as a burden; the chronic resentment caused by apartheid, still in force at the time of the study. These factors certainly contributed to a sense of chronic despair and disillusionment, with no hope for the future, and no motivation to change. The chronically unemployed ultimately become unemployable.

It could be speculated that this nihilistic state is sometimes misdiagnosed as chronic residual schizophrenia, perhaps partly accounting for the extremely high reported incidence in this and other hospitals. R Savov agrees with this view, and feels that in chronically deprived areas of Europe this also accounts for much diagnostic inaccuracy (personal communication).

Some of the patients who had been in steady employment were bitterly angry at having been retrenched in a callous manner by disinvesting overseas firms, with only token gestures of compensation. Several gave this as their reason for switching their allegiance from the African National Congress to Inkatha, which opposed sanctions. At least three of these patients had become

active participants in appalling violence, citing "American sanctions" as the reason. All had lost their livelihoods, with great hardship to their families, and their explanations, though simplistic, seemed fairly well-founded. This subject was not pursued, and is obviously subjective, and emotive. However, it illustrates that stressors, which seemed relatively minor at the time, nonetheless had major effects on individuals and whole communities. Polarisation between the supporters and the victims of sanctions had violent consequences.

It is, however, the positive man-made stressors with which this study is most concerned. The background to the violence is described in Chapter 1 of this study, and will not be repeated. Intimidation and threats were almost as stressful as actual violence, because the threats were not idle ones. Most patients were faced with competing demands from both the radical and the traditionalist camps, often from within their own families, where the political views of older and younger generations were sometimes polar opposites. In many cases, an added stressor was the very insistent demands of the South African Police and the Kwazulu Police for information. Most high unrest patients had been forced to attend "kangaroo court" whippings or executions, and had seen or heard assaults or murders. All lived in fear. Nearly all had seen, participated in, or been victims of arson and looting. The families of many had been dispersed, and most had lost friends or relatives. Some had fled to rural areas to escape the violence, and had lost their jobs as a result.

A few patients admitted that they had actively participated in revenge activities, including homicide. Some others were also probably involved, though they refused to acknowledge the fact.

In this study, very strenuous efforts were made to obtain an accurate history, which at times caused irritation for the ward staff, delayed discharge, and stretched ward accommodation to the limit. In spite of this, the author feels that the extent of unrest involvement was probably still underestimated. For the general run of patients, the staff cannot be as thorough, and under reporting is bound to be even greater, contributing to diagnostic inaccuracy, and perhaps inappropriate therapy.

Many patients who are repeatedly admitted to this hospital have histories of prolonged and unsuccessful neuroleptic treatment. To judge by the hospital files, most are regarded as "toxic psychoses", or "relapsed chronic schizophrenics", with or without secondary substance abuse (personal observation). Ideally, such recalcitrant patients should have fresh diagnostic assessments, and a thorough review of the history of exposure to environmental stressors, attempting to ignore the previous conclusions. The author feels that this would reveal more cases of PTSD, who might then receive more successful therapy. With present staffing levels, and especially the dearth of social workers and services in the community, this is not yet feasible.

## 5.5 TREATMENT FACILITIES FOR POST-TRAUMATIC STRESS DISORDER

If the number of cases of PTSD in this small study is representative, the total number in the province must be considerable. Most appear to be high functioning, perhaps with a better prognosis than many other certified patients. Once they are discharged from hospital, most return to the very conditions which precipitated their illness. The community psychiatric clinics continue to provide medication, but facilities for out-patient psychotherapy, and for social intervention, are quite inadequate in most parts of Natal. For effective management, a broad biopsychosocial approach is needed. At present, only the biological aspect is being addressed. A co-ordinated, holistic programme for the victims of violence is urgently required.

Such programmes, specifically catering for victims of violence do exist (Mollica, 1990), and are even being started in the poorest of Third World countries, such as Uganda, with hardly any financial outlay, but good community support (Giller et al. 1991).

Treating these patients effectively, on a continuing basis, would make some contribution to interrupting the vicious cycle of violence which maintains the unrest.

## CHAPTER 6

## CONCLUSIONS

1. This study has confirmed the original proposition that Brief Reactive Psychosis and Post-traumatic Stress Disorder (PTSD) should occur more frequently in Zulu men who have been exposed to high levels of civil unrest than in men who have not been so exposed. The differences are statistically significant.

2. The study also shows that Paranoid Schizophrenia is commoner in those exposed to high levels of unrest. This is not incompatible with the "stress-diathesis" theory of the aetiology of schizophrenia, which assumes that a stressor is required to precipitate clinical illness in a person with specific vulnerability.

3. It is confirmed that PTSD, fulfilling the criteria of DSM-III-R, does occur in certified Zulu men, at an incidence of about 14% of those who are exposed to extreme or catastrophic stressors. It is speculated, but not confirmed, that longitudinal follow-up of patients with other diagnoses will reveal more cases, and that some patients who have been regarded in the past as suffering from "Toxic Psychosis" or Paranoid Schizophrenia may in fact be cases of PTSD.

4. The features of PTSD in Zulu men do not differ materially from those in the DSM-III-R criteria. In this sample, auditory hallucinations were particularly prominent. Substance

abuse was common, which seems to be an "avoidance" mechanism, also noted in other series.

5. All the patients in the PTSD group were functioning better than the other high unrest patients, and were employed at the time of admission. This difference was highly significant, with a p value of  $<0,0001$ .

6. The effect of the current violence on the development of mental illness in Zulu men has probably been underestimated, for reasons discussed in the text. A larger study is needed, which includes all admissions, and concentrates particularly on patients' exposure to, and reaction to, violence.

7. This study suggests that the victims of violence are not receiving optimal care, after discharge from hospital. A specific programme for them is proposed.

## CHAPTER 7

7

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#### 7.1 PERSONAL COMMUNICATION

- Buntting BG. Psychiatrist in private practice, Durban.
- Savov R. Psychiatrist, Fort Napier Hospital, Pietermaritzburg.
- Seipp V. Officer in Charge, Registry, Fort Napier Hospital, Pietermaritzburg.

## APPENDIX 1

Admitted: \_\_\_\_\_ Discharged: \_\_\_\_\_ . No \_\_\_\_\_ .

Magisterial District \_\_\_\_\_ . Unrest HIGH  
LOW

G2/2 Diagnosis \_\_\_\_\_ .  
Adm. Diagnosis \_\_\_\_\_ .

FINAL DIAGNOSIS I \_\_\_\_\_ .  
II \_\_\_\_\_ .  
III \_\_\_\_\_ .  
IV \_\_\_\_\_ .  
V \_\_\_\_\_ .

Age . Sex M F Admission: 1st/ 2nd/ No. Breadwinner:

Occup.: \_\_\_\_\_ Empl. / Unempl.  
Longest in job: \_\_\_\_\_ Last worked: \_\_\_\_\_

Marital status: Single/ Loose union/ Paying/ Married/ Widowed/  
Divorced/ Separated/ (No. of wives \_\_\_\_\_).

Dwelling: Own/ Parents/ Other relatives/ No fixed abode/  
Hostel/ Employer/ Refugee/ Other  
Recent move Yes/ No (Reason: \_\_\_\_\_ )  
House: Modern/ Traditional/ Shack.

Area: City/ Peri-urban/ Town/ Rural/ Squatter area.

Education: Nil/ <2 yrs/ Primary/ Secondary/ Tertiary/  
At school std.: \_\_\_\_\_ Years at school: \_\_\_\_\_  
Left because: Financial/ Not coping/ Ill/ Unrest/  
Other reason: \_\_\_\_\_  
Functionally Literate/ Illiterate.

Politics: Active/ Indifferent Supports:

Involvement in violence: No (or denied).

Yes --> Spectator --> Willing/Forced

Participant --> Willing/  
Forced

--> Nature --> Assault  
Arson  
Property destroyed  
Homicide

--> Result --> Personal injury  
Flight  
Relative injured  
Relative killed  
Home lost

Phenomenology: Delusions --> Absent  
 Present --> Related to unrest  
 Unrelated

Hallucinations --> Absent  
 Present --> Related to unrest  
 Unrelated  
 Modality --> Aud.  
 Vis.  
 Tac.  
 Other

Thought disorder --> Present  
 Absent

Affect --> Appropriate  
 Inappropriate

Substance abuse: Denied/ Uncertain/ Alcohol/ Cannabis/ Mandrax/  
 Inhalants/ Other/ Polysubstance

Trouble c̄ law: --> No.  
 Yes --> Expelled from school  
 Convictions --> Jailed  
 Fine  
 Corporal punishment  
 Warning  
 Detained  
 Arrested, not charged

Course in hospital: Response --> Slow/ Steady/ Rapid/ Immediate  
 Recovery --> Poor/ Partial/ Complete

Prognosis: Judged --> Poor/ Guarded/ Good/ Excellent

Plans on discharge: Return to school or work --> Realistic  
 Unrealistic

Return to family --> No --> None  
 Rejected  
 Yes --> Immediate  
 Extended

Family agreeable --> Yes  
 Conditional (D/G)  
 No

Disposal: Discharged --> Satisfactory S/W arrangements  
 Unsatisfactory  
 LOA  
 Absconded

Source of Personal History: Pt/ SW/ Relative/ Other:

*Additional info:*

## APPENDIX 2

FORM OF CONSENT

I, \_\_\_\_\_ do hereby give consent to Dr B M Brayshaw of Midlands Hospital, Pietermaritzburg, to incorporate information obtained from me in his study of psychiatric conditions in Natal. I have been given the assurance that my name and other identifying information will not be used, and that complete anonymity and confidentiality will be maintained. The information so obtained will be used for no other purpose, and will be communicated to no other person or body.

This has been translated for me by \_\_\_\_\_.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_.

Witness: \_\_\_\_\_

FORM OF CONSENT

I, \_\_\_\_\_, in my capacity as \_\_\_\_\_, hereby give my consent to Dr B M Brayshaw of Midlands Hospital, Pietermaritzburg, to use information in respect of \_\_\_\_\_ in his study on psychiatric conditions in Natal. I have been given the assurance that the name or other identifying data of the patient will not be recorded, and that complete anonymity and confidentiality will be maintained. The information so obtained will be used for no other purpose, and communicated to no other person or body.

This has been translated for me by \_\_\_\_\_.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_.

Witness: \_\_\_\_\_