Treating PTSD in South African contexts: A theoretical framework and a model for developing evidence-based practice

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Several psychological factors contribute to the development and maintenance of post-traumatic stress disorder (PTSD) because they interfere with the emotional processing of the traumatic event. These include problematic and painful emotions such as anxiety, shame, guilt and grief, distorted or dysfunctional cognitions, and cognitive, emotional, and behavioural avoidance mechanisms. Analysis of these maintaining factors provides the basis for current approaches to treatment which support trauma-tised individuals in facing emotional pain, working to resolve shame, grief and guilt, and expanding existing schemas to accommodate the traumatic event(s). Randomised controlled trials (RCTs) are reviewed in which the efficacy of some of these treatments have been evaluated. While many South African practitioners are familiar with current evidence-based approaches and are skilled at adapting them to local cultural and contextual conditions, a great deal still needs to be done to build a sound research base for local practice in the treatment of PTSD and disseminating that research to practitioners in the field. It is recommended that a case-based evaluation strategy be used to complement the findings of international RCT studies in order to build a foundation of locally contextualised and applicable scientific knowledge.

Keywords: case-study research, cognitive therapy, evidence-based practice, treatment efficacy, post-traumatic stress disorder, psychotherapy, South Africa

Introduction

In South Africa there is a high rate of the kinds of traumatic events that cause post-traumatic stress disorder (PTSD) such as criminal violence, motor vehicle accidents (MVAs) and industrial accidents. As a result, PTSD is a significant public health problem (Edwards 2005, this issue). In the past decade there have been substantial advances in the development of psychological treatments for PTSD (Ehlers, Clark, Hackmann, McManus, and Fennell 2005; Foa, Keane and Friedman 2000) and it is the aim of the present paper to examine what is needed to make these treatments available in South Africa in a form that will be suited to its particular social and cultural contexts.

Psychological treatment for PTSD is only one aspect of the response to trauma on the part of health professionals and social agencies. Much preventative work needs to be done to uplift communities by eliminating poverty and the social conditions in which endemic violence flourishes and in addressing the causes of MVAs such as the driving of unsafe vehicles, driving by unlicenced drivers, reckless driving and driving under the influence of alcohol and drugs. Furthermore, in the immediate aftermath of trauma a range of other practical and social interventions is required and the majority of individuals do not generally need psychological treatment (Van Wyk and Edwards 2005, this issue). Nevertheless, as Friedman, Foa, and Charney (2003, p. 765) conclude, ‘a sizeable minority [of those affected] will progress to a chronic incapacitating disorder such as PTSD or depression’ and there remains an important place for the kinds of psychological intervention used in groups, or on a one-on-one basis, by professional or paraprofessional counsellors. This is true in South Africa where there is a high level of the kinds of events that can give rise to PTSD and where PTSD cases are commonly seen in clinical practice (Edwards, 2005 this issue).

Trauma and cognitive inconsistency

The incorporation of new life experiences into an individual’s fundamental schemas requires that they be ‘elaborated and integrated into the context of the individual’s preceding and subsequent experience’ (Ehlers & Clark 2000 p. 335). This is the basis of the development of autobiographical memory. This integration depends on processes of memory, reflection and social conversation through which individuals develop their personal understanding of the meaning of events, and of their own identity in relation to those events. When events have been integrated, individuals can describe them, often in some detail, and can explain their significance for the overall meaning of their life. In his classic book Stress response syndromes, first published in 1976, and now in its fourth edition, Horowitz (2001) pointed out that individuals interpret events using existing models or schemas, built up from past experience. When extreme experiences occur,
they are faced with information which cannot be assimilated into these models and a disjunction or disequilibrium occurs. The new information simply cannot be reconciled with existing schemas not only because it is unfamiliar, but also because its implications are so emotionally painful.

Ever since the first writing about psychotherapy in the nineteenth century, theorists have observed how a single individual may operate with incompatible frameworks of information. Thus Breuer and Freud wrote about ‘splitting’, Janet about ‘subconscious fixed ideas,’ and Adler saw consciousness as a device for concealing from the individual the fundamental inconsistencies between the different and incompatible meaning systems that they simultaneously held (Edwards and Jacobs 2003). Today, it is a basic principle of cognitive science that parallel cognitive systems are a general feature of human information processing and the encoding of conflicting information is a problem that applies quite generally to situations to which individuals respond with strong emotions.

Teasdale’s (1997) Interacting Cognitive Subsystems model incorporates a dual processing system in which a propositional level encodes personal interpretations and meanings in language, and an implicational level encodes information in tacit non-verbal schemas. Foa and Kozak (1986) advanced a dual processing theory applied specifically to fear reactions and described ‘fear structures’ in which significant aspects of the memory are encoded in the aftermath of trauma. These structures encode information about cues associated with threat to life or bodily integrity and become chronically activated. They are a source of exaggeratedly fearful appraisals, and alert the individual to threat even in situations that are actually safe. Since they have little or no connection with language and explicit knowledge, rational evaluation and discussion has no impact on them and the perception of safe situations as dangerous serves to maintain the activation of the fear structures on a chronic basis.

An additional cognitive mechanism is described by Ehlers and Clark (2000) and Brewin and colleagues (Brewin, Dalgleish and Joseph 1996; Brewin and Holmes 2003; Brewin, McNally, and Taylor 2004). In normal situations, individuals keep reasonably calm and can take in the meaning of the event, organise the sequence of events in memory and appreciate aspects of its broader implications and meanings. Subsequently they can recall the events in temporal order and under voluntary control. Ehlers and Clark (2000) call this ‘conceptual processing’ and Brewin the ‘verbally accessible memory (VAM) system.’ Under the influence of intense emotional arousal such as may be evoked by a traumatic event, there is an interruption of these normal perceptual processes. Sensory impressions flood in but are not organised in a meaningful way. Subsequently, memory is disorganised and features of the trauma are re-evoked involuntarily in response to associative cues, often in a fragmented manner, leaving individuals confused and frightened. This is ‘data-driven processing’ (Ehlers and Clark 2000) based on a ‘situationally accessible memory (SAM) system [which draws on] extensive, lower level perceptual processing of the traumatic scene, such as sights and sounds that were too briefly apprehended to receive much conscious attention’ (Brewin and Holmes 2003, pp. 356 – 7). Data-driven processing is not the same as dissociation although there is some tendency for the two to be found together (Murray, Ehlers and Mayou 2002). Its effect is to fragment the trauma narrative in memory and create additional obstacles to integration.

Faced with the task of integrating incompatible pieces of information, traumatised individuals may oscillate between letting the information in and feeling overwhelming emotions, and blocking the information and feeling numb (Horowitz 2001). In many cases this oscillation continues over days or weeks, and serves in the end to allow the existing schemas to accommodate to the new information. This is called ‘working through’ in the language of psycho-dynamic theory (Horowitz 2001), or ‘emotional processing’ in the language of cognitive-behaviour therapy (CBT) (Ehlers and Clark 2000; Foa and Kozak 1986). In due course, a measure of cognitive consistency is achieved and equilibrium is restored. Individuals may be more or less cooperative with this oscillation. They can facilitate and expedite the process by sharing their experiences with supportive others in a manner that enables them to reflect on what has happened. However, if they block the experiences they become vulnerable to two contrasting problems, both characteristic of PTSD: a chronic state of numbness and dislocation which causes individuals to become dysfunctional, and disturbing intrusions and flashbacks during waking hours and in nightmares (see the case of Langu: Karpelowsky and Edwards 2005, this issue).

### Avoidance mechanisms and the maintenance of chronic PTSD

Avoidance mechanisms play a central role in the development of PTSD and understanding how they work and what motivates them is central to treatment planning. These mechanisms are activated to cope with painful and problematic emotional states which are, in turn, associated with negative and dysfunctional beliefs and attitudes. An assessment model based on current research (e.g. Ehlers and Clark 2000) that incorporates each of these three components is summarised in Table 1. In practice the phenomena at each level are connected with one another or interact with one another to create vicious circles that contribute to the maintenance of PTSD. (These are not illustrated in Table 1.)

#### Problematic emotions that mobilise avoidance

Whether memories of the trauma are triggered automatically by associative cues or more consciously considered and reflected on, they evoke painful emotional states which individuals are motivated to avoid. This avoidance interrupts the accommodation of existing schemas to the new information. Several emotions are known to be problematic:

a) **Fear:** PTSD is initiated by an intense fear reaction in response to a threat to one’s life or safety or physical integrity (or to such threats to another person) (Vaiva, Ducrocq, Cottencin, Goudemand and Thomas 2000). Memories of the event are therefore typically associated with intense fear, which may become generalised and
distort the individual’s experience so that nowhere feels safe and more threatening events are anticipated. Thus staff at a South African organisation where there had been an armed robbery feared they would meet the robbers again when they returned to work after the weekend (Peeke, Moletsane, Tshivula and Keel 1998). Those with PTSD markedly overestimate the probability of negative events happening to them as well as the adverse consequences to them, should negative events occur (Warda and Bryant 1998a) a finding replicated in an unpublished South African study (Möller, personal communication, 2004).

b) Disgust: Some traumatic events, particularly those that involve serious injury, mutilation or burns, present individuals with sights that evoke intense disgust. This was a significant problem for a former member of the South African Defence Force who was treated by Koen (1991). As a medical orderly he had seen large numbers of mutilated bodies and attended to several severely mutilated and dying patients. He experienced overwhelming disgust when these memories were evoked. Disgust was also a feature of the case of Langu who had to identify the severely burned body of his brother (Karpelowsky and Edwards 2005, this issue).

c) Shame: Individuals may feel shame in response to their reactions or behaviours at the time of the trauma. Shame may be external, where an individual feels ‘unattractive and devalued in the eyes of others’, or internal, where one experiences ‘the self as devalued in one’s own eyes in a way that is damaging to the self-identity’ (Lee, Scragg and Turner 2001, p. 452). Both external and internal shame can occur simultaneously. An individual trapped in a motor vehicle following an accident might feel terrified and helpless and be incontinent. Later the individual may feel ashamed of all three of these aspects of the experience. Shame may be particularly prominent in cases of sexual assault. Nomsefo was ashamed because her friends saw the blood on her clothes after she was raped and Bulelwa’s shame was exacerbated by active shaming by peers (Edwards, Sakasa and Van Wyk 2005, this issue). Shame may also be experienced in response to PTSD symptoms: the individual interprets intrusions and difficulties in coping as signs of weakness and inferiority. Shame is associated with active attempts not to think about what happened.

d) Humiliation and anger: Traumatised individuals exposed to deliberate attempts to humiliate them, such as victims of torture, political prisoners, or women in abusive relationships, typically feel anger at what is perceived as unfair and abusive treatment. This may be accompanied by desire for revenge. The humiliated individual may also experience shame, but not necessarily so (Lee et al. 2001). It is not that the anger is problematic in itself. The anger of women who have been raped or repeatedly abused can be harnessed therapeutically if it can be channelled into appropriate action at an individual level (leaving the relationship, filing a criminal charge) or at a social level (working with organisations that empower women and motivate for social or political action with respect to rape). However, anger is problematic when it

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Table 1: A model for assessment and treatment planning

<table>
<thead>
<tr>
<th>Painful and problematic emotional states</th>
<th>Dysfunctional beliefs and assumptions</th>
<th>Avoidance mechanisms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fear/anxiety</td>
<td>Related to apprehension of the traumatic event</td>
<td>Behavioural</td>
</tr>
<tr>
<td>Disgust</td>
<td>‘I won’t be able to relate to people in the same way as I used to’</td>
<td>Avoiding reminders (people, places, media)</td>
</tr>
<tr>
<td>Shame</td>
<td>‘I should not have survived’</td>
<td>Behavioural distraction</td>
</tr>
<tr>
<td>Humiliation</td>
<td>‘Nowhere is safe’</td>
<td>Avoiding sleep</td>
</tr>
<tr>
<td>Anger</td>
<td>‘All men are dangerous’</td>
<td>Cognitive</td>
</tr>
<tr>
<td>Guilt</td>
<td>‘I am defeated’</td>
<td>Thought suppression</td>
</tr>
<tr>
<td>Grief</td>
<td>Related to emotional responses to event</td>
<td>Worrying about trivial concerns</td>
</tr>
<tr>
<td></td>
<td>‘These images mean I am going crazy’</td>
<td>Self-punitve thinking</td>
</tr>
<tr>
<td></td>
<td>‘If I think about the trauma, I will go mad’</td>
<td>Cognitive distraction</td>
</tr>
<tr>
<td></td>
<td>‘This means I am weak’</td>
<td>Rumination (regret, retaliation)</td>
</tr>
<tr>
<td></td>
<td>‘I am bewitched’</td>
<td>Emotional</td>
</tr>
<tr>
<td></td>
<td>→</td>
<td>Alcohol, drugs</td>
</tr>
<tr>
<td></td>
<td>Emotional distancing (isolation)</td>
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</tbody>
</table>

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interferes with the emotional processing of the event itself. This can happen in two contrasting ways. First, as frequently happens, traumatised individuals may be unable to express it, as in the case of Nomsefo (Edwards et al., 2005) or be afraid to express it for fear of retribution (Herman 1995). Second, they may focus on the anger by ruminating about redress and/or retribution but in a manner that does not lead to constructive action (Ehlers and Clark 2000; Meichenbaum 1994).

e) Guilt: Individuals may feel appropriately responsible for directly causing the event (which they may be, for example, if their negligent driving led to a serious accident). They may also assume inappropriate responsibility for causing the event or failing to render or obtain assistance quickly enough. With hindsight, individuals may see how they could have prevented aspects of the trauma or done more to assist and feel guilty that they did not (Lee, Scragg, and Turner 2001). This was the case with Langu (Karpelowsky and Edwards 2005, this issue). Females who have been raped often feel responsible for not having taken action to stop the rape as was the case with Nomsefo (Edwards et al. 2005). Where the event resulted in the death of a significant other, individuals may experience survivor guilt, a response described by Freud from his observations of his own response to the death of his father in 1896 (Gay 1989). Individuals may feel guilty about thoughts they experience in response to an event. A woman whose son and daughter burned to death in a house fire experienced the thought that if one of them would have survived she would have preferred it to have been her daughter. She subsequently felt guilty about having such thoughts (Hackmann 2005). The recall of and reflection on a traumatic event are likely to be particularly difficult for individuals who see no way of resolving associated guilt.

f) Grief: Many traumas involve the death of a loved one as in the case of Langu (Karpelowsky and Edwards 2005, this issue). In such cases, in addition to other aspects of the trauma, individuals must face the loss of a loved one, which is itself intensely painful and difficult to integrate. Priegerson (1997) found that two years after the death of a spouse, 7% of widows and widowers still displayed a traumatic grief reaction. This means that they still could not accept that the spouse had died and displayed significant avoidance of thoughts, memories and places associated with the spouse. Trauma may result in other significant losses that are expressed as a grief reaction. Nomsefo's family was broken up by her brother's trial and conviction for raping her. Consequently she was separated from them by being placed in foster care for over two years. Bulelua felt she had to leave home in order to rebuild her life after the rape and felt intensely isolated and lonely (Edwards et al., 2005, this issue).

In the assessment process it is important to identify sections or aspects of the trauma narrative that are associated with significant emotional distress, and to identify the specific emotions and their meaning for the traumatised individual. These ‘hotspots’ are likely to evoke the strongest avoidance and need to be specifically targeted in treatment (Ehlers et al. 2005; Grey, Holmes and Brewin 2001; Grey, Young and Holmes 2002).

**Dysfunctional beliefs**

Difficulties dealing with these painful feelings may be exacerbated by dysfunctional beliefs. Some are about the symptoms of PTSD: e.g. ‘These images mean I am going crazy’ or ‘If I think about the trauma, I will go mad ... lose control and hurt someone ....’ or ‘These symptoms mean there is something wrong with me’ or ‘People will look down on me for responding in such a weak and uncontrolled manner.’ Such thoughts evoke anxiety and can create or exacerbate shame.

Other dysfunctional beliefs underlie the negative emotions themselves. Generalised fear may be accompanied by beliefs such as ‘nowhere is safe’ or ‘all men are dangerous’. These support a chronic mode of experiencing in which there is selective attention to threat cues or increased vigilance for signs that a further trauma may occur, which, in turn, increases the anxiety and the frequency of intrusive images. Shame may be accompanied by beliefs such as ‘The rape means I am dirty and contaminated,’ or guilt by thoughts such as ‘I should have done more to prevent it’ or ‘I should not have survived,’ and grief by the thought ‘I can never live without him/her.’

Other dysfunctional beliefs reflect the immediate experience of the emotional impact of the trauma and generalise it to the future. Individuals who feel defeated and lose motivation to rebuild their lives, or who feel chronically alienated socially showed poorer response to an exposure treatment for PTSD (Ehlers, Clark, Dunmore, Jaycox, Meadows and Foa 1998). Thoughts such as ‘I’m a different person since the trauma,’ ‘I attract disaster,’ ‘trauma has ruined my life’ as well as assumptions such as ‘if I plan nice things in the future it will encourage some other awful thing to happen to me’ contribute to pessimism and withdrawal from social and leisure activities. These exacerbate loneliness and depressed mood, which in turn provide evidence for these beliefs (Ehlers and Clark 2000).

Other beliefs are embedded in the individual's philosophical world view or religious belief system. Eagle (2004) describes the case of Nomsa who, while in high school, was present when her friend was raped and murdered. She was so terrified and ashamed, and felt so guilty at having abandoned her friend, that she spoke to nobody. Subsequently she learned that at her friend's funeral the family had laid a curse on anyone who had knowledge of the murder and had not disclosed it, in terms of which they would be punished and bewitched. Some years later, when she became the target of an attempted rape, she believed that this and the PTSD symptoms that followed were a punishment for her previous wrongdoing.

**Avoidance mechanisms**

Behavioural, cognitive and emotional avoidance mechanisms (what have traditionally been called 'defences') may be activated as a means of limiting the painful impact of these various feelings. They are considered dysfunctional because they increase the frequency of intrusions, prevent disconfirmation of inaccurate beliefs that underlie the intense affect that motivates the avoidance, and prevent the elaboration of trauma memories (Ehlers and Clark 2000).
Behavioural avoidance includes avoiding the place or situation where the trauma occurred, avoiding places that are similar in some respect to the place where the trauma happened, and avoiding other cues associated with the trauma or reminders of it (such as sounds, smells, photographs of the deceased, television or radio bulletins, newspaper articles that feature the trauma or events similar to the trauma). Avoiding reminders of the trauma prevents elaboration of the memory, prevents habituation of anxiety responses to cues associated with the trauma and prevents re-evaluation of exaggerated threat appraisals. Images and thoughts related to the trauma and trauma-related concerns may be excluded from awareness by such behavioural distractions as keeping busy with tasks like compulsively cleaning the house, excessively focusing on work or endless superficial conversations. Avoiding disturbing dreams or nightmares by going to bed late or otherwise curtailing sleep can have significant negative consequences since it results in sleep deprivation and a consequent increase in irritability and poor concentration. Finally, social withdrawal or avoidance of hobbies or sporting activities that were important before the trauma diminishes social support, prevents individuals from normalising or rebuilding their lives, and creates vulnerability to alienation and depression.

Cognitive avoidance refers to cognitive mechanisms for excluding trauma-related thoughts or images from awareness. These include thought suppression, worrying about more trivial concerns, self-punitive thinking (Meichenbaum 1994; Warda and Bryant 1998b), and cognitive distraction such as focusing on alternative streams of thought (e.g. sexual fantasies in a case referred to by Ehlers and Clark 2000). Another cognitive avoidance mechanism is rumination, in the form of planning revenge or retaliation, or repeatedly focusing on how the trauma might have been prevented or how things might be different if the trauma had not happened. Although ruminating about the trauma might at first seem the opposite of suppression or distraction, it has the same effect in terms of impeding emotional processing. Focusing on how the trauma might have been prevented fails to address guilt and focuses attention away from the fact that the trauma did take place and cannot be undone. Similarly, thinking repeatedly about how one might exact revenge or see justice done fails to address underlying feelings of humiliation and usually prevents the individual reaching any resolution since revenge or compensation can seldom be achieved in the short term. Thought suppression and rumination have been repeatedly shown to be associated with the maintenance of PTSD (Mayou, Ehlers and Bryant 2002; Murray, Ehlers and Mayou 2002; Steil and Ehlers 2000).

Emotional avoidance strategies involve preventing emotional states that are evoked by cues associated with the trauma. The use of alcohol or sedative drugs is a common way of coping. More subtle forms involve what has traditionally been referred to as isolation (Horowitz 1988): some individuals can and do talk about the trauma, but in a manner which focuses on concrete details or is vague and lacks detail and remains emotionally disconnected. As a result significant aspects of the meaning of the experience are not actually addressed or re-evaluated.

Intervention for PTSD

There is broad consensus that intervention needs to address affected individuals’ difficulties in integrating the trauma into autobiographical memory. This consensus is supported by the fact that Horowitz’s (2001) approach, although termed ‘psychodynamic’ is couched in the language of information processing, and cognitive change and therefore interfaces with the concepts used in the cognitive-behavioural tradition. Although most structured interventions are multimodal cognitive-behavioural packages, these are generally integrative in character since the historical sources of many of the specific techniques come from a range of therapy traditions (Meichenbaum 1994). Several of the most widely used interventions are summarised in Table 2. Some of them take place in sessions, but many involve active work at home between sessions or after the end of treatment.

Psychoeducation is given about the normal responses of individuals following trauma, and individual differences in pathways to recovery, as well as about the role of avoidance mechanisms in maintaining PTSD symptoms. Metaphors may be used to motivate individuals to engage with a treatment that will be emotionally demanding and painful. For example, treatment might be likened to setting a broken bone, lancing a septic wound, or dental work. Denying the impact of the trauma may be likened to building a house on a toxic waste deposit (Meichenbaum 1994, p. 383). Individuals are supported in telling their story of the trauma and facing the associated emotional difficulties through reliving of the trauma in detail through guided imagery, and writing a trauma narrative. Behavioural tasks are also employed such as visiting the trauma site. Where individuals cannot recall parts of the sequence, they are guided in recovering these lost memories so that a complete trauma narrative can be reconstructed. Specific emotional hotspots are identified and addressed.

Through cognitive restructuring, distorted perceptions and beliefs are challenged and re-evaluated and guidance is given towards resolution in areas such as shame, grief and guilt. Imagery transformation techniques may also be used to provide access to more positive, empowering and hope-inducing narratives (Meichenbaum 1994). Skills training may be incorporated. Social skills training may be useful in helping individuals negotiate the social environment while dealing with trauma symptoms, and to overcome depressive withdrawal. Anxiety management may be of value in helping manage anxiety symptoms, especially initially and during exposure work. Training in self-care, self-protection and empowerment may be important for victims of sexual and domestic abuse.

Finally, work on future orientation is designed to help individuals actively plan to rebuild their lives, especially where there has been significant withdrawal from social and leisure activities, or where some previous activities are no longer possible due to disability caused by the trauma. These interventions are not usually delivered in the traditional 50-minute session. Long sessions of 1½ to two hours are commonly used especially for exposure work (Ehlers et al. 2005; Meichenbaum 1994).
Randomised controlled trials
Several treatment programmes have been evaluated in randomised controlled trials (RCTs). Treatment can be implemented even in the first 10 days after the event: five studies in which five or six sessions of CBT were administered to individuals with Acute Stress Disorder are reviewed elsewhere in this issue (Van Wyk and Edwards 2005).

Working with rape survivors with PTSD, Resick, Nishith, Astin, Weaver, and Feuer (2002) compared Resick’s Cognitive Processing Therapy (CPT) with Foa’s Prolonged Exposure Therapy (PET), a treatment previously shown to be superior to supportive counselling and self-instructional training. Participants received 13 hours of treatment within a six-week period. In both groups about a third of participants failed to complete treatment. However, in both conditions, about 80% of completers no longer met criteria for PTSD nine months later. The additional cognitive interventions in CPT helped address comorbid depression since 46% of CPT completers had been clinically depressed before treatment but at nine months less than 5% were depressed, compared to 15% in the PET group.

Kubany’s cognitive trauma therapy for battered women (Kubany, Hill, Owens, Lanne-Weaver, McCraig, Tremayne, et al. 2004) involves 8 to 17 sessions of 90 minutes. Eighty-seven percent of women who completed treatment no longer met criteria for PTSD at the end of treatment or at six-month follow-up and 69% were completely free of PTSD and depression symptoms. No improvement was observed in a waiting list control group. McDonagh, Friedman, McHugo, Ford, Sengupta and Mueser (2005) compared two manualised treatments administered to women with PTSD secondary to childhood sexual abuse: CBT (which included breathing retraining, imaginal and behavioural exposure and cognitive restructuring) and ‘Present-centred therapy’ (PCT: which specifically excluded these active intervent ions). Each consisted of seven two-hour sessions followed by seven 90-minute sessions. There was a 41% attrition rate in the CBT group compared to 9% for PCT. However, of the completers, at the end of treatment, 47% of the CBT group no longer met criteria for PTSD as compared to 35% in the PCT group, and at six months, 77% of the CBT group no longer met PTSD criteria as compared to 42% in the PCT group. Neither intervention was superior to no treatment in reducing depression. The same CBT approach (Trauma-focused group therapy; TFGT) and PCT were delivered in a group format to a sample of American Vietnam veterans by Schnurr, Friedman, Foy, Shea, Hsieh, Lavori et al. (2003). There were 30 weekly sessions of 1½ or two hours followed by monthly follow-ups. About two thirds completed at least 24 sessions, but in an analysis of this data there was no clinically significant advantage to TFGT over PCT, although there were some statistically significant comparisons in which TFGT was superior.

Lange, Rietdijk, Hudcovica, Yav de Ven, Schrieken and Emmelkamp (2003) delivered a PTSD treatment over the Internet. Over five weeks, participants had to engage in ten 45-minute sessions of structured written exercises about the trauma narrative and received written feedback from a therapist. Nearly 50% dropped out of treatment, but 50% of completers showed clinically significant improvement on PTSD, somatisation and depression symptoms, compared to less than 10% in a waiting list condition.

Falsetti, Resnick, Davis and Gallagher (2001) evaluated multi-channel exposure therapy (MCET) for those with PTSD and panic attacks, delivered in twelve 90-minute group sessions. A group treated with MCET had reduced PTSD and panic symptoms compared to a control group. Shapiro’s eye movement desensitisation and reprocessing (EMDR) has also been shown to be effective in treating PTSD. However, effect sizes vary somewhat. In a few

### Table 2: Components of intervention for PTSD

<table>
<thead>
<tr>
<th>Type of intervention</th>
<th>Specific intervention strategies</th>
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<tbody>
<tr>
<td>Psychoeducation</td>
<td>Normalising symptoms&lt;br&gt;Role of behavioural, cognitive and emotional avoidance in maintaining symptoms&lt;br&gt;Use of metaphor to motivate engagement with treatment</td>
</tr>
<tr>
<td>Exposure</td>
<td>Reliving/guided imagery&lt;br&gt;Recovering lost memory fragments and building continuous trauma narrative&lt;br&gt;Engaging with emotional hotspots in trauma narrative&lt;br&gt;Visiting trauma site&lt;br&gt;Challenging behavioural avoidances</td>
</tr>
<tr>
<td>Cognitive restructuring</td>
<td>Identifying distorted or self-fulfilling negative beliefs and assumptions and testing or challenging them&lt;br&gt;Addressing beliefs associated with specific emotional states such as shame, guilt. &lt;br&gt;Imagery transformation techniques</td>
</tr>
<tr>
<td>Behavioural experiments</td>
<td>To test effects of avoidance strategies&lt;br&gt;To test trauma-related fears and distortions</td>
</tr>
<tr>
<td>Skills training</td>
<td>Anxiety management&lt;br&gt;Assertiveness&lt;br&gt;Self-care&lt;br&gt;Self-protection</td>
</tr>
<tr>
<td>Future orientation</td>
<td>Plan for rebuilding an active life, re-engaging with avoided social and leisure activities, building in new activities, adjusting to disability.</td>
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studies they are comparable to those found in the leading
cognitive-behavioural treatments; in others they are poorer.
Apart from the technique by which eye-movements are
induced, EMDR is in effect a multimodal cognitive-
behavioural treatment following the principles employed by
other treatments and there is no evidence that the eye-
movements themselves contribute to treatment effective-
ness (Chemtob, Tolin, Van der Kolk, and Pitman 2000). In
one study comparing three treatments of eight 90-minute
sessions, EMDR was less effective than exposure therapy
and did not differ significantly from a relaxation training
intervention (Taylor 2003).

Ehlers, Clark, Hackmann, M’Manus, Fennel, and Herbert
(2003) have developed a distinctive cognitive therapy (CT)
treatment based on their cognitive model (Ehlers and Clark
2000). It is designed round three goals: 1) modifying
excessive negative appraisals of the trauma and its
sequelae, 2) reducing re-experiencing by elaboration of the
trauma narrative and discrimination of triggers, and 3)
dropping dysfunctional behaviours and cognitive strategies.
It incorporates specific strategies, such as stimulus discrimi-
nation procedures, to reduce triggering of re-experiencing,
behavioural experiments and imagery transformation
techniques. In an RCT, CT participants received two to 12
weekly sessions (mean = 9) and 0-3 monthly booster
sessions (mean = 2.5). Initial sessions were 90 minutes, and
later ones 60 minutes. They were compared to a group who
received a self-help booklet (SH), preceded by a 40-minute
structured introduction to the booklet by a clinician, and
another who received repeated assessments (RA; they were
told that it was appropriate to delay treatment because many
people got better spontaneously). There were very few drop
outs, none from the CT group. CT participants showed a
marked drop in symptoms soon after the start of active
intervention and this was sustained six months after
treatment was completed. The effect size of well above 2.0
was significantly superior to SH (effect size close to 1.0) and
RA (effect size < 1.0) although there was no significant
difference between the latter two conditions.

Ehlers et al. (2005) analysed a series of 20 PTSD cases
treated with CT. One dropped out because of an unrelated
family emergency. Treatment ranged from four to 20
sessions plus a mean of two booster sessions. Ninety-five
percent of completers were classified as treatment respon-
ders and 90% of them no longer met criteria for PTSD at
end of treatment. The effect size was 2.8, twice as high as
the average for other studies. They also reported an RCT in
which CT was compared to a waiting list control (WL). The
14 CT participants received four to twelve weekly sessions
(mean = 10) and up to three booster sessions (mean = 2.4).
There were no drop-outs. The CT group had significantly
reduced PTSD and depressive symptoms at completion
and six-month follow-up. There was no change in the WL
group. In the CT group, 71% no longer met criteria for
PTSD, and 79% were classified as treatment responders.
The effect size on PTSD symptoms was 2.25.

This brief review shows that a significant number of those
with PTSD can be treated effectively with relatively brief
treatment. Those that are computer literate and self-
motivated can even be helped by an Internet-based
programme. As the McDonagh (McDonagh et al. 2005) and
Kubany (Kubany et al. 2004) studies show, effective
treatments are available for vulnerable populations who
have experienced repeated abuse. However, these are not
easy treatments to undergo and high drop-out rates have
been a problem in several studies. The Ehlers and Clark
approach is particularly promising since they report little or
no drop-out and larger effect sizes than many other
researchers. The treatment protocol is very flexible, and
each case is carefully formulated and interventions tailored
to its specific features. Compared to some other treatments,
less time is given to the painful process of reliving the
trauma or retelling the narrative. In the Ehlers et al. (2005)
RCT, imaginal reliving occurred in a mean of three sessions,
with a mean of 98 minutes over the entire therapy.

Transportability of treatment models
There is limited research addressing the extent to which the
findings of studies conducted in Europe and the USA can
be taken to apply in the diverse cultural contexts of South
Africa. South Africans must largely rely on the international
literature and on the clinical experience of its own practition-
ers. It is therefore important for researchers in South Africa,
as well as, of course, in other African countries, to provide
more systematic documentation of the application of
interventions and to use this as a basis for developing a
contextualised knowledge.

Even in the USA and Britain, treatment manuals
developed in research clinics are often not as effective
when applied in a routine clinical setting (Hoagwood, Burns,
Kiser, Ringeisen, and Schoenwald 2001). In a study on the
treatment of conduct disorder at a Child and Adolescent
Mental Health Service clinic in England, Doubleday and
Hey (2004) examined the usefulness of a parent-training
intervention that research had shown to be effective.
Although there were statistically significant reductions in
conduct problems, the intervention was less effective than
in the research studies, there was a much higher drop-out
rate, and at the end of the programme over two-thirds of
parents still reported clinically significant conduct problems.

Schoenwald and Hoagwood (2001) argue that interven-
tions shown to be effective in a research setting may have
limited ‘transportability’ and that research on transportability
is an important and distinct research area. They suggest
that transportability problems arise from four sources: (1)
insufficient training on the part of those delivering treatment,
(2) insufficient resources at the delivery site, (3) offering a
treatment to patient populations for whom it was not
designed, and (4) failure to take into account local contex-
tual and cultural factors.

Concerns about transportability, whether implicit or
explicit, often result in practitioners ignoring the outcome
research literature when planning interventions. They may
believe that they do not have the specialised training
needed to deliver the intervention, or that the treatment is
too resource intensive to be offered within the constraints of
the actual clinical situation. They may question whether
research findings apply to the kinds of individuals seeking
help because they differ from the research samples. Some
research studies exclude participants with multiple traumas
(e.g. Resick et al. 2002), yet this is a common feature of the
clinical picture in South Africa. It is also widely believed that
in complex PTSD where a current trauma is added to a history of physical or sexual abuse in childhood or adolescence, treatment will need to be considerably longer and more relationally orientated, although recent studies are suggesting that brief treatments can be effective in such cases too (Tinnin, Bills, and Gant 2002). Finally, practitioners may not believe that research findings apply in the cultural context in which they work.

Fortunately, there is considerable evidence that the basic elements of PTSD treatments are quite transportable. Ehlers and Clark’s CT treatment was effectively employed in a community setting in Northern Ireland after the 1998 terrorist bomb blast at Omagh in which 29 people were killed and 370 injured. In a series of 91 consecutive cases, mostly treated with between five and 30 sessions, there were substantial reductions in symptoms of PTSD and depression and the overall effect-size was 2.4 (Gillespie, Duffy, Hackmann, and Clark 2002). There is also evidence that these treatment models can be offered by counsellors who do not have professional training as psychologists. The Kubany et al. 2004 study was carried out in Hawaii, where many of the women treated were from ethnic minorities, and several therapists had no professional level training in psychological or psychiatric counselling. Gillespie et al. (2002) cite an unpublished study in which Foa reported that counsellors with limited professional background achieved the same level of treatment effectiveness as more experienced practitioners.

There is evidence for the transportability of PTSD interventions in Africa, although there is little formal documentation. Njoroge (personal communication), describes the use of such techniques working with victims of torture in Kenya. South African practitioners have been following the basic principles of the current treatment approaches for many years. They are evident in the therapeutic approach used by Straker (1994) in a 1985 case of three sisters whose father had been murdered in a vigilante attack. This included intensive retelling of the story of their father’s murder in a group setting, addressing feelings of guilt through understanding their concerns within their cultural context and reframing them and helping them to develop a framework for the future within which their father’s memory was honoured and they felt empowered to meaningful action.

Straker’s work is the basis of the widely used Wits trauma model described by Eagle (1998, 2000) which has five aspects: normalising symptoms, telling and retelling the story, addressing guilt, encouraging mastery and facilitating the creation of meaning. Eagle (2004) describes the intervention employed with Nomsa (mentioned earlier) which included psychoeducation, helping her retell the story until a coherent narrative was obtained, addressing her guilt about having abandoned her friend who was being murdered by helping her examine her options and evaluate afresh whether it would have been helpful to have acted differently, and encouraging her to undertake behavioural experiments in rebuilding friendships and engaging with members of the murdered friend’s family. The case material in this issue presented by Labe (2005), McDermott (2005), Karpelowsky and Edwards (2005) and Leibowitz-Levy (2005) also make a contribution to the documentation of the transportability of interventions for PTSD. However, they are part of only a small number of such published studies and a great deal more needs to be done.

The need for evidence-based practice

There are other reasons why practitioners might not embrace the treatment approaches that have been shown to be effective in RCTs. Some find the cognitive-behavioural models too confrontational. They might question the appropriateness of the emotional intensity that may be evoked by the interventions, or they might not be able to tolerate it without experiencing intense distress themselves. They might point to the relatively high drop-out rate in the research studies and argue that a gentler approach is needed, even if it takes longer. This attitude may be part of a broader ideologically driven rejection of the outcome research. Unfortunately, some South African therapists are trained to use a dichotomous construct in classifying psychotherapies as either ‘cognitive-behavioural’ or ‘psychodynamic’ and to identify with one or the other. ‘Psychodynamic’ therapists sometimes adopt an in-group versus out-group attitude and reject research on CBT treatments.

Practitioners also reject research findings because they feel that researchers are dictating how they should function in practice. The treatment manuals used in the research studies, may appear rigid and inflexible with an excessive emphasis on technique and a ‘one size fits all’ approach (Carroll and Nuro 2002). Critics argue that inadequate attention is paid to the relationship between client and therapist or to the role of therapists in adapting treatment models to the needs of specific contexts and the personalities and circumstances of individual clients (Edwards, Dattilio, and Bromley 2004). However, some CBT models, such as that of Ehlers and Clark, are flexible because they are formulation driven, but it is possible that this makes them more difficult to implement by practitioners with limited training.

Practitioners also have to deal with the pressure to deliver psychological interventions to as wide a spectrum of the community as possible in as little time as possible. This kind of pressure is not limited to developing countries. However, in South Africa, where the infrastructure for delivering mental health interventions is far less developed and resourced than that in the United States or United Kingdom, this dilemma is particularly acute. The community at large and mental health practitioners feel a moral pressure to respond to individuals who have been exposed to severe trauma and who have post-traumatic symptoms. As a result, practitioners are often faced with the difficult choice between delivering very minimal interventions to large numbers or providing more intensive interventions for smaller numbers and turning others away. Structured cognitive-behavioural treatments are relatively brief, but not all those with PTSD can be appropriately treated in three or four sessions. However, with a gentler and less focused approach, treatment might take months or years or not take place at all.

Whatever one’s training or ideological stance, there is little to be said in support of offering watered down or partial interventions. In another UK study Hutchings, Lane and Kelly
(2004) compared a standard intervention for conduct disorder which involved seven hours of contact time in the form of one clinic and four home visits with an intensive intervention, which included seven home visits and three five-hour sessions at the clinic in which parent-child interactions were videotaped and intensive feedback and coaching was given. The standard intervention resulted in some limited improvement at six months follow-up that was not maintained four years later. Thus the seven hours devoted to each case were effectively wasted. By contrast, the intensive intervention produced more comprehensive effects at six-month follow-up which were maintained four years later.

**Developing evidence-based practice by means of case-based research**

As clinicians are increasingly expected to engage in evidence-based practice, they need to be able to justify their approach to clinical problems on the basis of the scientific literature. This paper concludes by offering a way of thinking about evidence-based practice which offers a significant role for practitioners within the research process. Sackett, one of the significant contributors to the development of the concept of evidence-based practice in medicine, defined it as 'the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients, [which] means integrating individual clinical expertise with the best available external clinical evidence from systematic research' (Sackett, Rosenberg, Gray, Haynes and Richardson 1996, p. 71). This definition takes much of the rigidity out of the concept of evidence-based practice, for it gives an important place to the practitioner's skill, local knowledge and relationship with the client. It is flexible in that it provides for a balance between different kinds of formal clinical knowledge on the one hand, and local experience on the other. It is also professional in that it gives practitioners the responsibility to maintain an up-to-date knowledge of the relevant literature and not to simply rely on haphazard exposure to whatever training has come their way and intuition and clinical skill that has not been reflected on.

RCTs are only one form of scientific research. Case-based research is a complementary system of developing knowledge (Edwards et al. 2004). Well-conducted case studies fill in the details that the randomised controlled trials cannot, with respect to how to respond to the unique characteristics of individual clients and socio-cultural contexts. To do this, they must be conducted with care and rigour, the process of the therapy must be carefully documented, and measures of the problems and symptoms that are being targeted need to be repeatedly taken as a means of assessing outcome. Not enough case studies of this kind are currently published. However the recent founding of the journal *Clinical Case Studies*, and *Pragmatic Case Studies in Psychotherapy*, an e-journal based at Rutgers University, are helping to address this.

The pragmatic case study has been defined by Fishman (2005) as one in which a case is formulated carefully on the basis of a comprehensive assessment and in terms of recognised theoretical principles and a treatment plan designed on that basis. Qualitative data are complemented by measures of relevant psychological variables repeatedly measured by brief self-report or therapist evaluation questionnaires. This approach yields a comprehensive data set which provides a basis for documenting the therapy process and the response to the various interventions. It also provides a means of testing established treatment models in specific local contexts and of evaluating the extent to which client responses to interventions are similar or different to those that might have been expected from our existing knowledge. Several rigorous clinical case studies of treatment of PTSD that have already been reported are summarised here.

Trzepacz and Luiselli (2004) treated a 27-year-old American who developed PTSD after undergoing an emergency hysterectomy. Stress Inoculation Training was delivered in eight 60-minute sessions every three weeks with homework practice in between. Training in coping with relaxation and positive imagery was followed by exposure to traumatic stimuli followed by imaginal coping. Later thought stopping and thought replacement were introduced. There was a steady reduction in the evocation of distress related to the surgery in everyday situations. However, at the end of treatment she decided to separate from her husband and shortly afterwards her father died of a heart attack and she did not choose to continue with treatment to address these aspects which she did not appear to be coping with all that well.

Davis, De Arellano, Faiselti and Resnick (2003) describe the three-session treatment of nightmares associated with PTSD in an Afro-American adolescent who had already received 12 sessions of MCET (see above). She had been raped on several occasions by an acquaintance and the MCET had resolved most of her panic and PTSD symptoms, but the nightmares remained. The three sessions targeting the nightmares used an imagery transformation technique in which the content of the nightmare was actively changed so that it ended with a positive outcome. This stopped the nightmares, although she still reported some dreams involving the perpetrator which were not associated with intense distress. The case study shows the importance of matching interventions to specific symptoms, especially when they persist despite other interventions.

Paunovic (2002) describes the treatment in eight sessions of 120 minutes of a 42-year-old Latin American man living in Sweden who had experienced multiple episodes of physical and emotional abuse and rape as a child. He had a history of suicide attempts, substance abuse (now in remission) and multiple psychiatric diagnoses (including bipolar disorder and schizophrenia). The treatment was prolonged exposure counterconditioning (PEC) a highly structured intervention in which the participant is alternately exposed to selected trauma images as well as to pleasurable memories. There was remission or substantial improvement in PTSD, depression, social phobia and somatic symptoms (including bleeding from the anus), maintained at three month follow-up. In contrast to the majority of current theorists, Paunovic bases his treatment entirely on a conditioning model and warns that the introduction of a cognitive perspective could undermine the effectiveness of the PEC intervention. However he reports that the client spent considerable time outside of...
sessions recovering other trauma memories (some as early as two years old) and reviewing the sequence in detail. This remarkable case study raises significant questions about the change processes that are effective in resolving trauma.

Rothbaum, Ruef, Han, Litz and Hodges (2003) treated an American veteran 30 years after he had served in Vietnam and witnessed horrific scenes of fellow-soldiers dying. Although he spent much time reviewing his war experiences, he focused on self-blame and the guilt he felt about retaliatory acts he and others had committed against civilians, and ruminated on his anger against the Viet Cong. Treatment involved twice weekly exposure for five weeks using a virtual reality environment portraying a helicopter cabin and landing site. However, the most significant aspect of the treatment was his ‘attempting to reconcile being a young victim of the Vietnam war who tried his best to survive the experience, and being a perpetrator of violence’ (p. 170). Although there was some reduction in re-experiencing at the end of treatment, it was over the next six months that a dramatic decrease occurred. This suggests that the treatment gains were not brought about by habituation of emotional responses but by his finding ways to reframe his behaviour in a more self-forgiving manner, a process that took time to accomplish. The authors conclude that reflection on the traumatic material from the exposure sessions ‘is not just useful, but mandatory for effective emotional processing’ (p. 176).

Cigrang, Peterson and Schobitz (2005) treated three American soldiers at the front line in Iraq. All were first seen between 10 and 17 days after the incident that triggered the PTSD. Case A was a Puerto Rican male who, while growing up, had witnessed much gang-related violence and seen two friends shot. His PTSD was triggered when a device had exploded directly in front of his vehicle in a convoy. Case B developed PTSD after the fourth of a series of incidents involving accidents and explosive devices. Case C was present near a bomb incident that injured several civilians and had to leave the area before he could offer assistance to some of them. Treatment consisted of exposure and cognitive restructuring. Case A felt ready to return to duty after three sessions, and Cases B and C after four sessions. In all cases self-reported PTSD symptoms had reduced to normal or subclinical levels. The study is important in that it suggests that PTSD can be prevented even where participants must still return to a dangerous situation. Unfortunately, no long term follow-up was available for any of the cases.

Conclusion

It is probably premature to attempt to carry out randomised controlled trials in South Africa at present. These trials depend on there being a clinical context in which a large number of individuals can be regularly assessed and treated for a specific disorder by practitioners trained within a particular model. Without this, researchers run the risk of failing to recruit sufficient individuals who meet study criteria and of high drop-out rates. These kinds of problems have been reported by Möller (personal communication, March 2004) at the University of Stellenbosch. RCTs are also relatively expensive since they call for the systematic treatment and evaluation of a large number of cases for meaningful conclusions to be drawn.

Rather it is recommended that international treatment manuals previously evaluated in RCTs be suitably adapted to local cultural contexts, and evaluated by means of systematic case studies of the kind summarised above. These would enable the strengths and weaknesses of different components of treatment to be evaluated in relation to the range of personality and cultural differences encountered in those being treated. This approach allows for interventions to be tailored to individual cases and provides a basis for the development and extension of a grounded clinical theory or case law that is contextually sensitive (Edwards, et al. 2004; Salkovskis 2002). This approach would provide the basis for building an appropriate evidence-based practice for the treatment of PTSD in South Africa.

Notes

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