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Somatic panic-attack equivalents in a community sample of Rwandan widows who survived the 1994 genocide

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Abstract

The present study is the first to attempt to determine rates of panic attacks, especially ‘somatically focused’ panic attacks, panic disorder, symptoms of post-traumatic stress disorder (PTSD), and depression levels in a population of Rwandans traumatized by the 1994 genocide. The following measures were utilized: the Rwandan Panic-Disorder Survey (RPDS); the Beck Depression Inventory (BDI); the Harvard Trauma Questionnaire (HTQ); and the PTSD Checklist (PCL). Forty of 100 Rwandan widows suffered somatically focused panic attacks during the previous 4 weeks. Thirty-five (87%) of those having panic attacks suffered panic disorder, making the rate of panic disorder for the entire sample 35%. Rwandan widows with panic attacks had greater psychopathology on all measures. Somatically focused panic-attack subtypes seem to constitute a key response to trauma in the Rwandan population. Future studies of traumatized non-Western populations should carefully assess not only somatoform disorder but also somatically focused panic attacks.

Keywords

Panic disorder; Stress disorders; post-traumatic; Depression; Rwanda; Holocaust

1. Introduction

...But the fact is that most of the massacres were carried out using more basic weapons: machetes, knives, axes, hoes, hammers, spears, bludgeons or clubs studded with nails (known as *ntampongano* or ‘without pity’). I don’t need to dwell on the horror of these deaths, the frightful noise of skulls being smashed in, the sound of bodies falling on top of each other. Every Rwandan still has these sounds etched in their memory, and will for a long time: the screams of people being killed, the groans of the dying and, perhaps worst of all, the unbearable silence of death which still hangs over the mass graves [Sibomana, 1999].

Rwandans endured one of the worst genocides of the 20th century. In 100 days in 1994, almost one million people perished, one seventh of the country’s population (Keane, 1995; Taylor, 1999). Tutsi were slaughtered, raped, terrorized and maimed by the Hutu majority (Gourevitch, 1998; Keane, 1995; Sibomana, 1999). Death occurred by decapitation, clubbing, starvation and drowning, among other methods. Then, after the war and subsequent displacement to the camps, large numbers of people died of illness; for instance, 50 000 Rwandans died of cholera and exhaustion in a 2-week period while many suffered starvation (Sibomana, 1999). To this

day, Hutus and Tutsis remain in a state of hypervigilance and trepidation, keenly aware that genocidal hostilities between the two ethnic groups might occur again.

Given the degree of trauma experienced by the Rwandan population, surprisingly few studies have assessed levels of psychopathology. One investigation of children and adolescents (Dyregrov et al., 2000) documented an extreme degree of traumatic exposure, with 79% of those surveyed scoring over 17 on the Impact of Event Scale (Horowitz et al., 1979), suggestive of post-traumatic stress disorder (PTSD). The General Health Questionnaire (Goldberg and Williams, 1988) scores of Rwandan adults surveyed in a refugee camp suggested that 50% suffered severe mental disorder (de Jong et al., 2000).

Several recent investigations emphasize the importance of recognizing panic disorder in trauma victims (Falsetti et al., 1995; Falsetti and Ballenger, 1998; Falsetti and Resnick, 1997; Hinton et al., 2000, 2001a). Dr Hagengimana, who is one of only two psychiatrists in Rwanda, has observed that the Rwandan reaction to trauma is often somatic and not infrequently involves panic symptoms. Even when a Rwandan has an attack that is triggered by a trauma cue or accompanied by a flashback, often the main focus of concern is acute bodily dysfunction. Just as somatoform disorder is prevalent among certain cultural groups in response to trauma (Escobar et al., 1992), unique, somatically focused panic attacks also appear to occur with frequency. *Ataques de nervios* in Hispanic populations, often constituting panic attacks, would seem to be one example (Guarnaccia, 1993; Guarnaccia et al., 1996; Guarnaccia and Rogler, 1999; Norris et al., 2001). A study of Khmer refugees demonstrated that headache-, dizziness- and gastrointestinal-focused panic attacks occurred frequently (Hinton et al., 2000). Another study documented high rates of dizziness- and headache-focused panic attacks among Vietnamese refugees (Hinton et al., 2001a).

The present investigation evaluated the hypothesis that Rwandan holocaust survivors frequently experience the sudden appearance of somatic symptoms that form part of a panic attack. The present study classified these attacks according to the somatic focus. Additionally, rates of panic attacks and panic disorder, as well as levels of PTSD and depressive symptomatology, were assessed.

2. Methods

2.1. Participants

One hundred members of a Rwandan Widows' Association who had lost a husband during the genocide but who were not currently receiving mental health services were randomly invited to participate. Almost without exception, widows in Rwanda join these village-based organizations. Each of the widows in the sample had lost her husband during the genocide. Each met DSM-IV PTSD criterion A.1 (i.e. a traumatic event capable of causing PTSD). None had sustained head injury with loss of consciousness. The average age was 29 (range 18–50); and the average number of children was 2.2 (range 0–5). The average educational level was fifth grade and 65% were literate. None of the women had remarried, in large part due to the low ratio of males to females in the country, as a result of the targeted execution of males during the genocide. The women in the sample typically survived through financial assistance provided by the husband's family (e.g. the use of land), the widow's own family and self-employment: 90% of the widows in the sample made a living from agriculture (e.g. growing beans) and animal husbandry, whereas 10% worked in small trade at the market. No international financial help was presently available to the widows. The survey was conducted in 2001, 7 years after the genocide. Each participant received education about the potential meaning of her symptoms, and if deemed appropriate, referral to a local mental health clinic.

2.2. Procedures

Questionnaires were administered by Rwandan mental health workers with college degrees and at least 3 years' experience who were trained in the use of the survey instruments by Dr Hagengimana. He was present during the evaluation of the initial cases to assure that the instruments were administered correctly. The survey was approved by the Rwandan institutional equivalent of an Internal Review Board. All participants gave written informed consent.

2.3. Instruments

Dr Hagengimana translated and then had back-translated, with comparison of the two versions, as per standard procedure (Mollica et al., 1987; Westermeyer, 1985), a special panic-attack questionnaire [i.e. the Rwandan Panic-Disorder Survey (RPDS)], the Beck Depression Inventory (Beck and Steer, 1987), the Harvard Trauma Questionnaire (Mollica et al., 1992) and the PTSD Checklist (Blanchard et al., 1996).

2.3.1. Rwandan Panic-Disorder Survey (RPDS)—Several studies have demonstrated the importance of somatic probes in the evaluation of panic disorder in somatizing populations (Katon et al., 1987; Katon, 1989, 1994). The RPDS is a special panic-attack questionnaire modeled after the Cambodian Panic-Disorder Survey (CPDS) (Hinton et al., 2000) and the Vietnamese Panic-Disorder Survey (VPDS) (Hinton et al., 2001a), which were created to better delineate panic attacks and panic disorder symptoms typically reported by Indochinese refugees. The RPDS was created with specific reference to the Rwandan population. The somatic probes utilized in the RPDS appear in Fig. 1. For the purpose of this study, each complaint that was endorsed by a participant was treated as a potential cross-cultural equivalent of the DSM-IV panic-attack criterion, 'a discrete period of intense fear or discomfort.' The complaint then was evaluated for its status as a panic-attack equivalent by administering a portion of the Panic-Disorder Module of the Structured Clinical Interview for DSM-IV (SCID; First et al., 1995) with regard to that complaint (see Fig. 2). If the complaint satisfied panic-attack criteria, the number of such episodes in the last 4 weeks was ascertained (see Fig. 2), and the sufferer was evaluated for panic disorder using the rest of the SCID Panic-Disorder Module (see Fig. 2).

2.3.2. Beck Depression Inventory (BDI)—The BDI is a commonly used questionnaire that rates the severity of each of 21 depressive symptoms during the past week from 0 to 3 (Beck and Steer, 1987; Sederer and Dickey, 1996). Total scores of 0–9 indicate no to minimal depression, 10–16 mild depression, 17–29 moderate depression and 30–63 severe depression.

2.3.3. Harvard Trauma Questionnaire (HTQ)—The symptom portion of the Harvard Trauma Questionnaire comprises DSM-IV PTSD and other trauma-related symptoms and has been used in many countries to assess victims of violence (Mollica et al., 2001). The 30 items are rated from 1 (not at all distressed) to 4 (extremely distressed), with a range of 30 to 120. The conventional cut-off for identifying PTSD is a total score of 75.

2.3.4. PTSD Checklist (PCL)—This questionnaire has been used in multiple studies of trauma victims (Blanchard et al. 1996; Forbes et al., 2001). It consists of the 17 DSM-IV symptom criteria for PTSD, each rated on a scale from 1 ('not at all') to 5 ('extremely'), with a range of 17–85. The conventional cut-off for combat-related PTSD is 50 (Forbes et al., 2001).

3. Results

3.1. Prevalence of panic-attack subtypes

During the 4 weeks prior to evaluation, 40 of the 100 Rwandan widows studied had suffered one or more somatic-complaint attacks in combination with sufficient DSM-IV criteria to qualify for a panic-attack equivalent. Attack subtypes appear in Table 1. The total number of subtypes endorsed was 95 for the 40 widows with panic-attack equivalents. This means that, on the average, each of these widows had suffered 2.4 different panic-attack somatic subtypes during the previous month (range of 1–5). In 45 (47%) of the 95 panic-attack equivalent subtypes endorsed, the person feared death during the attack.

3.2. Frequency of episodes of panic-attack subtypes

Table 1 also presents the mean number of episodes per month of each of the panic-attack subtypes. Of note, widows who had headache- and gastrointestinal-focused panic tended to suffer many such episodes each month.

3.3. Rate of panic disorder

Thirty-five (87.5%) of the 40 Rwandan widows reporting panic-attack equivalents met the criteria for panic disorder. This represents 35% of all 100 widows studied.

3.4. Other psychopathology

Table 2 presents the mean BDI, HTQ and PCL scores of widows with vs. without panic-attack equivalents. The former had significantly greater scores on all three measures. Also, rates of PTSD were significantly higher in widows with vs. without panic-attack equivalents. Using an HTQ cut-off score of 75 to classify a subject as having PTSD, 20 of the 40 (50%) subjects with panic attacks had PTSD, whereas, 15 of the 60 (25%) of those without panic attacks had PTSD ($P=0.02$, Fisher's exact test). Using a PCL cut-off of 50, 26/40 (65%) of the widows with panic-attack equivalents were classified as PTSD vs. 20/60 (33%) of the widows without panic-attack equivalents ($P=0.002$). Alternately stated, of the 35 subjects with PTSD according to the HTQ, 20 (57%) had panic attacks, whereas of the 65 subjects without PTSD, only 20 (31%) had panic attacks. Of the 46 subjects with PTSD according to the PCL, 26 (57%) had panic attacks, whereas of the 54 subjects without PTSD, only 14 (26%) had panic attacks.

4. Discussion

Multiple studies have demonstrated high rates of somatic symptoms in trauma victims (Lin and Cheung, 1999; Shrestha et al., 1998; Van Ommeran et al., 2001). Results of the present study support the hypothesis that Rwandan holocaust survivors frequently experience the sudden onset of somatic symptom(s) that form part of a panic attack. Moreover, 87.5% of the participants who reported somatically focused panic attacks met DSM-IV criteria for panic disorder. The DSM-IV criteria require a 'discrete period of intense fear or discomfort'. Falsetti and Resnick (1997) reported that among 60 consecutive patients who presented to a trauma clinic for treatment (of whom 61% met PTSD criteria), 69% had suffered a panic attack in the previous 2 weeks. In that group, 38% of those who suffered panic attacks feared dying of a heart attack during the panic attack. In the present study, 40% of the Rwandan holocaust widows who were surveyed had experienced a panic-attack equivalent, and in 47% of the 95 experienced panic-attack subtypes, the Rwandan feared death. The high HTQ, PCL and BDI scores in the group with panic attacks reveal that these persons experience considerable other psychopathology as well.

The present study also found a high rate of panic disorder in the trauma-exposed Rwandan widows. Kessler et al. (1995) found that women with PTSD had a lifetime panic-disorder

comorbidity of 12.6%. However, in their review of studies of persons suffering PTSD, Deering et al. (1996) found that lifetime comorbidity rates of panic disorder as high as 55% have been reported.

In summary, the present study found high rates of somatically focused panic attacks and panic disorder in the trauma-exposed Rwandan widows. Elsewhere, we have elaborated a model of panic-attack generation among trauma victims (Hinton et al., 2000, 2001a,b,c,d, 2002a) based upon Barlow (1988) and Clark (1988) to explain the high rates of somatically focused panic attacks found in trauma-exposed Southeast Asians. First, an arousal-reactive symptom [i.e. a symptom made worse by arousal, (e.g. dizziness)] may activate fear networks (i.e. catastrophic cognitions, traumatic associations and interoceptive conditioning), resulting in a surge of anxiety. Second, the increased arousal associated with this surge increases the arousal-reactive symptom yet more. Third, an augmentation of the arousal-reactive symptom leads to yet more activation of the fear networks. Through this positive feedback loop, an escalating spiral of arousal leads to panic. High levels of stress will increase both the experiencing of arousal symptoms and the probability that arousal symptoms may escalate to panic (Bouton et al., 2001; Katon, 1989, pp. 33–34).

Such a model of panic generation can be applied to the Rwandan case. As an example of a culturally specific catastrophic cognition, Rwandans often interpret the shortness of breath during a panic attack to indicate the presence of the cultural syndrome known as '*Ihahamuka*', translated as 'lungs without breath' (Wulsin and Hagengimana, 1998). Because they regard this syndrome as potentially lethal, experiencing shortness of breath can generate great fear. Furthermore, following the genocide, the location of most bodies was unknown, and traditional burials were often not performed. In the Rwandan culture, shortness of breath may be interpreted as caused by an ancestor who never received proper burial, the deceased later returning as a spirit to strangle a living relative as punishment for not having conducted the necessary rites (Bagilishya, 2000; Uwanyiligira, 1997). As another example, to Rwandans a headache may be regarded as a harbinger of insanity (per Dr Hagengimana's clinical experience). Of further note, muscle tension, a contributor to headache, is an arousal-reactive symptom (Taylor, 1994). As an example of the linking of traumatic event to specific symptom, during the genocide widows frequently witnessed their husbands' or other relatives' heads' being bashed with a club. Furthermore, by the mechanisms outlined in the paragraph above, the high rate of panic among Rwandan widows may partially result from high levels of current stress. Current stresses include the need to find food and adequate shelter without the help of a husband in an extremely poverty-stricken country and the constant threat of renewed hostilities between the Hutu and Tutsi population.

In an edited volume devoted to cross-cultural aspects of the effects of trauma (Marsella et al., 1996), several contributing authors noted that the DSM-IV category of PTSD may not represent the full spectrum of response to trauma in other cultural contexts. Rather, there is a need to elucidate not only universal responses but also culture-specific responses to trauma (Keane et al., 1996; Kirmayer, 1996; Marsella et al., 1996). Investigating panic-attack subtypes in different traumatized groups may be one way in which the local manifestations of the response to trauma may be better characterized. The present study suggests that if a traumatized individual from a non-Western group appears to have a somatoform disorder (Escobar, 1995), the differential diagnosis should include panic attacks (and panic disorder) that center on that symptom. Even among English speakers, patients with panic disorder are often treated as having somatization or somatoform disorder when, in actuality, the symptom represents part of a panic attack. For this reason, Katon (Katon et al., 1987; Katon, 1989, 1994) suggests using somatic probes to ascertain rates of panic among somatizing populations, an approach also advocated by Barsky et al. (1999). The extensive literature documenting a somatization

tendency in non-Western groups (Chung and Singer, 1995; Escobar, 1995) would indicate an even greater need for differential diagnostic care in this regard.

One possible shortcoming of the present study is that a highly psychologically focused panic-attack may not have been detected by the survey. In the present study, after the five probes, we did ask a more general probe question. Nonetheless, Rwandans in the survey with psychologically focused panic attacks accompanied by minimal somatic symptoms may not have answered affirmatively to any of the probes. This could have resulted in an underestimate of the incidence of panic disorder in this population. However, it is Dr Hagengimana's clinical experience that, as also found by studies of other non-Western groups, (e.g. Chung and Singer, 1995; Escobar, 1995), distress is strongly somatically focused in the Rwandan context.

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References

- Bagilishya D. Mourning and recovery from trauma; in Rwanda, tears flow within. *Transcultural Psychiatry* 2000;37:337–353.
- Barsky A, Delamater B, Orav J. Panic disorder patients and their medical care. *Psychosomatics* 1999;40:50–56. [PubMed: 9989121]
- Barlow, D. *Anxiety and Its Disorders*. New York: Guilford Press; 1988.
- Beck, A.; Steer, R. *BDI: Beck Depression Inventory Manual*. San Antonio, Texas: Harcourt Brace Jovanovich; 1987.
- Blanchard E, Jones-Alexander J, Buckley T, Forneris C. Psychometric properties of the PTSD checklist (PCL). *Behaviour Research and Therapy* 1996;34:669–673. [PubMed: 8870294]
- Bouton M, Mineka S, Barlow D. A modern learning theory perspective on the etiology of panic disorder. *Psychological Review* 2001;108:4–32. [PubMed: 11212632]
- Chung R, Singer K. Interpretation of symptom presentation and distress: a Southeast Asian refugee example. *Journal of Nervous and Mental Disease* 1995;183:639–648. [PubMed: 7561810]
- Clark, D. A cognitive model of panic. In: Rachman, S.; Maser, J., editors. *Panic: Psychological Perspectives*. Hillsdale, N.J., Hove, and London: Lawrence Erlbaum Associates; 1988. p. 71-89.
- de Jong JP, Scholte WF, Koeter MW, Hart AA. The prevalence of mental health problems in Rwandan and Burundese refugee camps. *Acta Psychiatrica Scandinavica* 2000;102:171–177. [PubMed: 11008851]
- Deering C, Glover S, Ready D, Eddleman H, Alarcon R. Unique patterns of comorbidity in Posttraumatic Stress Disorder from different sources of trauma. *Comprehensive Psychiatry* 1996;37:336–346. [PubMed: 8879908]
- Dyregrov A, Gupta L, Gjestad R, Mukanoheli E. Trauma exposure and psychological reactions to genocide among Rwandan children. *Journal of Traumatic Stress* 2000;13:3–21. [PubMed: 10761171]
- Escobar J, Canino G, Rubio-Stipec M, Bravo M. Somatic symptoms after a natural disaster: a prospective study. *American Journal of Psychiatry* 1992;149:965–967. [PubMed: 1609880]
- Escobar J. Transcultural aspects of dissociative and somatoform disorders. *Psychiatric Clinics of North America* 1995;18:555–569. [PubMed: 8545267]
- Falsetti, SA.; Ballenger, J. Stress and anxiety disorders. In: Hubbard, J.; Workman, E., editors. *Handbook of Stress Medicine: An Organ System Approach*. New York: CRC Press; 1998. p. 273-294.
- Falsetti SA, Resnick H. Frequency and severity of panic attack symptoms in a treatment seeking sample of trauma victims. *Journal of Traumatic Stress* 1997;10:683–689. [PubMed: 9391951]
- Falsetti, SA.; Resnick, H.; Dansky, B.; Lydiard, R.; Kilpatrick, D. The relationship of stress to panic disorder: cause or effect?. In: Mazure, C., editor. *Does Stress Cause Psychiatric illness?*. Washington, DC: American Psychiatric Press, Inc.; 1995. p. 111-148.

- First, M.; Spitzer, R.; Gibbon, M. Structured Clinical Interview for DSM-IV Axis I Disorders. Patient Edition. 722 West 168th Street, New York, NY, 10032: Biometrics Research Department, New York State Psychiatric Institute; 1995.
- Forbes D, Creamer M, Biddle D. The validity of the PTSD checklist as a measure of symptomatic change in combat related PTSD. *Behaviour Research and Therapy* 2001;39:977–986. [PubMed: 11480838]
- Goldberg, DP.; Williams, PA. A User's Guide to the General Health Questionnaire. Windsor: NFER-Nelson; 1988.
- Gourevitch, P. We wish to inform you that tomorrow we will be killed with our families. Picador New York: 1998.
- Guarnaccia P. The prevalence of ataques de nervios in the Puerto Rico Disaster Study. *Role of Culture in Psychiatric Epidemiology* 1993;181:157–165.
- Guarnaccia P, Rogler L. Research on culture-bound syndromes: new directions. *American Journal of Psychiatry* 1999;156:1322–1327. [PubMed: 10484940]
- Guarnaccia P, Rivera M, Franco F, Neighbors C. The experiences of ataque de nervios: towards an anthropology of emotions in Puerto Rico. *Culture, Medicine, and Psychiatry* 1996;20:343–346.
- Hinton D, Ba P, Peou S, Um K. Panic disorder among Cambodian refugees attending a psychiatric clinic: prevalence and subtypes. *General Hospital Psychiatry* 2000;22:437–444. [PubMed: 11072060]
- Hinton D, Nguyen L, Nguyen M, Pham T, Quinn S, Tran M. Panic disorder among Vietnamese refugees attending a psychiatric clinic: prevalence and subtypes. *General Hospital Psychiatry* 2001a;23:337–344. [PubMed: 11738465]
- Hinton D, Um P, Ba P. A unique panic-disorder presentation among Khmer refugees: the sore-neck syndrome. *Culture, Medicine, and Psychiatry* 2001b;25:297–316.
- Hinton D, Um K, Ba P. Kyol Goeu (‘ wind over-load ’) part I: a cultural syndrome of orthostatic panic among Khmer refugees. *Transcultural Psychiatry* 2001c;38:403–432.
- Hinton D, Um K, Ba P. Kyol Goeu (‘ wind over-load ’) part II: prevalence, characteristics and mechanisms of Kyol Goeu and near-Kyol Goeu episodes of Khmer patients attending a psychiatric clinic. *Transcultural Psychiatry* 2001d;38:433–460.
- Hinton D, Hsai C, Um K, Otto M. Anger-associated panic attacks in Cambodian refugees with PTSD; a multiple baseline examination of data. *Behavior Research and Therapy*. 2002ain press
- Horowitz MJ, Wilner N, Alvarez W. Impact of Event Scale: a measure of subjective distress. *Psychosomatic Medicine* 1979;41:209–218. [PubMed: 472086]
- Katon, W. Panic Disorder in the Medical Setting. Rockville, Maryland: National Institute of Health; 1989.
- Katon, W. Panic care — psychiatry panic disorder management module. In: Wolfe, B.; Maser, J., editors. *Treatment of Panic Disorder*. Washington, DC: American Psychiatric Press; 1994. p. 41–56.
- Katon W, Vitaliano PP, Russo J, Anderson K. Panic disorder spectrum of severity and somatization. *Journal of Nervous and Mental Disease* 1987;175:12–19. [PubMed: 3806066]
- Keane, F. *Season of Blood*. London: Penguin Classics; 1995.
- Keane, T.; Kaloupek, D.; Weathers, F. Ethnocultural considerations in the assessment of PTSD. In: Marsella, A.; Friedman, M.; Gerrity, E.; Scurfield, R., editors. *Ethnocultural Aspects of Posttraumatic Stress Disorder*. Washington, DC: American Psychological Association; 1996. p. 183–209.
- Kessler RC, Sonnega A, Bromet E, Hughes M, Nelson C. Posttraumatic stress disorder in the National Comorbidity Survey. *Archives of General Psychiatry* 1995;52:1048–1060. [PubMed: 7492257]
- Kirmayer, L. Confusion of the senses: implications of ethnocultural variations in somatoform and dissociative disorders for PTSD. In: Marsella, A.; Friedman, M.; Gerrity, E.; Scurfield, R., editors. *Ethnocultural Aspects of Posttraumatic Stress Disorder*. Washington, DC: American Psychological Association; 1996. p. 131–161.
- Lin K-M, Cheung F. Mental health issues for Asian Americans. *Psychiatric Services* 1999;50:774–780. [PubMed: 10375146]
- Marsella, A.; Friedman, A.; Spain, H. Ethnocultural aspects of PTSD: an overview of issues and research directions. In: Marsella, A.; Friedman, M.; Gerrity, E.; Scurfield, R., editors. *Ethnocultural Aspects of Posttraumatic Stress Disorder*. Washington, DC: American Psychological Association; 1996. p. 105–131.

- Mollica R, Wyshak G, de Marneffe D, Khuon R, Lavelle J. Indochinese versions of the Hopkins Symptom Checklist-25: a screening instrument for the psychiatric care of refugees. *American Journal of Psychiatry* 1987;144:497–500. [PubMed: 3565621]
- Mollica R, Caspi-Yavin Y, Bollini P, Truong T, Tor S, Lavelle J. The Harvard Trauma Questionnaire. *Journal of Nervous and Mental Disease* 1992;180:111–116. [PubMed: 1737972]
- Mollica RF, Sarajlic N, Charnoff M, Lavelle J, Vukovic IS, Massagli MP. Longitudinal study of psychiatry symptoms, disability, mortality, and emigration among Bosnian refugees. *Journal of the American Medical Association* 2001;286:546–554. [PubMed: 11476656]
- Norris F, Wiesshaar D, Conrad M, Diaz E, Murphy A, Ibanez G. A qualitative analysis of posttraumatic stress among Mexican victims of disaster. *Journal of Traumatic Stress* 2001;14:741–756. [PubMed: 11776421]
- Sederer, L.; Dickey, B. *Outcomes Assessment in Clinical Practice*. Baltimore: Williams and Wilkins; 1996.
- Shrestha N, Sharma B, Van Ommeren M, Regmi S, Makaju R, Komproe J, Shrestha G, de Jong J. Impact of torture on refugees displaced within the developing world. *Journal of the American Medical Association* 1998;280:443–448. [PubMed: 9701080]
- Sibomana, A. *Hope for Rwanda*. London: Pluto Press; 1999.
- Taylor S. Comment on Otto et al. (1992). Hypochondriacal concerns, anxiety sensitivity, and panic disorder. *Journal of Anxiety Disorders* 1994;8:97–99.
- Taylor, C. *Sacrifice as Terror: The Rwandan Genocide*. Berg, Oxford: 1999.
- Uwanyiligira E. La souffrance psychologique des survivants des massacres au Rwanda: approches thérapeutiques. *Nouvelle Revue d'Ethnopsychiatrie* 1997;34:87–104.
- Van Ommeran M, de Jong J, Sharma B, Komproe I, Thapa S, Cardena E. Psychiatric disorders among tortured Bhutanese refugees in Nepal. *Archives of General Psychiatry* 2001;58:475–482.
- Westermeyer J. Psychiatric diagnosis across cultural boundaries. *American Journal of Psychiatry* 1985;142:798–805.
- Wulsin L, Hagengimana A. PTSD in survivors of Rwanda's 1994 war. *Psychiatric Times* April 1998:12–13.

Fig. 1.
Panic probes of the Rwandan Panic-Disorder Survey (RPDS).

Fig. 2. Outline of the Rwandan Panic-Disorder Survey (RPDS), a SCID-based module, to determine the presence of panic attack subtypes, the frequency of the panic attacks and whether the panic attacks meet panic attack disorder criteria.

Table 1

Rwandan widows with panic attacks ($n=40$) endorsing various somatic subtypes

	Number	Frequency		(S.D.)	Range	
		Mean			Minimum	Maximum
Headache	18	6.8/month	(7.0)		1	28
Gastrointestinal symptoms	17	4.4/month	(2.9)		2	10
Dizziness	15	2.1/month	(0.7)		1	3
Palpitations	18	2.5/month	(0.4)		1	5
Shortness of breath	17	2.4/month	(1.6)		1	5
Other	10	2.5/month	(1.1)		1	4

Table 2

Group mean age and psychometric scores

Total sample (n=100)		PA (n =40)		NPA (n =60)		PA (n =40) vs. NPA (n=60)	
	(S.D.)	Mean	(S.D.)	Mean	(S.D.)	P*	Student's
Age	(10.5)	33.9	(11.9)	31.0	(9.3)	ns	1.4
BDI	(10.7)	22.9	(10.2)	15.7	(10.2)	<0.001	3.5
HTQ	(22.0)	72.3	(18.2)	56.4	(25.3)	<0.001	3.8
PCL	(17.6)	51.0	(17.3)	41.4	(7.0)	<0.011	2.6

* Significance of the difference between Rwandan widows with panic attacks (PA) as compared to Rwandan widows without panic attacks (NPA). BDI=Beck Depression Inventory, HTQ=Harvard Trauma Questionnaire, PCL=Posttraumatic Stress Disorder Checklist, and d.f.=degrees of freedom.