Traumatic Stress and its Consequences: A Primer for Helping Professionals

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1.
Introduction: goals and scope of this manual

The construct of ‘stress’ is one of the main conceptual templates of the 20th century. It expresses the idea that living organisms’ vital equilibrium is dynamically defended from excessive environmental demands (‘stressors’) by a set of built-in mechanisms (defenses), in a way that enhances adaptability and survival. The dynamic responses to stressors are both physical and psychological. Stress theory, therefore, challenges the classical cleavage between mind and body.

In their bodily component, stress-related defenses are designed to protect vital physiological functions, such as body temperature or flow of oxygen to the brain, from being corrupted by extreme physical conditions. By analogy, the mental defenses, often referred to as ‘coping mechanisms,’ are designed to protect and preserve vital mental functions, such as the ability to think clearly and to act in an organized way, from the disruptive effect of extreme psychological demands.

Stress responses are strongly associated with learning, a secondary survival mechanism, designed to ameliorate the response to subsequent stressors. Importantly, both the body and the mind learn from stressful events, such that both can be better prepared for future encounters with adversity.

During the last decades, however, the traditional view of self-regulating dynamic defenses has been seen as insufficient explanans of psychopathology, and a new construct, ‘traumatic stress’ has emerged. Traumatic stress encompasses those events in which the normal defenses are breached, overburdened and clearly insufficient. The psycho-biological consequences of such extreme events are often injurious, and may lead to prolonged mental disorders, now appraised as traumatic stress disorders. Post-traumatic disorders have typical clinical features, which can be recognized and diagnosed with relative ease by professionals and non-professionals. Risk factors for developing stress disorders have been described and their recognition opens the way for prevention and treatment.

The early diagnosis, prevention and treatment of traumatic stress disorders are the subjects of this work. We start by describing traumatic stressors and subsequent disorders. The descriptive section is followed by an outline of the pathogenesis and the psychopathology of stress disorders and their clinical evaluation. The last two sections addresses the management and treatment of stress disorders, with special focus on early interventions.

This work is meant to be practical, accessible, and clear. It is designed to help professionals and para-professionals better understand and appraise post-traumatic disorders, such that help can be provided to survivors by all helping professionals involved. The manual has two organizing principles: Firstly, it combines descriptive and psychological approaches to understanding human traumatization. Secondly, it follows a longitudinal, developmental path, starting from the traumatic event and ending by its long term sequelae. It is hoped that such structure will allow better understanding and management of trauma-related disorders at the many stages of their longitudinal course. The longitudinal design also expresses a firm belief that traumatic stress disorders should be treated as soon as possible, and that the essential elements of such treatment can be provided by care-takers in the community, rather than by specialists.
This work does not address many relevant social, ethical and political elements of massive traumatization. While these are clearly recognized, this work is, nevertheless, focused on rescuing individual survivors from whatever extremity a given accident, society, regime, or natural disaster have forced upon them.

2. Traumatic events: definition and description

2.1. What are traumatic events

The assertion that traumatic events may cause, or trigger, specific mental disorders is an important and recent achievement of current classifications of mental disorders. This recognition has been followed by intense epidemiological, psychopathological and biological research, looking at the link between exposure and subsequent disorders, and into the morphology of the latter. It has also resulted in wider public awareness the debilitating effects of extreme stressors, and in better focused treatment efforts.

As can be seen from the tables below, traumatic events have been formally defined by DSM IV and ICD 10. These definitions are provided as an element of the diagnostic entity of post-traumatic stress disorder (PTSD), and both of them emphasize the salience and the threatfulness of traumatic events. DSM IV definition additionally includes vicarious traumatizations (that is, experiencing or witnessing a threat to others) and requires an immediate distressful response.

<table>
<thead>
<tr>
<th>FORMAL DEFINITIONS OF TRAUMATIC EVENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ICD - 10</strong></td>
</tr>
<tr>
<td>...event or situation (either short or long-lasting) of an exceptionally threatening or catastrophic nature, which is likely to cause pervasive distress in almost anyone.</td>
</tr>
<tr>
<td><strong>DSM IV</strong></td>
</tr>
<tr>
<td>The person has been exposed to a traumatic event in which both of the following were present:</td>
</tr>
<tr>
<td>(1) The person experienced, witnessed or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others;</td>
</tr>
<tr>
<td>(2) The person’s response involved intense fear, helplessness or horror.</td>
</tr>
</tbody>
</table>

The current definitions of traumatic events, however, are limited in that (a) they imply that PTSD is a unique consequence of traumatic stress (whilst other disorders may also be triggered by a trauma); (b) they emphasize the threatfulness of traumatic events (while other elements, such as loss, relocation or dehumanization are strongly pathogenic). They (and particularly DSM IV) also fail to clearly differentiate single, time-limited events, such as road traffic accidents or terrorist bomb explosions, from prolonged traumatization, such as captivity, torture or abuse. Finally, the current definitions are descriptive (i.e., based on observable symptoms), and do not distinguish between various disease-processes that may underlay the same clinical phenotype.

These definitions, therefore, should be seen as preliminary indicators of potential risk, and, in practice, each event should be analyzed for its specific traumatizing...
effect. Moreover, individual reactions to an event differ to a degree that precludes the inference of a 'mental trauma' from the sole fact of being exposed to an event that meets the above definitions. **Traumatization, therefore, should not be inferred from exposure.**

In an attempt to better define the psychologically traumatizing elements of extreme events, Green (1955) proposed eight generic dimensions of a stressor that "cut across different types of traumatic events." These were: (a) **threat to one's life and body integrity**; (b) **severe physical harm or injury**; (c) **receipt of intentional injury or harm**; (d) **exposure to the grotesque**; (f) **witnessing or learning of violence to loved ones**; (g) **learning of exposure to a noxious agent**; and (h) **causing the death or severe harm to another**. Beyond these elements it is proposed that the severity of a loss incurred is of major significance, as well as the presence of **secondary stressors** (see discussion below).

<table>
<thead>
<tr>
<th>Elements of traumatic events that increase the likelihood subsequent disorders (Green, 1955)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threat to one's life and body integrity;</td>
</tr>
<tr>
<td>Severe physical harm or injury</td>
</tr>
<tr>
<td>Receipt of intentional injury or harm</td>
</tr>
<tr>
<td>Exposure to the grotesque;</td>
</tr>
<tr>
<td>Witnessing or learning of violence to loved ones;</td>
</tr>
<tr>
<td>Learning of exposure to a noxious agent;</td>
</tr>
<tr>
<td>Causing the death or severe harm to another.</td>
</tr>
</tbody>
</table>

2.2. **Specific events identified as ‘traumatic’**

Given the inclusive nature of the above definitions, a large number of actual events has been identified as potentially traumatic. These include “natural or man made disasters, combat, serious accident, witnessing the violent death of others, being victim of torture, rape, terrorism or other act” (ICD-10). These ‘prototypical’ events are further subdivided into more concrete ones, such as “Rape, sexual assault, combat, witnessing violence, accidents, being threatened with a weapon, physical attack, being badly beaten up, being mugged, shot, stabbed, or having faced a natural disaster” (Kessler et al., 1995). Following a broadened definition, by DSM IV, 19 such events have been included in a recent epidemiological study (Breslau et al., 1998) including (a) **learning about trauma to others** and (b) **exposure to sudden unexpected death**. Obviously, the increasing number of events defined as traumatic, and the inclusion of very frequent events such as ‘sudden unexpected death of a close friend or relatives’ overextends the construct of traumatic stressors. On the other hand, extreme responses to any such event have been recorded. A better approach, therefore, is to define psychological trauma as an interaction between an individual (or group of individuals) and an external event.

2.3. **Categories of traumatic events**

A common subdivision of traumatic events into ‘man-made’ and ‘natural’ traumata has been proposed, the former involving deliberate infliction of harm by other human beings. Another subdivision is into **short-lived** (e.g., road traffic...
accident, rape) versus prolonged traumatizations (e.g., captivity and torture), the latter being more likely to cause profound personality changes than the former. A third, and very important distinction is that of primary and secondary stressors. Primary stressor are those that occur during the impact phase of a traumatic event (e.g., physical injury in an accident, loss of property in a natural disaster), and secondary stressors are those that follow (e.g., physical pain following injury; relocation and famine following a natural disaster). Secondary stressors, in fact, often cause as much psychological damage than the primary stressors (e.g., Green et al., 1990). Importantly, secondary stressors occur during a period where help can be provided. Their management, therefore, is one of the primary goals of early interventions. Finally, one should differentiate traumatic events that occur in a stable society (or community) from those that happen along with massive social disruption or during continuous adversities. Social disruption radically modifies the availability of resources and subsequent help-seeking. For example, seeking and providing psychological help during the apartheid regime in South Africa was risky for both therapists and survivors and involved complex issues of concrete safety and mutual trust (e.g., Starker & Moosa, 1994)

2.4. Lifetime exposure to traumatic stressors

Several studies evaluated the prevalence of traumatic stressors in various populations. Estimates are often expressed as ‘lifetime exposure risk’ that is, the likelihood of a person living in a particular environment to be personally exposed to a traumatic event during his or her life. These estimates tend to change according to the way in which traumatic events are defined and according to geographical and social factors. The table below presents the results of five studies conducted in the United States and Canada. As one can see the lifetime prevalence, across studies, is very high - hence the conclusion that most living humans would experience at least one traumatizing event during their life. This, however is of little practical help because (a) a wide variety of traumatizing events has been included in these studies and (b) exposure intensities have not evaluated.

<table>
<thead>
<tr>
<th>Study</th>
<th>Population</th>
<th>Lifetime Exposure Rate (%)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n)</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Kessler et al.,</td>
<td>General population</td>
<td>61%</td>
<td>51%</td>
</tr>
<tr>
<td>1995</td>
<td>USA (5877)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breslau et al.,</td>
<td>Young adults (age=21-30)</td>
<td>43%</td>
<td>37%</td>
</tr>
<tr>
<td>1992</td>
<td>USA (1007)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norris et al.,</td>
<td>Adults, USA</td>
<td>74%</td>
<td>65%</td>
</tr>
<tr>
<td>1992</td>
<td>(1000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stein et al.,</td>
<td>Adults, Canada</td>
<td>81%</td>
<td>74%</td>
</tr>
<tr>
<td>1997</td>
<td>(1000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breslau et al.,</td>
<td>Adults, USA</td>
<td>97%</td>
<td>87%</td>
</tr>
<tr>
<td>1988</td>
<td>(2181)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resnick et al.,</td>
<td>Female; USA</td>
<td>-</td>
<td>69%</td>
</tr>
</tbody>
</table>

7
2.5. Exposure to specific stressors

The prevalence of specific stressor may vary between societies, cultures and social layers of society. The following estimates have been generated in the United States and are therefore limited to degrees of exposure in that part of the world, during peacetime.

| Lifetime Exposure to Traumatic Events (Kessler et al., 1995) |
|---------------------------------|-----------------|-----------------|
| Trauma                          | Male            | Female          |
| Rape                            | 0.7*            | 9.2             |
| Molestation                     | 2.8*            | 12.3            |
| Physical Attack                 | 11.1*           | 6.9             |
| Combat                          | 6.4*            | 0.0             |
| Accident                        | 25.0*           | 13.8            |
| Disaster                        | 18.9*           | 15.2            |
| Any Trauma                      | 60.7*           | 51.2            |

2.6. Prevalence of PTSD following trauma

While many mental disorders and subsyndromal states may follow exposure to trauma, the occurrence of PTSD is the only one to have been evaluated across traumatic events. PTSD may serve, therefore, to compare the pathogenic potential of different events.

Two major studies (Kessler et al., 1995, Breslau et al., 1998) have assessed these effect. Both studies were retrospective and both have addressed the lifetime prevalence of PTSD, that is, the likelihood of ever having the disorder following exposure. This should be remembered, as many survivors express a transient form of PTSD and do not develop a chronic condition. The comparison between genders is also pertinent and therefore reported below. As can be seen, in the Kessler study, females are at higher risk for developing PTSD following molestation, physical attack and physical abuse. Interestingly, men were found to have higher risk for developing PTSD after being raped. Breslau et al., 1998 survey similarly showed that females were at higher risk for developing PTSD upon exposure to assaultive violence (35% versus 6%). The prevalence of PTSD associated with exposure to crime was 11.5% in females and 5.5% in males.

<p>| Probability of an Association Between Trauma Experience and PTSD (Kessler et al., 1995) |
|---------------------------------|-----------------|-----------------|
| Type of Trauma                  | Male            | Female          |
| Rape                            | 65.0%           | 45.9%           |</p>
<table>
<thead>
<tr>
<th>Condition</th>
<th>Gender 1</th>
<th>Gender 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molestation</td>
<td>12.2%</td>
<td>26.5%</td>
</tr>
<tr>
<td>Physical Attack</td>
<td>1.8%</td>
<td>21.3%</td>
</tr>
<tr>
<td>Combat</td>
<td>38.8%</td>
<td>...</td>
</tr>
<tr>
<td>Physical Abuse</td>
<td>22.3%</td>
<td>48.5%</td>
</tr>
<tr>
<td>Accident</td>
<td>6.3%</td>
<td>8.8%</td>
</tr>
<tr>
<td>Disaster</td>
<td>3.7%</td>
<td>5.4%</td>
</tr>
<tr>
<td>Any Trauma</td>
<td>8.1%</td>
<td>20.4%</td>
</tr>
</tbody>
</table>

*= Significant difference between genders

3. Clinical features of mental disorders that follow trauma

3.1. Post-Traumatic Stress Disorder (PTSD)

3.1.1. Clinical features

Post traumatic stress disorder is the most extensively documented outcome of exposure to traumatic stress. The disorder is characterized by three clusters of symptoms: **Intrusive thoughts and feelings, avoidance/numbing, and hyperarousal** (see table below). PTSD is detectable shortly after traumatic events, and can be formally diagnosed when the above-mentioned symptoms have persisted for at least one month. Individuals who express symptoms of PTSD for more than three months are classified, by DSM IV, as suffering from chronic PTSD. This passage to ‘chronicity’, however, is exceptionally short and should be revised in the future.
**DSM IV Diagnostic Criteria for PTSD.**

(a) The person has experienced a traumatic event
(b) The traumatic event is persistently reexperienced.
   
   (1) recurrent and intrusive distressing recollections of the event,
   (2) recurrent distressing dreams
   (3) acting or feeling as if the traumatic event were recurring
   (4) intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the event
   (5) physiological reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the event

(c) Avoidance and numbing.

   (1) efforts to avoid thoughts, feelings, or conversations associated with the trauma
   (2) efforts to avoid activities, places, or people that arouse recollections of the trauma
   (3) inability to recall an important aspect of the trauma
   (4) markedly diminished interest or participation in significant activities
   (5) feeling of detachment or estrangement from others
   (6) restricted range of affect
   (7) sense of a foreshortened future

(d) Symptoms of increased arousal

   (1) difficulty falling or staying asleep
   (2) irritability or outbursts of anger
   (3) difficulty concentrating
   (4) hyper-vigilance
   (5) exaggerated startle response

PTSD symptoms are expressed by most trauma survivors, shortly after exposure. In rape victims, for example, such symptoms were found in up to 94% of all victims. Many individuals who initially express PTSD symptoms recover spontaneously. For example, among civilian survivors of traumatic events in Israel who were followed from the moment of their trauma, 39% had diagnosable PTSD one month following trauma, 17% had PTSD four months after trauma and only 10% were had PTSD one year following trauma (Shalev et al., 1997, 1998). Most cases of spontaneous recovery occur within a year from the traumatic event (Kessler et al., 1995). Recovery from prolonged PTSD, however, may not be complete, with some individuals still expressing an attenuated form of the disorder (e.g., Freedman et al., 1999).

PTSD is accompanied by significant distress and dysfunction. PTSD patients are restless, permanently tense, sleepless, easily startled, desperate and discouraged. They continue to live in the shadow of their traumatic event and can not disengage from it. Importantly, PTSD often occurs in individuals who, prior to the traumatic
event, were fully functional and did not suffer mental disability. PTSD patients, therefore, are well aware of such change in their life course, and painfully compare their current condition to their previous life.

Beyond expressing distressing symptoms, PTSD patients may be socially and vocationally disabled. Amongst the most salient dysfunction related to PTSD are (a) difficulties to maintain stable work, (b) marital dysfunction, often causing distress amongst spouses and children (c) decline in social interaction (with ensuing sense of isolation and alienation), (d) decline in sexual desire, and (e) significant decline in one’s capacity to enjoy rewarding moments in life. It is worth mentioning, however, that the degree of such dysfunction varies from one individual to another, and some PTSD patients continue to function in family, work and society, while still symptomatic.

### 3.1.2 Biological Findings

Biological abnormalities are central to understanding PTSD and may explain some of the clinical symptoms of the disorder. The main biological findings in PTSD have been reconfirmed in several studies.

#### 3.1.2.1 Physiological reactivity

Above all, PTSD patients are extremely reactive to threat and to events and situations that remind them of the traumatic event. This reactivity is non-selective, generalized, and often uncontrollable. Importantly, it is both psychological and physiological. Increased physiological reactivity is the most robust biological finding in PTSD, recorded across modalities of mental and physiological challenges (see table). Such ‘challenging’ situations are not limited to reminders of the traumatic event and include daily occurrences such as exposure to loud noise, frustration while waiting in line, heated arguments, etc.

<table>
<thead>
<tr>
<th>Authors</th>
<th>Challenge test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shalev et al., 1988</td>
<td>Heart-rate response to treadmill exercise</td>
</tr>
<tr>
<td>Pitman et al., 1987</td>
<td>Response to mental imagery of the trauma</td>
</tr>
<tr>
<td>Blanchard et al., 1994</td>
<td>Response to stimuli reminding the trauma</td>
</tr>
<tr>
<td>Shalev et al., 1992</td>
<td>Autonomic response to auditory startle</td>
</tr>
<tr>
<td>Yehuda et al., 1993</td>
<td>Challenge to the HPA axis by Dexamethasone</td>
</tr>
<tr>
<td>Southwick et al., 1993</td>
<td>Challenge of the sympathetic system by yohimbine</td>
</tr>
<tr>
<td>Gerardi et al., 1994</td>
<td>Waiting for being treated medically</td>
</tr>
<tr>
<td>Shalev et al., 1998</td>
<td>Heart rate responses during the traumatic event</td>
</tr>
<tr>
<td>Orr et al., 1988</td>
<td>Increased blood pressure response during daily routine</td>
</tr>
</tbody>
</table>

The presence of heightened physiologic responsivity underlay several of the clinical characteristics of PTSD such as irritability, bursts of anger and avoidance of situations and thoughts that evoke strong emotional responses. Among situations and thoughts avoided are those related to the traumatic event, but also many others,
including pleasurable or potentially exciting social interactions. PTSD patients seem to be permanently monitoring their state of arousal, trying to ‘avoid trouble,’ but also to avoid noise, social encounters and many forms of uncontrolled environments. It is in that sense that one may understand the fact that some PTSD patients seek refuge in remote and quiet areas, far from noise and hassle. Others, for whom such option is not available, lead a restricted life, and seem to have retreated into themselves.

Clinical vignettes  Patients A. could not tolerate the noise of his children playing in an adjacent room and would uncontrollably beat them for being too noisy. Patient B., who had a business going before he was traumatized, became avoidant of confrontational situations in business meetings because of uncontrollable fear and panic. Many patients’ spouses describe ongoing irritability, violent arguments, and unpredictable anger, which, in the long run, erode their marital bonds.

3.1.2.2. Beyond reactivity: the general biological template

The neurobiology of PTSD extends beyond increased responsivity. PTSD is associated with alteration of the neuroendocrine system that regulate stress responses, and in particular an enhanced negative feed back of the hypothalamic-pituitary-adrenal (HPA) axis (Yehuda, 1997, see figure below). The startle reflex in PTSD is altered (e.g., Shalev et al., 1992). Other findings suggest that, at its chronic stage, PTSD is associated with measurable reduction of the volume of the hippocampus, a brain structure associated with memory and learning (Gurvitz et al., 1996). Studies of the way in which the brain processes traumatic memories suggest a preference for non-verbal processing, with failure to activate brain areas associated with language (Rauch et al., 1996).

Biological alterations in PTSD have been measured in various traumatized populations, across traumatic events, culture and age. For example, the reduction of hippocampal volume has been shown in Vietnam veterans and in victims of child abuse. Alterations in HPA axis functioning were found in adults but also in children exposed to an earthquake (Goenjian et al., 1996). Abnormal startle was measured in rape victims, survivors of terrorist bombing and prisoners of war alike (e.g., Orr et al., 1997). Hence these biological alteration constitute the basic template over which societal, cultural and individual differences may shape the specific presentation of the disorder.
Caption for Figure The figure above presents the HPA ‘Cortisol” axis: Following stress, corticotrophin releasing factor (CRF) is secreted by specialized neurons in the hypothalamus, transferred to the pituitary gland, where it induces the secretion of adrenocorticotrophin hormone (ACTH) into the blood. ACTH activates the adrenal gland which, subsequently, secretes cortisol into the blood flow. Blood levels of cortisol, at this point, down-regulate the secretion of CRF and ACTH (“negative feed back”), and thereby ‘terminate’ the response to stress. In PTSD the HPA axis is hypersensitive, resting blood levels of cortisol are maintained to lower levels, and the responses to physiological challenge are exaggerated.

3.1.2.3. Implications for treatment

The above biological alterations are typical of the chronic phase of PTSD. They involve the brain systems that regulate arousal stimulus-recognition and memory. This has two important clinical consequences. One is that the treatment of chronic PTSD patients should be designed to accommodate an altered central nervous system to changing environmental demands. The second is that the best treatment for PTSD is prevention, and particularly the prevention of the transformation of the acute response to traumatic events into chronic PTSD. The time frame for such interventions is probably within the first year that follow trauma, as some abnormal physiological responses (e.g., exaggerated startle) may not be present shortly after the traumatic event but become expressed within few months (Shalev et al., in press).

3.2. Major depression

Following PTSD, major depression is the most frequent mental disorder in trauma survivors. Major depression is often comorbid with PTSD, but may also occur in isolation. It is present at each stage of the response to traumatic events, from the very early to the very chronic phase. Importantly, (a) the presence of depressive
symptoms at the early stages of PTSD increase the likelihood of chronicity (b) the co-occurrence of depression and PTSD, at any stage, is associated with increased severity of the disorder and (c) depression and anxiety are associated with increased suicidality in PTSD.

From a biological perspective, when depression and PTSD coexist, the neurobiological alterations (e.g., HPA axis sensitivity, startle response) resemble those of PTSD. On the other hand, post-traumatic depression without PTSD does not have the physiological characteristics of PTSD, such as increased autonomic response to startle. Finally, post-traumatic depression is often prolonged and unremitting. One should not assume, therefore, that depressive symptoms following trauma are always ‘normal’ and self-remitting.

### Prevalence and co-occurrence of PTSD and Depression

<table>
<thead>
<tr>
<th>Author</th>
<th>Population</th>
<th>n</th>
<th>PTSD (%)</th>
<th>Depression (%)</th>
<th>Overlap (% of PTSD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shore et al., 1989</td>
<td>Community Sample: Mt. St. Helen Disaster</td>
<td>274</td>
<td>3</td>
<td>NA</td>
<td>51.3</td>
</tr>
<tr>
<td>Green et al., 1990</td>
<td>Vietnam veterans</td>
<td>200</td>
<td>29</td>
<td>15</td>
<td>34.5</td>
</tr>
<tr>
<td>Engdhal et al., 1991</td>
<td>World War II POWs</td>
<td>62</td>
<td>29</td>
<td>25.8</td>
<td>61</td>
</tr>
<tr>
<td>Lima et al., 1991</td>
<td>Earthquake survivors</td>
<td>102</td>
<td>42.2</td>
<td>13</td>
<td>NA</td>
</tr>
<tr>
<td>Carlson et al., 1991</td>
<td>Cambodian refugees</td>
<td>50</td>
<td>86</td>
<td>80</td>
<td>NA</td>
</tr>
<tr>
<td>McFarlane &amp; Papay, 1992</td>
<td>Fire Fighters</td>
<td>398</td>
<td>18</td>
<td>10</td>
<td>51</td>
</tr>
<tr>
<td>North et al., 1994</td>
<td>Survivors of mass shooting</td>
<td>136</td>
<td>26</td>
<td>10.2</td>
<td>30.1</td>
</tr>
<tr>
<td>Kessler et al., 1995</td>
<td>Population sample</td>
<td>5877</td>
<td>7.8</td>
<td>17.9</td>
<td>48.2</td>
</tr>
<tr>
<td>Bleich et al., 1997</td>
<td>Israeli war veterans</td>
<td>60</td>
<td>87</td>
<td>50</td>
<td>56</td>
</tr>
</tbody>
</table>

### 3.3. Anxiety disorders

Along with depression and PTSD, anxiety disorders (phobias, panic attacks, generalized anxiety disorder) have been described at the aftermath of traumatization (McFarlane and Papay, 1992). Indeed, most mental disorders can be exacerbated by traumatic events and require clinical attention. Most importantly, life habits, such as alcohol consumption, cigarette smoking, eating routine etc. can be altered, sometimes as efforts to cope with PTSD or depressive symptoms. These ‘secondary’ changes contribute to overall psychopathology and physical morbidity in trauma survivors.
Co-occurrence of PTSD, Anxiety Disorders (ANX) and Major Depression (MDD), four months after trauma, in 211 Trauma Survivors in Jerusalem

Caption for Figure: This figure presents the prevalence of PTSD, major depression and anxiety disorders among 211 survivors of traumatic events, as recorded four months after trauma (Shalev et al., 1997). As one can see, most individuals (n=141) do not have post-traumatic disorders at four months. Among those who with diagnosable disorders (n=70) 24 (34%) meet diagnostic criteria for more than one disorder. The prevalence of PTSD, major depression (MDD) and anxiety disorders (ANX) are approximately the same.

3.4. Medical conditions

Medical disorders and health service utilization are beyond the topic of this report. It is, however, important to mention that many emotionally-traumatized survivors may present to medical clinics with physical complaints including gastrointestinal (diarrhea, indigestion), muscular (back pain), neurological (fatigue, headaches, weakness), cardiac (palpitations) or respiratory (shortness of breath). The clinician should be aware of the possible emotional background of such complaints, and of the difficulties that many patients may have to consult a doctor with primarily mental complaint. It is important, in these conditions, to deliberately ask the patient about symptoms such as insomnia, nightmares, difficulty concentrating, recurrent memories of the trauma, tension and sadness. It is our experience that most traumatized patients who present to their nurse and/or doctor with physical complaints will willingly report the presence of mental symptoms if asked. This will more frequently occur when the above-mentioned questions are not accompanied by criticism, or by hints that the entire condition is ‘unreal,’ ‘phony, or will go away without proper treatment.
### Somatic complaints and underlying emotional symptoms

<table>
<thead>
<tr>
<th>Typical complaints and symptoms</th>
<th>Emotional symptoms to be sought by the clinician</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatigue, headache, back pain, diarrhea, palpitations, muscular weakness, shortness of breath.</td>
<td>Sleep disturbances, nightmares, irritability, loss of concentration, intrusive memories of the trauma, depressed mood, worried about the future, change in quality of life</td>
</tr>
</tbody>
</table>

### 3.5. Alcohol and substance abuse

These are frequent complications of stress- and anxiety disorders. Alcohol is often used to alleviate negative mood states, reduce anxiety and facilitate social interaction. The extent to which alcohol is normally used, in a given society, may determine the frequency of alcohol problems in PTSD patients. For example, in a detailed medical evaluation, only 7% of Israeli combat veterans with PTSD were found to have alcohol problems (Shalev et al., 1990), while studies of US combat veterans show up to 80% alcohol abuse (e.g., Keane et al., 1988). Some PTSD patients consume alcohol as they go to sleep. In the long run the use of alcohol drugs is associated with poorer prognosis and social drift. Alcohol may be preferred over prescribed medication by some patients, but, in general, good pharmacotherapy for anxiety and depression is helpful in reducing drinking habits in PTSD patients, and so is education, and group support - particularly via groups of survivors.

### 3.6. Effect of trauma on personality and habits

It is a common observation that traumatized survivors of extreme events report having been changed by the experience. Even more common are observations by family members and friends who report that the person is no longer his (or her) older self, but has become self-absorbed, aloof, disconnected, angry or short tempered. Social contacts are no longer sought, conversations regarding the trauma are avoided, social agencies are mistrusted and criticized, and there is often an undertone of anger and frustration.

DSM IV field trial (Frances et al., 1991) included a category of personality changes entitled Disorders of Stress Not Otherwise Classified (DESNOS). As the field trial has shown, however, DESNOS was frequently associated with PTSD, and therefore was not accredited with a status of independent diagnosable disorder. It is nevertheless important to maintain (a) that PTSD patients also suffer from a degree of personality changes and (b) the decision to reject this diagnostic category from the official nomenclature is still challenged by many clinical experts, who often see personality changes in survivors of prolonged traumatizations such as child sexual abuse.

In accordance with the above ICD 10 does accommodate the possibility of permanent personality changes, observed at least two years following exposure to extreme and prolonged stressors (e.g., imprisonment, captivity or concentration camp experiences). It is our experience, however, that such changes are also observed amongst survivors of lesser events, particularly in those exposed to human violence and those who have incurred major losses. Given the above-mentioned biological alterations in arousal, stimulus -responsivity, learning and memory, one should naturally expect to see a significant change in habits and conduct in traumatized
patients. Whether this should be referred to as ‘personality’ change or not is an academic question. For most patients and families the traumatized ‘person’ is very different from what he or she had been before the trauma.

3.7. Hidden toll: sensitization to subsequent stress

Beyond expressing diagnosable disorders, many trauma survivors change in more subtle ways. These include changes in attitude and beliefs, change in one’s life course and interest, and, sometime, changes in one’s emotionality. Whilst these changes seldom present as primary targets for treatment, and, indeed, may also be adaptive and beneficial, this is not always the case. Importantly, survivors’ vulnerability to further stressors might be eroded by exposure to a trauma, such that subsequent events may revert the balance towards expressing a mental disorder. This is particularly important in individuals whose profession involves dealing with traumatic events, such as police officers or members of rescue organizations. Professionals who express symptoms of attrition and burn-out are at higher risk for developing stress-related disorders and should be protected from further exposure.

3.8. The social context

The social context of the trauma may have a major effect on the expression and the course of traumatic stress disorders. In the first line are concrete social changes imposed on individuals by the very circumstances of the traumatic event. Relocation and unemployment are important examples of those changes. Other significant changes are community or family disruption and subsequent loss of relatedness, and support. Endemic diseases should also be considered, as well as the extent to which physical injury (e.g., blindness, amputation) is associated with difficulties in reinsertion into society. Contrasting with previously-held beliefs, physical injury increases the likelihood of adverse mental responses among survivors (Helzer et al., 1988).

The second line of social changes concerns those occurring to entire communities, particularly during massive disasters. In such cases, impoverishment, disruption of bonds, anomia and weakening of leadership are common. Loss of social status, resulting from forced migration is another challenging stressor, particularly when migrants are kept in temporary camps for lengthy periods of time (Green et al., 1990, Silove et al., 1997).

Finally, and not less important, symbolic changes, related to both personal and cultural beliefs should be considered. Societies assign a value to being exposed and to one’s actions during exposure (e.g., merit, virtue, and self-honor versus shame, cowardice or dishonor). These ‘value tags’ confer particular and often decisive meanings to events and survivors alike. A salient example were social attitudes towards impregnation of Bosnian women of Muslim tradition following ethnically-derived rapes. Rape, in fact, is frequently followed by emotionally driven attitudes towards the victim, and sometimes by social sanctions. In some cases, the concrete trauma (i.e., the physical rape) may be less consequential than the social sanction inflicted later. Importantly, the victim herself often adheres to the social standards of her milieu, and therefore may internalize blame and carry the stigma as personal handicap for the rest of her life.
In a more general way, the social perception of survivors is often polarized and not in line with the individual’s own perception (or with the truth). Soldiers in combat, for example, may be put to shame because of behavior misunderstood by others - commanding officers, or, as in the Vietnam War, the general public. Needless to say, such ‘symbolic’ defamation (of having lost a war, being baby killers) may have extremely regrettable effect on one’s self-image, recovery, and integration amongst fellow humans. The situation is even worse when concrete sanctions are taken against a victim or a group of victims. All too often it is the victim who is blamed for the victimizing event: A young lady can be blamed for having provoked a rape; Jewish Holocaust survivors were condemned of not having shown more resistance to the mass murder. Both occurrences are clearly documented in the literature and should be very clear to those who wish to properly manage the consequences of trauma at all levels.

4. Predictors of post-traumatic morbidity

4.1. Individual risk factors

The table below summarizes studies of predictors of PTSD. Predictors can be divided into (a) pre-trauma, vulnerability factors, (b) factors related to the traumatic event, and (c) factors related to the period of recovery.

Pre-trauma vulnerability encompasses biological risk-factors and factors related to one's life course, rearing environment, prior mental health, personality, history of mental disorders and gender. The prediction is not always linear: Foy et al., (1987) found that family history of psychiatric disorders predicted PTSD in Vietnam veterans exposed to low combat stress, whilst the outcome of more severe combat conditions was not affected by past family history.

Personality traits, such as neuroticism, introversion, and prior mental disorders also increase the risk for developing PTSD. Predisposing life-events include early traumatization, negative parenting behavior, early separation from parents, parental poverty and lower education. The last variables interact with one another and may represent different facets of a common socio-economic factor.

The intensity of the traumatic event, expressed as combat-intensity and duration, dangerousness of a rape incident, intensity of torture experience, and extent of physical injury, significantly contribute to the development of PTSD.

Individual responses during the impact phase of a stressor have received increasing attention in the last few years. These responses include observable behavior or symptoms (e.g., conversion, agitation, stupor) as well as emotional or cognitive experience (e.g., anxiety, panic, numbing, confusion).
<table>
<thead>
<tr>
<th>Author</th>
<th>N/ Population</th>
<th>Variable(s) Predicted</th>
<th>Predictors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abenhaim et al., 1992</td>
<td>254 survivors of terrorist attack</td>
<td>PTSD</td>
<td>Severity of injury</td>
</tr>
<tr>
<td>Basoglu et al., 1994</td>
<td>55 torture survivors and 55 controls (political activists w/o Torture)</td>
<td>PTSD and PTSD Symptoms</td>
<td>Intensity of torture experience (proctective = Preparedness, Commitment; Social support)</td>
</tr>
<tr>
<td>Bownes et al., 1991</td>
<td>51 rape victims</td>
<td>PTSD</td>
<td>Rapes by strangers; Use of physical force or weapons; Injury</td>
</tr>
<tr>
<td>Breslau &amp; Davis 1992</td>
<td>1007 young urban adults</td>
<td>Chronic PTSD</td>
<td>Family history of antisocial behavior; female gender</td>
</tr>
<tr>
<td>Buydens-Branchey et al., 1990</td>
<td>84 Vietnam veterans</td>
<td>PTSD</td>
<td>Combat intensity &amp; duration; physical injury</td>
</tr>
<tr>
<td>Clarke et al., 1993</td>
<td>69 Cambodian refugees</td>
<td>PTSD and depression</td>
<td>(PTSD): War trauma; resettlement strain (Depression): more recent events</td>
</tr>
<tr>
<td>Davidson et al., 1991</td>
<td>2985 residents of Piedmont/ N. Carolina</td>
<td>PTSD</td>
<td>job instability, family history of psychiatric illness; poverty; history of child abuse; parental separation prior to age 10.</td>
</tr>
<tr>
<td>Feinstein &amp; Dolan, 1991</td>
<td>48 civilian survivors of physical trauma</td>
<td>PTSD ; psychiatric morbidity</td>
<td>Distress post injury</td>
</tr>
<tr>
<td>Gidycz &amp; Koss, 1991</td>
<td>1213 sexual assault victims</td>
<td>Anxiety and Depression</td>
<td>History of mental health problems; aggressiveness of assault; belief that people are not trustworthy; conservatism regarding sex</td>
</tr>
<tr>
<td>Green et al., 1990</td>
<td>200 Vietnam Veterans</td>
<td>PTSD</td>
<td>Intensity of the stressor; Exposure to grotesque death; level of education; social support at homecoming</td>
</tr>
<tr>
<td>Study</td>
<td>Sample Description</td>
<td>Diagnosis</td>
<td>Symptoms/Explanations</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>----------------------------------------</td>
<td>-----------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Kilpatrick et al., 1989</td>
<td>294 Female crime victims</td>
<td>PTSD</td>
<td>Life threat during crime, physical injury; completed rape</td>
</tr>
<tr>
<td>Laufer et al., 1985</td>
<td>326 Vietnam combat veterans</td>
<td>PTSD</td>
<td>Combat exposure, Exposure to abusive violence and killing</td>
</tr>
<tr>
<td>McFall et al., 1991</td>
<td>489 Vietnam veterans</td>
<td>PTSD</td>
<td>Combat exposure, age at war-zone, duration of war zone duty, injury</td>
</tr>
<tr>
<td>McFarlane, 1989</td>
<td>469 firefighters exposed to bushfire disaster</td>
<td>Post-traumatic morbidity</td>
<td>introversion, neuroticism, personal and family history of psychological disorder</td>
</tr>
<tr>
<td>North &amp; Smith, 1992</td>
<td>900 homeless men and women in St. Louis</td>
<td>PTSD</td>
<td>History of child abuse and family fighting</td>
</tr>
<tr>
<td>Patterson et al., 1990</td>
<td>54 burn victims</td>
<td>PTSD</td>
<td>Total body surface affected; female sex; lack of responsibility for the injury</td>
</tr>
<tr>
<td>Perry et al., 1992</td>
<td>51 Inpatients with burn injury</td>
<td>PTSD</td>
<td>Emotional distress following trauma, perceived social support</td>
</tr>
<tr>
<td>Resnick et al., 1992</td>
<td>295 Female crime victims</td>
<td>PTSD</td>
<td>High crime stress. Significant pre-crime depression</td>
</tr>
<tr>
<td>Solomon &amp; Mikulincer, 1990</td>
<td>255 Israeli war veterans</td>
<td>PTSD</td>
<td>Social support; life events; internal locus of control</td>
</tr>
<tr>
<td>Speed et al., 1989</td>
<td>62 World War II prisoners of war</td>
<td>PTSD</td>
<td>Body weight lost in captivity; torture</td>
</tr>
<tr>
<td>Sutker et al., 1990</td>
<td>193 World War II and Korea prisoners of war</td>
<td>PTSD</td>
<td>Confinement; weight loss; lower socioeconomic status, greater hardship, lower military rank</td>
</tr>
</tbody>
</table>
4.2. Social risk factors

Beyond individual risk factors, several factors related to larger social systems may increase the risk of adverse response to traumatic stressors. These can be seen as ‘resources’ that the society either provides or deprives the individual from. **Economic strength, education, stable societal rules and norms**, consistency and **benevolence of institutions, quality of leadership**, degrees of **dangerousness of ‘normal’ life**, and **cultural depth** are all ‘protective resources’ in the sense that they can mitigate the effect of traumatic stressors on individuals. In contrast, **enforced poverty, illiteracy, unstable and dangerous society** and **lack of moral and spiritual guidance** may not provide the individual with enough resources with which to overcome the losses and the threatfulness of a trauma.

5. Pathogenesis and psychopathology

The following section deals with the psychology of trauma. It outlines the principle components of normal and pathological responses to traumatic events, which the clinician (or case manager) should be aware of when he or she comes to evaluate trauma survivors. Knowledge provided in this section is used in the following ‘treatment and management’ section. Both sections follow a chronological path.

5.1. The traumatic event:

At the origin of every traumatic response there is a salient, outstanding event, the psychological understanding of which is crucial for later treatment and prevention. Traumatic events are more pathogenic when individuals and populations are **not properly prepared to face them** and when they are **unexpected, intense, uncontrollable and inescapable**.

**Preparation for adversity** is widely practiced in military units, police departments and professional rescue teams. Populations in areas that are frequently stricken by natural disasters may also receive some training or preparatory advice. Such preparation may reduce uncertainty during the event and contribute to better coping. Individuals who are severely traumatized, however, often describe the concrete situation from which they have escaped as totally unexpected. Indeed, some level of adversity can never be prepared for (e.g., seeing a friend blown to pieces by artillery shells or seeing a patient agonize and die from internal bleeding while being evacuated to a hospital). Training of trauma professionals, therefore, should include an element of **responding to the unexpected**, such as by structuring the situation or **sharing the burden with others**. The following vignette is illustrative of such training:

In training for helicopter crash at sea, Norwegian pilots were trained to escape from submerged cabin, thrown into deep water. Pilots who had actually crashed at sea and managed to escape reported that they did not use the previously-learned routine, but rather improvised during their actual crash. They noted, however, that **knowing that there is a solution** helped them not to panic and to engage in effective rescue maneuvers. The lesson of previous training seems to have been that the situation could be overcome, rather than that specific maneuvers are salutary.
Trauma survivors may also be unprepared to their own reactions (or affects) to a trauma. For example, a survivors may not expect to have surrendered to life threat by a rapist, to have been overwhelmed by fear or confusion or to have saved him or herself while leaving friends or relatives behind.

**Controllability:** Different traumatic conditions offer different degrees of control over one’s destiny and one’s responses. Both external reality and internal responses may be such that very little degree of control is allowed (e.g., being caught in an avalanche). Indeed, some methods of torture (e.g., random beating, mock execution) are especially designed to break one’s sense of control and one’s ability to monitor adversity, as a way to break the victim’s spirit. Several types of trauma (e.g., rape) specifically involve terrorizing the victim (e.g., by death threat) to the point of breaking all resistance.

Yet, it is also true that under the most severe circumstances, survivors find ways to gain at least partial control over their condition. Such attempts may involve controlling external circumstances (e.g., attempting to rescue relatives from flooded houses, not disclosing information during torture) or self-control (see below). These attempts, therefore, should not be overlooked by rescuers, who may erroneously see the survivor as ‘totally passive’ victim. Quite to the contrary, survivors should be seen as experiencing a mixture of effective and ineffective coping, and not as passive victims.

**Case vignettes:**

From the very moment of their injury most survivors (of a terrorist incident in Jerusalem) were actively coping with the effect of the trauma. Some would not evacuate the site, despite obvious injury, searching for lost relatives in the rubble and chaos. Severely-injured individuals attempted to preserve a sense of dignity by covering their body or exchanging eye-contact with the rescuers. A female survivor asked her rescuers to write down few contact phone numbers, in case she would lose consciousness. Others monitored the way in which the news of their being evacuated to the hospital would be communicated to their families.

Even relative success in such coping effort could determine the survivor’s sense of control, and induce relief, whilst failure to cope increased one’s distress. Personnel at hospitals emergency rooms have to be trained to seek and assist the individuals in their effort to gain control, event when they are injured.

**Escape:** A sculpture, in the Orsey Museum in Paris, illustrate the definite sense of fatal entrapment: The father, Ugolino, with his five young children are locked in a cave in which all would die from thirst and hunger. No words can describe the sense of desperation of both the children, still clinging to their father’s knees in seek of relief, and the father who can no more assume his role of protector. Survivors and helpers alike may face situations from which there is no escape, not even in thought or imagination. Physical pain may be too intense. One may be locked in a space where ‘definite evil’ is about to occur, as in rape. In other circumstances, however, individuals do have a chance to escape, but do not use it (e.g., rescue workers who refuse to relax). Inescapable situations are biologically and mentally very damaging.

**Loss:** The loss entailed by trauma is both concrete and abstract. At one end, one may lose one’s property, one’s relatives or one’s community. To these real losses one should
add more subtle, but not less painful ones: **loss of beliefs** (e.g., in the benevolence of human beings, the continuity of life, capacity for self control etc. (Janoff-Bulman, 1989). It is at the aftermath of traumatization that a balance of all losses, concrete and symbolic is often made (Hobfoll and Jackson, 1991).

**Dehumanizing threat:** Finally some forms of traumatizations are particularly hard for individuals exposed. These include actions designed to break the human spirit (such as in torture), invasion of privacy, dignity and honor (such as in rape), exposure to extreme forms of human suffering, and exposure to human body violations or disfiguration. Nurses in an emergency room may break down at the sight of traumatized children. Combatants may remember forever the sight of dismembered human bodies. Helplessly observing human suffering, when no effective rescue can be provided, is remarkably traumatic.

5.2. **The immediate response**

The expression of the immediate response to traumatic events has been described as intense, multifaceted, and labile (Solomon, 1993). Responding to trauma combines, in fact, three major elements: (a) dismay and shock, (b) response to separation and loss and (c) attempts to gain coherence and meaning. In prolonged traumatizations a fourth element may be present: exhaustion, attrition and, sometimes, surrender.

5.2.1. **Dismay and shock**

As stated above, during traumatic events the individual’s repertoire of responses is critically insufficient. At such times, unexpected responses and feelings may emerge, to which the subject may not be prepared. These may go from unexpected bravery and self-transcendence to paralyzing fearfulness, dissociation and surrender. These extreme occurrences are often perceived as a breach in the continuity of one’s psychic life, decisive and sometimes irreversible. This is typically expressed by accounts of totally ineffable adversity, as in the following examples.

- “*I could not believe that human beings could ever be so cruel*” may report a survivors of torture.
- A survivor of a car accident may remain overwhelmed and puzzled by the unimaginable proximity between life and death.
- The extreme anguish of a dying comrade, who, minutes previously, was one of the group’s most joyous fellows may indelibly impress the imagination of a fellow witness as ‘totally impossible’ to apprehend.

Symptoms expressed during this period are multifaceted and unstable (Yitzhaki et al., 1991), going from paralysis to agitation, from extreme pain to psychological numbing, from the clarity and sharpness of overfocused attention to cognitive disorganization and confusion. Memories of traumatic scenes may be fragmented and partial (e.g., a survivor of an armed assault may not be able to recognize the face of his assailant, his attention having been focused on the handgun that was pointed at him). Dissociative reactions are often described, and their presence, at this stage, has been linked with higher risk for developing PTSD (Shalev et al., 1996).
**Dissociative symptoms seen during extreme events**

- Acting automatically or mechanically
- Things happening ‘as in a movie’
- Seeing oneself from the outside
- Loosing tract of events
- Distorted sense of time
- Analgesia (when injured)

### 5.2.2. Separation and loss

Traumatic events often include an element of **separation and loss**. The immediate response to loss includes (a) yearning, and seeking for the lost ones (b) dysphoria, sadness, unease, and restlessness, and (c) shutting off of most other responses. Separation is associated with heightened adrenergic response across animal species. An element of seeking and searching often takes a relentlessly repetitive form and goes from concrete to purely mental form. Responses to traumatic loss have been clearly described by Lindemann (1944) and more recently embedded, almost entirely, among PTSD intrusive symptoms. Loss of is often associated with a sense of guilt for having survived or for not having been able to provide adequate help in time.

**Symptoms of Acute Grief (Lindemann, 1944/1995)**

Sensations of somatic distress occurring in waves lasting from 20 minutes to an hour

- A feeling of tightness in the throat.
- Choking with shortness of breath.
- Need for sighing.
- Lack of muscular power.
- Intense subjective distress expressed as tension or mental pain.
- Waves of discomfort can be precipitated by mentioning the deceased.
- Tendency to avoid the above.
- Refuse visits lest they should precipitate the reaction.
- Keep deliberately from thought all references to the deceased.

Importantly, traumatic loss is not only material, but often includes symbolic and psychological elements. For example, a house lost in a disaster is both concrete, symbolic (of life achievements, of stability) and psychological (e.g., territory, boundaries) loss. It will often happen that objects of strong symbolic and emotional value (a picture, a pet, a toy, the family bible) would be saved from houses. Such recovered objects are of great value, as they facilitate proper grief. Survivors often complain of not being allowed to return to disaster sites and gather critical belonging. The ability to
preserve symbolic continuity is a profound human need, which should be understood and respected by authorities that manage disaster zones.

5.2.3. **Threat to coherence and meaning**

All traumatic events create a challenge for adaptation. People re-adapt to traumatic changes because they conserve, within themselves, a personal (and group) heritage, in the form of **beliefs, values, norms and conduct**. The conservation of these guiding principles make it so that, once adversity is over, **the survivor is no stranger to himself**. Recovery, in such case, has solid starting point, and previously practiced routines.

Some traumatic events, however, face individuals involved with levels of novelty, cruelty, or threat that shatter any sense of coherence. In such instances, the psychological basis for future adaptation (i.e., the preservation of basic beliefs, values and expectations) may be lost. This is particularly true for individuals (or groups) in which either previous beliefs and norms were not profoundly adhered to, or for those in which adherence and beliefs were all too rigid, and break down at the outset of change (Foa, personal communication). Such groups, or individuals, are at higher risk for poor recovery. Specifically, the risk seems to be related, here, to loss of clear inner guidelines. Such deficiency, however, may be compensated by proper aid from community leaders, clergymen, personal friends, and, sometimes, trained professionals. In such instances, the treatment should not address the traumatic event itself, but rather the deficiency of current attitudes, practices, and beliefs.

<table>
<thead>
<tr>
<th>Assumptions about self and others that may be affected by trauma (adapted from Janoff Bulman, 1985)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personal invulnerability (It can’t happen to me)</strong></td>
</tr>
<tr>
<td>Examples:</td>
</tr>
<tr>
<td>• I always think clearly</td>
</tr>
<tr>
<td>• I control my emotions</td>
</tr>
<tr>
<td>• I do not abandon a friend in trouble</td>
</tr>
<tr>
<td>• I do not surrender to fear</td>
</tr>
<tr>
<td>• My body belongs to me</td>
</tr>
<tr>
<td><strong>Meaningfulness of the world</strong></td>
</tr>
<tr>
<td>Examples:</td>
</tr>
<tr>
<td>• There is logic behind things</td>
</tr>
<tr>
<td>• Justice always prevails</td>
</tr>
<tr>
<td>• Bad things to not happen to good people</td>
</tr>
<tr>
<td>• God does not abandons true believers</td>
</tr>
<tr>
<td>• Children should not die before parents</td>
</tr>
<tr>
<td><strong>Positive self perception (I am worthy of my life).</strong></td>
</tr>
<tr>
<td>Examples:</td>
</tr>
<tr>
<td>• There is a place for me (and my family) in the world</td>
</tr>
</tbody>
</table>
5.2.4. Attrition, exhaustion and surrender

During lasting traumata (e.g., captivity), survival often depends on more passive responses, designed to minimize threat or avoid punishment. These should not be confounded with acceptance. Individuals, in such circumstances, may express fatigue, exhaustion, and sadness, but also hope, resistance, and attachment to others. Doubts, confusion and bouts of extreme mental pain are the lot of many, whilst closeness to others is a major element of strength.

Typical signs of an often fatal break down, as narrated in survivors of concentration camps, were isolation from others, prostration, despondency, self neglect and neglect of dependents. Importantly, at the end of such events individuals may find it difficult to evaluate their own responses and, if depression lasts, may blame themselves for acts or omissions that were forced upon them by circumstances.

6. Evaluating trauma survivors

The severity of traumatization can be evaluated along four concurrent dimensions:
(a) symptoms severity
(b) quality of coping and adaptation
(c) progression of psychological recovery
(d) relationship between the individual and the group

6.1. Symptoms

6.1.1. Clinical evaluation

Symptoms are indicators of distress and can be assessed using clinical skills or structured questionnaires. In assessing trauma survivors three categories of symptoms should be sought.
(a) symptoms of post-traumatic stress disorder
(b) symptoms of depression
(c) symptoms of anxiety

The tables below present the principle symptoms for each of these categories. The clinician may wish to rate not only the presence, but also the severity of each symptom. The latter can easily be done by using simple ratings for each (e.g., from zero to five, zero denoting the absence of such symptom and five denoting its most intense expression. The interviewer’s global impression of the severity of the person’s condition is often of great predictive power. It is important, however, not to limit one’s assessment to global impressions, as many symptoms (e.g., insomnia, bursts of anger) may not be obvious during superficial contacts with survivors.

### Symptoms of Depression seen in Trauma Survivors
• Depressed Mood
• Guilt
• Suicide ideation
• Insomnia
• Decline in work and interest
• Psychomotor retardation
• Agitation
• Loss of appetite
• Anergia
• Loss of libido
• Weight loss

**Anxiety symptoms**
• Restlessness, fidgeting
• Anxious mood
• Worry
• Expectation of adversity
• Poor concentration
• Early insomnia
• Bouts of panic
• Headaches, back pain, diarrhea

DSM IV has introduced a category Acute Stress Disorder, in which dissociative symptoms are present, along with reexperiencing and avoidance. Acute PTSD would last for one month, before PTSD can be formally diagnosed. While it is our impression (e.g., Shalev et al., 1993) that patients who express such dissociative symptoms are, in general, more distressed, the added value, and the predictive power of this diagnostic category is still under investigation.

**Dissociative Symptoms in Acute Stress Disorder**
• Subjective sense of numbing, detachment, of absence of emotional response
• reduction in awareness of the survivor’s surrounding
• Derealization
• Depersonalization
• Inability to recall important aspects of the trauma (dissociative amnesia)

6.1.2. **Using psychometric instruments**

Important information can be recorded by the use of short psychometric instruments. Such practice consumes very little time, is readily accepted by traumatized individuals, and often brings both patient and care giver to better evaluate the clinical situation and its development. Importantly, information generated from the survivor himself or herself (self-reported) can be measured again at a different time, as an indication of change.
Three dimensions of the traumatic responses are worth measuring: (a) a general degree of distress, (b) specific symptoms of PTSD and (c) signs of depression. In line with this report’s commitment to simplicity, three rating scales are recommended. The administration of these questionnaires requires very limited training. They provide clinically relevant data, are easily administered, and do not take more than few minutes to administer. When a survivor can not complete the questionnaires themselves, they can be read as a series of questions.

For measuring a general state of health -- the **General Health Questionnaire** (GHQ; 12 items version)

For measuring distress related to trauma - Horowitz’s **Impact of Events Scale** (21 items)

For measuring depression - the **Beck depression inventory** (BDI). The Zung **depression inventory** can be used as well.

Clinicians may also use a **Global Severity Index (GSI)**, which consists of rating the patient’s global condition, as seen by the observer. This, however, requires a level of clinical skill as well as continuos evaluation of the patient by the same clinician.

(See instruments as an Appendix)

### 6.2. Quality of coping

The assessment of symptom severity does not capture an important dimension of the response to adversity, namely, how well, and in which ways does the person cope with his or her trouble. Coping has been succinctly defined as an effort to reduce the effect of environmental demands on physiological and psychological responses, or, as elegantly put by Pearlin and Schooler (1978) ’effort to increase the gap between stress and distress’. Coping mechanisms have been authoritatively described (e.g., Lazarus and Folkman, 1984), and most such descriptions address the myriad of specific ways in which different people appraise and react to adversity. Coping with stress includes (a) **direct action** designed to reduce the impact of the stressor, (b) efforts to **monitor one’s emotional response** and (c) effort to better **understand and appraise the situation at hand**. The latter includes both appraisal of the external reality and of one’s own resources and ability to respond.

Individuals may differ significantly in their preferred ways of coping. Some may be action prone, others may be more reflective, some would express emotions while others may hide them. The evaluation of coping styles and coping efforts during adverse events is, however, complex, and of uncertain clinical value. In clinical reality the **specific way by which the person copes with a stressor is often less important than the extent to which coping is successful** or, on the contrary, fails. Hence, a sound advice to clinicians is to look at the consequence or the **outcome of coping**, rather than to dwell into the specific coping mechanisms used. This can be easily handled, using the following framework:

Successful coping must protect four vital functions

(a) the person’s ability to **continue task-oriented activity**

(b) the person’s ability to **regulate emotion**
(c) the person’s ability to **sustain a positive self value**

(d) the person’s capacity to **maintain meaningful contacts with others**.

Failure to cope, accordingly, results in one or more of the following:

- **Inability to continue one’s activities** (e.g., work, care for children)
- **Overwhelming emotions** of any kind (e.g., fear, sadness, anger)
- **Negative self-perception** (e.g., self accusation, devaluation of ones character or skills)
- **Inability to use help offered by others**.

An assessment of **coping efficacy** (and good coping can be seen despite extreme misery) involves asking about these four domains. When a problem is found in one domain (e.g., in human relatedness, in control of emotion or in working capacity), than this may become the focus of treatment interventions.

Assessing coping ability also takes the question from the purely medical arena to the more general way of evaluating human performance and emotion. It will often be found that such inquiry provides more relevant information than lists of symptoms, particularly in survivors who do not express the full PTSD syndrome (and these are the majority).

6.3. **Progression of psychological recovery**

6.3.1. **Psychological injury and its expression**

As stated above, traumatic events include the following pathogenic elements: A threat to survival, a breach in the normal continuity of life, loss and separation, and disruption of daily routine. These ‘traumatogenic’ elements trigger several psychological processes, including avoidance and apprehension, grief and mourning, surrender, burn out, and attempts to restore the concrete and symbolic continuity. These psychological responses underlay the main symptomatic expressions of traumatic stress disorders, such as depression-numbing, anxiety-avoidance, fixation and repetition, increased arousal and apprehension.

Children’s responses include all the above with additional risk for developmental arrest and regression. These may be due to being personally affected by a trauma, or to living with adults whose function vis a vis the child is impaired because they were traumatized themselves.

<table>
<thead>
<tr>
<th>Trauma</th>
<th>Response</th>
<th>Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threat to Survival</td>
<td>Terror and apprehension</td>
<td>Anxiety, avoidance hypervigilence, hyperarousal</td>
</tr>
<tr>
<td>Loss and separation</td>
<td>Grief and Mourning</td>
<td>Depression/numbing</td>
</tr>
<tr>
<td>Breach in concrete and symbolic continuity</td>
<td>Attempts to restore continuity and meaning</td>
<td>Intrusive thoughts and reexperiencing</td>
</tr>
<tr>
<td>Chronic (secondary) stress</td>
<td>Attrition, burn out</td>
<td>Fatigue, lack of initiative,</td>
</tr>
</tbody>
</table>
6.3.2. **Expression of recovery**

In their march towards recovery, trauma survivors’ express common responses that may enhance communication with others (e.g., by telling their story time and again), recruit support (by expressing a ‘cry for help’), and effectively initiate a process of learning and reappraisal (by reviewing the trauma and linking it to their personal past and to the present).

The same expressions, however, may, in some cases decrease the helping responses of others. Expressed fear, for example may recruit help and sympathy from others, yet at higher intensity, fear and anxiety may impair the survivor’s ability to be soothed by such help, or discourage helpers. Anxiety, in such case, should become the target of early treatment (e.g., pharmacology). Intrusive thoughts and recollections of the trauma induce telling and sharing the story events. At higher intensity, however, intrusive thoughts may impair sleep, increase the survivor’s agitation and restlessness and be fearfully avoided. Disclosure and elaboration of the traumatic event is, thereby, stopped without resolution.

In order to assess the **effectiveness of expressed behavior**, one may use the above mentioned ‘coping’ schema: When expressed symptoms **enable communication**, progressively **increase one’s control** of emotions, **do not impair functioning** and do not lead to negative self perception, then all goes well. When symptoms create a gap between helpers (spouses, family) and survivors, when they are extremely distressing or uncontrollable, then they may not be ‘functional’ in the sense of not facilitating recovery. Importantly, this view of symptoms as interpersonal communication (or cry for help) must consider the appropriateness of the response by others. Survivors may be emitting the right ‘signal of distress’ yet for a variety of reasons their behavior may be misinterpreted, ignored or inappropriately responded by others.

Another way to assess the mental processing of traumatic events is to look into the extent to which **negative judgments are over-generalized**. For example, instead of the torturers themselves being perceived evil, there are doubts about human beings’ nature in general. Another example is avoidance of all men, and all dark alleys following rape. Cognitive behavioral therapy (see below) specifically addresses such inappropriately overgeneralized beliefs about self and others (Foa 1997, Falsetti & Resick 1995).

6.4. **Social interaction**

Few individuals can draw themselves out of traumatic occurrences by their own will and power. The general case is that trauma survivors need help and support from others. Such help includes:

(a) providing concrete help, such as food, shelter, rescue and medical help
(b) responding, soothing and reducing states of extreme emotions
(c) assisting the survivors to re-appraise the trauma
(d) sharing grief and mourning
(e) assurance that life continues
(f) recognition of suffering and sacrifice.

Societies are also the main source of material support, of rescue from disaster and of medical and humanitarian help.

In order to be effective psychologically, social support must be appropriate, meet the survivor’s needs, be tolerant of symptomatic behavior, and respect the person’s need to self-regulate and monitor his or her environment.

Importantly, the survivor should be able to properly utilize and enjoy what is offered by the larger group. Traumatic events, however, teach some survivors that they can not trust people, cannot rely on information provided by authorities (or the media), or can not expect proper help in time. A breach between the society as helper and the survivors may, therefore, be created.

If the impression is that trauma survivors do not enjoy what is actually offered by their supporters (family, community or nation) an assessment of the reasons for such breach is mandatory. Whether reflecting misunderstanding by providers or erroneous appraisal by survivors, it is mandatory to repair and renew communication. Community member of high reputation and spiritual leaders are often very helpful in diffusing inappropriate anger and mistrust. Unfortunately, corrupted leadership, confusing messages, and lack of genuine interest to help survivors (e.g., preference of other political agendas) have also occurred.

In its role of carrier of symbolic meaning, the society at large may assist the survivors by promoting and organizing memorial ceremonies, honoring victims, compensating for their suffering, and assuring that justice is made. The way in which these levels of meaning are handled by societies may have a profound effect on survivors, either towards healing, or towards perpetuation of pain, alienation and isolation (Holloway and Ursano, 1984; Parsons et al., 1988)

The role of self-help groups is very important. Self-help groups may be formally defined and deliberately assembles, or scattered and spontaneous (e.g., gathering of family members, comrades at work, survivors with similar experience). In most cases, little should be done beyond enabling such groups by stressing their importance and providing minor material support. Attempts to direct and/or monitor such groups, using treatment protocols and pre-set ideas, may not be as effective as presumed (Bisson & Deahl, 1994; Raphael & Meldrum, 1995).

7. Treatment and prevention: Tools and techniques

The following is a short outline of tools and techniques, as applied to the treatment of stress disorders. The way in which treatment should be implemented is addressed in the next section.

7.1. General points

Helping trauma survivors should not be limited to psychological or psychopharmacological treatment. The term ‘management’ is often more appropriate than that of ‘treatment’. Importantly, concrete steps, taken at various stages of the response to
trauma **may significantly affect the survivors’ psychological well being and their responses.** Hence, the first subdivision of prevention and treatment efforts is into those **provided by mental health specialists** and those **provided by others.**

When one engages in specialized treatment, one should be very clear about the goals of the intervention, its technique and its length. Mismatch between goals and time allocated (e.g., providing single debriefing session to prevent depressive and post-traumatic psychopathology) has been the source of much disappointment.

Some therapies are designed to **end the mental process that underlay PTSD** or other traumatic reactions. Others aim at **stabilization of the patient’s condition** and preventing further deterioration. **Reduction of specific symptoms** (such as insomnia, anger or excessive drinking) is also a valid goal. The therapist, therefore, should be very specific about what therapy is meant to achieve and by which way. PTSD is particularly non-responsive to open-ended, non-specific treatment efforts.

### 7.2. Crisis interventions and stress management

These series of techniques are based on knowledge gained from stress and crisis theories. They address those elements of the short-term response to trauma that may not work effectively because of excessive distress. In essence, the situation of crisis is perceived as one in which the individual is caught in an ‘emotional and cognitive trap’, such that he or she

(a) experiences a ‘crisis,’ that is, an extreme, emotionally-overwhelming and cognitively inescapable situation, and

(b) does not engage in effective salutary efforts, and can not perceive a solution to the crisis, often despite having resources.

The combination of extreme distress and blindness to solutions is intolerable to most individuals, and may result in unexpected behavior (e.g., suicide; life-threatening bravery). Statements like ‘all is lost,’ ‘there is no way out’ and ‘I can’t survive another minute’ are typical expressions of crises.

Stress theory suggests that the more distressed an individual is, the less capable he is to mentally disengage from the situation, reflect, imagine, and create solutions. Moreover, there is tendency to repeat sterile attempts to solve a problem, without changing them. Crises interventions attempt to stop the vicious circle of catastrophic appraisal and extreme distress. They also address the perception, by those in crisis, that their reaction is abnormal or that they have totally lost their internal strength.

Crisis interventions must start by appraising with the individual (or the group) what, in a given situation, creates intolerable distress. It is often found that one specific element of the whole situation (e.g., lost communication with a family member) is most distressful. The second step is to recognize, legitimize and soothe extreme emotions. Once this is clarified, one may address efforts already done to solve the salient problem, and assess resources that are still at hand, but not used. It is often found that once extreme emotions subside, individuals may find better solutions that one would initially expect. Solutions may include alternative plan of action (e.g., try other ways to find...
missing family members), more effective help-seeking, or engaging in alternative goals (meanwhile I take care for my remaining children). Moving subjects from a stage of disarray to a stage of creative coping signals the success of crisis intervention.

7.3. **Formal psychological treatment**

Formal psychological treatment to trauma survivors may not be possible except for few societies. Given the widespread occurrence of traumatic events and the clustering of hundreds of victims in one event (e.g., car bombing, natural disaster) virtually no society can provide effective professional coverage for all survivors. Moreover, most survivors express appropriate distress and spontaneously engage, with their supportive peers, in the normal path towards recovery. Insofar as some survivors express inappropriate degrees of distress, excessive or prolonged symptoms, they may be seen by professionals. Psychological treatment, therefore, is more often available to survivors who have already developed stress disorders.

In recent years, however, an early group intervention - psychological debriefing - has been developed and promoted, with the idea that it could be provided to larger number of survivors, at close proximity to the traumatic event, and at reasonable cost. The long-term outcome of debriefing is a matter of debate, but in the short term, debriefing may reduce distress and improve the survivors’ self-image their perception of their performance during the traumatic event (e.g., Robinson et al., 1997; Shalev et al., 1998).

Some of the principles of psychological treatment may be implemented by professionals who are not fully trained, and indeed by many non-professionals who, by understanding these principles, may better approach the traumatized survivor. The table below provides a practical enumeration of the different ingredients of psychological treatment. It is followed by short explanation of each.

<table>
<thead>
<tr>
<th>Main ‘maneuvers’ of psychological interventions in trauma survivors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(I) Treatment aimed at recovery and reversal of pathogenic processes</strong></td>
</tr>
<tr>
<td>• Exploration of the traumatic event and related acts and emotions</td>
</tr>
<tr>
<td>• Evaluation of beliefs, values and expectations associated with the traumatic response</td>
</tr>
<tr>
<td>• Evaluation of the individual’s personality and/or the biographical roots of the response to the trauma</td>
</tr>
<tr>
<td>• Attempts to reverse learned behavior</td>
</tr>
<tr>
<td><strong>(II) Treatment designed to stabilize, support, and prevent deterioration</strong></td>
</tr>
<tr>
<td>• Supportive interpersonal psychotherapy</td>
</tr>
<tr>
<td>• Learning to cope with illness, symptoms and limitations (e.g., anger management)</td>
</tr>
<tr>
<td>• Management of substance misuse</td>
</tr>
<tr>
<td>• Therapies designed to enhance family and group support</td>
</tr>
</tbody>
</table>

7.3.1. **Treatment aimed at recovery and reversal of pathogenic processes**

These are generally designed to reverse the effect of the trauma, either by setting ‘impacted’ psychological processes in motion, or by reversing inappropriate learning that has resulted from the traumatic experience.
7.3.1.1. **Exploration of the traumatic event and related acts and emotions**

Trauma survivors often repeat the story of their trauma, but such telling, instead of leading to better appraisal and recovery, may become repetitive and redundant and thereby perpetuate the pain without healing it. Both psychoanalytic and behavioral theories attribute such sterile and repetitive mental activity to incomplete processing of the traumatic event.

From a **psychoanalytic** perspective, the meaning of the event has to be further explored, and the subject must complete the necessary psychological steps that would lead to **assimilation** of the event into the person’s psyche, and to **self-integration**. This process is known as ‘work of grief’ (Freud, 1917, Lindemann, 1944).

**Behavioral theory** suggest that exposure to fearful events may result in **permanent avoidance** of cues that remind the subject of the trauma, and that avoidance may be generalized to all situations of danger and become permanent (Keane et al., 1985). Accordingly, **corrective learning** must take place, including exposure to fearfully avoided memories of the traumatic event.

Both approaches suggest, therefore, that going back to memories of the traumatic event (and of one’s reactions) and painfully remembering them (and the associated emotions) is the key for psychological recovery. This is what is meant by exploration of the trauma or **explorative** treatment. Explorative methods have been used in trauma survivors in the form of hypnosis-assisted abreaction or drug assisted abreaction (e.g., Putnam, 1992). In patients with prolonged PTSD the behavioral method of ‘flooding, has been used. Flooding consists of immersing the patient in memories of his or her past to the point of exhaustion of all symptoms of distress (e.g., Pitman, 1996). In other treatment setting, exploration has been combined with supportive therapy and cognitive therapy (Foa, 1997). Not all behavior therapists agree that treatment should be focused on exploring memories of traumatic events, and some recommend exposing traumatized individuals to situations that they avoid at present.

In practice, memories of traumatic event are going to be present at each form of therapy, and maybe the most important ingredient of addressing such memories is to **help the patient recall while still remaining in control** of his or her emotions. Pushing the patient too far may bring about extreme reactions, dissociative episodes and re-traumatization (Pitman et al., 1991).

An evaluation of one’s own responses during traumatic events is part of the exploratory work, particularly in individuals who express regret, guilt, or shame for things committed or for failure to act during the traumatic event.

7.3.1.2. **Evaluation of beliefs, values and expectations associated with the traumatic response**

**Cognitive behavioral therapy** assumes that one of the reasons for not recovering from trauma is that the survivors is caught in a set of unproductive and inappropriate beliefs about the world and about his or her own nature or ability. Examples of ‘post-traumatic’
beliefs were provided above (e.g., ‘one never recovers from the death of a son’). The presence of such ‘morbid’ assumptions is often unknown to the subject, and the therapist is there to uncover them and help the subject see them in perspective and challenge them.

### Example of invalidating cognitive schemata related to trauma

- Rape survivor who believes that all men are capable of or prone to sexual violence
- Survivors of torture who loses faith in humanity
- Survivor of war who remains on guard because ‘there is always danger’
- Survivor of disaster who believes that he or she is coward, unworthy or inferior.
- Survivors haunted be need to revenge

### 7.3.1.3. Evaluation of the individual’s personality and/or the biographical roots of the response to the trauma

Previously a classical approach to psychotherapy, the exploration of survivors’ prior experiences, personality and their biographical roots is probably a luxury that should be reserved to those survivors who have already overcome their severe post-traumatic responses and can now engage in higher levels of self-integration. This approach often calls for prolonged individual psychotherapy, a resource that is not always available.

This is not to say, however, that prior traumatizations may not appear in the therapy of a more recently traumatized individual. Emotional analogies (i.e., “Seeing dead bodies reminded me of my late brother’s death”) often point to the roots of current distress. When such analogies arise they obviously should be addressed, as they offer powerful tools to create self-integration and continuity beyond the splitting effect of traumatization. Analogies, however, should not be confounded with causation, and one should not forget that for many trauma survivors coping with the present may be as important as understanding the past.

### 7.3.1.4. Attempts to reverse learned behavior due to the traumatic event

In some trauma survivors avoidance is the main obstacle to health. Raped women who avoid men, or accident survivors who avoid the site of the trauma are classical examples. More subtle forms of avoidance are of ‘noisy’ or fear-provoking situation, or any place in which there may be surprise, anger, or challenge. Such avoidance can sometimes be overcome in therapy sessions. Most often, however, a therapist has to help the subject to expose himself or herself to avoided situations (alias, exposure in vivo). Exposure is often difficult for the patient and must be done in a structured way, with help and assistance, and sometimes with adjacent relaxation methods. For example, a survivor of terrorist bombing who would not go back to the city’s open market in which the incident had taken place, may be encouraged to go back gradually, but persistently, with each step forward being planned and monitored in therapy sessions. It is important to recognize that post-traumatic avoidance, if not coped with properly, tends to generalize to other areas, and may end by becoming true infirmity. Overcoming feared experiences, on the
other hand, may be morale building experience for the individual and become generalized to other areas of life.

7.3.2. **Treatment designed to stabilize, support, and prevent deterioration**

7.3.2.1. **Supportive psychotherapy**

The reality of many chronic PTSD patients is such that all previously-mentioned techniques may become ineffective. Exploration provokes panic and regression, cognitive restructuring is hampered by problems of concentration and memory, and exposure in vivo fails -- or even aggravates the situation. Such patients may also be subject to periodical deterioration, and may react be increased distress, excessive drinking or suicidal ideation to adverse life circumstances (such as pending divorce, loss of job).

For such patients the main goal of therapy is stabilization and control of one’s responses to adverse life events and daily frustrations. Therapy becomes focused on helping people with the ordinary daily tasks that they find difficult to achieve. For example, a patient may be helped to request an hour off work during mid-day when working for full days is over-demanding. Patients may learn to better manage anger, to verbalize their own emotions, and to recognize and name their symptoms. Such ‘supportive therapy’ is often seen as secondary in quality and inferior in goals. It is, however, essential, effective and often gratifying for both care givers and patients. Contrary to many therapists’ expectations, patients in supportive therapies become very attached to their treatment and, when given proper attention, encouragement and advice, may overcome difficulties that would be insurmountable without such accompaniment.

7.3.2.2. **Learning to cope with illness, symptoms and limitations**

More specific approaches to maintenance treatment are techniques that specifically teach the patient to cope with the disorder’s main symptoms and expressions. A working subject may keep his job if trained, in therapy, to disengage for few minutes every hour, before anxiety or anger appear. Anger management may also have significant effects on families and children, as well as on the individual himself.

7.3.2.3. **Management of drug and alcohol misuse**

These ‘adverse health practices’ are extremely frequent in trauma survivors (whether with PTSD or not). Their management may take precedence over treating traumatic stress disorders in many instances (see also pharmacotherapy below).

7.3.2.4. **Therapies designed to enhance family and group support**

Families are profoundly affected by PTSD in one member. In other situations (e.g., natural disasters) entire families are traumatized - yet one individual may be more symptomatic than others. Among behaviors that are particularly difficult for families to tolerate are irritability, anger, short temper, pessimism, emotional numbing, distancing, mistrust and loneliness. Families (and particularly spouses) need
(a) to be educated about the condition, such that they can somehow predict a reaction
(b) to be supported in their attempts to keep the family together
(c) to be recognized for these efforts and have their distress validated and valued.

Spouses of PTSD patients are often very angry themselves, frustrated, and burned out. For some, emotional disengagement, is the best protective strategy (Solomon et al., 1992). In particular, one should be aware that strong attachment to a traumatized family member may coexist with anger, criticism and distancing. Group sessions of spouses, in which sharing and mutual learning may occur, are one of the recommended approaches to families of chronic PTSD patients.

7.3.3. How to save helping teams from burnout

Attrition among care providers is not confined to family members. Helping-professionals may find themselves tired, discouraged or overwhelmed by treating trauma survivors. During the acute stage of traumatic events, we have proposed the following elements of mental hygiene for helpers, most of whom tended to over-engage themselves (Shalev et al., 1993):

(a) never work alone, be part of a group.
(b) know your limits, disengage from your role for periods of relaxation and recreation.
(c) despite being caught in intense rescue efforts, do not forget your own family and friends, and try to remain in contact with them.
(d) always consult when things become difficult. Don’t exhaust yourself in heroic efforts.
(e) be aware of preliminary signs of attrition, such as difficulties to concentrate, nightmares, being immersed in views and stories of your patients.

Beyond individual hygiene, we found that a group of supporters must have a routine of group debriefing and exchange among members. Additionally, not all members of a group should be primary-care providers: some should take the role of leaders and supervisors, capable to be consulted and to help others manage their responses. Hierarchical and friendly structure of a group was found to be of great value during acute response to trauma.

7.4. Pharmacotherapy

7.4.1. Overview

This section addresses the pharmacotherapy of acute stress disorders and PTSD (for review see Davidson, 1997). The pharmacotherapy of other disorders that follow trauma (e.g., depression, panic disorders) is extensively covered in the literature. In addressing the pharmacotherapy of PTSD one should be aware the following:

a) None of the existing products has been especially developed for PTSD (to date, there are no specific pharmacological probes that could lead to such discovery in the laboratory). Hence, for the treatment of PTSD we borrow medications that have been developed and marketed for other mental disorders.
(b) Compared with most other mental disorders, PTSD is a recent diagnostic entity, for which serious therapeutic trials have only recently started. Indeed, the first double blind study of pharmacotherapy in PTSD was published in 1988 and included 34 patients (Frank et al., 1988).

(c) For many years, the pharmacology of PTSD has been evaluated in combat veterans with chronic PTSD (e.g., Shalev, 1997). This has resulted in a general feeling that the disorder is particularly resistant to pharmacotherapy.

(d) For the time being, most studies of the pharmacotherapy of PTSD have evaluated change in PTSD symptoms, symptoms of depression and anxiety. The effect of pharmacotherapy on the person’s whole life may differ from that recorded under controlled conditions.

(e) Finally, pharmacotherapy, in PTSD is palliative and not curative, in that it’s only achievable goal is to reduce the expression of the disorder, alleviate mental pain and enable better life. Such achievements, however, are of major significance for the individual and his environment. Nothing is known, at this point, about the conservation of drug effect after discontinuation of treatment.

7.4.2. Specific products

7.4.2.1. Tricyclic antidepressants

The tricyclic agents (TCAs) have been the main tool for treating depression for more than forty years. TCAs have also proven efficacy in the treatment of anxiety disorders. Given the frequent occurrence of depressed mood and anxiety, in PTSD, the rationale for using TCAs in this disorder is understandable. Most studies employing TCAs reported relief in PTSD symptoms, (e.g., sleep, intrusive symptoms and re-experiencing) as well as improvement of mood. The two largest controlled studies of TCAs (Davidson et al., 1990, Kosten et al., 1991) have shown significant superiority over placebo, yet moderate effect size.

7.4.2.2. Monoamine Oxidase Inhibitors (MAOIs)

The clinical indications for prescribing MAOIs are similar to those of TCAs. MAOIs, however have life-threatening side effects (hypertensive crisis) which may occur when the patient does not observe strict dietary restrictions. Trials of MAOIs in PTSD employed phenelzine, a frequently-used ‘traditional’ MAOI. Most studies have shown a significant improvement relative to placebo (e.g.,Kosten et al., 1990, Frank et al., 1988) Improvement with MAOI’s encompassed reexperiencing symptoms insomnia and nightmares. A singly study of reversible MAOI’s has not shown efficacy in PTSD (Baker et al., 1995).
Table: Controlled Studies of Pharmacological Therapy for PTSD

<table>
<thead>
<tr>
<th>Drug &amp; Dose (mg/day)</th>
<th>Design, Duration</th>
<th>Population</th>
<th>N</th>
<th>Results/Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anti depressants</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Davidson et al., 1990</td>
<td>Amitriptyline (50-300) Vs. Placebo</td>
<td>DB, PC 4 &amp; 8-Wks</td>
<td>Misc. PTSD</td>
<td>40 Sig. effect on depression on Week 4. Additional effect on Week 8</td>
</tr>
<tr>
<td>Kosten et al., 1991</td>
<td>Phenelzine (60-79) Imipramine (50-300) Placebo</td>
<td>RA, PC 8-Wks</td>
<td>Veterans</td>
<td>19 23 18 44% improvement w/ Phenelzine &amp; 25% with Imipramine on week 5. Improved intrusion symptoms</td>
</tr>
<tr>
<td>Van der Kolk et al., 1994</td>
<td>Fluoxetine (20) Placebo</td>
<td>DB, PC 5 Wks</td>
<td>War Veterans &amp; Civilians with PTSD</td>
<td>23 24 Reduction in arousal, numbing &amp; depression. Better results in civilians with recent PTSD.</td>
</tr>
<tr>
<td>Kline, et al., 1994</td>
<td>Sertraline (98.5)</td>
<td>OT 3 months</td>
<td>Veterans</td>
<td>19 Sig. reduced dysphoria, irritability</td>
</tr>
<tr>
<td>Marmar et al., 1996</td>
<td>Fluvoxamine (range 100-250).</td>
<td>OT, 10 weeks.</td>
<td>Veterans with Chronic PTSD</td>
<td>11 Improvement in intrusion, avoidance and arousal by week 6 with marginal additional change by week 10</td>
</tr>
<tr>
<td>Dow &amp; Kline, 1997</td>
<td>SSRI’s, TCA’s, Phenelzine, Bupropion, Lithium.</td>
<td>OT 1-22 months</td>
<td>Veterans with PTSD and depression</td>
<td>72 Improvement in 50% of subjects SSRI’s seem better than NA specific TCA’s.</td>
</tr>
<tr>
<td>Hertzberg et al., 1996</td>
<td>Trazodone; 300 mg/day</td>
<td>OT; 16 week.</td>
<td>Vietnam Veterans</td>
<td>6 Improvement in PTSD symptoms and sleep but not depression and anxiety.</td>
</tr>
<tr>
<td><strong>Benzodiazepines</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Braun et al., 1990</td>
<td>Alprazolam Vs Placebo (2.5-6)</td>
<td>DB, PC, CO 5 Wks,</td>
<td>Misc. PTSD</td>
<td>10 Sig. improvement in anxiety. No effect on intrusion &amp; avoidance.</td>
</tr>
<tr>
<td>Gelpin et al., 1996</td>
<td>Clonazepam, Alprazolam (2.5)</td>
<td>Prospective case control</td>
<td>Recent trauma survivors</td>
<td>26 No on the course of PTSD symptoms, More PTSD in active treatment group.</td>
</tr>
<tr>
<td><strong>Others</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lipper et al., 1986</td>
<td>Carbamazepine (577-780)</td>
<td>OT 6 Wks</td>
<td>Veterans</td>
<td>10 Global improvement, less nightmares, flashbacks, and intrusion Sx.</td>
</tr>
</tbody>
</table>
7.4.2.3 Serotonin Specific Reuptake Inhibitors (SSRIs).

Because they combine efficacy, lesser side effects, ease of administration and lower toxicity, SSRI’s have become a treatment of choice for depression, panic disorder and obsessive compulsive disorder. Symptoms that accompany PTSD, such as irritability, impulse dyscontrol, depressed mood, suicidality, and obsessional thinking are thought to be mediated by serotonergic mechanisms -- hence the rationale of trying these compounds in PTSD.

Some success has been recorded with Fluoxetine, Fluoxamine and Sertraline on symptoms of intrusion and avoidance, explosiveness and irritability (Van der Kolk et al., 1994; Marmar et al., 1996; Dow and Kline 1997) Better results may be achieved in patients with more recent PTSD. Smaller doses may be necessary, at least in the beginning of treatment (Van der Kolk, personal communication). Preliminary results of ongoing studies of SSRIs in PTSD show 44%-49% reduction in PTSD symptoms intensity with Sertraline (Davidson J, et al., Poster at ACNP, 1997)

7.4.2.4 Benzodiazepines

Only few studies have assessed the efficacy of benzodiazepines in PTSD, and only one (Braun et al., 1990) was placebo controlled. As expected, no major breakthrough in symptom reduction was achieved, although all studies report improvement in anxiety and sleep symptoms. Benzodiazepines carry a risk of addiction and tolerance.

Gelpin et al., (1996) compared 13 trauma survivors who received clonazepam or alprazolam within 18 days of their traumatic events with 13 trauma survivors, matched for symptom severity one week after trauma, who did not receive any pharmacological treatment. The treatment had no effect on the course of PTSD symptoms and the incidence of PTSD was higher in the treated group. A weakness of this study, however, is the lack of random assignment to treatment groups, and the relatively low doses of benzodiazepines administered. It warns clinicians, however, of the possibility that some drug interventions may interfere with recovery from traumatic experiences, and increase the risk for developing PTSD.

7.4.2.5 Mood Stabilizers

The administration of mood stabilizers such as lithium and carbamazepine in PTSD has been construed as an attempt to reduce the mood variations that are seen in PTSD, and a way to control a putative kindling phenomenon, which was thought to be involved in the genesis of the disorder. Although most studies were not placebo controlled, improvement has been observed consistently, involving symptoms such of anger, irritability, violence, impulse control, as well as nightmares, flashbacks, intrusive recollections and insomnia (Lipper et al., 1986; Fessler 1991).

7.4.2.6 Other Agents

Attempts to treat PTSD with other agents have been published. Most were open clinical trials or case reports. A study of trazodone (Herzberg et al., 1966) reported
improvement in PTSD symptoms, as measured by clinician administered interviews. An open trial of *Buspirone*, (Duffy and Malloy, 1994) showed a reduction in reexperiencing symptoms, avoidance and intrusion in most subjects. The beta adrenergic blocking agent, *propranolol*, was found useful in children with acute PTSD (Famularo et al., 1988). Interestingly, anti-psychotics, a most frequently used category of drugs, have not been studied in PTSD. Yet, some clinicians do administer neuroleptics to very chronic and agitated PTSD patients, when treatment with other agents fails, or during severe dissociative states (Shalev, Galai & Eth, 1993).

8. **Treatment and prevention: Implementation**

The following section addresses the management of stress disorders at each stage of the chronological progression from acute response to chronic PTSD. We prefer the term ‘management’ to that of ‘treatment’ because many significant interventions -- particularly at the earlier stages of the response to trauma, are not provided by medical personnel. This section uses information discussed above and does not repeat it. The discussion of each phase is subdivided into four elements:

(a) major source of distress,

(b) typical psychological responses,

(c) observable symptoms

(d) recommended management.

The resulting over-simplification is hoped to be balanced by increased clarity, organization and usefulness.

8.1. **Pre-impact phase**

As discussed above the etiology of post-traumatic stress disorders encompasses several pre-trauma factors, most of which (e.g., lifetime depression, education, poverty) are not amenable to interventions following trauma. Better preparation to extreme events, however, may reduce their stressfulness and thereby their pathogenic impact. Moreover, some traumatic events (e.g., air raids in war; earthquake in prone geographical areas or assultive violence on women) are of high enough probability to deserve special preparation. Other disasters are preceded by warning and pre-impact phase, during which something can be done. Finally, rescue workers are likely to be exposed to stressful events and should be prepared for their own reactions and those of their future clients.

In a very schematic way, it is proposed that effective preparation might include the following:

- (a) measures to reduce personal risk during exposure (e.g., shelters, gas masks, proper clothing, provision of food).

- (c) information about emergency resources (e.g., who to call, where to buy food, location of medical station etc.)
• (b) measures to preserve communication and clarity of action (e.g., within helping teams, between survivors and rescuers).

• (c) measures to enhance trust in the larger group and its leadership.

Some researchers recommend to prepare individuals to their own psychological reactions, e.g., by teaching about PTSD or combat stress reaction. For the author of this document, however, suffice it to prepare individuals to the possibility that they may temporarily be overwhelmed by emotion, fatigue, or confusion, and that such experiences are to be expected and **should not be interpreted as sign of personal weakness, guilt, or psychopathology**. Teaching about PTSD, a disorder that may develop in about a third of trauma survivors within four months, is particularly confusing, as many PTSD symptoms are normally expressed by mentally-healthy trauma survivors.

8.2. Impact phase “When Disaster Strikes”

8.2.1. Psychological task

During the impact phase of a traumatic event individuals struggle for **survival, clarity of mind, control** and **clarity of action**. Personal survival, however, may conflict with that of others (comrades, family members), with protecting vital resources (keeping one’s house from burning) or with one’s assigned role (e.g., during combat). Typically, there is not enough time to make complex choices about the way to act, hence a lot of what happens during the impact phase may receive its meaning during the days that follow the event.

Coping has been discussed above, yet the following enclosure illustrates some of the goals of **coping with immediate adversity**. The elements below may be found in a variety of combinations. Importantly, even relative success in one dimension may increase the person’s sense of control and reduce distress.

<table>
<thead>
<tr>
<th>Styles of coping with acute stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Action against the effect of the stressor (“Fight”)</td>
</tr>
<tr>
<td>• Escape (“Flight”)</td>
</tr>
<tr>
<td>• Attempts to gain control over one’s responses (emotions, thoughts, worry)</td>
</tr>
<tr>
<td>• Attempts to gain resources (food, shelter, communication)</td>
</tr>
<tr>
<td>• Attempts to seek information and improve one’s appraisal.</td>
</tr>
<tr>
<td>• Emotional distancing, denial, numbing, dissociation.</td>
</tr>
</tbody>
</table>

8.2.2. Clinical expression

There is no ‘typical’ picture of acute response to stress and the above symptoms are variable and labile (Yizhaki et al., 1991). What would be more typical expression of severity is that an individual has ceased to carry on his normal function, be it as soldier (Kormos, 1978), medic or mother in a household. Individuals who find their coping resources overtaxed may express the following symptoms:
8.2.3. Interventions

The most important intervention, while threat is still present, is to help the person’s concrete efforts to face adversity and reduce the effect of the primary stressor. Individuals who cease to function, temporarily, should be brought to shelter and provided with time, warmth, and protection in sufficient amount to help them regain forces. No symptoms is pathological at this stage. Body contact warmth, and “the inalienable sympathy of one man to another (Manning, 1930), are usually the best measure to take.

Specific needs (e.g., find other family members, reduce pain) should be responded to concretely and honestly.

In all those exposed, stress may induce a neglect of physiological needs. Consequently some may be dehydrated, cold, overheated or starving. These physiological needs should be catered for with the highest priority.

Stress may temporary induce analgesia and neglect of physical injury. Assessment of vital signs and physical examination should, therefore, be mandatory in all medical stations.

Rescue workers tend to expose themselves more than their forces allow, often because they can not disengage from action. This may be handled by group leaders who should order people to sleep, eat, and regain forces.

Finally, one can not overestimate the value of accurate and reliable information, at all levels. This include information given to populations about an ongoing disaster, information given to injured individuals about their physical condition and that of their relatives, and information given by the media. Confounding information, dramatizing media reports, and conflicting messages from authorities add to the chaos felt by individuals exposed, and thereby to the stressfulness of events. In order to be of help, information provided to survivors should be periodic, concrete, clear and goal directed.

8.3. Short term response (first days)

8.3.1. Psychological task

During the few days that follow traumatic events individuals start to reappraise what had happened and adjust to it. Psychological distress becomes as important as concrete physical threat. Reappraisal includes going back to memories of the traumatic event reviewing them, and assessing their meaning to the individual. This is the main
psychological task of the early days that follow trauma. Reviewing the trauma is often involuntary, intrusive and painful, particularly when the traumatic event has been associated with loss, with extreme psychological reactions, or with exposure to atrocities. Most survivors experience intrusive recollections of the traumatic events. The mere presence of such symptoms, therefore, is not a sign of psychopathology. Following are the main psychological tasks of this period.

**Mental task shortly after traumatization**

- Reappraisal, re-evaluation
- Of current situation
- Of immediate past
- Of immediate future
- Attempts to repair damage to self and others
- Concrete
- Mental
- Grief, mourning
- Coping with overwhelming affects, physical symptoms
- Coping with overwhelming reality (pain, relocation)

In most survivors such reappraisal, and the associated anguish, are self limited and would decrease without deliberate treatment. In others, however, the early response may go wrong and instead of progressively decreasing, may remain extremely disturbing and enhance the effect of the original trauma. Hence, the clinical task, at this stage, is to **identify, amongst those who express sorrow, grief and distress, those in which the process in non-productive and leads to further illness.**

It is at this stage, therefore, that the evaluation of **effective coping** applies: When the intrusive syndrome **enhances communication, allows for periods of relaxation and sleep and does not paralyze the survivor,** the intervention may be limited to following the patient and reassuring him (or her) about the normalcy of the process. In cases where signs of ‘bad coping’ appear, one has to worry and intervene to prevent the occurrence of psychopathology.

From a **biological perspective,** extended duration of hyperarousal may enhance memory traces related to the traumatic event. Repeated recall of the traumatic event, may similarly etch memories and emotions in the brain, such that the association between traumatic memory and physiological alarm is progressively reinforced. The simple consequence of all biological considerations is that **extreme distress, early on after trauma, should be controlled, psychologically or pharmacologically.**

Finally, it is during this period that ‘**secondary stressors**’ have an important effect, and do not allow the person to engage on a recovery path.

**Secondary stressors that follow trauma**

- Pain, discomfort
- Relocation
• Separation from significant others
• Inaccurate or conflicting information
• Physical deprivation, hunger, thirst, exposure to adverse whether
• Lack of shelter
• Continuation of threat to self or others

Some secondary stressors can not be prevented. Others, however, are clearly under some control of either authorities or rescue teams. For example, pain control during transport to a hospital (or in the hospital) should be optimized. When relocation is required then it is mandatory to relocate entire families together. Information given to survivors and their relatives should be straightforward, including clear explanations about what is not known at a given point in time. Shelter and adequate protection must be offered and for those who still remain in a disaster zone, hope for rescue, and knowledge that rescue efforts are made is of critical significance.

8.3.2. Clinical expression

Individuals who come to medical attention at this stage may show the symptoms depicted in the table below. As stated above, the mere presence of symptoms is insufficient to inform us about the patient’s condition: It is the controllability of these symptoms and the degree to which the interfere with effective coping that should be evaluated. It is also important to remember that the clinical picture, at this stage, is labile, and that survivors are very responsive to human contact and quite suggestible.

Symptoms observed shortly after trauma
• Intrusive thought, feelings and images
• Labile affect and arousal
• Depression, numbing
• Insomnia, restlessness,
• Anger, frustration
• Attachment behavior or isolation

8.3.3. Interventions

Human contact is the most widely available and possibly the most effective remedy during the early aftermath of traumatic events. Survivors may or may not want to talk about the trauma, but will always appreciate and respond to appropriate attitude of a rescuer, a nurse, or a doctor. Psychologists who work in disaster zones should engage in the very elementary aspects of help, as all others. No treatment technique is especially recommended, but the two main goals are clear: reduce psychological distress and protect from secondary stressors.

An important principle is therapeutic flexibility, i.e., the ability to adapt the rescuer’s response to the survivor’s changing needs. Survivors do not have to talk about the traumatic event if they do not wish to: many may need to collect themselves before they
communicate with others. Other survivors may need to repeatedly talk about the traumatic event, and those who help them should be instructed that the production of such redundant stories is normal and healthy. Some survivors may wonder whether the intensity of their intrusive recall (e.g., “I physically feel the shock of the accident” to “I go on hearing screams and yelling”) are symptoms of madness, and they (as well as their relatives and care takers) should be advised that such intensities are to be expected and do not signal pathology.

**Group sessions**, such as debriefing, have been conducted, mainly among professionals who were exposed to trauma. These interventions were not found to prevent prolonged stress disorder, as measured several months to one year later (e.g., Deahl et al., 1994; Raphael et al., 1995). Debriefing sessions, however, do seem to reduce distress and enhance group cohesion in the shorter term (Chemtob et al., 1997). The technique of critical incident stress debriefing (CISD, Curtis, 1995; Mitchel and Dyregrow, 1995) is not treated in this work.

**Pharmacological interventions** may be engaged when the person suffers from severe and unremitting anxiety, physical restlessness, insomnia due to nightmares, depressive rumination or dissociative symptoms. If benzodiazepines are given, then they should be administered for short duration, in high doses, and for well targeted symptoms. High-potency benzodiazepines should be preferred and benzodiazepines with short half life avoided. Antidepressants have no specific indication at this stage. Clonidine has been used with some success, and so were some antipsychotics (e.g., chlorpromazine during the Vietnam war, Sulpiride more recently), with no controlled results on record. All in all, the clinician is here in an uncharted area and should use his or her clinical judgment and experience. Any pharmacotherapy at this stage should be perceived as temporary.

**8.4. Medium term response (first weeks and months)**

**8.4.1. Psychological task**

This is a critical period, in which many survivors who expressed initial (and normal) responses have already recovered, and the few who remain symptomatic are at higher risk for remaining permanently ill. It is at this stage that those who remain symptomatic require fully deployed psychological and pharmacological treatment. The psychological process, at this stage, is that of passage to chronicity. Specific syndromes (PTSD, major depression) are fully expressed and can be recognized and formally diagnosed. The initial processing of the traumatic event may have not been successful, and negative beliefs about self and others start to be generalized. Extended avoidance is seen, and irritability and exaggerated startle are present. It is during this time that many trauma survivors seek treatment.

**8.4.2. Clinical expression and diagnosis**

PTSD (see description above) is obviously the most prevalent disorder, with prevalence rates, three months after traumatization being approximately twice to three times as high as in the chronic stage. Hence, 50% to 66% recovery is still expected.
Major depression is also present at this stage, with prevalence rates lower than PTSD. About 55% of those depressed at this stage also have PTSD (Shalev et al., 1998). Depression, however, is an important predictor of chronicity of PTSD and should be specifically and fully targeted by treatment.

Anxiety disorders are also seen (see figure below). Comorbidity between PTSD and depression is associated with elevated levels of distress and with poorer prognosis. Moreover, in a recent study depressive symptoms were the best predictors of chronicity.

8.4.3. Interventions

8.4.3.1. Specific

Interventions during this phase should have clear curative goal. The survivor who intensely express symptoms of PTSD, depression or anxiety should be seen as suffering from an active illness that may create extensive damage if not confronted and contained.

Interventions should, therefore, explore the traumatic event, evaluate the presence of inappropriate defenses, actively reduce psycho-biological expressions of disease and prevent avoidance of normal tasks and deterioration of working capacity and family relationships. Active and specific treatment is recommended, as well as combination of various interventions (e.g., pharmaco-therapy, psychotherapy and assisted return to work). It is also recommended to detect and address, at this early stage, adverse health behavior such as alcohol and drug misuse.

8.4.3.1.1. Pharmacotherapy

Unfortunately, we only have preliminary data on effect of pharmacological treatment at this stage, yet some efficacy of benzodiazepines, antidepressants and mood stabilizers has been recorded. Pharmacotherapy at this stage should go beyond the initial ‘stress reduction’ and seek to address specific syndromes. Sleep (nightmares), irritability, depression, avoidance and intrusive recall are the cornerstones of psychiatric evaluation at this stage and changes in each should be targeted and documented. Pharmacotherapy can be used in conjunction with psychological treatment, education and support.

Depression may be treated by therapeutic doses of anti-depressants, with care to change an anti-depressant or use augmentation techniques (added lithium and/or anti-convulsants) when an initial product does not succeed. Dissociative episodes with loss of contact with reality merit a short trial of neuroleptics, along with training the patient to better control the dissociative response. Finally, physically-injured individuals who can not separate themselves from opiate analgesics should be assessed for the presence of anxiety or depression, which might have escaped the evaluation by surgeons and pain specialists.

8.4.3.1.2. Psychological interventions

When available and socially acceptable, specialized therapy, such as cognitive behavioral therapy, interpersonal therapy and other forms of explorative therapies are
recommended if (a) they focus on the actual trauma and its concrete effect (rather than dwelling into the past); (b) they do not create uncontrollable distress in the patient and securely respect the patient’s need for safety and (c) they measure their progress by achievements made, by the patient, in real life (e.g., less avoidance, better sleep, increased capacity to spend time with others) and not by theoretical progress or by progress achieved during treatment sessions. These approaches have been described in the previous section.

8.4.3.2. Help by non-professionals

Event when formal psychotherapy is not available there is still much to do. Firstly, regression and avoidance should be controlled. Traumatized individuals should be encouraged not to withdraw from previous tasks and from society. Secondly, survivors may be able to better share their burden with those who had similar experiences, and such group encounters could be organized. Grief and recognition for those who lost their lives, through formal ceremonies, may open the way for people to start their personal grieving. Hope, future orientation and transcendence of the traumatic circumstances are extremely valuable, whether conferred by trained psychologists, group leaders at work, community officials or spiritual leaders. Finally, adverse circumstances which may still exist, should not be forgotten, as it is often found that helping agencies are quick to withdraw from disaster areas during this stage, leaving many problems unsolved.

“Non Professional” interventions

- Confront avoidance, encourage individuals not to reduce their living territory.
- Encourage early return to work, performance of social roles.
- Provide opportunity for sharing in peer groups or congregations.
- Reduce the effect of adverse living conditions
- Reduce adverse health practices, alcohol and substance abuse
- Ensure proper grief, burial and recognition of those who lost their lives.
- Word of hope and transcendence of current suffering may come from physicians, fellows at work, community and spiritual leaders.
- Address inner forces, resilience and desire for life

8.5. The chronic disorder

8.5.1. Psychopathology

The treatment of chronic PTSD has been addressed in several manuals (e.g., Wilson and Raphael, 1993). As general framework, one may wish to see the chronic disorder as a combination of overlapping biological psychological and social disturbances which includes the following elements. In addition, chronic PTSD is often complicated by substance abuse, social drift, family breakdown and loss of job. All and each of these elements are targets for interventions, which in many cases should be multi-modal, rehabilitation oriented, and often aimed at stabilizing the condition and reducing its symptomatic expression.
The Bio-Psycho-Social “levels of trauma” template of chronic PTSD (Shalev, Galai & Eth, 1993)

I. Biological expression
- Hyperarousal
- exaggerated startle
- neuroendocrine abnormalities
- increased physiological responsivity to challenge
- distressful redundant and ‘automatic’ recall of the trauma
- loss of affective modulation, alexithymia

II. Psychological expression
- Fear conditioning, hypervigilence, avoidance
- Shattered cognitive schemata
- Depression, hopelessness

III. Social and spiritual expression
- Loneliness, alienation, isolation
- Alteration of the sense of social relatedness

IV Complications
- Substance abuse
- Social drift, breakdown of families
- Loss of job

The treatment of chronic PTSD is beyond the scope of this manual and the reader may consult the references provided within the discussion of treatment modalities above.

9. Conclusion

Any attempt to condense, in a short manual, enough practical knowledge about traumatic stress disorders, their etiology, their clinical expression and their therapy is bound to be lacking, reductionist and schematic. This manual is not an exception to this rule. It has been organized with the hope to create continuity of meaning between theory, clinical observation and pragmatic conclusions, hence, for example, its reliance on a simplified ‘coping’ theory. This work is also meant to go beyond advice to trained professionals, hence the emphasis on the healing effect of common human interactions. More than anything else, this work is meant to dedramatize and clean the approach to trauma survivors from futile theoretical complexities, aristocratic jargon and vain professionalism. This is done despite clear acknowledgment, by the author, of the complexity of traumatic events and traumatic responses.

This approach is not far from reality. Trauma and traumatic responses, are, in fact both complex and very simple. The human species survived extreme adversities better than any other creature of nature, and such capacity for survival preceded modern science, empiricism or even literacy. The strongest elements of surviving trauma are, therefore, in our instinctual responses to threat, to injury and to healing.
Mankind survived adversity in groups, hence the decisive element of coping in groups and as a group. Group mentality includes overt conducts, explicit and implicit rules, but mainly transcendence, spiritual belief and the capacity to perceive and imagine the future. None of these healing ingredients has been challenged by science. Hence, the fruits of the latter (including diagnostic routines, treatment protocols, pharmacotherapy) should be seen as an adjunct to the wisdom that may be derived from the former.

Finally, individuals are often more resourceful, resilient, and have stronger desire for life than some of their responses would lead to believe. Addressing inner forces is too-often forgotten art of good leaders, good physicians and good therapists. In a way, one is truly unable to treat trauma survivors without firstly endorsing the belief in human strength and resilience, and in their being expressed by each survivors, at each stage.
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Beverley Raphael’s 1984 book “When disaster strikes” is still the recommended resource here.