of recovery depending on the type of trauma, or somewhat stricter exposure homework assignments in the Bryant et al. studies.

CBT Starting 1 to 3 Months After Trauma

Three other research groups have delivered broadly similar CBT interventions between 1 and 3 months posttrauma. Ehlers et al. (in press) recruited traffic accident survivors with PTSD about 2 months after the accident and had them complete a 3-week self-monitoring phase prior to enrolling in a formal CBT trial. Those patients who still had PTSD at the end of this phase were randomly assigned to either up to 12 weekly sessions of CBT ($n = 28$), a self-help condition (one session with a clinician and a self-help booklet; $n = 28$), and repeated, but infrequent, assessments of PTSD symptoms ($n = 29$). The CBT program emphasized cognitive therapy rather than prolonged, repeated imaginal exposure to traumatic memories (see Ehlers & Clark, 2000). CBT was superior to self-help and repeated assessment on all measures at posttreatment and at follow-up. The 11% PTSD rate at 6 months after CBT (i.e., 1 year posttrauma) was lower than the 54% rate for patients receiving repeated assessments and lower than the 60% rate for patients in the self-help condition. On most measures, the self-help condition did not differ from the repeated-assessment condition; the only exceptions were that the self-help group had a lower rate of high end-state functioning (a combined measure of PTSD symptoms, anxiety, depression, and disability) and a greater rate of requests for treatment at follow-up.

In another study, Öst, Paunovic, and Gillow (2002) randomly assigned crime victims with PTSD to up to 16 sessions of CBT or to a wait list. Treatment began between 4 and 12 weeks posttrauma. CBT comprised imaginal and *in vivo* exposure and cognitive restructuring techniques. At the end of treatment, the CBT group was significantly superior to the wait-list group on measures of PTSD symptoms, anxiety, depression, quality of life, and social adjustment. Among patients completing the trial, only 5% in the CBT group still had PTSD, in contrast to 65% in the wait-list group.

In an RCT from Spain, Echeburua, de Corral, Sarasua, and Zubizarreta (1996) provided a five-session cognitive stress-management program to rape survivors 1 to 3 months after the event ($n = 10$) and compared the effects of this approach with those of five sessions of progressive muscle relaxation ($n = 10$). There was no untreated group. The CBT program included information about typical responses to rape, cognitive restructuring of negative thoughts and guilt related to the event, training in coping skills such as relaxation and thought stopping, and instructions to gradually confront reminders of the event. No imaginal reliving was included. Both interventions markedly reduced symptoms of PTSD, anxiety, and depression. The cognitive stress-management group did not differ from the relaxation group at the end of treatment, but showed lower PTSD symptoms at the 1-year follow-up.

Overall, CBT treatments delivered 1 to 3 months after a trauma show promising results for survivors with PTSD. Relative to no treatment, CBT promotes recovery from trauma.

CONCLUSIONS, UNRESOLVED ISSUES, AND FUTURE DIRECTIONS

Effects of Early Interventions

Although psychological debriefing is widely used throughout the world to prevent PTSD, there is no convincing evidence that it does so. RCTs of individualized debriefing and comparative, nonrandomized studies of group debriefing have failed to confirm the method's efficacy. Some evidence suggests that it may impede natural recovery. For scientific and ethical reasons, professionals should cease compulsory debriefing of trauma-exposed people. In response to the disappointing results for psychological debriefing, crisis intervention specialists recommend psychological first aid, which includes attending to the survivors' individual needs in a nonprescriptive, flexible way. Data on the efficacy of this approach are needed. Raphael and Dobson (2001) recently put the need for the evaluation of acute posttrauma interventions in perspective:

> Because of the needs of survivors ("victims") and the often highly charged environments that follow traumatic events, there has been a reluctance to evaluate the interventions applied and at times suggestions that to even think of doing so is wrong because everything provided with such goodwill for those so badly affected must be of benefit. This is further emphasized by public demand and the perceived helpfulness of much that is provided. It is only now—with a growing body of evidence that much may not be of benefit, may be costly without good reason, and may even for some possibly produce harm—that requirements for evaluation can really gain acceptance. It should be clear that any interventions must be accountable and that their outcomes must be systematically evaluated in the shorter and in the longer term. Thus the requirement should be in place and a culture developed to evaluate all acute posttrauma interventions and their effectiveness or otherwise. (p. 155)

The evidence for the efficacy of early CBT treatment in preventing chronic PTSD among symptomatic trauma survivors is mixed, but encouraging. It remains unclear whether CBT given in the first month after trauma is more effective than repeated assessment without formal treatment (Foa et al., 2002), although CBT given from 1 month onward appears superior to assessment alone or no intervention (Ehlers et al., in press; Öst et al., 2002). Early CBT is superior to supportive counseling—at least for survivors with ASD (Bryant et al., 1998, 1999, in press).

Unresolved Issues

Ehlers and Clark (2003) and Litz et al. (2002) have identified unresolved issues in need of further research. First, for several possible reasons, some CBT studies have had much higher

dropout rates than others. For example, Bryant et al. (1999) and Foa et al. (2002) had dropout rates of 20% and 29%, respectively, whereas Ehlers et al. (in press) had a dropout rate of 0%. Compared with Bryant's and Foa's research teams, Ehlers et al. relied much less on prolonged imaginal exposure (reliving) of the trauma and much more on cognitive therapy for correcting maladaptive trauma-related beliefs. Cognitive therapy may be less stressful and therefore more acceptable, thereby diminishing dropout rates.

Second, people at high risk for chronic PTSD may require more than four or five weekly sessions. Recent studies in England and in Sweden suggest a dozen sessions may be warranted for some individuals.

Third, most studies have emerged from only a handful of research centers, and most patients have been survivors of road traffic accidents or assaults. There is a need to ensure that positive results can be obtained by researchers who are not also the developers of the intervention, and there is a need to ensure that preventive methods can reduce risk of PTSD arising from other stressors. Along these lines, Ehlers and Clark's program was evaluated in an uncontrolled trial for patients exposed to a terrorist bombing in Northern Ireland (including civilians affected by the bombing and professionals who had attended to severely injured and dying people; Gillespie, Duffy, Hackmann, & Clark, 2002). Excellent results were obtained by National Health Service professionals who received training from Clark and Ehlers's research team. This implies that cognitive therapy methods can be mastered and effectively applied by clinicians who are not experts on PTSD.

Fourth, it may be time to revisit and reexamine certain assumptions in the trauma field in light of emerging evidence on early intervention. For example, both debriefing advocates and CBT specialists have emphasized that detailed exposure to the memory of the traumatic events, including one's thoughts and feelings, is the (or an) avenue to recovery. However, studies indicate that repetitive imaginal reliving of the trauma may not be the only way to promote recovery (Ehlers & Clark, 2000) and may not even be necessary, as there appear to be multiple ways of promoting emotional processing (Rachman, 2001).

Fifth, clinical researchers need to recognize that traumatic events give rise to problems other than, or in addition to, PTSD. Accordingly, researchers need to assess whether early interventions reduce subsequent substance abuse, depression, and interpersonal problems, as well as stress reactions per se.

Sixth, the optimal time for psychological treatment of trauma survivors who show symptoms of posttraumatic stress remains unclear, and probably depends on several factors. The research on early CBT interventions has concerned people who experienced individual traumas rather than large-scale disasters. For those exposed to disaster, the optimal time for psychological treatment may be later, as treatment will be viable only when safety and infrastructures are reestablished, enabling a return to everyday life. Once these conditions are met, cognitive-behavioral treatments may be of benefit, as suggested by preliminary uncontrolled studies of exposure therapy for earthquake survivors (Başoğlu, Livanou, & Şalcıoğlu, in press; Başoğlu, Livanou, Şalcıoğlu, & Kalender, in press).

Several considerations apply in determining when to provide an intervention. On the one hand, it is important to intervene as early as possible to shorten suffering and prevent secondary problems such as alcohol abuse and adverse effects on social relationships. On the other hand, in the immediate aftermath of a trauma, many survivors have other needs that take priority, such as needs for surgical procedures for physical injuries, reestablishing safety, and reestablishing other aspects of normal everyday life (e.g., going back to work to prevent job loss). Thus, Brewin (2001) emphasized that trauma-focused treatment of refugees is likely to be unhelpful or ineffective while they still have realistic concerns about "the current whereabouts of their loved ones, their own housing and subsistence needs, and the probability that they will be returned to their country of origin" (p. 166). Mental health professionals providing early intervention must also recognize that many trauma survivors experience marked grief, which requires time to allow normal recovery. One also needs to bear in mind that very early interventions may treat some people who would recover on their own, and that the proportion of people who will recover without intervention depends on how severe their initial symptoms are. Thus, both the costs and the benefits of early treatment have to be considered.

Finally, traumatic events are very common, and not enough trained CBT therapists are available to treat all survivors with PTSD, let alone respond to major disasters that may affect thousands of people at the same time. It is therefore important to explore other ways of delivering these treatments. Self-help booklets have yielded disappointing results (Ehlers et al., in press). A pilot study of an Internet-delivered CBT treatment yielded promising results, although careful screening of who would be suitable for such approach is warranted (Lange, van de Ven, Schrieken, & Emmelkamp, 2001).

The Social Context of Intervention

Early intervention for trauma survivors occurs in a social, political, and economic context. As Amir et al. (1998) observed, offering debriefing and other early interventions for trauma survivors may meet "some social and political needs but not necessarily . . . the needs of the victims" (p. 241). Not everyone exposed to trauma either wants or needs professional help. Many therapists are inclined to attribute reluctance to partake of psychological services to "denial" or "avoidance." But trauma survivors who decline professional help may be either resilient or relying on the family and community networks of social support on which people have traditionally relied (see Gist & Lubin, 1999).

Interventionists must tread lightly in the wake of disaster so as not to disrupt natural social networks of healing and support (Gist & Devilly, 2002; Herbert et al., 2001), especially when

aiming to aid victims in the developing world (Bracken & Petty, 1998). For example, in many war-torn regions, the main goal of the victims is first to establish safety and then to restore their community and culture, not to process traumatic memories about the past (e.g., Giller, 1998). Offering Western interventions—whether psychological debriefing or CBT—is likely to puzzle the intended beneficiaries, who often regard psychotherapy as utterly foreign to their experience of the world.

Social and cultural factors may also impede natural healing. Certain norms and beliefs may lead survivors to think that they are irreversibly damaged by the trauma, thereby increasing their risk for PTSD. For example, many Kosovar women who were raped during the recent Balkan conflict regarded other people's response to their trauma—namely, the belief that they were defiled by the experience—as the worst part of their rape trauma. Culturally based beliefs that worsen the implications of a trauma may complicate treatment.

Finally, many people believe that experiencing, expressing, and disclosing intense emotion in response to stressors is an adaptive, healthy mode of coping. According to this view, "repressing," or inhibiting, emotional experience and expression is potentially damaging. However, these widely accepted assumptions about emotional processing are coming under increasing critical empirical scrutiny. For example, researchers who have studied modes of coping with everything from surviving a heart attack (Ginzburg, Solomon, & Bleich, 2002) to experiencing the death of loved ones (e.g., Bonanno & Kaltman, 1999; Stroebe, Stroebe, Schut, Zech, & van den Bout, 2002; Wortman & Silver, 1989) have reported data that either fail to support or contradict these assumptions. And some of this work affirms impressive levels of resilience in the face of irrevocable loss (Bonanno et al., 2002).

The Economic and Legal Aspects of Intervention

It is impossible to understand the intense controversy regarding early intervention without considering the economic aspects of the debate. As Deahl (2000) wrote,

> Many workers in the field of psychological trauma clearly have powerful vested interests in promoting the efficacy of interventions such as PD [psychological debriefing] that often they themselves have developed. Indeed research grants, as well as the livelihoods of individuals employed by companies contracted to provide debriefing services, might depend on it! The last decade has witnessed the emergence of a "disaster industry." (p. 931)

Other scholars have also discussed how high the financial stakes can be in the field of traumatic stress, and how tensions can arise between the goals of clinical science and business (e.g., Gist, Woodall, & Magenheimer, 1999; Ostrow, 1996).

There are also legal aspects of early intervention. Citing their approach as the "standard of care," Everly and Mitchell (1999, p. 135) have emphasized that by debriefing individuals (e.g., emergency service personnel, firefighters) following severe traumatic events, organizations can reduce risk of lawsuits. Everly and Mitchell mentioned examples of people who developed chronic psychological problems after not having been debriefed and successfully sued their employers for negligence. During an interview shortly after the September 11 terrorist attacks, a reporter mentioned to one of us that executives of 80 companies that had offices in the World Trade Center were planning to engage the services of commercial debriefing organizations to prevent PTSD among employees who had survived the attacks. The executives feared lawsuits should they fail to debrief their employees. Ironically, the executives may have had the liability risk backwards. Given the absence of data showing that debriefing works, and given some studies suggesting that debriefing may impede natural recovery from trauma, companies may be at heightened risk if they do debrief their employees, especially if they fail to provide informed consent (i.e., summarize all the studies showing no effect for debriefing). And this liability risk may be especially great if companies simply debrief everyone without conducting a formal psychological assessment first. Of course, debriefing advocates may claim that methodological flaws undermine the probative import of the studies unfavorable to debriefing, so that there is no obligation to tell employees about these studies. However, the lack of convincing empirical support for these interventions remains a serious problem.

Finally, early interventions for trauma, humanitarian in intent, must be understood against background assumptions about psychopathology and suffering in contemporary Western postindustrial society. Intense emotional experience is not necessarily indicative of psychopathology. As Ostrow (1996) observed, the emergency medical services community "may want to reexamine the all-American notion that we should always feel good, that stress is bad and that we have to take corrective action to resolve every negative reaction to stress, even if it is normal" (p. 36).

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REFERENCES

American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders* (3rd ed.). Washington, DC: Author.

American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders* (3rd ed., rev). Washington, DC: Author.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

Amir, M., Weil, G., Kaplan, Z., Tocker, T., & Witztum, E. (1998). Debriefing with brief group psychotherapy in a homogenous [*sic*] group of noninjured victims of a terrorist attack: A prospective study. *Acta Psychiatrica Scandinavica*, *98*, 237–242.