Every Crisis Is an Opportunity

By Matthew J. Friedman, MD, PhD

THE CRISIS

In the same way that a war mobilizes the creative energies of a nation and often leads to major advances in science, technology, and medicine, the terrorist attacks on the World Trade Center and the Pentagon provided a powerful impetus to advance the traumatic stress field. Stung by our inability to provide policymakers with recommendations on evidence-based, early interventions for survivors of the September 11, 2001, attacks, we have been forced to confront the major gaps in our current knowledge.

These gaps are myriad[1,2] and include our limited understanding of the natural longitudinal course of psychological consequences from the immediate post-impact phase to months and years later. They also include our inadequate scientific understanding of the psychological and psychobiological mechanisms underlying acute and long-term reactions to traumatic events and sparse empirical literature on which to base decisions concerning best practices for interventions. Questions of vulnerability and resilience have taken on a new urgency as we struggle to determine when to respect natural recovery processes and when to provide a formal intervention.[3] With the recognition that there is little empirical justification for psychological debriefing as a one-stop early intervention panacea for the population-at-large has come intensification of efforts to develop and test a variety of novel early interventions that may be suitable for adults and children during the acute aftermath of catastrophic events.[4]

There has been a major paradigm shift from an "illness" to a "wellness" conceptual context since September 11th. As a result, there is much greater emphasis on prevention rather than on reactive measures. Serious questions have been raised about the appropriateness of providing clinical treatments originally developed for posttraumatic stress disorder (PTSD) to a general population that is experiencing predictable psychological posttraumatic distress. With this conceptual shift has come renewed interest in a pro-active public mental health perspective from which to consider early intervention.[5]

The recognition that 95% of individuals exposed to traumatic events experience some degree of posttraumatic distress[6-9] has made it clear that such reactions cannot be considered abnormal. Most people reporting such distress will recover within weeks or months; ~30% will develop a persistent, incapacitating psychological state that conforms to criteria for PTSD, depression, or some other psychiatric disorder.[6-8]

Such findings confront us with many challenges. On one hand, mental health professionals must continue to develop conceptual and clinical tools for early diagnosis and treatment of individuals exhibiting frank psychiatric problems. This is familiar ground in some respects due to recent research on acute stress disorder (ASD) and some promising extrapolations from chronic PTSD treatment to the acute posttraumatic arena. On the other hand, this is unfamiliar territory since public mental health approaches need to focus on prevention, resilience, and community/societal interventions. This is also unfamiliar territory since, within a wellness context, the expectation for normal recovery shifts the spectrum of possible interventions to include preparation, public education, utilization of the media, and community outreach.

PREVENTING PSYCHIATRIC ILLNESS

It is well known that the majority of people exposed to traumatic events do not develop PTSD.[10] It has been suggested[11] that traumatized people who develop PTSD are different in some way, possibly genetic, from the majority who achieve normal recovery. Recent reports demonstrating gene environment interactions between different forms of the serotonin transporter gene and the incidence of major depressive disorder[12] suggest that genetic factors may also predict PTSD. Furthermore, we must distinguish between the acquisition and the maintenance of PTSD. Whereas many people who develop PTSD eventually achieve clinical recovery, others remain chronically affected for decades or a lifetime.[10,13] Schnurr and colleagues[13] have suggested that development and maintenance of PTSD are predicted by different pre-traumatic, traumatic, and posttraumatic factors. From a public health perspective, these findings and others suggess that we may look forward to the development of methods that can identify individuals at risk for acquiring PTSD and/or for maintenance of the disorder once it has developed.

Friedman[14] has suggested that the traumatic stress field may one day have a spectrum of diagnostic procedures for detecting vulnerable and resilient individuals with respect to PTSD that is analogous to medical tests for heart disease such as a cardiac stress test. I believe that this is a reasonable expectation since psychological and biobehavioral animal models as well as laboratory studies with PTSD patients have greatly advanced our understanding of acute and chronic clinical states.[15] Pitman and colleagues'[16] experimental use of propranolol for recently traumatized emergency room patients is an example of applying theory to practice. The possibility of preventing the development of PTSD through an intervention focused specifically on the adrenergic system is the first chapter in an emerging volume of theory-driven acute pharmacologic interventions for acutely traumatized individuals.

In this month's first article, Roger K. Pitman, MD, and Douglas L. Delahanty, PhD, present a broad-spectrum conceptual model of the pathogenesis of PTSD within which to consider pharmacological interven-

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tions for acutely traumatized individuals. They postulate that Pavlovian conditioning is the mechanism through which traumatically driven amygdala activation leads to traumatic memory consolidation and, subsequently, to PTSD symptoms. Within this model, they propose a number of pharmacologic strategies that might be expected to interrupt this pathogenic process with specific attention to antiadrenergic agents, adrenocorticotropin, cortisol, and argenine vasopressin.

The review by Richard A. Bryant, PhD, shows how the work of Bryant and colleagues[17] is emblematic of a psychosocial approach, extrapolated from PTSD practice, in which a brief cognitive-behavioral therapy (CBT) is provided to individuals with ASD. CBTs, in their hands, has been successful in ameliorating ASD and in preventing the later development of PTSD. When considering this work, however, it is important to recognize that treatment is not initiated until 10–14 days after the traumatic event to ensure that individuals have an opportunity for spontaneous recovery of posttraumatic distress and most people who develop PTSD never exhibit ASD.[18]

Bryants's work in developing early interventions to prevent the later development of PTSD is just beginning. Additional pharmacologic studies will need to consider a wide spectrum of agents that affect other neuronal mechanisms in addition to adrenergic agents.[14] Additional psychosocial treatment research[3,4,19] will have to consider other approaches for adults and children, in addition to Bryant's CBT protocols. Questions of timing, dosage, and developmental, cultural, and other differences need to be addressed systematically. At some point we need to be able to differentiate those at risk for PTSD from those who are resilient and at much lower risk to develop a posttraumatic psychiatric disorder. Although this latter group is likely to experience transient rather than chronic PTSD reactions, the public health question is how to best accelerate recovery from posttraumatic distress to normal functional levels.

PROMOTING NORMAL RECOVERY

Although posttraumatic psychiatric disorders are a significant concern, it is important to place them in a public health context. After September 11th, 7.5% of New York City residents living south of Canal Street developed PTSD within 5–8 weeks of the terrorist attacks.[20] By 5 months, PTSD prevalence for this cohort had decreased to 1.7%[21] and was further reduced to 0.6% 6–9 months later.[22]

In the third article, Sandro Galea, MD, DrPH, and Heidi Resnick, PhD, caution us to reconsider questions about the nature of "exposure" to terrorism and the nature of PTSD among individuals within the general population who were neither victims of nor directly affected by a mass traumatic event. Utilizing data collected within the greater metropolitan New York City area following September 11th, they show that a significant number of persons who were not directly affected by the terrorist attacks had clinically important posttraumatic stress symptomatology as a result of these events.

For the population as a whole, rates of distress were considerably higher. Within 3–5 days of September 11th, 90% of Americans reported moderate distress and 44% endorsed $\geq$1 symptoms of severe distress.[9] Two months after the terrorist attacks it was found that 17% of the United States population living outside New York City reported posttraumatic distress.[23] These findings tell us that the vast majority of the population is resilient and will recover from an initial period of moderate-to-severe posttraumatic distress without developing a psychiatric disorder. They also suggest that, since almost everyone within the target area will be upset during the immediate posttraumatic aftermath, it is extremely difficult to identify individuals at greatest risk for PTSD or other chronic disorders. Advances in genetic, psychological, epidemiological, and biological research raise the possibility of future strategies for detecting individuals at risk for PTSD. Hopefully, accurate detection techniques will spawn more effective preventive strategies.

In the next article, Patricia J. Watson, PhD, and Arieh Y. Shalev, MD, having reviewed psychological interventions currently provided in the early recovery phase following mass traumatic events, conclude that there is little empirical support for any such intervention. Within the theoretical context of both stress and traumatic stress theory, they describe the challenge of designing a public mental health action plan that will, on the one hand, foster resilience among survivors who need stress management and education, and, on the other hand, provide more intensive interventions for survivors requiring clinical attention. From a systems perspective, such a strategy needs to be embedded within a multidisciplinary, multitiered disaster mental health system.

Fran H. Norris, PhD, and Margarita Alegria, PhD, have emphasized the influence of ethnicity and culture on the psychological impact and post-disaster recovery following large-scale traumatic events. Having identified ethnic disparities in service use following disasters, they propose measures that may ameliorate barriers to care such as collaboration with community resources, provisions of accessible services, and proactive efforts to reduce stigma and mistrust in order to engage minorities in care.

At the moment, it seems easier to find a needle in a haystack than to accurately identify people at risk during the immediate posttraumatic aftermath. Therefore, it seems reasonable to develop public mental health strategies for the general population than to target the minority at risk for chronic disorder. Such an approach would best prepare the population-at-large before such attacks occur, provide effective risk communication and education immediately afterward, and promote early detection and intervention for those most in need.[5]

Developing a wellness public mental health approach at the societal level is easier said than done. There must be societal endorsement of specific aims and objectives which must be prioritized. Implementation strategies

need to be developed and funded with the understanding that no one approach will work equally well everywhere. Desired outcomes must be operationalized so that quantitative assessment of success or failure can be determined scientifically and unambiguously.

Key measurable public mental health outcomes should be available to the general population; be relatively inexpensive; prepare the population ahead of time through a multipronged public educational program; ameliorate widespread distress through effective risk communication during the immediate posttraumatic aftermath; accelerate the timetable for restoration of normal functioning among people experiencing transient posttraumatic distress; provide credible outreach programs to different segments of the population; empower families and communities to achieve recovery; and provide screening, referral, and therapeutic services for those with clinically significant posttraumatic reactions.[5]

Traditional clinical approaches will not enable us to achieve these outcomes. Intervention strategies will need to be built on the scaffold of existing community infrastructure and institution. The tools for achieving such outcomes include societal procedures and activities such as legislation, public safety, public education, family self-help networks, and the media. A useful conceptual context within which to embed this approach is the inverted psychosocial pyramid that stipulates four levels of intervention: social, communal, family, and individual.[24-26]

Finally, we must recognize that criteria for success must be based on wellness, not illness. For example, we should be less concerned about traditional clinical goals, such as symptom reduction and prevention of PTSD, and more focused on restoration of function, facilitation of effective coping and health-seeking behaviors, enhancing knowledge and attitudes concerning traumatic stress, and promotion of mental and physical health.

CONCLUSION

The pertinent questions have moved beyond traditional concerns about chronic PTSD and the field of inquiry and arena for implementation have opened up in two major directions. First are the questions about the prevention and treatment of psychiatric illness that now encompass promotion of resilience and pre-traumatic preparation in addition to early intervention during the immediate post-impact phase. Second are the newer questions about promoting normal recovery. We are just beginning to operationalize pertinent scientific questions and to identify societal/community intervention strategies. Our concept of multidisciplinary research teams will take on new meaning as we join forces with sociologists, anthropologists, social psychologists, educators, journalists, media authorities, and communication experts. With these questions we have moved irrevocably into public mental health, where our focus is the population-at-large and our major concerns are prevention, promotion of resilience, and acceleration of normal recovery. Every crisis is full of opportunities and we must make the most of them; there is little time to lose. CNS

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