City Health Information

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Post-Traumatic Stress Disorder

Mental health problems, including post-traumatic stress disorder (PTSD), are the most pervasive public health problems to result from the September 11th attack. Although newspaper reports continue to describe worldwide sadness in response to the terrorist attacks of 2001, nowhere are the psychological sequelae as great as in New York City (NYC) and its surrounding counties.

Most people exposed to a traumatic event experience symptoms of distress immediately following the trauma. Recent epidemiologic studies conducted in and around NYC suggest that many will continue to suffer emotionally and may have impaired functioning. Physicians can help to both identify and treat the disabling and costly consequences of the September 11th attack.

This issue of *City Health Information* provides current information on PTSD, a post-disaster mental health problem. **PTSD is defined as an anxiety disorder in individuals who have been exposed to an extreme stressor that involved actual or threatened death or serious injury.** The threat does not have to be experienced directly; witnessing first-hand someone else experiencing such an event or learning about a loved one who experienced such an event qualifies as an extreme stressor. The severity of the stressor evokes feelings of intense fear, helplessness, or horror. In children, the response may manifest as disorganized or agitated behavior.

THE EPIDEMIOLOGY OF PTSD

- Approximately 1 out of every 12 adults in the US experiences PTSD at some time in his or her life.[1,2]
- During any given year, approximately 3.6% of persons in the US are experiencing PTSD.[3]
- According to a survey conducted by the New York Academy of Medicine, approximately 7.5% of adults residing below 110th Street in Manhattan reported having symptoms consistent with PTSD 1–2 months after the September 11th attack. The prevalence of PTSD among adults residing below Canal Street in Manhattan at that time may have been as high as 20%.[4] A follow-up study found that approximately 1 out of every 4 cases of PTSD in NYC, attributed to the September 11th attack, persisted for more than 4 months.[5]
- According to a survey conducted by the New York City Board of Education, 6 months after the September 11th attack, approximately 10.5% of NYC 4th–12th graders reported having symptoms consistent with PTSD[6]—approximately 5 times the estimated national rate prior to the September 11th attack.[7]

The following factors increase the likelihood of developing PTSD after a traumatic event:[4,6,8,9]

- Being a young child
- Being of female gender
- Lacking social supports
- Having a history of a psychiatric disorder
- Having previously experienced a traumatic event
- Experiencing a panic attack at the time of the traumatic event
- Experiencing stressful events subsequent to the traumatic event.

SYMPTOMS OF PTSD

PTSD is characterized by the following 3 clusters of symptoms:[10]

- **Persistent re-experiencing of the event** (e.g., nightmares and flashbacks)
- **Persistent avoidance of trauma-related stimuli, or experiencing a numbing of general responsiveness or emotions** (e.g., avoidance of thoughts, activities, people)
- **Persistent symptoms of increased arousal** (e.g., insomnia, irritability, hypervigilance, or an exaggerated startle reaction).

To meet the definition of PTSD, these symptoms must persist together for at least 1 month and cause significant distress or impair functioning.

RECOGNIZING PTSD IN MEDICAL PRACTICE

Those who suffer from PTSD often report physical complaints to their primary care physicians, as these may

TABLE 1: DIAGNOSTIC CRITERIA FOR PTSD

Exposure to a traumatic event

The individual was exposed to an event in which both of the following were present:

- The individual experienced or witnessed an event that involved actual or threatened death, serious injury, or a threat to the physical integrity of self or others, or had such an event occur to a loved one or close associate.
- The response the individual had to the event involved intense fear, helplessness, or horror. In children, this may be expressed instead by disorganized or agitated behavior.

Persistent re-experiencing of the event in 1 or more of the following ways:

- Intrusive recollections of the event, including images, thoughts, or perceptions. In young children, repetitive play may occur where themes or aspects of the trauma are expressed.
- Recurrent distressing dreams of the event; in children, frightening dreams may occur without recognizable content.
- Acting or feeling as if the traumatic event were recurring, including flashbacks (vivid memories experienced while awake); in children, trauma-specific reenactment may occur.
- Intense psychological distress in response to reminders of the event.
- Intense physiological reaction in response to reminders of the event (e.g., palpitations, sweating, breathing difficulties).

Persistent avoidance of stimuli associated with the event and a numbing of general responsiveness or emotions that were not present before the event, as indicated by 3 or more of the following:

- Avoidance of thoughts, feelings, or conversations associated with the event
- Avoidance of activities, places, or people that arouse recollections of the event
- Inability to recall an important aspect of the event
- Markedly diminished interest or participation in significant activities
- Feeling of detachment or estrangement from others
- Restricted range of affect (e.g., inability to feel love)
- A sense that one's life has been foreshortened or that there is no need to plan for the future.

Persistent symptoms of increased arousal that were not present before the event, as indicated by 2 or more of the following:

- Difficulty falling or staying asleep
- Irritability or outbursts of anger
- Difficulty concentrating
- Hypervigilance
- An exaggerated startle response

These symptoms must persist for at least 1 month and cause significant distress or impairment in functioning.

Adapted with permission from the *Diagnostic and Statistical Manual of Mental Disorders.* 4th ed. Washington, DC: *American Psychiatric Association;* 2000.

accompany the disorder.[11] These complaints may include:

- Headache
- Decreased appetite
- Decreased libido
- Palpitations
- Shortness of breath
- Nausea
- Unexplained pain.

Diagnosing PTSD may be particularly difficult because individuals with PTSD frequently suffer from comorbid psychiatric conditions, most often major depression or another anxiety disorder.[2] Comorbid disorders may increase risk of suicidality associated with PTSD; as a consequence, suicide risk assessment is an important element in the ongoing care of these patients. There is also an increasing body of evidence suggesting that those who suffer from PTSD have an elevated risk of medical illness.[12–14] PTSD is associated with changes in both the central and autonomic nervous systems, including altered electroencephalographic and adrenergic activity.[11,15] These alterations may play a role in fear responses and the cognitive problems that PTSD patients report.

As the amount of time since a traumatic event increases, a person suffering from PTSD becomes less likely to associate his or her physical and emotional symptoms with the event, and the symptoms are likely to become increasingly entrenched.[16] Hence, physicians should determine if there is a possible relationship between their patients' complaints and the stress their patients suffered in relation to the September 11th attack.

Two brief screening scales, one for adults and another for children and adolescents, are presented in Tables 2 and 3. Individuals who screen positive should be evaluated further to confirm the presence of the disorder; they should then be treated or referred to specialty care as needed.

TREATMENT OPTIONS

People who suffer from PTSD warrant treatment. Several forms of psychotherapy are recommended for treating PTSD. Cognitive behavioral therapy (CBT) is documented to be effective.[17] CBT for PTSD most often includes a combination of the following:

- **Exposure therapy** to reduce arousal and distress associated with memories of the trauma.
- **Cognitive therapy** to identify and change negative thoughts related to the trauma (e.g., guilt).
- **Stress-inoculation training** to manage and reduce anxiety.

CBT can be conducted either in individual or group sessions. CBT group sessions are especially helpful in reducing a patient's feelings of isolation and stigma and may be best for individuals with mild to moderate PTSD. CBT appears to be effective for adults as well as for adolescents and children. With young children, CBT often utilizes play and art.

Patients who continue to suffer from PTSD after a course of CBT may benefit from a combination of psychotherapy and drug therapy. Certain individuals with severe or functionally disabling symptomatology may warrant medication in combination with psychotherapy from the outset. The FDA has approved 2 drugs to treat PTSD — sertraline (Zoloft®*) and paroxetine (Paxil®*) — both of which are selective serotonin reuptake inhibitors.

TABLE 2: PTSD SCREEN FOR ADULTS

1. Did you try to avoid thinking or talking about September 11th afterward?
   Yes No
2. Did you stay away from certain places, people, or activities to avoid being reminded of September 11th?
   Yes No
3. Did you have amnesia for September 11th; that is, did you forget all or part of it?
   Yes No
4. After September 11th, did you lose interest in activities that were once important or enjoyable?
   Yes No
5. After September 11th, did you begin to feel more isolated or distant from other people?
   Yes No
6. After September 11th, did you find it more difficult to have love or affection for other people?
   Yes No
7. After September 11th, did you begin to feel that there was no point in planning for the future?
   Yes No

RECENCY

If you answered "Yes" to any of the above, have you experienced any of those things in the past month?
Yes No

To screen positive for PTSD, a person must respond "Yes" to <u>any 3</u> symptom questions. If the recency question is "No," recovery is likely; if "Yes," chronic PTSD may be present.

Adapted with permission from Carol S. North, MD.

TABLE 3: PTSD SCREEN FOR CHILDREN AND ADOLESCENTS 9–18 YEARS OLD

In the past 4 weeks...

1. Have you often thought about what happened at the World Trade Center (WTC) or what you saw?
   Yes No
2. Have you had problems falling asleep or staying asleep?
   Yes No
3. Have you had a lot of nightmares?
   Yes No

In the past 4 weeks...

4. Have you tried very hard not to think about the WTC attack and not to hear about or talk about it?
   Yes No
5. Have you stopped going places or doing things that might make you think about the WTC attack?
   Yes No

In the past 4 weeks...

6. Have you tried to keep away from people who might remind you of the WTC attack?
   Yes No
7. Have you stopped thinking about the future or about things that you might do when you are older?
   Yes No
8. Has it been harder to keep your mind on things or to concentrate?
   Yes No

To screen positive for PTSD, a child or adolescent must respond "Yes" to <u>5 or more</u> questions.

Adapted with permission from Short DPS Youth (WTC Version); 2002.
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Clinical experience suggests that if neither of these antidepressants is effective after approximately 8 weeks,[18] clinicians may consider changing therapy to either of 2 other antidepressants — nefazodone (Serzone®*)[19] or venlafaxine (Effexor®*) — which are inhibitors of both serotonin and norepinephrine reuptake. If only a partial response to either of these drugs is noted, consensus guidelines suggest adding the mood stabilizer divalproex (Depakote®*).[18] Neither benzodiazepines nor antipsychotic medications are recommended for the treatment of PTSD.

Because PTSD is often accompanied by other psychiatric disorders, it may be advisable to consult a psychiatrist for complicated cases with complex psychopharmacological needs.

* Use of brand names is for informational purposes only and does not imply endorsement by the New York City Department of Health and Mental Hygiene.

REFERRALS

Project Liberty, which is funded by the Federal Emergency Management Agency and administered by the New York State Office of Mental Health and the New York City Department of Health and Mental Hygiene (NYC DOHMH), provides free counseling services to any person residing or working in any of the 5 boroughs or surrounding counties of NYC who has been affected by the events of the September 11th attack. To access Project Liberty services, individuals should call Lifenet, the NYC DOHMH 24-hour, 7-day a week crisis hotline. Contact information for Lifenet is listed in the next column.

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PTSD is a potentially debilitating disorder. However, treatment is available and can be effective even when begun more than a year after onset.

Physicians have a key role to play in identifying patients with PTSD and enabling them to obtain treatment. Because untreated PTSD can lead to long term and serious physical illness, mental health treatment may serve as an essential preventive medical intervention.

RESOURCES

LIFENET TELEPHONE NUMBERS AND WEBSITE

24 Hours a Day and 7 Days a Week

In English: **1-800-LIFENET (1-800-543-3638)**
In Spanish: **1-877-AYUDESE (1-877-298-3373)**
In Chinese: **1-800-ASIAN LIFENET (1-877-990-8585**)

For other languages, call **1-800-LIFENET (1-800-543-3638)** and ask for an interpreter.

TTY hard of hearing, call **(212) 982-5284**.

Website: www.800lifenet.com

Acknowledgments

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