

BRIEF REPORT

The Emotional Distress in a Community After the Terrorist Attack on the World Trade Center

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ABSTRACT: *Objectives:* To examine psychological impact of the September 11th disaster on the immediate neighborhood of the New York World Trade Center.

Methods: 555 residents from the local Chinatown community participated in the study. They were surveyed retrospectively on their emotional distress immediately after the tragedy and five months later.

Results: Prevalent anxiety was found in general community residents and additional depression in those who lost family members or friends. The mental health condition of the community improved tremendously five months later, with the initial 59% of general residents having 4 or more emotional symptoms dropping to 17%. However, More than half of the community residents had persistently shown one or more symptoms of emotional distress. Those who had lost a family member or friend in the disaster

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showed significantly higher distress, with 90% of them had four or more major psychiatric symptoms during the first few weeks right after the disaster, and the rate dropped to 35% five months later. Overall, those in their 40s and 50s seemed to have had relatively higher emotional distress than both younger and older groups.

Discussion: Methodological limitations were discussed concerning retrospective reporting and sample characteristics.

KEY WORDS: emotional distress; disaster; September 11th; community.

The terrorist attack that shocked the world on September 11, 2001, has had a devastating impact on the people who live around the World Trade Center in New York. To what extent have people been affected? How long will it take for them to recover? This report summarizes the results of a community survey on the mental health status of people in the Chinatown area. Geographically, the Chinatown of New York City is the nearest ethnic minority community next to the disaster site in lower Manhattan. Many people in the community have seen, heard, and smelled the unfolding of the whole tragedy. At the time of this summary, which is written six months after the tragedy occurred, the community is still in the process of recovering, both emotionally and economically. However, little is known about exactly how many people in this community have been traumatized and how much they have recovered. This study focuses on the psychological impact of the unprecedented human disaster on people living in the immediate neighborhood of the Trade Center.

For the community adjacent to the location of a disaster, two key factors are crucial in observing and understanding the impact of a traumatic event: the social distance to the traumatized victim, and the temporal distance to a traumatic experience. According to definitions used in previous studies (Figley & Kleber, 1995), those who are present at the center of a disaster and become the direct victims are the primary victims. The relatives and families or significant others of the dead or injured are the secondary victims. As the social distance from the primary victim increases, the impact of the ripple effect of a trauma should decrease. Partially due to such a speculation, the community residents who are not direct relatives of the primary victims are often ignored by both the academic community and emergency assistance teams (Ursano, 1994). Recently, researchers began to point out the potential traumatic effect of a disaster on community residents and the importance of delivering mental health care to people beyond the primary and secondary victims (Chung et al., 2001).

In addition to the social distance, the temporal interval between the moment of the disaster and the time of assessing the traumatic effect plays an important role in examining the degree of a disaster's impact on people. Overall, it is expected that the psychological effects of a traumatic event will subside, though some may never disappear, over a long period of time (Glesser et al., 1981; Bolton et al., 2000; Chemtob, 2002). The process, however, is often more complicated. For instance, it was indicated that after the typical "honeymoon" period characterized by enthusiastic community support immediately following a disaster, there will be a quite long and continuous setback or "disillusionment" period in which emotional distress persists until the damaged community is rebuilt (Adams et al., 1999).

The present study focuses on the short-term psychological impact of the September 11th disaster on the immediate neighborhood of the World Trade Center. The interviewees, including general community residents and the secondary victims, retrospectively reported their emotional responses both during the initial few weeks after the disaster and 5 months later.

METHOD

Total of 555 community residents (F = 320; M = 235) participated in the study. They were all Chinese American, ranging in age from 8 to 86, with an average age of 40. The convenience sample was obtained at two community services agencies (i.e., Charles B. Wang Community Health Center and Chinese Planning Council) where health and social services were regularly provided for community members to seek and consult about the resources for their health, housing, social, or employment benefits.

Using a retrospective design, the cross-sectional survey was administrated during approximately the fifth month after the disaster happened. The self-administered survey was distributed to people in the waiting area for them to fill out, and the research assistant was present to collect the questionnaires and assist in completing the survey. About 88 percent of respondents completed and returned the questionnaires. All those endorsed symptoms of emotional distress were offer for further psychiatric evaluation at the local community health center.

In order to determine immediate and longer-term traumatic responses, two sets of questions were asked. One set inquired about the emotional distress two weeks after the 9/11 tragedy; the other set of questions addressed the recent emotional distress during the past two weeks. The items about emotional distress were typical psychiatric symptoms of depressive disorders and anxiety disorders based on the DSM-IV (see appendix for specific items). A checklist of "yes/no" choices was provided for the respondent to mark his/her answers. Two questions were included to collect information about whether the respondent had lost a family member or friend during the disaster, and whether trauma-related psychological counseling had since been received.

RESULTS

General Community Residents

The levels of total emotional distress are shown in Table 1. During the first two weeks immediately following the disaster, 88% of the community residents had one or more major psychiatric symptoms. Over half of the people had four or more symptoms indicating near pathological levels of emotional distress. About 5 months after the disaster, the community had shown visible recovery. People who have 4 or more emotional distress symptoms have dropped from initial 59% to 17%. However, more than half of the community residents have persistently shown one or more symptoms of emotional distress.

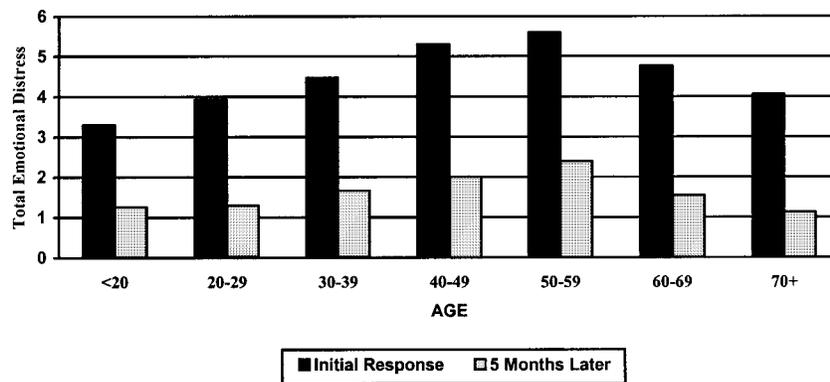
There were no significant gender differences in the total number of symptoms of emotional distress, although females had slightly higher scores than males. When participants were divided into different age groups (see Figure 1), there was a significant effect of age in both the initial emotional responses ($F = 4.71, p < .0001$) and the later emotional

TABLE 1

**The Total Number of Emotional Symptoms
Immediately Following and Five Months After
the September 11th Disaster (N = 555)**

<i>Number of Emotional Distress Symptoms</i>	<i>During First Few Weeks After the Disaster (accumulative %)</i>	<i>During the Last Few Weeks (5 months after the disaster)</i>
0	100%	100%
1	88%	53%
2	79%	38%
3	71%	25%
4	59%	17%
5	50%	11%
6	38%	7%
7	29%	5%
8	20%	4%
9	14%	3%
10	9%	2%

FIGURE 1
Emotional Distress as Both Initial and Later Responses
for All Age Groups.



responses ($F = 2.59, p < .02$). In general, middle-aged adults seemed to have had relatively higher emotional distress than both younger and older groups.

As shown in both Figure 1 and Table 1, there was a significant reduction of total symptoms of emotional distress with passage of time. An analysis of variance comparing the initial responses with the later responses across all age groups confirmed this temporal effect ($F = 219.63, p < .0001$). There was a significant correlation between the initial responses and later responses ($r = 0.50, p < .001$), suggesting that overall those who displayed a higher initial emotional response tend to have a relatively higher response 5 months later.

Using 50 percent of endorsement as a criterion for “most frequently observed symptoms,” we found four commonest symptoms in the general resident population, i.e.: “emotionally and physically upset by reminder of the 9/11 event,” “Worried, anxious, or nervous most of the time,” “Feeling sad, low or depressed,” “Jumpy or easily startled.” Three out of these four items were typical symptoms of anxiety disorders. As high as 50 to 75% of surveyed people experienced at least one of these four major psychiatric symptoms during the first few weeks after the incident. About 34% of people experienced all these four symptoms. Five months after the traumatic event, these four symptoms consistently remained at the top of the symptoms list for this community. Although

there was a clear reduction of the percentage of people who endorsed these symptoms, the fact that after 5 months 18 to 35% of the community residents were still suffering from these emotional symptoms demonstrates the tremendous psychological trauma caused by this disaster. Despite such a high presence of psychiatric symptoms in the traumatized community, less than 4% of people received psychological counseling from mental health professionals during the five months period after the disaster.

The Secondary Victims

Among the surveyed sample, 20 people (about 4%) reported that they had lost a family member or friend in the disaster. In comparison with others, this group of "secondary victims" did have significantly higher scores on total number of emotional symptoms, both immediately after the disaster ($t = 2.77, p < .01$) and five months later ($t = 2.86, p < .01$). Ninety percent of these 20 people had 4 or more major psychiatric symptoms during the first few weeks right after the disaster, and the rate dropped to 35% five months later. Only five of them (25%) had received some type of psychological counseling since the disaster occurred.

In comparison with the general community residents who had four "most frequently observed symptoms," the small group of the secondary victims had 8 emotional symptoms that received more than 50% of endorsement. The results indicate that this group had experienced considerably severe psychological trauma right after the disaster. Even five months later, despite the apparent reduction, there were still very high levels of presence of these symptoms in this severely traumatized group. In addition to the signs of anxiety disorders, there were also some somatic symptoms, such as "feeling tired or exhausted" or "having trouble falling asleep," particularly present in this group, suggesting the degree of intensity of their emotional stress. Moreover, more presentation of depressive symptoms, such as "losing interest and pleasure" or "feeling sad," further evidenced the emotional trauma in this group of victims.

DISCUSSION

Overall, we found that the people living in the immediate neighborhood of the World Trade Center in New York had experienced considerably high levels of emotional distress during the first few weeks after the

September 11 terrorist attack. Their symptoms suggest the prevalent anxiety in general community residents and additional depression in those who lost family members or friends. Although the emotional distress shown in this study is remarkably high, it is not surprising to see such a response in this community given its geographical adjacency and emotional connections to those that were ruined in the unprecedented devastation of the disaster.

There was a clear temporal effect on the emotional devastation, with a significant decrease observed five months later after the disaster happened. However, this reduction was relative, as the remaining levels of emotional distress were still quite high in the community. The persistent community distress was not only caused by the scope of the initial destruction, its continuing media coverage, and the disaster-related economic recession in the area, it was also refueled, during the first five months, by an additional airplane crash in New York City that occurred two months after the Trade Center disaster, the repeated anthrax threats, and the ongoing war against terrorists in Afghan. Given all these continuing stressors, the recovery of the community emotional condition in the past five months has been quite remarkable.

Compared with the general community residents, the secondary victims who had lost family members and friends in the disaster displayed a much higher level of emotional distress and a broader symptom repertoire. The finding confirmed the notion that the closer the social distance from the primary victim, the more emotional distress one would experience as a result of a disaster. Although the survey showed that there were more secondary victims (25%) than the general community residents (4%) who received psychological counseling after the disaster occurred, the number of people using professional support to cope with the devastating situation was disturbingly low given the overwhelming emotional distress in the community. The reluctance and barriers to seeking professional care for traumatized people are typically associated with culturally relevant stigma towards mental illness and psychiatric care, in addition to limited knowledge and financial resources that are common among Asian American immigrants in this community (Lindy et al., 1981; Leong et al., 2001).

Another remarkable finding of this study was the age difference in the levels of emotional distress. Those in their 40s and 50s showed much higher emotional distress as compared with younger or older groups. This finding can be attributed to a couple of factors. First, the middle-aged group usually has experienced more economic burdens than both younger groups, who could partially rely on parental support, and older

groups who usually receive steady support from social welfare. The economic burden on the middle-aged group could be further intensified by the traumatized local economy after the disaster. Second, many older people in this study had experienced bombing and other types of human disasters in World War II and probably were comparatively less shocked by the September 11th bombing than younger generations.

Finally, the study has two methodological issues. One is the retrospective nature of the survey study, which raises the suspicion of respondents reconstructing their memories of the initial experience, rather than truthfully recalling the experience. Although we do not know whether such a possible reconstruction ever occurred, or if it occurred, which direction it took in deviating from the original experience, caution needs to be taken in interpreting the findings. Another concern of the study is that it is not a population-based sample. The convenience sample obtained from two community service centers might have introduced a sampling bias: the surveyed sample, for instance, might have over-represented those with health and service needs. Although no evidence indicates that this group differs in their emotional experiences with the disaster from those community members who have not expressed these needs, caution should be exercised in generalizing the findings to the general population. This sample also was exclusively based on Chinese Americans living in the New York Chinatown. Since many of the community members are first-generation immigrants, it is possible that the heightened emotional distress revealed in the present study might partially reflect stress inherent in the minority immigrant groups. One could expect, therefore, that non-immigrant groups in the same neighborhood may have experienced less trauma-related emotional distress than the investigated group.

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APPENDIX

Questions for Assessing Emotional Distress

1. Were you worried, anxious, or nervous most of the time?
2. Were you unable to control your worries or focus on what you are doing?
3. Were you emotionally or physically upset by reminders of the 9/11 event?
4. Were you unable to have sad or loving feelings or feeling numb?
5. Did you easily get annoyed or have outbursts of anger?
6. Were you jumpy or easily startled?
7. Did you feel sad, low or depressed most of the time?
8. Did you lose interest and pleasure in doing things?
9. Did you often feel tired or exhausted, or have headaches or bodily pains?
10. Did you often have trouble falling asleep or have a poor appetite?

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