Use of Mental Health Services by Children and Adolescents Six Months After the World Trade Center Attack

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Objective: **The authors describe use of mental health services among children and adolescents after the September 11, 2001, attack on the World Trade Center.** ***Methods:*** **Six months after the attack, sixth- through 12th-graders (N=6,986) who were representative of the student population were asked about their use of mental health services to talk about the attack as well as their exposure to the attack, symptoms of posttraumatic stress and major depressive disorders, and any conversations about the attack with a parent, teacher, or religious leader.** ***Results:*** **Eighteen percent had used mental health services. Using in-school services was associated with conversation with a teacher about the attack. Using services outside school was associated with direct exposure to the attack, previous trauma exposure, probable psychiatric diagnosis, and conversation with a teacher or religious leader about the attack.** ***Conclusions:*** **Teachers and religious leaders can function as gatekeepers to identify children in need following a disaster. (*Psychiatric Services* 65: 263–265, 2014; doi: 10.1176/appi.ps.201200586)**

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Mass disasters clearly increase the incidence of mental health problems, having a significant impact on public health (1). Children and adolescents are among the most psychologically vulnerable to disasters (1), particularly acts of terrorism (2). Studies have indicated that the attack on the World Trade Center on September 11, 2001, had an impact on the mental health of children living in New York City at the time (3,4). One obvious consequence of mass disasters, therefore, is an increased need for mental health services (2,3).

Use of mental health services by children after a disaster should be understood in the context of the very low rates of mental health service use by children at any point in time (5). Even among children with mental health problems and impaired functioning, only one-third, at maximum, had ever received mental health services (5).

Telephone surveys of parents of children ages four to 17 who were living in lower Manhattan (below 110th Street) on September 11 indicated that 22% of children received counseling between one and two months after the attack (6) and 10% received counseling four to five months after the attack (3).

Key to facilitating use of services by children after a mass disaster is understanding the role of strategies to increase access, such as availability of school-based mental health services (5), or the role of gatekeepers (7), who may help refer children to services. With this focus, we describe the prevalence of mental health service use related to the attack on September 11 by a representative sample of New York City public school students, who were assessed by a survey conducted six months after the attack, and examine factors associated with access to these services.

Methods

This report is based on a sample of 6,986 students who were enrolled in New York City public schools in March 2002. The sample was representative of all sixth- through 12th-graders in the school system at that time. [A description of the sampling procedures and the sample's demographic characteristics is available online as a data supplement to this report.] Students filled out a self-report questionnaire about their experiences.

Mental health service use was defined as having talked about the September 11 attack with a mental health professional in the school environment (school counselor or school social worker) or outside the school environment (health professional, such as a doctor, therapist, social worker, psychologist, psychiatrist, nurse, or other professional). Students were categorized

Table 1

Factors associated with use of mental health services by children and adolescents after the World Trade Center attack, by location of services[a]

Factor	In school		Outside school	
	AOR	95% CI	AOR	95% CI
Exposure to trauma				
Direct	1.32	.82–2.11	1.61*	1.06–2.45
Family	1.47	.90–2.40	1.09	.54–2.20
Previous	1.49	.93–2.39	1.64*	1.11–2.41
Media	1.10	.66–1.83	.89	.62–1.28
Probable psychiatric disorder				
Posttraumatic stress	1.71	.95–3.08	2.13*	1.18–3.86
Major depressive	1.50	.86–2.61	1.86*	1.02–3.40
Conversation about attack				
With a parent or caretaker	1.14	.59–2.18	1.41	.85–2.34
With a teacher	3.57*	2.33–5.47	2.44*	1.39–4.29
With a religious leader	1.35	.92–1.97	5.33*	3.63–7.81

[a] No use of services is the reference group. Models were adjusted by sociodemographic characteristics.

*$p<.05$

as having received services in school if they had talked about the attack only with a professional in the school environment but not outside school. Students were categorized as having received services outside school if they had talked about the attack with a professional outside school, even if they had also talked to a professional while at school.

Sociodemographic information included grade, gender, race-ethnicity, family composition, and maternal level of education (high school graduate or not).

Exposure to traumatic events included direct exposure, family exposure, and media exposure to the events at the World Trade Center as well as previous exposure to trauma. Direct exposure was defined by two or more of the following: having personally witnessed the attack, having been hurt in the attack, having been in or near the cloud of dust and smoke, having been evacuated to safety, or having been extremely worried about the safety of a loved one. Family exposure was defined by having a family member who was killed or injured in the attack or who witnessed the attack but escaped unhurt.

Probable psychiatric disorders (posttraumatic stress disorder [PTSD] and major depression) were assessed by the Diagnostic Interview Schedule for Children Predictive Scales (DPS) (8), with questions worded to refer to the World Trade Center attack as the anchoring event.

Talking about September 11 was defined as any conversation about the attack with a parent or other caretaker, a teacher, or a religious leader.

In the statistical analysis, we compared groups of students who used mental health services in school only, used mental health services outside school, or used no mental health services by using the chi square test. We conducted logistic regression analysis to examine the association between potential correlates and use of mental health services in school only and outside school compared with use of no mental health services. We used the statistical software SUDAAN, version 10.0, to account for data clustering due to sampling design, and weights were used to reflect the sampling design. Items that individuals omitted were imputed from other survey data.

Results

Among the 6,986 students who answered the questionnaire, use of mental health services in school was reported by 762 (11%) students, and use of mental health services outside school was reported by 518 (7%) students. Overall, 1,280 students (18%) reported any use of mental health services related to September 11 during the six months after the attack.

Among directly exposed students, the frequency of mental health service use ranged between 11% (in school only) and 13% (outside school). Among students with probable PTSD, 15% utilized mental health services in school only, and 15% utilized mental health services outside school. Use of mental health services by students with probable major depression was also infrequent (13%, in school only, and 13%, outside school).

Table 1 presents multiple logistic regression models examining factors associated with mental health service use after September 11. Models were adjusted by sociodemographic characteristics, type of exposure, probable psychiatric disorders, and having talked to a parent, teacher, or religious leader about the attack.

Having talked to a teacher about the attack was associated with use of mental health services in school only, even after adjustment for other characteristics. Use of mental health services outside school was associated with direct exposure, previous exposure to trauma, probable diagnosis of PTSD, probable diagnosis of major depression, and having talked about the attack with a teacher or a religious leader.

Discussion

Six months after September 11, 2001, about 18% of a representative sample of New York City public school students reported having used mental health services to talk about the terrorist attack. Even among those with direct exposure to the attack or a probable psychiatric diagnosis, use of mental health services was infrequent. This pattern of service use should be considered in light of the following factors: it was estimated that at least 25% of the sample had a probable mental disorder (4), many students without a probable diagnosis could be in need of attention to help deal with the situation (2), and there was widespread availability of counseling and referral to services by governmental and civilian agencies (9).

One could expect that after a mass disaster, when suffering is shared by many individuals, stigma related to mental health services would be at its lowest (10), resulting in more service

utilization. Population-based studies estimating the frequency of mental health service use among children in New York City are not available, but lifetime use of services among a nationally representative sample of adolescents with a defined psychiatric diagnosis is estimated to be 36% (11). Two methodological factors could account for the rate of mental health service use we identified. First, we measured service use related to the attack on September 11 rather than any type of mental health service. Second, the information about mental health service use was collected from children only; parents could have provided complementary information (12). Besides methodological limitations, another explanation for the persistence of unmet mental health needs after September 11 is the continued presence of substantial levels of stigma related to mental health care and lack of awareness about mental health problems.

Use of mental health services in schools was more frequent, probably because the provision of services in schools increases accessibility for those in need. After a disaster, schools play an even more important role in offering mental health care (13). Use of mental health services both in school and outside school was associated with having talked to a teacher about the attack. Having talked to a religious leader about the attack was also associated with using mental health services outside school. It is possible that teachers and religious leaders were able to identify students in need and refer them to specialized care. Understood within the gateway model, teachers (13) and religious leaders (14) may have served as gatekeepers, having a key role in guaranteeing access to mental health services. These findings indicate once more the importance of training people who are in contact with children to identify their mental health needs (5,15), especially after a disaster (13).

A study's findings should be understood in the context of its limitations. Mental health service use was assessed through student report of having talked about the September 11 attack with different professionals. Still, the main reason for the contact could have been unrelated to the attack, and frequency, duration, and quality of care were not assessed. A number of students did not respond to questions about having talked about the attack with a parent, a teacher, or a religious leader. In a sensitivity analysis, we imputed these missing answers as "no," and we obtained the same pattern of results (available on request). Finally, the study covered the first six months after the attack, but youths may have sought services after that.

Conclusions

Six months after the attack on the World Trade Center, fewer than one in five students in New York City public schools reported having sought mental health services. More students had used services in school than outside school, probably because access was easier. Our results indicate that talking about the attack with a teacher or a religious leader was related to more service use, reinforcing the importance of training gatekeepers for identification and possible management of mental health problems.

Acknowledgments and disclosures

The study was funded by the U.S. Department of Education. Dr. Graeff-Martins received support from grant 141438/2006-1 from CNPq-Brazil and BEX3777/07-3 from CAPES-Brazil. The opinions expressed in this article are the authors' own and do not reflect the view of the National Institutes of Health, the Department of Health and Human Services, or the U.S. government.

Dr. Graeff-Martins developed educational materials for Janssen-Cilag in 2013. The other authors report no competing interests.

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