

A BRIEF REVIEW OF ISSUES IN PTSD RESEARCH FOLLOWING THE SEPTEMBER 11 TRAGEDIES

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The attacks on the World Trade Center (WTC) on September 11, 2001 resulted in the largest loss of life due to terrorism that the United States has ever encountered. Terrorism often results in pronounced numbers of Post Traumatic Stress Disorder (PTSD) cases. Following the September 11 attacks, many research studies reported increases in PTSD, Post Traumatic Stress Symptoms (PTSS), and stress reactions; however, the inconsistency in the methods used to gather and analyze data poses problems in comparing and interpreting these results. A brief review of the methods used in trauma-related research following September 11 is presented. Guidelines for interpreting this research are also presented.

The attacks on the World Trade Center (WTC) on September 11, 2001 were devastating, killing 2,797 people (American Red Cross, 2003). Concerns over widespread trauma both nationally and internationally have been at the forefront of the mental health agenda since that time. Ongoing research regarding the short- and long-term effects of traumatic events is crucial for evidence-based social work practice and the provision of mental health services. However, a critical analysis of the methodologies used in research studies is needed before conclusions regarding the prevalence of Post Traumatic Stress Disorder (PTSD) or other mental health outcomes can be made.

Currently no common methodology for studying reactions to wide-scale disasters exists, making it difficult to compare studies and establish the validity of research results (North & Pfefferbaum, 2002). In this paper, the use and interpretation of trauma questionnaires as well as the terminology used in describing PTSD symptomatology will be explored so that researchers and clinicians alike may be more informed consumers of trauma-related literature.

Social workers, other mental health professionals, and researchers need to be able to differentially identify and properly diagnose PTSD. In the first two weeks of the World Trade Center Health Registry, more than 10,000 people worldwide enrolled for assessment through a health survey gauging the mental and physical health problems resulting from the September 11 attacks (New York City Department of Health and Mental Hygiene, 2001). This response indicated the large number of persons impacted by the disaster. The American Red Cross (2003) reports that

their organization provided as many as 240,000 mental health contacts immediately following the attacks. It was critical, therefore, that mental health professionals were able to identify persons who were likely to develop PTSD so as to offer appropriate treatment to these large populations.

Diagnosing PTSD

According to The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (American Psychiatric Association [APA], 2000), a diagnosis of PTSD is dependent upon exposure to an event that involves “actual or threatened death or serious injury” to one’s self or loved one or the witnessing of such an event which causes a sense of “intense fear, helplessness, or horror” (APA, p. 464). Symptoms, including re-experiencing the event, avoidance and numbing, and increased arousal, must last longer than one month and cause significant impairment or distress. Frequently, following a traumatic event an individual may not meet criteria for PTSD but may have Acute Stress Disorder (ASD) or Post-Traumatic Stress Symptoms (PTSS). ASD symptomatology matches that of PTSD but occurs within 30 days of a traumatic event (APA, 2000). People suffering from PTSS may have some characteristics of ASD or PTSD and may experience significant distress, yet do not meet full DSM-IV-TR criteria for either disorder.

While practitioners must carefully adhere to DSM-IV-TR criteria to diagnose PTSD, prevalence studies following mass trauma like the events of September 11 are rarely able to draw diagnostic conclusions. Using a clinical interview, a clinician can conduct a thorough assessment by gathering information on the duration and extent of the impairment, gauging the client’s prior history of trauma and psychiatric illness, and assessing for co-morbidity of other psychiatric illnesses. Researchers use brief questionnaires like the PTSD Checklist (PCL) (Weathers, Litz, Herman, Huska & Keane, 1993) to make statements about the prevalence of PTSD symptoms. Although such checklists are the most efficient way to uniformly collect data from large samples, they do not measure impairment of functioning or duration of symptoms, which are crucial for a DSM-IV-TR diagnosis. Research studies often do not conduct thorough assessments, and, when misrepresented or misinterpreted, may lead to inflated statistics about the true number of PTSD cases. Increasing the knowledge base concerning the data collection, analysis, and interpretation methods used in trauma research is necessary to provide a clearer picture of prevalence rates, responses to traumatic events, and the design of effective interventions for practitioners.

Trauma, Terrorism, and PTSD Research

Prior to September 11, the National Institute of Mental Health (2001) reported that 3.6% of adults in the United States (5.2 million people) had PTSD during a given year. While many of the studies of the psychological

impact of trauma due to terrorism in the United States were conducted on individuals exposed to the Oklahoma City Bombing (North et al., 1999), more recent studies of terrorism and PTSD in the United States focus on September 11. Several of these studies reported a surge in PTSD-related symptoms amongst persons living in New York City following the attacks (Basciarino, Galea, Ahern, Resnick, & Vlahov, 2002; Sattler, 2002; Schlenger et al., 2002; Schuster et al., 2001). Galea et al. (2002) found that 7.5% of a sample of adults living south of 110th Street in Manhattan showed symptoms consistent with PTSD. South of Canal Street, the prevalence rate was reportedly 20%. Schlenger et al. estimated that there could be more than 500,000 cases of PTSD as a result of the event in the New York metropolitan area alone and reported a rate of 11.2% of probable PTSD cases found in their study of New York City residents. Such results, however, must be considered carefully given that the methods used to interpret findings of PTSD symptoms vary from study to study.

The events of September 11 were distinct in nature due to both the large-scale destruction akin to a natural disaster and the component of intentional harm inflicted by one human towards another. Natural disasters have traumatic effects due to large losses of life and property (Cao, McFarlane, & Klimidis, 2003). However, it has been found that intentional harm inflicted by one human towards another has even longer-lasting effects in the development of PTSD (Breslau, Chilcoat, Kessler, Peterson, & Lucia, 1999; Norris, Byrne, Eolia, & Krzysztof, 2001; Thabet, Abed, & Vostanis, 2002).

According to the Code of Federal Regulations (as cited in the Federal Bureau of Investigations, 1998), terrorism is defined as "...the unlawful use of force and violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives." Terrorism, as viewed from a mental health perspective, is particularly damaging and has resulted in a pronounced number of cases of PTSD (Bleich, Gelkopf, & Solomon, 2003; North et al., 1999; Schlenger et al., 2002). Additionally, a single-event terrorist attack such as September 11 may be as traumatic as repeated exposure. Bleich, Gelkopf, and Solomon conducted a study on a representative sample of the population in Israel, a country where frequent terrorist acts occur, and found that 9.4% of Israeli individuals met symptom criteria for PTSD (Bleich, Gelkopf, & Solomon). This is comparable to 7.4% (Galea et al., 2002) and 11.2% (Schlenger et al.) found in New York City following the September 11 attacks. These results are noteworthy considering that much of the sample gathered in Israel had experienced 19 months of repeated terrorist attacks prior to their study. However, the methodologies used for each of these studies were different, as were the sources of exposure considered, the subjects' proximity to the events, and the sampling methods used.

Approaches to Research

The inconsistent application of questionnaires to conduct research on the prevalence of PTSD poses problems in comparing and validating results of research studies. Most studies utilize one of two major PTSD scales—the PCL or the Diagnostic Interview Schedule (DIS), which is based on the DSM-III-R (APA, 1987). Although comparisons between the two instruments are difficult to draw, the more distressing issue is the lack of consistency in interpreting results from the same measure. Three different methods noted in major studies of PTSD following the September 11 attacks illustrate this point. In the studies reviewed here, Schuster et al. (2001) opted to present PTSD symptoms according to levels of symptom severity; Schlenger et al. (2002) portrayed “probable PTSD” as a dichotomous variable, in which an individual met criteria through the tallying of symptoms; and Galea et al. (2002) grouped symptoms according to DSM-IV-TR criteria and determined whether the person met threshold numbers in each category. While these methods are useful as screening devices for potential PTSD cases, they can lead to inflated prevalence statistics.

Researchers who conduct large prevalence studies usually understand the inherent difficulties in diagnosing PTSD through scales and brief measures, rarely stating outright that they are measuring PTSD. Instead, they employ tentative language, carefully choosing their words to reflect the uncertainty of a clinical diagnosis. Below, the language used in each research study reviewed will be examined.

Levels of Symptom Severity

One of the largest studies conducted after September 11 was by Schuster et al. (2001) and has been cited extensively (Bleich, Gelkopf, & Solomon, 2003; North & Pfefferbaum, 2002; Schlenger et al., 2002). In this study, 560 adults participated in telephone interviews three to five days after September 11 that focused on their stress and coping responses. The researchers used the term “stress reactions” throughout their article. This careful use of terminology reflects the fact that PTSD cannot be diagnosed for at least one month after the event. Although assessing for stress reactions provides a measure of general distress, it does not discern which reactions are sufficient for a full DSM-IV-TR diagnosis of PTSD. The term “stress reactions” also seems to appropriately indicate that the use of cutoff scores for PTSD symptoms does not necessarily mean that the person meets a full DSM-IV-TR diagnosis of PTSD (North & Pfefferbaum).

Schuster et al. (2001) used the PTSD Checklist (PCL) to determine levels of symptom severity. The PCL is a 17-item checklist directly based on PTSD symptoms listed in the DSM-IV-TR. It was initially tested on combat veterans, and then adapted for civilians (PCL-C). It has been tested on vic-

tims of non-combat and non-assaultive traumas (Blanchard, Jones-Alexander, Buckley & Forneris, 1996). Based on participant responses to the PCL's 5-point Likert scale, Schuster et al. reported that 44% of respondents had at least one substantial stress symptom (a rating of 4 or higher), 68% had one symptom "moderately" (3 on the Likert scale), and 90% had at least one symptom "a little bit." Their claim that a high percentage of respondents demonstrate stress symptoms "a little bit" may be misleading when based on a mark of two on a five-point scale. Likert scales offer an ordinal level of measurement without guidance as to the distinction between the choices. In addition, this method of classifying PTSD symptoms is based on the self-report of the individual of his/her apparent symptoms. The choices made are completely subjective, since one cannot know how each individual interprets his/her symptoms or what the distinction between a rating of 2 or a rating of 3, for example, means to each participant. In addition, as Schuster et al. note, though baseline measures exist for PTSD prevalence rates, none are available for stress symptoms. Having "a little bit" of insomnia, or increased physiological arousal could easily have been pre-existing and incorrectly attributed to September 11. Hence, it is not possible to objectively determine the effects of September 11 on PTSD or PTSS through this method.

The Tallying of Symptoms

Some researchers have tallied symptoms to derive a diagnosis of PTSD or "probable PTSD" (Schlenger et al., 2002; Simeon, Greenberg, Knutelska, Schmeidler, & Hollander, 2003). Schlenger et al. based this procedure on a report by Weathers, Litz, Herman, Huska, and Keane (1993) who state that a PCL cutoff score totaling 50 or greater has strong diagnostic utility for PTSD. This has encouraged the use of the PCL in PTSD research studies. However, Schlenger et al., in agreement with North and Pfefferbaum (2002), are careful to note that only clinical assessments can definitively diagnose PTSD. Schlenger et al. use the phrase "probable PTSD" to discuss their findings. Furthermore, it has been appropriately recommended that the PCL be used only as a screening device (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996). Although the PCL is efficient for data collection and has good diagnostic utility, it does not measure the duration and impairment criteria, which are crucial for a clinical diagnosis (North & Pfefferbaum). In addition, tallying alone fails to determine whether each individual meets the threshold requirements for each symptom cluster, according to DSM-IV-TR criteria.

DSM-IV TR Symptom Clusters

The DSM-IV-TR (APA, 2000) criteria for PTSD include three symptom clusters (B, C, and D) in addition to the requirements for exposure

(Criteria A), duration (Criteria E), and impairment (Criteria F). Criteria B symptoms are the intrusive re-experiencing of the event through flashbacks, nightmares, and physiological reactions to reminders. Criteria C symptoms are avoidance and numbing, including detachment from others, loss of interest, and avoiding reminders of the event. Criteria D symptoms indicate hyperarousal and include insomnia, irritability, and hypervigilance (APA). The DSM-IV-TR requires at least one B symptom, three C symptoms, and two D symptoms in order to qualify for a diagnosis of PTSD.

In an attempt to more closely imitate the requirements of a DSM-IV-TR diagnosis, some researchers interpreting data from brief inventories have adhered to requirements for the number of symptoms in each symptom cluster (Galea et al., 2002; Piotrkowski & Brannen, 2002). Galea et al. used items from a modified Diagnostic Interview Schedule for PTSD to determine “symptoms consistent with current PTSD” by noting the presence of symptoms meeting these threshold requirements. Although the symptom cluster method still fails to measure duration and impairment criteria required for definitive diagnosis, this method most closely approximates a DSM diagnosis. In addition, research reveals that the numbing and avoidance symptoms of the C category are the markers of PTSD (North et al., 1999). North et al. found that 94% of subjects who met Criterion C also met the criteria necessary for a full PTSD diagnosis. Researchers who cluster symptoms may predict those cases likely to qualify as full PTSD by noting the participants who report three or more C symptoms, offering a more accurate assessment of PTSD prevalence. A consequence, however, of more closely simulating a DSM diagnosis is that the symptom cluster method can disregard significant but sub-clinical distress that the other methods detect.

Discussion

There is no common practice for measuring PTSD and stress symptoms in research studies. The nature of large empirical studies precludes the use of thorough assessments by trained clinicians, the only way to conclusively diagnose PTSD. PTSD cannot be definitively identified through the use of brief questionnaires (North & Pfefferbaum, 2002). Hence, studies that use cutoff scores or categorize levels of symptom severity are susceptible to gross overestimation of the prevalence of PTSD. Even categorizing symptoms according to DSM-IV-TR criteria is insufficient, as checklists such as the PCL are subjective and often leave out the duration and impairment criteria, inaccurately reflecting the individual’s mental health.

An issue parallel to accurately assessing PTSD is detecting significant distress that may not reach a DSM-threshold level. Brett (1996) argues that the classification of disorders through the DSM-IV-TR leaves out many clinically relevant characteristics. Therefore, although categorizing levels of symp-

tom severity and tallying scores may not be sufficient for determining PTSD prevalence, they do reflect the presence of distress, whether sub-clinical or qualifying for DSM diagnosis. These studies offer information important for gauging mental health and need not be framed strictly in relation to PTSD.

Conclusion

Careful interpretation and application of published research on studies that include Post Traumatic Stress Disorder (PTSD), Acute Stress Disorder (ASD), and Post Traumatic Stress Symptoms (PTSS) following traumatic events is necessary due to the wide range in study methods currently employed. We suggest that consumers of such research take careful note of three points. First, investigate the use of terminology for PTSD. The authors of trauma research articles may use the terms PTSD, ASD, and PTSS, each of which have very different meanings. The correct use and interpretation of these terms is critical in making any further interpretations of such studies. Second, the use of measures cannot take the place of a clinician's diagnosis. Conclusions drawn through the use of standardized measures must be considered merely a part of a complex set of responses to traumatic events. Third, the DSM-IV-TR, on which the most commonly used measures and clinical diagnoses are based, may fail to recognize persons who are, in fact, suffering severely but do not meet the designated criteria. Such classification systems may also exclude important information that may be addressed by more extensive and holistic means of studying individuals, such as a Person-In-Environment System assessment that includes their social role, environmental, mental, and physical problems (Williams, Karls, & Wandrei, 1989).

The role of research studies in informing helping professionals is crucial in an environment increasingly focused on evidence-based practice. Media publications have an ethical responsibility to accurately report and disseminate knowledge about trauma study findings to the public. In addition, advocates for and funders of mental health services must be aware of the potential range of post-trauma outcomes when seeking and offering funding. All consumers of research should strive to be informed and must tread carefully when extrapolating results from studies of traumatized populations.

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