Recent Findings on Post-Terrorist Disaster Guidelines and Interventions

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Abstract
After 9/11, new interest emerged in the development of post-disaster guidelines and evidence-based interventions to respond to the immediate needs of survivors of terrorist attacks. Much discussion existed about the proper response and care for people exposed to mass violence including terrorism. Recently, a consensus regarding such strategies has emerged which consists of five principles involving the promotion of: (1) a sense of safety, (2) calming, (3) a sense of self-efficacy and community efficacy, (4) connectedness and (5) hope. The effectiveness of early intervention remains controversial. Most research has discouraged debriefing since there is no evidence that it is effective, and some evidence suggests that it might even increase post-traumatic stress symptoms. Cognitive behavioral therapy seemed to be effective for psychosocial problems following mass disasters. Further research on intervention and guidelines are required to improve the evidence base for effective strategies.

Keywords: terrorism, intervention, guidelines, victims, debriefing, cognitive behavioral therapy.

Introduction

After 9/11, new interest emerged in the development of post-disaster guidelines and evidence-based interventions in the wake of terrorist attacks (Watson, Brymer & Bonanno, 2011). Thousands of experts mobilized to treat survivors following the crash of two planes into the Twin Towers (McNally, Bryant & Ehlers, 2003). Afterwards, it was discovered that the number of people requiring assistance was overestimated.

Nevertheless, the devastating psychological impact of a terrorist attack is substantial among a minority of survivors (Norris et al., 2002; Levitt, Malta, Martin, Davis & Cloitre, 2007). Several psychosocial complications that may evolve are depression, acute stress disorder, post-traumatic stress disorder (PTSD) and other anxiety problems. As a result, drinking problems, marital problems and occupational problems could arise. Therefore, screening for risk factors (van Oorsouw, 2012) and the development of early interventions is crucial. Furthermore, in instances in which a chronic problematic condition already exists, evidence-based treatments are vital. The development of evidence-based guidelines is essential as well.

However, there remains uncertainty as to which strategies and interventions should be utilized following terrorist attacks. For example, the extremely common intervention of debriefing is highly controversial. The goal of this article is to provide up-to-date information regarding guidelines and interventions. First, a brief overview of recent recommended guidelines will be provided. This will be followed by a more detailed look at PTSD interventions that are also recommended in the guidelines.

PTSD is a serious psychological condition that involves recurring flashbacks of the trauma (Barlow & Durand, 2011). Pronounced neurological changes in people with PTSD as consequence of terrorist attacks can be measured (Jonkhout, 2012). PTSD is the most common mental disorder associated with the World Trade Center attack and other forms of mass violence (Levitt et al., 2007). Additionally, the disorder is often accompanied by several psychosocial problems such as depression, marital and

occupational difficulties, and substance abuse (Levitt et al., 2007).

The two most common interventions will be reviewed: critical incident stress debriefing (CISD) and cognitive behavioral therapy (CBT) with an emphasis on the efficacy, effectiveness and mechanisms of intervention. Finally recommendations for future research will be provided.

Post-terrorism disaster guidelines

Information regarding post-terrorism disaster guidelines was mostly found in studies involving mass violence. This may be due to the assumption that terrorist attacks affect many people in different ways. In addition, the heterogeneity of traumatic events makes it especially difficult to create specific guidelines (Hobfoll et al. 2007). In the last ten years, several researchers investigated which strategies should be implemented after incidents of mass violence (Watson, Brymer & Bonanno, 2011). However, due to the heterogeneity of the events it was decided to look into the possible existence of desired elements of a general nature. These elements would have to apply to any strategy developed. Hobfoll et al. (2007) formed a worldwide panel that was tasked with identifying these essential features. Ultimately, five principles were identified by the panel, and included promotion of the following: (1) a sense of safety, (2) calming, (3) a sense of self-efficacy and community efficacy, (4) connectedness and (5) hope. These principles were partly based on empirical evidence. For example, the research of Bleich, Gelkopf, & Solomon (2003) showed that there was a reduction in risk of developing PTSD when a sense of safety was re-established (even when danger remained).

Although the expert opinions of the panel were partly based on empirical evidence, it should be noted that opinions do not provide a high level of evidence to support and integrate these essentials into strategies. Nevertheless, the study was hailed by Watson, Brymer & Bonanno (2011) as one of the most influential articles in psychiatry over the last four years. The five principles supplied a wealth of new ideas for researchers in creation of national consensus on guidelines. For example, The European Network for Traumatic Stress (TENTS) conducted a three-phase Delphi process (Bisson et al., 2010). All over the world 106 experts were required to answer 96 statements on a 1 to 9 scale (one completely disagree; 5 neither; 9 completely agree) about psychosocial care for survivors or witnesses of mass disaster(s). The statements reflected six domains of psychosocial care strategies following mass violence: planning, initial response, response between 1 and 3 months, human resources and interventions. Establishing consensus on these domains was followed by recommendations. The study found a strong opposition to early universal intervention. This finding might be the result of recent studies on debriefing. These studies will be extensively discussed in the next section. In addition, within the population affected by extreme emotional reactions shortly after trauma, the majority did not develop any psychosocial problems (Watson, Brymer & Bonanno, 2011). In other words, the majority of those exposed to a terrorist attack appear not to require professional assistance.

The next topic that experts addressed was screening, which was seen as necessary for the identification of people with significant problems. However, a consensus against universal screening was reached. Participants noted the lack of effectiveness of the procedure. Other recommendations of the authors included focusing on social support, the five principles previously mentioned and a stepped care approach. The last recommendation refers to the availability

of a range of services. For example, it was suggested that trauma-focused CBT should first be applied. In the absence of improvement, other interventions should then be made available. In addition, utilization of services for everyone affected was seen as unnecessary.

The limitations of the TENTS research were similar to those that applied to the study of Hobfoll et al. (2007). Opinions of experts do not provide evidence for clinical effectiveness of the guidelines. In creating a more evidence-based protocol, it would be interesting to test how much an intervention complies with the five principles. In addition, the investigation of incorporation of the five principles, and their contribution to the overall effectiveness of the intervention would likely be highly valuable.

A number of additional studies were done on this subject. One study summarized the commonalities among all recent guidelines and recommendations that were made (Watson, Brymer & Bonanno, 2011). These commonalities included the five principles and the previously mentioned stepped-care approach. Furthermore, the need for anticipation and planning in advance of every phase across the recovery period was noticed. This included a diverse range of social services as (e.g., CBT). It was also recommended that a multilayered approach be employed. This approach addressed the correspondence with the community, mass media, and social media. Finally, the authors referred to the commonality of awareness and knowledge of specific approaches that had been found to be harmful.

Interventions

As mentioned in the previous section, mental health guidelines provided to people exposed to mass violence recommend the implementation of diverse intervention strategies across the recovery phases. This demands a flexible and pragmatic approach (Watson, Brymer & Bonanno, 2011). A balance between helping as many people in need as possible versus not pushing resilient people into therapy must be attained. Intervention may be subdivided into early intervention (aimed at preventing psychopathology) and mid- to long-term intervention (aimed at preventing *and* treating psychopathology) (Watson, Brymer & Bonanno, 2011). Unfortunately, a consensus on when the application of early intervention should be discontinued and intermediate intervention be started, has not yet been reached. Often, one month has been chosen as cut-off (Watson, Brymer & Bonanno, 2011).

Debriefing

There are three versions of psychological debriefing (Van Emmerik, Kamphuis, Hulsbosch & Emmelkamp, 2002): the Mitchell model (CISD), the Raphael model and process debriefing. However, CISD is the most widely known and implemented approach (McNally, Bryant & Ehlers, 2003). CISD is a one-session intervention (Marchand et al., 2006) which lasts about 4 hours and takes place up to 3 to 4 weeks following a traumatic event (McNally, Bryant & Ehlers, 2003). It has been extensively applied to a diverse range of traumas.

Debriefing is based on the idea that expression of emotions and thoughts, helps survivors of a psychological trauma people “work through” the event and continue daily life (Seery, Silver, Holman, Ence & Chu, 2008). The intervention typically consists of six steps (Marchand et al., 2006): (1) introduction, (2) facts (details about the event), (3) feelings, (4) symptoms, (5) teaching and (6) re-entry.

Although, debriefing is widely used, its efficacy and effectiveness have not been established (McNally, Bryant & Ehlers, 2003). McNally, Bryant & Ehlers (2003) explored various studies on psychological debriefing to reach a conclusion on the application of this early

intervention. Studies finding psychological debriefing to be an effective early intervention contained methodological limitations. For example, the design of the studies lacked a control group. A control group could have determined if debriefing was superior to no intervention. On the other hand, studies finding no evidence that debriefing was helpful and even evidence that debriefing might enhance the risk of developing PTSD were not characterised by any methodological limitations. Consequently, the authors concluded that debriefing is ineffective and that it perhaps enhances the development of PTSD. It was therefore recommended that this early intervention be discontinued.

Other studies reached similar conclusions (see also Van Emmerik, Kamphuis, Hulsbosch & Emmelkamp, 2002; Marchand et al. 2006; Sijbrandij, Olff, Reitsma, Carlier & Gersons, 2006). Sijbrandij and colleagues (2007) suggested that the immediate expression of emotions might be too overwhelming and might increase one's awareness of symptoms. However, specific causes for the apparent ineffectiveness of debriefing have not yet been determined.

Cognitive behavioral therapy

Cognitive behavioral therapy is one of the most effective treatments for anxiety disorders. Significant reduction of PTSD symptoms (large effect size) through use of this method in a clinical setting has been demonstrated in a meta-analysis (Steward & Chambless, 2009).

Trauma-focused cognitive behavior therapy compromises four components (Harvey, Bryant & Tarrier, 2003): (1) psycho-education, (2) exposure, (3) cognitive restructuring and (4) anxiety management. Psycho-education promotes the understanding of core symptoms and the beneficial aspects of treatment. Exposure techniques typically consist of prolonged re-imaginations of the traumatic scene and the client narrating the sequence of the re-experienced events in present tense. Each session typically lasts at least 50 minutes and is often given as daily homework to the client. The third important aspect of this intervention is cognitive restructuring. This involves teaching the client to recognize negative automatic thoughts about the trauma, self, future, and world. The goal of this component is to critically evaluate these thoughts, and to construct a more realistic approach. The last component, anxiety management assists in the attainment of coping skills through employing relaxation and self-talk techniques. Improving coping skills can enhance a sense of control-, and reduce anxiety, and may also enable clients to take the next step and directly confront stimuli related to the trauma. The duration of the treatment is dependent on the severity of symptoms. In general, the treatment consists of 9 to 12 sessions (Harvey, Bryant & Tarrier, 2003).

Evidence for the efficacy of trauma-focused CBT as early intervention is limited (Watson, Brymer & Bonanno 2011). Ehlers and Clark (2003) reported that 4-6 sessions of CBT starting within the first month after the traumatic event led to reduction of PTSD symptoms. However, it has not yet been established whether CBT is superior to repeated assessments. The application of CBT (12-16 sessions) introduced in the second month after the experienced trauma did prove to be superior to repeated assessments. Therefore, it would be interesting to study the superiority of CBT to repeated assessments in the first month, and compare the effectiveness of 4-6 sessions of CBT to 12-16 sessions of CBT.

More recent research has been done as well. Roberts, Kitchiner, Kenardy & Bisson (2009) systematically reviewed and analyzed early interventions. CBT was found to be an effective early intervention, especially for clients who met the threshold of a clinical diagnosis. However, the evidence of effectiveness for

individuals who did not meet full diagnostic criteria could be defined as rather weak. In the future, it may be advisable to do more research on the screening of people who are at risk for PTSD, and to use CBT as a possible prevention technique. In addition, the efficacy of CBT was determined by studies in which CBT did not start within one month. Nevertheless, this study is significant since prevention can also take place after a month. More research is needed to investigate the best timing of CBT as prevention technique.

Other recent studies have contributed to the development of trauma-focused CBT (as treatment) specifically for victims of terrorist attacks and have provided evidence of its efficacy (Duffy, Gillespie, Clark, 2009; Brewin et al., 2008; Levitt et al., 2007). One study created an adapted trauma-focused CBT manual to treat victims of the Twin Towers attack (Levitt et al., 2007). This adapted CBT was consisted of two techniques: Skills Training in Affective and Interpersonal Regulation (STAIR) and Modified Prolonged Exposure (MPE). In the first phase of the treatment, STAIR was applied. This technique tried to enhance an individual's control over emotional regulation and strengthen his or her interpersonal skills. The first 4 sessions targeted the identification and regulation of emotions. The next 4 sessions focused on the identification and evaluation of core thoughts and schemas involving interpersonal skills. These sessions attempted to enhance the social support available to the client. The second phase of the therapy consisted of adding exposure techniques to those techniques introduced in the previous sessions (Levitt et al., 2007). The psychologists in the study were allowed to use the manual flexibly, and to adjust the manual to the needs of the specific individual suffering from PTSD.

Levitt and colleagues (2007) criticized the lack of external validity in randomized controlled trials (RCT) and recommended employing a stricter criterion of evidence-based treatment for victims of terrorist attacks. That is, the evidence for the effectiveness of a treatment can be strengthened by proving that a given treatment is also effective outside the laboratory. Levitt and colleagues (2007) studied whether the effectiveness of CBT was as effective as cognitive behaviour treatment in RCT when both treatments were conducted using standard manuals.

The study found a significant reduction of PTSD symptoms. The magnitude of the improvement in overall mental health functioning of those receiving treatment was equal to the findings in the RCT study. This seems to suggest that the intervention is effective for victims of terrorist attacks with the posttraumatic stress disorder. Yet it should be noted that those participating in the study with more severe cases of PTSD experienced a lesser degree of symptom remission.

Discussion and implications

During the past ten years, a lot of research has been done on the treatment of survivors of terrorist attacks, partly as result to the events of 9/11. Several international evidence-informed guidelines emerged (Watson, Brymer & Bonanno, 2011) as a result of these efforts. The heterogeneity of mass violence, including terrorist attacks, was acknowledged (Hobfoll et al., 2007; Bisson et al., 2010). In the future, professional ethics demands that more empirical evidence be established to support these new guidelines. It would be interesting to research how much post-terrorist interventions faithfully reflect the five principles (Hobfoll et al., 2009). Moreover, studying the consequences of incorporating these principles into interventions is advisable, as doing so, so might establish

the effectiveness of the intervention and/or guidelines.

A great deal of research has also been done on two specific interventions: debriefing and trauma-focused CBT (McNally, Bryant & Ehlers, 2003; Van Emmerik et al., 2002; Marchand et al. 2006; Sijbrandij, Olff, Reitsma, Carlier & Gersons, 2006; Duffy, Gillespie, Clark, 2009; Ehlers & Clark, 2003; Brewin et al., 2008; Levitt et al., 2007). Based on recent findings it would seem highly inappropriate to continue psychological debriefing. Instead, new evidence-based early interventions should be developed and implemented.

Although more research is needed, CBT seems to have some potential as an early intervention (Ehlers & clark, 2003; Roberts et al., 2009). Continuation of research on risk and resilience factors of PTSD to develop evidence-based at risk screenings is most important in determining the effectiveness of CBT as early intervention. Researching and understanding risk factors assists the development of evidence-based screenings by identifying potential future chronic PTSD sufferers. In addition, risk and resilience factors are very useful in the overall development of interventions.

The research of Levitt et al. (2007) on CBT as treatment for PTSD in victims of terrorist attacks took a new step in proving CBT's effectiveness. This should be encouraged further (taking into account the fact that clients with severe PTSD do not respond as well to such treatment as other victims).

Overall, important advances have been made in the development of guidelines. Evidence for the effectiveness of early interventions is limited. Once again, it appears that psychological debriefing is not an effective treatment. Fortunately, CBT as early intervention holds some promise. Moreover, new early interventions may be devised based on findings in neuroscience (Jonkhout, 2012). In addition, trauma-focused CBT that is specifically tailored for victims of terrorist attacks has been found effective. Finally, it is important not to lose sight of the importance of monitoring implementation of the guidelines.

Reflection

Scientists who specialize in a particular social science should always be acutely aware that there is typically no single solution to any problem that they study. Consideration of the perspective taken on this subject may prove beneficial. Psychology has a clinical individual approach to mental care after a terrorist attack that contributes greatly to the subject matter reviewed. Nevertheless, it must be noted that terrorism affects large numbers of people (and indeed, entire societies) on different levels. For instance, substantial psychological effects of terrorist attacks may not only result from direct exposure, but also may result from exposure via mass communication media. We see here an interaction between government and mass communication media. The government is able to communicate with the aid of media and media is able to put pressure on the government. Sociology may provide new ideas on how this interplay came to exist and what consequences it has on the fear of terrorism and mental health in general within a population. This information is beneficial in light of guidelines and strategies dealing with the recovery from collective traumas as terrorist attacks. Sociology may also be of benefit by focusing on the mechanisms underlying social cohesion since it seems logical that social cohesion helps people cope with terrorist attacks in the past and in the future**.** It might therefore be seen as a resilience factor. Likewise, an anthropological perspective is of importance. For example, the anthropological perspective might supply more information on cultural differences in

people's responses to terrorist attacks. In psychology, the difficulty of diagnosing people from non-Western cultures has been acknowledged (Watson, Brymer & Bonanno, 2011).

In sum, it is profitable to shed light on terrorist attacks from different perspectives. All perspectives have something new to contribute to the subject and may help in developing improved strategies on how to care for people exposed to terrorist attacks.

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