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Clinically significant avoidance of public transport following the London bombings: Travel phobia or subthreshold posttraumatic stress disorder?

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ABSTRACT

Following the London bombings of 7 July 2005 a "screen and treat" program was set up with the aim of providing rapid treatment for psychological responses in individuals directly affected. The present study found that 45% of the 596 respondents to the screening program reported phobic fear of public transport in a screening questionnaire. The screening program identified 255 bombing survivors who needed treatment for a psychological disorder. Of these, 20 (8%) suffered from clinically significant travel phobia. However, many of these individuals also reported symptoms of posttraumatic stress disorder [PTSD]. Comparisons between the travel phobia group and a sex-matched group of bombing survivors with PTSD showed that the travel phobic group reported fewer re-experiencing and arousal symptoms on the Trauma Screening Questionnaire (Brewin et al., 2002). The only PTSD symptoms that differentiated the groups were anger problems and feeling upset by reminders of the bombings. There was no difference between the groups in the reported severity of trauma or in presence of daily transport difficulties. Implications of these results for future trauma response are discussed.

1. Introduction

Large-scale traumatic events, such as natural disasters and terrorist attacks, are a challenge for mental health services. Previous studies have found that there are high rates of mental disorders amongst direct survivors of terrorist attacks (Whalley & Brewin, 2007). The response to such events involves identifying those in need of immediate help (and those who may need it later) and deploying appropriate support and expertise. This response will depend in large part on our understanding of the way in which the traumatic event is likely to have affected those caught up in it. At the most basic level, this means screening for clinically significant psychological problems so that appropriate treatment can be initiated. Most research has concentrated on screening for posttraumatic stress disorder (PTSD; Brewin, 2005). There is, however, increasing awareness that other disorders such as depression and specific phobias are also common consequences of trauma (for a review see Brady, Killeen, Brewerton, & Lucerini, 2000).

The present study focuses on the identification of travel phobia following the terrorist attacks on public transport in London. On 7 July 2005, four terrorist bombs exploded on the London transportation system. Three were detonated on underground trains at three different stations and one on a bus at a square in Central London. Fifty-two people were killed in the attacks and more than 775 injured from among the more than 4000 passengers involved.

Surveys of the general population in London in the aftermath of the bombings (e.g., Rubin et al., 2007) indicated some persistent low-intensity changes in travel behaviour following the bombings. Persistent changes in travel behavior were identified as any reduction in travel by tube, train, bus and car as a result of the bombings that were reported both in July 2005 and at follow-up in February/March 2006. We expected that a proportion of those directly involved in the bombings would develop clinically significant travel phobia.

1.1. Travel phobia and PTSD after trauma

The key symptoms of travel phobia are excessive fear and avoidance of travel situations. These symptoms overlap with those of PTSD. In particular, persistent avoidance of stimuli associated with the trauma and fear and other negative emotions in response to trauma reminders are common PTSD symptoms. This raises the question of how well travel phobia after experiencing a traumatic event can be distinguished from PTSD.

It is possible that travel phobia following trauma is just a (milder) version of PTSD. The *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV, American Psychiatric Association, 1994)

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takes this view. DSM-IV stipulates that the diagnosis of specific phobia should not be given if the phobic anxiety and avoidance is better accounted for by PTSD. In practice this means when fear and avoidance *only* occur in trauma related situations, and the other PTSD criteria are met, a diagnosis of PTSD rather than specific phobia is considered appropriate. Furthermore, there is evidence that trauma survivors with subthreshold PTSD, i.e. those who meet most, but not all DSM-IV criteria for PTSD, may suffer clinically significant impairment (e.g., Stein, Walker, Hazen, & Forde, 1997; Weiss et al., 1992; Zlotnick, Franklin, & Zimmerman, 2002). This raises the question of whether phobic reactions after trauma may represent a form of subthreshold PTSD.

However, there is also evidence that phobias and PTSD may constitute correlated but distinct responses to trauma. Mayou, Bryant, & Ehlers (2001), for example, conducted a prospective study of psychological outcomes after motor vehicle accidents. While they found that PTSD and phobic travel anxiety (as well as general anxiety and depression) often overlapped they could also occur separately and had different onset and course. Predictor variables also overlapped but there were some differences. For example, phobic responses, but not PTSD, were predicted by mode of transportation, with passengers having a greater risk of subsequent travel phobia than drivers. In contrast, cognitive and social factors measured 3 months after the accident such as rumination and negative interpretations were strong predictors of PTSD. Kleim, Ehlers, and Glucksman (submitted for publication) used structural equation modeling to examine the latent structure of symptoms of PTSD, specific phobia, and depression in a sample of assault survivors and found that a model of three correlated but distinct outcomes fitted the data better than a unitary model of post-trauma psychopathology.

Thus, it is at present unclear whether travel phobia can develop after traumatic events and whether it can be distinguished from PTSD. The purpose of the present study is to examine these issues in survivors of the London bombings of 7 July 2005 (7/7).

1.2. Mental health services response to the London bombings

Following the bombings in July 2005, a Screening Team was established in September (under the guidance of a Psychosocial Steering Group), to screen individuals directly involved in the London bombings for a variety of psychological problems commonly observed following trauma, including travel phobia and PTSD, and to offer prompt referrals for treatment. Existing trauma services across London increased their capacity so that those identified by the Screening Team could be treated without delay. The program and initial treatment outcome are described more fully elsewhere (Brewin, Scragg, Robertson, Thompson, & Ehlers, 2008). The present paper focuses on those identified by the Screening Team as suffering from clinically significant travel phobia.

1.3. Aims of the study

The first aim of the study was to identify the proportion of people directly involved in the London bombings (a) who reported clinically significant specific phobia of public transport in a screening questionnaire and (b) who needed treatment for travel phobia rather than for other post-trauma reactions. The second aim was to investigate what distinguishes individuals presenting with travel phobia from those presenting with PTSD: in particular, whether the differences could be picked up by a self-report screening questionnaire. As intrusive memories have been described as the "hallmark" symptom (Foa, Steketee, & Rothbaum, 1989), or the "core" of PTSD (Steil & Ehlers, 2000) it was hypothesized that trauma survivors with travel phobia would be less likely to endorse re-experiencing symptoms than those with PTSD. It was also hypothesized that the PTSD group would report a greater severity of their traumatic experience.

2. Method

2.1. Overview

In an outreach program, people directly involved in the London bombings of 7 July 2005 were contacted and asked to fill in a questionnaire screening for PTSD, travel phobia and other symptoms. Those scoring positive on the screener were invited for a brief structured diagnostic interview. The present paper reports on the individuals identified at this brief interview as suffering from clinically significant travel phobia in response to the bombings. These were compared with a sex-matched comparison group identified as suffering from PTSD by the same screening process.

2.2. Outreach program

The Screening Team received referrals from a variety of organizations and individuals that had had contact with survivors of 7/7 including Accident and Emergency Departments, the Metropolitan Police Witness List, the Health Protection Agency, the Family Assistance Centre, 7th July Assistance Centre, NHS direct helpline, and family doctors. In addition, some individuals or their friends and relatives contacted the Screening Team directly when they saw the details advertised in the media.

2.3. Screening questionnaire

The Screening Team sent the bombing survivors a two-page questionnaire comprising four sections. The first section established demographic information. The second section comprised questions designed to measure the severity of the participant's traumatic experience. Subjective severity was defined as the sum of the following two items (scored as '0' absent and '1' present): the person thought they might be injured or killed; they felt that a family member or close friend might be injured or killed. Objective severity was defined as the sum of the following five items (scored as '0' absent and '1' present): the person was injured; saw someone who had been injured or killed; a family member or close friend was injured; a family member or close friend was killed; they personally witnessed the effects of one of the bombings.

The third section comprised the Trauma Screening Questionnaire (TSQ; Brewin et al., 2002). The TSQ is a tick list screener for the symptoms of the re-experiencing and arousal identified by criterion B and D of the DSM-IV (American Psychiatric Association, 1994) PTSD diagnosis, i.e., intrusive, distressing thoughts or memories, upsetting dreams, flashbacks, upset at reminders, bodily reactions with reminders, sleep difficulties, anger, concentration problems, hypervigilance and startle reactions. Participants were asked to endorse those symptoms that they had experienced at least twice in the past week.

The fourth section comprised screening questions for other disorders. The travel phobia screener question was as follows: "Since the bombings, has your daily life become difficult because you felt unable to use public transport (e.g. not being able to get to work, to get your shopping done or get to social events), or because you felt very distressed when using public transport?" Other screener questions related to depression (low mood and loss of