



# The effectiveness of Narrative Exposure Therapy with traumatised firefighters in Saudi Arabia: A randomized controlled study



Mohammed Alghamdi <sup>a,\*</sup>, Nigel Hunt <sup>a</sup>, Shirley Thomas <sup>b</sup>

<sup>a</sup> Division of Psychiatry and Applied Psychology, School of Medicine, University of Nottingham, NG8 1BB, UK

<sup>b</sup> Division of Rehabilitation and Ageing, School of Medicine, University of Nottingham, NG7 2UH, UK

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## ABSTRACT

Firefighters are exposed to many traumatic events. The psychological costs of this exposure increase the risk of Post-Traumatic Stress disorder (PTSD), depression and anxiety. This study examined the effectiveness of Narrative Exposure Therapy (NET) as a short-term treatment for reducing PTSD symptoms among Saudi firefighters. A randomized waiting-list control study was conducted with 34 traumatized firefighters were randomly allocated to NET or Waiting-list Control (WLC). The NET group received four therapy sessions of 60–90 min over a three-week period; those in the WLC condition received the same sessions after a three-week waiting period. Participants in both groups were assessed at baseline, immediately post-intervention and at 3 and 6 month follow ups. NET led to significant reductions in PTSD symptoms, anxiety and depression compared with WLC. After the WLC group received treatment, it showed the same improvements as the NET group. This occurred immediately post-treatment in both groups, but was not sustained at 3 and 6 month follow ups. Coping strategies and social support led to significant changes only in follow up times. NET was effective in reducing PTSD symptoms in traumatised Saudi firefighters. This finding could be helpful in the management of PTSD among people who work as first responders such as firefighters, police officers and emergency medical personal, as well as security officers.

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## Introduction

Firefighters have a high probability of being exposed to a variety of traumatic events, including providing aid to seriously injured or helpless victims; serious injuries to self or work colleagues and victims and exposure to death and dying. Firefighters who are injured or are traumatised in the line of duty may have to retire as a consequence. According to IAFF (2000), 325 firefighters were forced to retire from their departments because of line-of-duty

*Abbreviations:* NET, Narrative Exposure Therapy; PTSD, Post Traumatic Stress Disorder; SPTSS, Scale of Posttraumatic Stress Symptoms; HADS, Hospital Anxiety and Depression Scale; GO-NGO, governmental and non-governmental organisations; DSM-IV, Diagnostic and Statistical Manual of Mental Disorders-IV; WLC, Waiting List Controlled; NICE, National Institute of Health and Clinical Excellence; TF-CBT, Trauma Focused Cognitive Behaviour Therapy.

\* Corresponding author. Division of Psychiatry and Applied Psychology, University of Nottingham, Jubilee Campus, Wollaton Road, YANG Fujia Building Floor B, Nottingham, NG8 1BB, UK. Tel.: +44 1158466929, +44 7760597319 (mobile).

E-mail addresses: [lwmaal@nottingham.co.uk](mailto:lwmaal@nottingham.co.uk) (M. Alghamdi), [nigel.hunt@nottingham.co.uk](mailto:nigel.hunt@nottingham.co.uk) (N. Hunt), [shirley.thomas@nottingham.ac.uk](mailto:shirley.thomas@nottingham.ac.uk) (S. Thomas).

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injuries or occupational disease. IAFF (2000) reported that almost 22 out of 325 retired as a consequence of mental stress. The psychological cost of this exposure increases the risk of long-term problems such as PTSD symptoms (Al-Naser & Everly, 1999; Bryant, Sutherland, & Guthrie, 2007; Corneil, Beaton, Murphy, Johnson, & Pike, 1999; Mitani, Fujita, Nakata, & Shirakawa, 2006) as well as depression and anxiety (Carey, Al-Zaiti, Dean, Sessanna, & Finnell, 2011; Chen et al., 2007; Markus Heinrichs et al., 2005).

The reported prevalence rate for PTSD in firefighters varies widely, from 6.5% (Haslam & Mallon, 2003) to 37% (Bryant & Harvey, 1995). The prevalence of PTSD in firefighters differs from country to country. For instance, Comparing U.S. (N = 203) and Canadian (N = 625) firefighters, the rates of PTSD were almost 22% and 17% respectively (Corneil et al. (1999). In Japan, Mitani et al. (2006) evaluated the impact of PTSD on 243 fire-fighters, They found that overall prevalence of PTSD was 17.7%. In Australia, Bryant et al. (2007) investigated the prevalence of PTSD and found that 15% of firefighters met the criteria for PTSD. A UK study by Haslam and Mallon (2003) assessed 31 fire service workers. Results showed that only two participants (6.5%) reached the DSM-IV criteria for PTSD. In a study by Al-Naser and Everly (1999) in

Kuwait, the prevalence of PTSD among 108 firefighters was found to be approximately 18.5%.

In Saudi Arabia, 169 of 200 firefighters reported experiencing traumatic events with intense fear, horror or helplessness either by themselves or with their family members or friends at least one event that met criterion A in DSM-IV. The results showed that 84% of firefighters were exposed to at least one traumatic event and 57% fully met the DSM-IV criteria for PTSD with high levels of depression and anxiety; 39% partially met the PTSD criteria and only 4% participants did not meet the PTSD criteria (Alghamdi, Hunt, & Thomas, 2013).

Traumatized firefighters may either recover on their own or need to access mental health care programmes to assist their recovery. Due partly to the lack of qualified mental health professionals and the stigma attached to mental illness (Saeed Wahass & Gerry Kent, 1997a, 1997b), no study has investigated the feasibility and effectiveness of a psychological intervention with Saudi firefighters.

According to the National Institute of Health and Clinical Excellence (NICE, 2005), Trauma-Focused Cognitive Behaviour Therapy (TFCBT) has the potential for treating PTSD effectively across many types of traumatic situation, including sexual and physical assault, accidents and natural disasters. TFCBT is usually conducted over 10–12 sessions, and requires a high level of training, which is rarely found in Saudi Arabia. Furthermore, high dropout rates are reported in CBT treatment (Steel et al., 2000) showing that it is inappropriate for many people. Therefore, it is important to explore alternative forms of treatment which may be effective.

Narrative exposure therapy (NET) is a short-term treatment which was developed specifically to treat PTSD symptoms resulting from violence and/or multiple or continuous trauma (Schauer, Neuner, & Elbert, 2011). NET was derived and developed from a combination of CBT (Neuner, Schauer, Klaschik, Karunakara, & Elbert, 2004) and testimony therapy (Cienfuegos & Monelli, 1983). NET has been developed according to the theoretical understanding of PTSD, autobiographical memory and neural fear networks (Conway, 2001), making it possible to recognise intrusive symptoms and understand how these can be triggered in the brain (Foa & Rothbaum, 1998).

With NET, the patient first provides a detailed autobiography with the support of a therapist; the therapist transcribes the autobiography, and in subsequent sessions helps the patient revise and develop it. The key focus of the therapy is to transform the initial fragmented story of the traumatic event into a coherent narrative. The therapist asks the patient to relive their experiences of essential elements of the story such as emotional, cognitive, and behavioural reactions, and helps the patient transform 'hot' emotional memories into 'cool' declarative memories; habituation of the memories is achieved. Finally, the patient receives the final written biographical account, and it is formally signed off (Schauer et al., 2011). Through this narrative development process, the patient's trauma-related problems will be reduced (Bichescu, Neuner, Schauer, & Elbert, 2007; Neuner et al., 2004).

Because of the work and cultural context of firefighters, it is important for PTSD treatment programmes to be logical and relatively easy for firefighters to learn and accept. It is also necessary for the method to be adaptable to the Saudi cultural environment in order to be easily applied. In these respects, NET is a short-term treatment that is relatively easy to learn and use in that it does not need advanced training or access to medical or psychological education.

Robjant and Fazel (2010) showed that NET can be effective for people with PTSD following multiple traumatic events in a variety of low- and middle-income settings. The effectiveness of NET has been demonstrated with adults and adolescents in several

randomised controlled trials (Neuner et al., 2004). For example, a reduction of PTSD symptoms after six sessions of NET was found in a study conducted by Neuner et al. (2008) with 277 Rwandan and Somali refugees. Another study was conducted by Neuner et al. (2004) with 34 Sudanese refugees living in a Ugandan refugee settlement which showed a decrease in PTSD symptoms after four NET sessions. Bichescu et al. (2007) showed how NET reduced PTSD symptoms and depression among people who had been victims of political detention and torture four decades ago in Romania after five sessions of NET. In Germany, a randomised controlled trial examined the effectiveness of NET in reducing PTSD and depression. The participants were then randomly divided in two groups, the NET group and the wait-list control (WLC) group. Treatment consisted of 12 sessions for each participant in the NET group. At 4 months PTSD and depression symptoms decreased in the NET group (Adenauer et al., 2011).

A randomised controlled trial in China examined the effectiveness of NET with adult survivors of the 2008 Sichuan earthquake (Zang, Hunt, & Cox, 2013). Twenty two participants were randomly allocated to NET ( $n = 11$ ) and WLC ( $n = 11$ ) groups. The participants in each group each received 4 therapy sessions. They were assessed at baseline, post treatment, after 3 weeks, and then after 3 months on measures of PTSD symptoms, depression and anxiety, and general mental health. The results showed a significant decrease in PTSD symptoms, and depression and anxiety, and an improvement in general mental health. These results support the efficacy of NET in treating PTSD and comorbid problems.

The goal of the present study was to examine whether Saudi firefighters with a PTSD symptoms would benefit from NET. The outcome measures examine PTSD symptoms, depression, and anxiety. In order to gain a better understanding of the effectiveness of NET in this population, further individual factors that could contribute to the effect of NET were also assessed, including social support and coping strategies.

Various studies have shown that social support is significant in the development and maintenance of PTSD in different trauma populations (Guay, Billette, & Marchand, 2006). In contrast, little is known about the effect of interventions on social support. The mediating role of social support between traumatic events and PTSD among firefighters has been investigated. The results suggested that social support was the significant factor in predicting both PTSD and depression (Regehr, Hill, Knott, & Sault, 2003).

To understand the psychological consequences of traumatic events, coping strategies are an important variable (Chamberlin, 2010). Previous studies have examined the reciprocal relationships between coping and PTSD symptoms (Tiet et al., 2006), but few studies have investigated coping styles in a longitudinal setting and little is known about the effect of NET on coping (Zang et al., 2013).

This is the first randomised controlled trial of treatment for traumatized firefighters in a developing country.

It is hypothesized that NET will:

- 1 Significantly decrease symptoms of PTSD, depression and anxiety.
- 2 Lead to sustained reductions in PTSD symptoms, depression, and anxiety (3 and 6-month follow ups).

## Methods

### Participants

Of the 200 firefighters who consented to be assessed, 96 (48%) fully met the DSM-IV criteria for PTSD and 34 (35%) of these consented (see Fig. 1 for CONSORT diagram). The study used a waiting

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