Clinical Psychology Review 43 (2016) 128–141

Contents lists available at ScienceDirect

Clinical Psychology Review

Psychological treatments for adults with posttraumatic stress disorder: A systematic review and meta-analysis☆,☆☆

Karen Cusack [a,*], Daniel E. Jonas [b,c], Catherine A. Forneris [d], Candi Wines [c], Jeffrey Sonis [e,f], Jennifer Cook Middleton [c], Cynthia Feltner [b,c], Kimberly A. Brownley [d], Kristine Rae Olmsted [g], Amy Greenblatt [g], Amy Weil [b], Bradley N. Gaynes [c,d]

[a] Raymond G. Murphy VA Medical Center, Albuquerque, NM, United States
[b] University of North Carolina (UNC) Department of Medicine, Chapel Hill, NC, United States
[c] UNC, Cecil G. Sheps Center for Health Services Research, Chapel Hill, NC, United States
[d] UNC Department of Psychiatry, Chapel Hill, NC, United States
[e] UNC Department of Social Medicine, Chapel Hill, NC, United States
[f] UNC Department of Family Medicine, Chapel Hill, NC, United States
[g] Triangle Institute (RTI) International, Research Triangle Park, NC, United States

HIGHLIGHTS

- We conducted a meta-analysis of psychological treatments for adults with PTSD.
- We examined efficacy, comparative effectiveness, and harms.
- Several therapies demonstrated efficacy, with strongest support for exposure.
- Evidence was insufficient to determine comparative effectiveness.
- Information on adverse events was generally not reported.

ARTICLE INFO

Article history:
Received 28 February 2015
Received in revised form 28 October 2015
Accepted 29 October 2015
Available online 2 November 2015

Keywords:
PTSD
Psychotherapy
Meta-analysis

ABSTRACT

Numerous guidelines have been developed over the past decade regarding treatments for Posttraumatic stress disorder (PTSD). However, given differences in guideline recommendations, some uncertainty exists regarding the selection of effective PTSD therapies. The current manuscript assessed the efficacy, comparative effectiveness, and adverse effects of psychological treatments for adults with PTSD. We searched MEDLINE, Cochrane Library, PILOTS, Embase, CINAHL, PsycINFO, and the Web of Science. Two reviewers independently selected trials. Two reviewers assessed risk of bias and graded strength of evidence (SOE). We included 64 trials; patients generally had severe PTSD. Evidence supports efficacy of exposure therapy (high SOE) including the manualized version Prolonged Exposure (PE); cognitive therapy (CT), cognitive processing therapy (CPT), cognitive behavioral therapy (CBT)-mixed therapies (moderate SOE); eye movement desensitization and reprocessing (EMDR) and narrative exposure therapy (low–moderate SOE). Effect sizes for reducing PTSD symptoms were large (e.g., Cohen's d ~— 1.0 or more compared with controls). Numbers needed to treat (NNTs) were <4 to achieve loss of PTSD diagnosis for exposure therapy, CPT, CT, CBT-mixed, and EMDR. Several psychological treatments are effective for adults with PTSD. Head-to-head evidence was insufficient to determine these treatments' comparative effectiveness, and data regarding adverse events was absent from most studies.

Published by Elsevier Ltd.

☆ Funding/Support: Some of the work for this review was supported by an American Recovery and Reinvestment Act (ARRA) contract from the Agency for Healthcare Research and Quality (AHRQ), Contract No. 290 2007 10056 I.

☆☆ Role of the sponsor: This review was funded in part by AHRQ. Staff at AHRQ participated in development of the scope of work and reviewed draft manuscripts. Copyright assertion from AHRQ was required before the manuscript could be submitted for publication, but the authors are solely responsible for the content and the decision to submit it for publication.

* Corresponding author at: Raymond G. Murphy VA Medical Center, 1501 San Pedro Dr. SE (116), Albuquerque, NM 87108, United States.
E-mail address: Karen.cusack@va.gov (K. Cusack).

http://dx.doi.org/10.1016/j.cpr.2015.10.003
0272-7358/Published by Elsevier Ltd.

Contents

1. Introduction

Posttraumatic stress disorder (PTSD) is an anxiety disorder that may develop following exposure to a traumatic event. The diagnosis of PTSD has undergone a number of changes since initial inclusion in the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) (American Psychiatric Association, 2015). Some of the changes center on the definition of what constitutes a traumatic event. In DSM-III, PTSD was diagnosed following a "catastrophic stressor that was outside the range of usual human experience." However, given the prevalence of many types of trauma, distinguishing between ordinary and extraordinary events can be challenging. With DSM-IV, the focus turned to the individual's peri-traumatic reaction of experiencing intense fear, helplessness or horror to define the stressor as traumatic. (American Psychiatric Association, 2000). However, many individuals fail to endorse this reaction at the time of the event. The most recent iteration of PTSD in the DSM-5 removes this criteria and instead identifies the types of events capable of producing PTSD (e.g., combat, death, threatened death, serious injury, sexual violence), which are either directly experienced, witnessed, experienced by a close family member or friend, or experienced through repeated or extreme exposure to aversive details of the traumatic event. The DSM-5 categorizes PTSD symptoms as: re-experiencing, avoidance, negative alterations in mood and cognition, and alterations in arousal and reactivity. (American Psychiatric Association, 2015). The addition of "persistent and exaggerated negative beliefs about oneself, others or the world;" and "persistent, distorted cognitions about the cause or consequences of the event(s)" are new in DSM-5 and reflect contemporary cognitive-behavioral theory and research on the after-effects of trauma (Cox, Resnick, & Kilpatrick, 2014).

PTSD develops in up to a third of individuals who are exposed to extreme stressors, and symptoms almost always emerge within days of the exposure (Committee on Treatment of Posttraumatic Stress Disorder, & Institute of Medicine, 2008). Shortly after exposure, many people experience some symptoms of PTSD. In most people, those symptoms resolve within several weeks. However, in approximately 10 to 20%, PTSD symptoms persist and are associated with impairment in functioning (Norris & Sloane, 2007). Although approximately 50% of those diagnosed with PTSD improve without treatment in 1 year, 10 to 20% develop a chronic unremitting course (Fletcher, Creamer, & Forbes, 2010). In 2000, the estimated lifetime prevalence of PTSD among adults in the United States was 6.8% and current (12-month) prevalence was 3.6% (Dohrenwend et al., 2006).

Many people with PTSD never receive treatment. For example, less than half of individuals who screened positive for PTSD after serving with the US military in Iraq or Afghanistan were referred for further evaluation or treatment, and of these, only 65% received care (Committee on the Assessment of Ongoing Effects in the Treatment of Posttraumatic Stress Disorder, I. o. M., 2012). Some possible reasons for never receiving treatment include stigma, access barriers, and uncertainty about which treatments are available and effective (Kuehn, 2012).

Treatments available for PTSD span a variety of psychological and pharmacological categories.

Among the psychological therapies are trauma-focused psychological interventions that treat PTSD by directly addressing thoughts, feelings, or memories of the traumatic event (e.g., exposure therapy, cognitive therapy); and non-trauma-focused psychological interventions, which aim to help the individual's experience of PTSD symptoms but do not directly target thoughts and feelings related to the trauma (e.g., relaxation, Stress Inoculation Training, and interpersonal therapy).

Numerous organizations have produced guidelines for the treatment of patients with PTSD, including the American Psychiatric Association (APA), the U.S. Department of Veterans Affairs (VA)/Department of Defense (DoD), the United Kingdom's National Institute for Health and Clinical Excellence (NICE), ISTSS, the Institute of Medicine (IOM), the American Academy of Child and Adolescent Psychiatry (AACAP), and the Australian National Health and Medical Research Council (NHMRC). Table 1 summarizes the previous guidelines. In addition to employing a wide range of methodologies, the various guidelines differ in the level of rigor of studies included in their review. For instance, some were based on expert review of the literature (VA/DoD, APA, and ISTSS). Other guidelines were based on meta-analysis of RCTs but