

## Prevention and treatment of PTSD: the current evidence base

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### ABSTRACT

Post-traumatic stress disorder is a common condition that affects millions of people across the world. Up to date recommendations based on the best available evidence are vital to prevent and treat this debilitating condition. In this issue, we are bringing together a series of systematic reviews and meta-analyses that underpinned the development of the 2018 International Society for Traumatic Stress Studies Guidelines.

The strongest evidence was found for psychological treatments for PTSD, in particular for cognitive behavioural therapy with a trauma focus (CBT-TF)(generic), cognitive processing therapy (CPT), cognitive therapy (CT), eye movement desensitisation and reprocessing (EMDR) and prolonged exposure (PE). For the subgroup of military personnel and veterans, results were less impressive. Dropout from trauma-focused psychological treatments was higher than for other forms of psychological treatment for PTSD in adults. For early interventions, CBT-TF, CT and EMDR were recommended. With regard to pharmacological approaches, a number of them were effective but with a low effect size. Of the pharmacologically assisted psychotherapies, MDMA-assisted psychotherapy was promising. Six complementary and alternative approaches showed emerging evidence.

We now have an evidence base for a diverse range of pharmacological, psychological and other approaches that should facilitate their implementation and lead to the more effective management of people affected by traumatic events.

### Prevención y Tratamiento del TEPT: La base de evidencia actual

El trastorno de estrés postraumático es una condición frecuente que afecta a millones de personas en el mundo. Las recomendaciones actualizadas basadas en las mejores evidencias disponibles son vitales para prevenir y tratar esta condición debilitante. En este número, reunimos una serie de revisiones sistemáticas y metanálisis que respaldaron el desarrollo de las Guías Clínicas de la Sociedad Internacional para el Estudio del Estrés Traumático del 2018.

La evidencia más sólida se encontró para los tratamientos psicológicos para el TEPT, en particular para la terapia cognitivo conductual centrada en el trauma (CBT-TF por sus siglas en inglés) (genérica), la terapia de procesamiento cognitivo (CPT por sus siglas en inglés), terapia cognitiva (CT por sus siglas en inglés), desensibilización y reprocesamiento por movimientos oculares (EMDR) y exposición prolongada (PE por sus siglas en inglés). Para el subgrupo de personal militar y veteranos, los resultados fueron menos impresionantes. El abandono de los tratamientos psicológicos centrados en el trauma fue mayor que otras formas de tratamientos psicológicos para TEPT en adultos. Para intervenciones tempranas, se recomendaron la CBT-TF, CT y EMDR. Con respecto a los enfoques farmacológicos varios de ellos fueron efectivos pero con un tamaño de efecto bajo. De las psicoterapias asistidas farmacológicamente la psicoterapia asistida con MDMA fue prometedora. Seis enfoques complementarios y alternativos mostraron evidencia emergente.

Ahora tenemos una base de evidencia para una amplia gama de enfoques farmacológicos, psicológicos y de otro tipo que deberían facilitar su implementación y conducir a un manejo más efectivo de las personas afectadas por eventos traumáticos.

### PTSD 的 预防和治疗: 现阶段的证据基础

创伤后应激障碍是一种影响着全世界数百万人的普遍疾病。基于最佳可用证据的最新建议对于预防和治疗这种致衰疾病至关重要。在本期杂志中，我们将集中呈现一系列系统综述和元分析，在其支撑下 2018 年《国际创伤应激研究学会指南》得以制定。

最有力证据的支持创伤后应激障碍的心理治疗，特别是聚焦创伤的认知行为疗法 (CBT-TF) (通用)，认知加工疗法 (CPT)，认知疗法 (CT)，眼球脱敏和再加工 (EMDR) 和延长暴露治疗 (PE)。对于军事人员和退伍老兵的亚群来说，效果相对较差。成人的创伤后应激障碍治疗中，聚焦创伤心理治疗所致的脱落率高于其他形式的心理治疗。对于早期干预，建议使用

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### PALABRAS CLAVE

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### 关键词

创伤后应激障碍; 预防; 治疗; 心理治疗; 药物治疗; 辅助干预; 脱落

### HIGHLIGHTS

- A diverse range of pharmacological, psychological and other approaches now have an evidence base for the prevention and treatment of PTSD.
- This editorial introduces the EJPT special issue that considers these interventions and their relative strengths in more detail.

CBT-TF, CT 和 EMDR。许多药理学方法有效,但效果量很小。在药理辅助的心理治疗中,MDMA 辅助的心理治疗是有前途的。六种辅助和替代方法开始显示出新的证据。现在我们拥有的证据基础包括各种药理,心理和其它方法。这些证据应有助于实施这些疗法,并对受创伤事件影响的人们进行更有效的管理。

## 1. Introduction

The COVID-19 crisis is a timely reminder that, sadly, traumatic experiences are highly prevalent across the world (Kessler et al., 2017) and a major public health issue (Magruder, McLaughlin, & Elmore Borbon, 2017). It is, therefore, essential that we understand how best to help those affected by traumatic events and that effective interventions are available to reduce the psychosocial impact of them.

There has been and is much debate on how best to prevent and treat post-traumatic stress disorder (PTSD). More recently, this debate has extended to include the management of complex PTSD (CPTSD). Since the first International Society for Traumatic Stress Studies (ISTSS) Treatment Guidelines were published in 2000 (Foa, Keane, & Friedman, 2000), there has been an almost exponential growth in the number of prevention and treatment trials conducted. Despite this, it has remained difficult to provide evidence-based recommendations for all prevention and treatment questions, resulting in alternative methods being used to develop evidence-informed recommendations, such as the use of Delphi methodology for the ESTSS TENTS guidelines (Bisson et al., 2010).

The third version of the ISTSS Prevention and Treatment Guidelines (International Society of Traumatic Stress Studies (ISTSS) [Online], 2018a) was published in late 2018 and provide recommendations based on syntheses of data from randomized controlled trials (RCTs). The ISTSS Guidelines were developed through a robust methodological process involving systematic reviews of the literature, meta-analyses of RCT results that addressed specific scoping questions, and then the development of recommendations from the evidence available following an agreed algorithm (Bisson et al., 2019). In the case of CPTSD, the ISTSS Treatment Guidelines Committee determined that, because of definitional issues and the limited availability of appropriate clinical trials, meaningful meta-analyses could not be conducted. Instead, narrative reviews of the current situation were undertaken to facilitate the development of a definitive evidence base to inform future recommendations on the management of CPTSD in children, adolescents and adults (International Society of Traumatic Stress Studies (ISTSS) [Online], 2018b, 2018c).

This special EJPT issue provides readers with an opportunity to read more detailed accounts of the

majority of the systematic reviews and meta-analyses that underpin the ISTSS Guideline recommendations for adults and represents a detailed picture of the state of the art with respect to the prevention and treatment at the time this work was completed.

## 2. Articles in this issue

Early psychological interventions for adults exposed to trauma (Roberts, Kitchiner, Kenardy, Lewis, & Bisson, 2020). This paper concludes that the quality of the evidence remains low but includes recommendations for cognitive behavioural therapy with a trauma focus (CBT-TF), cognitive therapy and eye movement desensitisation and reprocessing (EMDR) for early treatment.

Psychological treatments for adults with PTSD (Lewis, Roberts, Andrew, Starling, & Bisson, 2020). This paper demonstrates the large increase in RCTs of psychological treatments for adults that allowed individual forms of cognitive behavioural therapy with a trauma focus (CBT-TF) to be evaluated separately in addition to as a family of interventions. Sixteen different treatments received some form of recommendation, CBT-TF (generic), cognitive processing therapy, cognitive therapy, EMDR and prolonged exposure all received the strongest recommendation available, making them the first-line treatments for PTSD.

Psychological treatment for active duty and ex-serving military personnel (Kitchiner, Lewis, Roberts, & Bisson, 2019). This paper provides a sub-analysis of studies included in the psychological treatment paper described above. The results for military personnel and veterans are less impressive than for the population as a whole. The UK's NICE Guideline (NICE, 2018) decision not to recommend EMDR for veterans is supported by the meta-analyses in this paper although the low number and low quality of the studies available may have impacted this finding.

Dropout from psychological treatment (Lewis, Roberts, Gibson, & Bisson, 2020). The reasons for dropout are multiple and it is important not to equate it solely with tolerability of a treatment, although these issues do seem to be related to a degree. This review found that dropout from trauma-focused psychological treatments was higher than for other forms of psychological treatment for PTSD in adults.

Pharmacological treatment of adults with PTSD (Hoskins et al., 2020). This paper demonstrates strong low effect evidence for a number of pharmacological

approaches. Fluoxetine, paroxetine, sertraline and venlafaxine all have good evidence that they reduce PTSD symptoms in adults but the magnitude of improvement appears to be less than that found for the psychological treatments with the best evidence of effect.

Pharmacologically-assisted psychotherapy for adults with PTSD (Hoskins et al., 2020). Although not included in the ISTSS Guidelines, the emergence of MDMA-assisted psychotherapy and other approaches that combine medication and psychological treatment make this an increasingly important area to consider. MDMA-assisted psychotherapy was the most promising of the interventions considered and shown to have emerging evidence of effect.

Non-psychological and non-pharmacological interventions (Bisson, Van Gelderen, Roberts, & Lewis, 2020). The final paper provides an overview of the results of the systematic review and meta-analyses that led to the final group of ISTSS recommendations. There is emerging evidence for six different interventions, including yoga, neurofeedback, transcranial magnetic stimulation and acupuncture. These findings have major clinical and research implications and should encourage more research with respect to complementary and alternative approaches.

### 3. Future work



It is hoped that this unique collection of papers will stimulate people working in the field to undertake further research to develop more effective interventions for the prevention and treatment of PTSD by refining existing effective approaches and developing new ones. There are a large number of interventions with emerging evidence of effect that appear to be at a point where further development would help them develop to the next level.

There are also major questions to be answered with respect to how best to effectively implement evidence-based interventions into practice at scale across the world, to maximise global impact and improve the health and wellbeing of people exposed to traumatic events (Olf et al., 2019). Work is ongoing to facilitate this, e.g. through the development of decision aids focused on people with PTSD, to help them navigate the current evidence base and inform decision-making that is right for their needs.

### Disclosure statement

No potential conflict of interest was reported by the authors.

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### References

- Bisson, J. I., Berliner, L., Cloitre, M., Forbes, D., Jensen, T. K., Lewis, C., ... Shapiro, F. (2019). The international society for traumatic stress studies. New guidelines for the prevention and treatment of PTSD: Methodology and development process. *Journal of Traumatic Stress, 32*(4), 471–473.
- Bisson, J. I., Tavakoly, B., Witteveen, A. B., Ajdukovic, D., Jehel, L., Johansen, V., & Olf, M. (2010). TENTS Guidelines: Development of post-disaster psychosocial care guidelines through a Delphi process. *British Journal of Psychiatry, 196*(1), 69–74.
- Bisson, J. I., Van Gelderen, M., Roberts, N. P., & Lewis, C. (2020). Non-pharmacological and non-psychological approaches to the treatment of PTSD. *European Journal of Psychotraumatology, 11*(1), 1795361. doi:10.1080/20008198.2020.1795361.
- Foa, E. B., Keane, T. M., & Friedman, M. J. (2000). *Effective treatments for PTSD*. New York: Guilford Press.
- Hoskins, M. D., Bridges, J., Sinnerton, R., Nakamura, A., Underwood, J. F. G., Slater, A., ... Bisson, J. I. (2020). Pharmacological therapy for post-traumatic stress disorder: A systematic review and meta-analysis of monotherapy, augmentation and head-to-head approaches. *European Journal of Psychotraumatology, 12*(1), 1802920. doi:10.1080/20008198.2020.1802920.
- Hoskins, M. D., Sinnerton, R., Nakamura, A., Underwood, J. F. G., Slater, A., Lewis, C., ... Bisson, J. I. (2020). Pharmacological-assisted psychotherapy for post-traumatic stress disorder: A systematic review and meta-analysis. *European Journal of Psychotraumatology, 12*(1), 1802920. doi:10.1080/20008198.2020.1853379.
- International Society of Traumatic Stress Studies (ISTSS) [Online]. (2018a, November 26). *New ISTSS prevention and treatment guidelines*. Retrieved from <http://www.istss.org/treating-trauma/new-istss-guidelines.aspx>
- International Society of Traumatic Stress Studies (ISTSS) [Online]. (2018b, November 26). *Position paper on complex PTSD in adults*. Retrieved from <https://www.istss.org/treating-trauma/new-istss-prevention-and-treatment-guidelines.aspx>
- International Society of Traumatic Stress Studies (ISTSS) [Online]. (2018c, November 26). *Position paper on complex PTSD in children and adolescents*. Retrieved from <https://www.istss.org/treating-trauma/new-istss-prevention-and-treatment-guidelines.aspx>
- Kessler, R. C., Aguilar-Gaxiola, S., Alonso, J., Benjet, C., Bromet, E. J., Cardoso, G., ... Survey, W. W. M. H. (2017). Trauma and PTSD in the WHO world mental health surveys. *European Journal of Psychotraumatology, 8*(1), 1353383. doi:10.1080/20008198.2017.1353383.
- Kitchiner, N. J., Lewis, C., Roberts, N. P., & Bisson, J. I. (2019). Active duty and ex-serving military personnel with post-traumatic stress disorder treated with psychological therapies: Systematic review and meta-analysis. *European Journal of Psychotraumatology, 10*(1), 1684226. doi:10.1080/20008198.2019.1684226.
- Lewis, C., Roberts, N., Andrew, M., Starling, E., & Bisson, J. (2020). Psychological therapies for post-traumatic stress disorder in adults: Systematic review and meta-analysis. *European Journal of Psychotraumatology, 11*(1), 1729633. doi:10.1080/20008198.2020.1729633.

- Lewis, C., Roberts, N. P., Gibson, S., & Bisson, J. I. (2020). Dropout from psychological therapies for post-traumatic stress disorder (PTSD) in adults: Systematic review and meta-analysis. *European Journal of Psychotraumatology*, 11(1), 1709709. doi:10.1080/20008198.2019.1709709.
- Magruder, K. M., McLaughlin, K. A., & Elmore Borbon, D. L. (2017). Trauma is a public health issue. *European Journal of Psychotraumatology*, 8(1), 1375338. doi:10.1080/20008198.2017.1375338.
- NICE. (2018). *Guidelines for post-traumatic stress disorder. NICE guideline (NG116)*. Retrieved from <https://www.nice.org.uk/guidance/ng116>
- Olf, M., Amstadter, A., Armour, C., Birkeland, M. S., Bui, E., Cloitre, M., & Thoresen, S. (2019). A decennial review of psychotraumatology: What did we learn and where are we going? *European Journal of Psychotraumatology*, 10(1), 1672948. doi:10.1080/20008198.2019.1672948
- Roberts, N. P., Kitchiner, N. J., Kenardy, J., Lewis, C. E., & Bisson, J. I. (2020). Early psychological intervention following recent trauma: A systematic review and meta-analysis. *European Journal of Psychotraumatology Supplement*, 10(1), 1695486. doi:10.1080/20008198.2019.1695486.