

ISSUE 15(5)

OCTOBER 2021

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CTU-Online is published 6 times per year by the National Center for PTSD, Executive Division.

TREATMENT

EBPs for PTSD delivered by telehealth in clinical practice

Outcomes for EBPs for PTSD delivered via telehealth are comparable to those of EBPs delivered in-person (e.g., see the [August 2015 CTU-Online](#)). Increasing understanding of the real-world effectiveness of different types of telehealth delivery of EBPs for PTSD is of particular importance given the increased use of telehealth during the ongoing Covid-19 pandemic. Investigators at the Fargo VA Health Care System used medical record data to compare outcomes in PE and CPT delivered via video-to-home, clinic-to-clinic telehealth, and in-person among rural Veterans. The study included 581 Veterans in the Fargo VA catchment area who started CPT or PE and completed measures of PTSD (PCL-5) and depression (BDI-II) during treatment. Neither outcomes (d 's = 0.5 for both PTSD and depression), treatment completion (defined as completing 8 or more sessions), nor homework compliance differed across treatments and delivery modalities. The video-to-home group had the highest treatment completion (56.0%) and attended the highest number of sessions (8.9), and the clinic-to-clinic telehealth group had the lowest (46.0% and 6.2, respectively), although the authors did not report the statistical significance of these differences. Nevertheless, the study's findings suggest that video-to-home promotes treatment engagement and further support the delivery of EBPs for PTSD via telehealth as a viable strategy for increasing access to care, particularly among rural Veterans.

Read the article: <https://doi.org/10.1037/rmh0000190>

Knowlton, C. N., & Nelson, K. G. (2021). PTSD telehealth treatments for veterans: Comparing outcomes from in-person, clinic-to-clinic, and home-based telehealth therapies. *Journal of Rural Mental Health, 45*, 243-255. PTSDpubs ID: 1576348

New research explores accelerated deliveries of CPT

CPT is traditionally delivered once or twice weekly over the course of 6-12 weeks. Massed or intensive formats utilize an accelerated schedule to deliver treatment more frequently, and over a shorter period, than the standard weekly format. Two recent studies provide new insights on the efficacy of accelerated CPT delivery. A team led by investigators at the National Center for PTSD tested the relative effectiveness of massed CPT compared with standard weekly delivery of CPT in women survivors of intimate partner violence (58% White, age range = 27-35) with PTSD. The multiple subject, single case design ($N = 12$) matched six pairs of participants receiving massed or standard CPT on criteria such as TBI history, PTSD severity, and demographic characteristics. Massed treatment was delivered in 12 1-hour sessions over 5 days and standard treatment once weekly for 12 weeks. Both conditions showed large improvements in PTSD symptoms from pre- to post-treatment (massed $d = 1.92$; standard $d = 1.32$) and from pretreatment to 3-month follow-up (massed $d = 1.55$; standard $d = 2.38$), with no difference between modalities. Depression, stress, and anxiety also significantly improved, with no differences between modalities. Although the small sample limited power to find statistical differences between groups, results suggest that CPT can be effectively delivered over a brief period with female civilian survivors of IPV.

As in standard-length treatments, individual responses to intensive treatments for CPT vary. Investigators at Rush University Medical Center examined trajectories of symptom change among Veterans completing CPT within a 3-week intensive PTSD program. Participants were 452 Veterans with PTSD (66% male, 68% White, average age = 41). Veterans received 14 daily 50-minute sessions of individual CPT, 13 daily 120-minute sessions of group CPT and daily group sessions of mindfulness, yoga, and psychoeducation. Self-report symptoms were assessed at

intake, throughout treatment, and posttreatment. Four distinct trajectories of symptom change were identified. *Fast responders* (15.3%) and *steady responders* (32.0%) experienced large PTSD symptom reduction on the PCL-5 (mean symptom change = 37.3 and 29.3 points, respectively), and fell below the threshold for probable PTSD. *Partial responders* (38.4%) experienced clinically meaningful symptom reduction (mean PCL-5 change = 14 points) but did not fall below the threshold for probable PTSD, while *minimal responders* (14.4%) reported the most severe baseline symptoms and least overall change (mean PCL-5 change = 7.4 points). Negative posttraumatic cognitions, clinician-rated PTSD symptom severity, and self-rated PTSD severity in all clusters except avoidance predicted group membership; other demographic and clinical variables did not predict symptom trajectory. These results add to growing evidence that some patient clinical characteristics at baseline may predict individual treatment response.

Taken together, these studies provide additional support for the efficacy of massed CPT across a variety of settings and populations. The ability to offer treatment in a condensed format may reduce barriers to receiving a full course of treatment and provide the opportunity for more rapid treatment response. Further research to determine which patients are likely to benefit from this form of treatment will help inform treatment matching to promote optimal outcomes.

Read the articles:

<https://www.ptsd.va.gov/professional/articles/article-pdf/id1580643.pdf>

Galovski, T. E., Werner, K. B., Weaver, T. L., Morris, K. L., Dondanville, K. A., Nanney, J., . . . Iverson, K. M. (2021). Massed cognitive processing therapy for posttraumatic stress disorder in women survivors of intimate partner violence. *Psychological Trauma*. Advance online publication. PTSDpubs ID: 1580643

<https://doi.org/10.1016/j.jpsychires.2021.07.004>

Held, P., Smith, D. L., Bagley, J. M., Kovacevic, M., Steigerwald, V. L., Van Horn, R., & Karnik, N. S. (2021). Treatment response trajectories in a three-week CPT-based intensive treatment for veterans with PTSD. *Journal of Psychiatric Research*, 141, 226-232. PTSDpubs ID: 1572623

Capnometry Guided Respiratory Intervention shows open-label efficacy for PTSD

Capnometry Guided Respiratory Intervention (CGRI) is a biofeedback system that provides real-time readouts of expired carbon dioxide (CO₂) and respiratory rate. This system has shown efficacy in reducing panic symptoms and is hypothesized to have efficacy in PTSD. Investigators at the Palo Alto VA reported on an open-label study of CGRI in Veterans with PTSD. The CGRI system trains participants to maintain respiratory rate and expired CO₂ within specific parameters with changing goals over time. Participants ($n = 55$) received four weeks of 17-minute, twice-daily at-home breathing training sessions using the CGRI system. CGRI was well-tolerated with 13% dropout during the treatment phase. Mean CAPS-5 score decreased from 49.5 at baseline to 31.8 after four weeks of treatment, 27.1 at 2-months following treatment, and 26.2 at 6-months following treatment. Secondary outcomes such as depression and overall functioning also showed improvement

over time. The primary limitation of this study is the lack of a control group. Another limitation is a liberal definition of response on the CAPS—6 points, which is much lower than the 10-15 points typically used in other studies. Although these preliminary data are encouraging, validation in adequately powered, randomized controlled trials is needed.

Read the article: <https://doi.org/10.1007/s10484-021-09521-3>

Ostacher, M. J., Fischer, E., Bowen, E. R., Lyu, J., Robbins, D. J., & Suppes, T. (2021). Investigation of a capnometry guided respiratory intervention in the treatment of posttraumatic stress disorder. *Applied Psychophysiology and Biofeedback*. Advance online publication. PTSDpubs ID: 1580644

Augmenting exposure-based interventions for PTSD

Trauma-focused psychotherapies are highly effective for treating PTSD, but some patients have an inadequate response. A potential strategy for enhancing outcomes is to augment trauma-focused psychotherapy with another intervention targeting a specific mechanism implicated in response to the psychotherapy. Two recent studies report on using this strategy to enhance response to an exposure-based intervention. Investigators from the Bronx VA randomized 60 combat Veterans with PTSD to receive oral hydrocortisone (HCORT) – a synthetic version of the glucocorticoid stress hormone cortisol – versus placebo prior to the final eight sessions of PE, when imaginal exposure occurs. Glucocorticoid stress hormones have been shown to enhance extinction learning, justifying testing HCORT's ability to enhance response to PE. PE was highly effective in this study, but there was no increased efficacy in the HCORT versus the placebo augmentation group. Exploratory analyses suggested that HCORT augmentation was associated with a greater reduction in hyperarousal symptoms in participants with current postconcussive symptoms, and a greater reduction in avoidance symptoms in participants with greater sensitivity to glucocorticoid stimulation at baseline.

In a second study, investigators at the Université de Tours in France hypothesized that high frequency (10 Hz) transcranial magnetic stimulation (TMS) applied at 110% of resting motor threshold to the right prefrontal cortex would enhance PTSD symptom reduction during a trauma script exposure compared to low frequency (1 Hz) subthreshold (70% resting motor threshold) TMS, intended as an active control. This design was based on the rationale that enhanced right prefrontal cortical function would enhance fear extinction. Community participants with PTSD ($n = 38$) were randomized to eight sessions of 10 Hz, 110% TMS versus 1 Hz, 70% TMS delivered while participants read a personalized trauma script. Both groups showed reduction of PTSD symptom severity over time (about a 20-30 point decrease on the CAPS-5 at one month post baseline and a 30-40 point decrease at six months post baseline), but there was no difference between the groups. Of note, the trauma script exposure used is not a validated as a treatment for PTSD, and it is possible that the active "control" condition had a real therapeutic effect.

These studies reflect the growing interest in findings ways to enhance outcomes of existing evidence-based psychotherapies. Although both studies had negative results, they raise important questions. Exploratory analysis in the HCORT study suggest that

subsets of patients may preferentially respond to this augmentation strategy – this needs validation in larger studies. In the TMS study, the timing of the adjunctive intervention in relation to the behavioral intervention may have affected the results. A prior study providing TMS prior to (not during) CPT showed a significant enhancement of the psychotherapy. Issues such as the timing of the augmentation approach relative to the behavioral intervention and identification of meaningful subgroups likely to respond are relevant considerations for future augmentation studies.

Read the articles:

<https://doi.org/10.1111/ner.13505>

Thierry, S., Raulin-Briot, M., Legrand, M., Le Gouge, A., Vancappel, A., Tudorache, A. C., . . . El-Hage, W. (2021). Combining trauma script exposure with rTMS to reduce symptoms of post-traumatic stress disorder: randomized controlled trial. *Neuromodulation*. Advance online publication. PTSDpubs ID: 1576800

<https://doi.org/10.1016/j.brat.2021.103924>

Lehrner, A., Hildebrandt, T., Bierer, L. M., Flory, J. D., Bader, H. N., Makotkine, I., & Yehuda, R. (2021). A randomized, double-blind, placebo-controlled trial of hydrocortisone augmentation of Prolonged Exposure for PTSD in U.S. combat veterans. *Behaviour Research and Therapy*, 144, Article 103924. PTSDpubs ID: 1574125

Promising initial results in an open trial of equine-assisted therapy for PTSD

Equine-assisted therapy for PTSD has generated interest as a potential complement to standard trauma-focused treatments (see the [April 2015 CTU-Online](#)). A team led by investigators at the New York State Psychiatric Institute and Columbia University Irving Medical Center tested a recently developed manualized group equine-assisted therapy for PTSD in an open trial to evaluate its feasibility and acceptability. Participants were 63 Veterans (37% women) with PTSD. The investigators created an eight-session therapy protocol that included psychoeducation, grounding exercises, and structured interactions with horses, such as grooming them and directing their movements. Average CAPS-5 scores decreased from 38.6 to 26.9 points ($d = 1.1$) over the course of treatment, and these gains persisted at 3-month follow-up. More than half of the patients reported clinically significant improvements ($\geq 30\%$ decrease in CAPS-5 score) at the conclusion of the study. Dropout was low (8%), suggesting

that the treatment was well tolerated. However, more rigorous evaluation using randomization and a control group is needed to better understand the potential benefits of equine-assisted therapy for PTSD. Questions such as the most appropriate control group also require careful consideration.

Read the article: <https://doi.org/10.4088/JCP.21m14005>

Fisher, P. W., Lazarov, A., Lowell, A., Arnon, S., Turner, J. B., Bergman, M., . . . Neria, Y. (2021). Equine-assisted therapy for posttraumatic stress disorder among military veterans: An open trial. *Journal of Clinical Psychiatry*, 82(5), Article 21m14005. PTSDpubs ID:1580642

Within-session distress reduction may precede PTSD symptom relief in Prolonged Exposure

Clinicians routinely use a patient's self-reported distress during exposures to monitor response to PE. A study led by investigators at Leiden University in the Netherlands uses a novel analytic approach to examine how distress relief relates to changes in PTSD symptoms. Previous studies have primarily examined the association of PTSD symptoms and average changes in distress in PE at the group level across treatment (see the [February 2014 CTU-Online](#)). In the new study, investigators analyzed session-by-session changes in distress at the individual level and linked this to self-reported PTSD symptoms at the next PE session. The sample included 86 individuals (79% female) from a PE trial who reported childhood abuse. PTSD symptoms were measured using the PCL-5. Distress was measured using patients' Subjective Units of Distress (SUDS) ratings. The findings pointed to within-session decreases in distress as a potential mechanism of improvement in PE. Within-session decreases in SUDS predicted reduced PTSD symptoms at the next session, but between-session SUDS ratings did not. When averaged across individuals, reductions in within- and between-session SUDS ratings both predicted decreased PTSD symptoms across treatment. It will be important to further examine how within-session decreases in distress are linked to clinical outcomes (e.g., loss of PTSD diagnosis) and apply this analytical approach to data from Veterans.

Read the article: <https://doi.org/10.1016/j.beth.2021.06.007>

Hoeboer, C. M., Oprel, D. A. C., Kooistra, M. J., Schoorl, M., van der Does, W., van Minnen, A., & de Kleine, R. A. (2021). Temporal relationship between change in subjective distress and PTSD symptom decrease during prolonged exposure therapy for posttraumatic stress disorder. *Behavior Therapy*. Advance online publication. PTSDpubs ID: 1576691

Take NOTE

Relationship between PTSD and sexual dysfunction

In this systematic review, investigators at VA Puget Sound Healthcare System and the University of Washington examined the relationship between PTSD diagnosis and severity and a range of sexual difficulties.

Read the article: <https://doi.org/10.1016/j.jsxm.2021.05.011>

Bird, E. R., Piccirillo, M., Garcia, N., Blais, R., & Campbell, S. (2021). Relationship between posttraumatic stress disorder and sexual difficulties: A systematic review of veterans and military personnel. *Journal of Sexual Medicine*, 18(8), 1398-1426. PTSDpubs ID: 1576866

The role of canines in PTSD treatment

A team led by investigators at the Tweed Hospital in New South Wales, Australia conducted a systematic review to better understand the role of canines in the treatment of PTSD.

Read the article: <https://doi.org/10.1037/tra0001074>

Vitte, P., Bragg, K., Graham, D., Davidson, J., Bratten, T., & Angus-Leppan, G. (2021). The role of canines in the treatment of posttraumatic stress disorder: A systematic review. *Psychological Trauma*. Advance online publication. PTSDpubs ID: 1580645

Physical interventions for PTSD and other trauma- and stressor- related disorders

In this new systematic review, investigators at Hunter College examined the current state of the research supporting physical

interventions (e.g., exercise, yoga, martial arts) for PTSD and other trauma- and stressor- related disorders.

Read the article: <https://doi.org/10.1016/j.mhpa.2021.100401>

Davis, A. A., Zachry, C. E., & Berke, D. S. (2021). Physical interventions for the treatment of trauma and stressor-related disorders: A comprehensive systematic review. *Mental Health and Physical Activity*, 20, Article 100401. PTSDpubs ID: 1570235

The role of therapeutic alliance in psychotherapy for PTSD

Investigators at the University of Manchester conducted a systematic review and meta-analysis to understand predictors of therapeutic alliance, and the role of therapeutic alliance on outcome, in psychotherapy for PTSD.

Read the article: <https://doi.org/10.1002/cpp.2642>

Howard, R., Berry, K., & Haddock, G. (2021). Therapeutic alliance in psychological therapy for posttraumatic stress disorder: A systematic review and meta-analysis. *Clinical Psychology & Psychotherapy*. Advance online publication. PTSDpubs ID: 1572663



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