CLINICIAN'S TRAUMA UPDATE

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TREATMENT

New clinical tools to show PTSD treatment effectiveness

Clearly communicating information to patients on the overall effectiveness of evidence-based PTSD treatments can be challenging. Investigators at the National Center for PTSD led an effort to develop visual aids for patients that simply and quickly show outcomes of evidence-based treatments.

Guidelines recommend communicating treatment outcomes to patients as proportions and using graphics to help patients understand the information. Accordingly, the investigators meta-analyzed results of 41 trials of evidence-based PTSD treatments (i.e., trauma-focused therapy and first-line antidepressants) to estimate the proportion of patients who no longer met criteria for PTSD following treatment. The investigators then translated the findings into graphics showing how many people out of 100 no longer met criteria for PTSD after each treatment type. Among civilians, 64 patients lost PTSD diagnosis following trauma-focused therapy compared to 57 after antidepressants, and 17 after receiving no treatment. In military populations, 44 patients no longer met PTSD diagnostic criteria after trauma-focused treatment compared to 37 after antidepressants and 8 after no treatment. The investigators developed tailored graphics for use with civilian and military patient populations.

Graphical depictions of treatment effectiveness are a best practice for communicating treatment outcomes to effectively share information about PTSD treatment. How these tools get used in clinical practice and how they impact patients' understanding of PTSD treatment effectiveness are important questions for implementation.

Read the article (and see Figure 3 for graphics): https://www.ptsd.va.gov/professional/articles/article-pdf/id1589017.pdf

Hamblen, J. L., Grubbs, K. M., Cole, B., Schnurr, P. P., & Harik, J. M. (2022). "Will it work for me?" Developing patient-friendly graphical displays of posttraumatic stress disorder treatment effectiveness. *Journal of Traumatic Stress.* Advance online publication. PTSDpubs ID: 1589017

New findings on IOPs for PTSD in Veterans

Massed treatment schedules and intensive outpatient programs (IOPs, programs typically consisting of massed treatment schedule plus adjunctive therapies) for PTSD consistently reduce PTSD symptoms in a much shorter time and with higher rates of treatment completion than weekly evidence-based treatments. Three recent studies investigate variations on setting and format in Veteran populations and within the VA health care system.

Most research on IOPs for PTSD, including among Veterans, has taken place in highly-resourced, non-VA settings (see the October 2021 *CTU-Online*). Investigators at the National Center for PTSD reported on the feasibility of intensive outpatient care for PTSD at a VA medical center. Veterans enrolled in either two-week (5 days of treatment over 10-12 days) or four-week (3 days of treatment per week) versions of the IOP, and chose PE or CPT. Each day of treatment included two hours of group therapy and an individual EBP session. In addition to their EBP of choice, Veterans participated in medication management as appropriate, check-in groups intended to support the individual EBPs, and therapeutic outings. Most Veterans (87.3%) completed the program, in which Veterans experienced large pre-post-treatment decreases in PTSD symptoms measured with

the PCL-5 (*d* = 1.8). These results, which are comparable to those observed in IOP programs for Veterans with PTSD in the community, suggest that IOP care for PTSD is feasible and effective for Veterans seeking care in VA.

In another study, investigators at Emory University used latent class analysis to identify patterns of treatment response and maintenance in Veterans enrolled in a two-week IOP for PTSD and identify who may need additional services after the IOP. Veterans (*N* = 280) received daily individual PE sessions along with *in vivo* exposure groups and additional skills coaching classes and support. Three classes of responders were identified, two of which (85.4%) reported significantly reduced PTSD and depression symptoms over one year of follow up. The third class (14.6%) demonstrated modest PTSD symptom and depression improvement during the IOP but reported a rebound of symptoms in the year following treatment. The rebounding symptom class reported highest baseline PTSD (PCL-5 = 67.9) and depression (PHQ-9 = 21.4) severity, along with the most severe residual depression. These findings are important because they show that baseline comorbid depression does not hinder treatment response, although persistent depression may be associated with limited and sustained responses.

In a third study, investigators at Ohio State University directly compared weekly outpatient CPT, daily outpatient CPT, and daily CPT in a residential setting with recreational programming (e.g., hiking, mountain biking) in 45 military personnel and Veterans. All arms consisted of 12 one-hour CPT sessions, and the CAPS-5 and PCL-5 were administered at baseline, post-treatment and 6- and 12-month follow-up. Baseline PTSD severity did not differ between the three arms. PTSD symptoms improved substantially in all treatment groups (*ds* = 2.4 to 2.7 at post-treatment CAPS-5). Compared to other groups, recipients of daily residential CPT with recreation therapy reported reduced symptom improvement and lower rates of good end state functioning at post-treatment and 12-month follow-up, although it is not clear whether those findings are attributable to the residential format or the recreation therapy component. Both groups that received daily CPT (>94%) had higher rates of treatment completion than weekly outpatient CPT (66%). Although patients self-selected into their preferred treatment format, limiting generalizability, the data suggest that daily CPT significantly increases treatment completion and adjunctive treatments such as recreational therapy may not enhance treatment response.

These studies extend previous research demonstrating the effectiveness of intensive EBPs for PTSD to VA settings and Veteran populations. Initial evidence reported here suggests that specific symptom profiles, treatment settings, or adjunctive therapies may mitigate the effectiveness of intensive PTSD treatment. Future research can continue to examine how these factors interact to influence the effectiveness of intensive EBPs for PTSD. Especially needed are comparative effectiveness studies that directly compare massed or intensive programs to traditional weekly formats.

Read the articles:

https://www.ptsd.va.gov/professional/articles/article-pdf/id1590049.pdf

Yamokoski, C., Flores, H., Facemire, V., Maieritsch, K., Perez, S., & Fedynich, A. (2022). Feasibility of an intensive outpatient treatment program for posttraumatic stress disorder within the Veterans Health Care Administration. *Psychological Services.* Advance online publication. PTSDpubs ID: 1590049

https://doi.org/10.1002/da.23240

Burton, M. S., Rothbaum, B. O., & Rauch, S. A. M. (2022). The role of depression in the maintenance of gains after a prolonged exposure intensive outpatient program for posttraumatic stress disorder. *Depression and Anxiety, 39*(4), 315-322. PTSDpubs ID: 1586173

https://doi.org/10.1016/j.beth.2022.01.014

Bryan, C., Russell, H., Bryan, A., Rozek, D., Leifker, F., Rugo, K., . . . Asnaani, A. (2022). Impact of treatment setting and format on symptom severity following cognitive processing therapy for posttraumatic stress disorder (PTSD). *Behavior Therapy.* Advance online publication. PTSDpubs ID: 1590450

Findings of insufficiently-controlled HBOT trial are challenging to interpret

Despite mostly negative findings on hyperbaric oxygen therapy (HBOT) as a treatment for PTSD (see this issue's *Take Note*), there is continued interest in this treatment and its potential mechanisms of action. Investigators from Tel-Aviv University in Israel conducted an open-label study of HBOT for PTSD that also included structural and functional magnetic resonance imaging (MRI).

Male Veterans with PTSD were randomized to 12 weeks of HBOT (*N* = 18) or treatment-as-usual (TAU; *N* = 17). Participants in the HBOT condition received 60, daily HBOT treatment sessions (5 days/week) and continued with ongoing psychotherapy and pharmacotherapy. Participants in the treatment-as-usual condition continued ongoing treatment but received no additional intervention. All participants underwent MRI before and after treatment. The HBOT group showed an 18-point reduction in CAPS score over 12 weeks compared to a 2-point increase in the treatment-as-usual group. The HBOT group showed changes in brain function and white matter structure in brain regions previously implicated in the pathophysiology of PTSD and other neuropsychiatric conditions compared to the TAU group. Although this study suggests efficacy for HBOT and potential neural mechanisms of action, the lack of a placebo condition makes these findings extremely difficult to interpret. The potential impact of a placebo effect on both clinical and MRI findings is of great concern, and validation in an adequately controlled trial is needed.

Read the article: https://doi.org/10.1371/journal.pone.0264161

Doenyas-Barak, K., Catalogna, M., Kutz, I., Levi, G., Hadanny, A., Tal, S., . . . Efrati, S. (2022). Hyperbaric oxygen therapy improves symptoms, brain's microstructure and functionality in veterans with treatment resistant post-traumatic stress disorder: A prospective, randomized, controlled trial. *PLoS One, 17*(2), Article e0264161. PTSDpubs ID: 1587823

EBPs for PTSD found less effective for military versus civilian patients in a community setting

Previous research suggests that military (active duty and Veteran) patients benefit less than civilians from EBPs for PTSD, yet no studies have directly compared outcomes of treatment delivered in national

community settings. A study led by investigators from the University of Texas Health Science Center at San Antonio compared outcomes of military and civilian patients receiving CPT or PE from a national sample of community providers.

Data were collected from 502 patients (N = 188 military, 72% male; N = 314 civilian, 24% male) treated by community mental health providers trained in CPT or PE through the STRONG STAR Training Initiative. Both military and civilian patients reported significant reductions in self-reported symptoms of PTSD (military d = -0.91, civilian d = -1.18) and depression (military d = -0.65, civilian d = -0.88) from pre-post treatment. However, military patients showed smaller reductions than civilians in both PTSD (*ES diff* = 0.26) and depression (*ES diff* = 0.23) symptoms. The dropout rate was 57% in the total sample, with no differences between military and civilian patients. These findings provide further evidence suggesting that although military patients benefit from EBPs for PTSD and drop out at the same rates as civilians, more work is needed to better understand how to improve treatment outcomes in this population.

Read the article: https://www.ptsd.va.gov/professional/articles/article-pdf/id1587796.pdf

Jacoby, V. M., Straud, C. L., Bagley, J. M., Tyler, H., Baker, S. N., Denejkina, A., . . . Dondanville, K. A. (2022). Evidence-based posttraumatic stress disorder treatment in a community sample: Military-affiliated versus civilian patient outcomes. *Journal of Traumatic Stress.* Advance online publication. PTSDpubs ID: 1587796

Transdiagnostic symptom profiles may predict nonresponse to transcranial magnetic stimulation

Individual patients with PTSD present with symptoms that often overlap with other disorders, such as depression. Investigators from Brown University and the Providence VA assessed patients with comorbid PTSD and depression using a transdiagnostic symptom classification to predict treatment response to transcranial magnetic stimulation (TMS).

Participants with comorbid PTSD and depression (N = 35) enrolled in an open-label trial of TMS were assessed with a transdiagnostic symptom scale, the Depression Anxiety Stress Scale (DASS) and self-rated measures of PTSD (PCL-5) and depression (Inventory of Depressive Symptomatology-Subject Rated). Each participant was categorized into one of six pre-defined categories: Normative Mood, Tension, Anxious Arousal, Generalized Anxiety, Anhedonia and Melancholia. Participants with the Anxious Arousal subtype comprised 43% of the sample (no other subtype comprised more than 20% of the group, limiting conclusions that can be drawn about other subtypes). The Anxious Arousal subgroup had a lower depression remission rate, smaller decrease in PTSD symptom severity, and were less likely to complete the TMS treatment course. This study was primarily limited by small sample size. It is also unclear whether the Anxious Arousal subgroup represents a subtype specifically more resistant to TMS or to treatment in general, and more research is needed to clarify whether a transdiagnostic approach has practical clinical value.

Read the article: https://doi.org/10.3390/jpm12020224

Cosmo, C., Berlow, Y. A., Grisanzio, K. A., Fleming, S. L., Rashed Ahmed, A. P., Brennan, M. C., . . . Philip, N. S. (2022). Transdiagnostic symptom subtypes to predict response to therapeutic transcranial magnetic stimulation in major depressive disorder and posttraumatic stress disorder. *Journal of Personalized Medicine, 12*(2), Article 224. PTSDpubs ID: 1587769

ASSESSMENT

Patients have more stringent definitions of recovery than accepted clinical cutoffs

Response to PTSD treatment is often measured by standardized assessments that have accepted clinical and statistical cut-offs for response and remission (see the February 2022 *CTU-Online* for further discussion of these cutoffs). However, patients have their own expectations and perceptions of their treatment response. Investigators at Flinders University measured patient's pre-treatment definitions of improvement and their relationship to eventual treatment outcome.

Participants were drawn from a community sample of male and female participants receiving cognitive behavioral therapy for PTSD in one of 3 RCTs (N = 147) that used the CAPS-5 and PCL-5. Participants also completed two modified PCLs on which they were asked to report the level of symptom severity that would indicate (1) benefit from PTSD treatment and (2) recovery from PTSD. These individualized definitions of benefit and recovery were compared with clinical cutoffs for no longer meeting diagnostic criteria (PCL < 31) and remission (PCL < 19), respectively, and with treatment outcome. Over 80% of patients had more stringent definitions of benefit and recovery compared with clinical cutoffs. More stringent definitions of improvement and positive pre-treatment expectations were associated with better treatment outcome. Future research can investigate why patient-defined standards for improvement were more stringent than clinical standards, and how to use this information in a treatment setting to optimize outcome.

Read the article: https://doi.org/10.1016/j.beth.2021.12.007

Matthews, S. R., Elizabeth, M., Roberts, L. N., & Nixon, R. D. V. (2021). Client versus clinicians' standards of clinically meaningful change and the effects of treatment expectations on therapeutic outcomes in individuals with posttraumatic stress disorder. *Behavior Therapy, 53*(3), 560-570. PTSDpubs ID: 1588516

Take NOTE

New data from nationally representative Veteran samples

Two recently published epidemiological studies offer updated information on nationally representative samples of Veterans. Investigators from the VA Epidemiology Program, Health Outcomes of Military Exposures analyzed data from the 2016-2017 Vietnam Era Health Retrospective Observational Study and found that decades after their service, Vietnam theater Veterans have increased mental health symptoms compared to age- and sex- matched non-theater Veterans and non-Veteran controls. In another study, investigators from University of North Carolina at Greensboro and the National Center for PTSD published results from the 2019-2020 wave of the National Health and Resilience in Veterans Study, including information on the lifetime and current prevalence of PTSD in a nationally representative sample of US Military Veterans (of all eras).

Read the articles:

https://www.ptsd.va.gov/professional/articles/article-pdf/id1590253.pdf

Cypel, Y., Schnurr, P. P., Schneiderman, A. I., Culpepper, W. J., Akhtar, F. Z., Morley, S. W., . . . Davey, V. J. (2022). The mental health of Vietnam theater veterans-the lasting effects of the war: 2016-2017 Vietnam Era Health Retrospective Observational Study. *Journal of Traumatic Stress, 35*(2), 605-618. PTSDpubs ID: 1590253

https://www.ptsd.va.gov/professional/articles/article-pdf/id1587822.pdf

Wisco, B. E., Nomamiukor, F. O., Marx, B. P., Krystal, J. H., Southwick, S. M., & Pietrzak, R. H. (2022). Posttraumatic stress disorder in US military veterans: Results from the 2019-2020 National Health and Resilience in Veterans Study. *Journal of Clinical Psychiatry, 83*(2) Article 20m14029. PTSDpubs ID: 1587822

Hyperbaric Oxygen Therapy for TBI and PTSD: Evidence Brief

VA Health Services Research and Development has updated their brief on the current state of the evidence on Hyperbaric Oxygen Therapy (HBOT) for TBI and PTSD.

Read the article: https://www.hsrd.research.va.gov/publications/esp/hbot-brief.cfm

Parr, N. J., Anderson, J., & Veazie, S. (2021). Evidence brief: hyperbaric oxygen therapy for traumatic brain injury and/or post-traumatic stress disorder. Washington, DC: Department of Veterans Affairs. PTSDpubs ID: 1590482

Pharmacotherapy for preventing and treating PTSD

Two Cochrane reviews summarize the state of the evidence on medications for the treatment and prevention of PTSD.

Read the articles:

https://doi.org/10.1002/14651858.CD013443.pub2

Bertolini, F., Robertson, L., Bisson, J. I., Meader, N., Churchill, R., Ostuzzi, G., . . . Barbui, C. (2022). Early pharmacological interventions for universal prevention of post-traumatic stress disorder (PTSD). *Cochrane Database of Systematic Reviews,* Article CD013443. PTSDpubs ID: 1587291

https://doi.org/10.1002/14651858.CD002795.pub3

Williams, T., Phillips, N. J., Stein, D. J., & Ipser, J. C. (2022). Pharmacotherapy for post traumatic stress disorder (PTSD). *Cochrane Database of Systematic Reviews,* Article CD002795. PTSDpubs ID: 1588564

Frequency of PE sessions

Researchers from the Portland VA Health Care System conduced a systematic review of RCTs examining the relationship between the frequency of PE sessions and dropout.

Read the article: https://doi.org/10.1002/jts.22822

Levinson, D. B., Halverson, T. F., Wilson, S. M., & Fu, R. (2022). Less dropout from prolonged exposure sessions prescribed at least twice weekly: A meta-analysis and systematic review of randomized controlled trials. *Journal of Traumatic Stress.* Advance online publication. PTSDpubs ID: 1588965

EMDR for first responders

Researchers at Monash University, Victoria, Australia, conducted a systematic Review of EMDR for the treatment and early intervention of trauma among first responders.

Read the article: https://doi.org/10.1002/jts.22792

Morris, H., Hatzikiriakidis, K., Savaglio, M., Dwyer, J., Lewis, C., Miller, R., & Skouteris, H. (2022). Eye movement desensitization and reprocessing for the treatment and early intervention of trauma among first responders: A systematic review. *Journal of Traumatic Stress.* Advance online publication. PTSDpubs ID: 1586224

Veterans Health Administration

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