



Yoga for Posttraumatic Stress Disorder: A Mini Review

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Abstract

Posttraumatic stress disorder (PTSD) is a prevalent disorder worldwide. Yoga is a mind-body intervention which is used as an alternative therapy for PTSD. This brief review discusses five randomized controlled trials (RCTs) on the use of yoga for PTSD. These studies included participants from different countries including veterans, active duty military personnel as well as normal adults with both genders. A promising evidence of the role of yoga as a therapy to alleviate the symptoms of PTSD is present in the studies reviewed, though further research is needed to state this conclusively.

Key Words: Yoga, Posttraumatic Stress Disorder, Anxiety

Introduction

Posttraumatic stress disorder (PTSD) is a chronic health condition in the community with a lifetime prevalence of 6.1% over the world (Kessler & Ustun, 2008). According to DSM-V (Diagnostic and Statistical Manual of Mental Disorders 5th edition) the symptoms of PTSD are classified within four symptom clusters i.e., intrusion, persistent avoidance, negative alterations in cognitions and mood, and marked alterations in

arousal (American Psychiatric Association, 2013). PTSD arises from substantial traumatic experiences and is associated with avoidance, re-experiencing the events, arousal and mood symptoms. A wide range of pharmacological as well as psychological treatments are available for PTSD including mind-body interventions. Yoga has also been used as an effective method for the treatment of PTSD especially as an adjunct therapy. This mini review is aimed at determining the efficacy of yoga for PTSD based on recent RCTs.

Studies on yoga and PTSD

In a study conducted in Australia, 31 male veterans were recruited from a private psychiatry clinic with mean age 58.5 years (Carter et al., 2013). The treatment group received *sudarshan kriya* yoga for 22 hours within five days, then once weekly for one month, then once monthly for five months. Clinician-Administered Posttraumatic Stress Disorder Scale (CAPS) and Posttraumatic Stress Disorder Checklist-Military (PCL-M) were administered before and after intervention in both yoga and waitlist groups. The Intervention group showed a significant reduction in the scores of CAPS while there was no change in the waitlist control group at the end of 6 weeks.

Another study by Jindani and colleagues in 2015 involved 80 Canadian community-dwelling adults with 89 percent females among them (Jindani, Turner, & Khalsa, 2015). The intervention group was given *kundalini* yoga for 8 weeks, once a week, 90 minutes a session. Posttraumatic Stress Disorder Checklist-17 (PCL-17) was used to determine the symptomology of PTSD before and after 8 weeks of the yoga therapy. Both yoga as well as control groups showed significant changes in PTSD symptoms but yoga group showed greater changes in measures of anxiety, positive affect, sleep, perceived stress, resilience and stress.

Mitchell et al., 2014 included only women in their randomised controlled trial involving yoga as an intervention for PTSD symptoms (Mitchell et al., 2014). There were 38 Veterans and civilians recruited from a US Veteran Affairs medical center with mean age 44.4 years. A 75 minute program of Kripalu-based yoga was administered for 6 or 12 weeks, once or twice weekly for twelve weeks. PTSD Symptom Scale-Interview (PSS-I) was assessed before and after twelve weeks yoga and assessment control. Yoga group participants

showed reductions in re-experiencing and hyperarousal symptoms during the intervention. The assessment control group showed declines in re-experiencing and anxiety symptoms as well.

One hundred reintegrating PTSD adults patients with 27 females were recruited by Quinones et al. in Columbia in a RCT (Quiñones, Maquet, Vélez, & López, 2015). Satyananda Yoga for 16 weeks, twice weekly, 60 minutes per session was administered to both groups before and after the study period. Posttraumatic Stress Disorder Checklist-Civilian (PCL-C) was assessed to determine the symptoms of PTSD. For the yoga group, *t*-tests showed a treatment effect of $d=1.15$. All the symptom clusters were improved with the highest percentage of improvement in the re-experiencing.

Another study on Kripalu yoga included 51 active duty military personnel and veterans in the United States (Reinhardt et al., 2017). The participants were randomized to Kripalu yoga or assessment control groups for 10 weeks. A 90 minute session of Kripalu yoga was given to the yoga group twice weekly for 10 weeks. Structured Clinical Interview for DSM-IV-TR Axis I Disorders, clinical trials version (SCID-CT) was assessed before and after the 10 weeks. Both yoga and assessment control participants showed significant reductions in re-experiencing symptoms. Secondary within-group analyses of a self-selected wait-list yoga group ($n=7$) demonstrated significant decrease in PTSD symptoms after yoga, compared to their control group.

Discussion and Conclusion

The findings of these studies indicate that yoga may have potential benefits as a therapy for PTSD. The above studies included participants from different countries including veterans, active duty military personnel as well as normal adults with both genders. This shows that the effects of yoga are widespread and demonstrate similar trends to different populations and cultures. The main components of yoga in general include breathing practices, physical postures, meditation, spiritual awareness and relaxation among others. Yoga practices have been associated with reduced stress (Lemay, Hoolahan & Buchanan, 2019) and anxiety (Hardoerfer & Jentschke, 2018) as well as increased mental well-being (Telles et al., 2018). *Pranayama* practices are helpful in achieving a relaxed mental state as shown in the electroencephalographic studies

(Stancák & Kuna, 1994). *Asana* or yoga postures have been shown to increase brain gamma-aminobutyric (GABA) levels which marks its efficacy for treatment of disorders with low GABA levels such as depression and anxiety disorders (Streeter et al., 2007). Meditation as well has similar effects (van Lutterveld et al., 2017). The effects of yoga practice in PTSD treatment can be attributed these factors. However, more studies with robust design as well as adequate sample size would provide a better conclusion.

References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (DSM-5)*. American Psychiatric Pub.
- Carter, J., Gerbarg, P. L., Brown, R. P., Ware, R. S., & D'ambrosio, C. (2013). Multi-component yoga breath program for Vietnam veteran post-traumatic stress disorder: randomized controlled trial. *Journal of Traumatic Stress Disorders & Treatment*, 2, 3(2).
- Hardoerfer, K., & Jentschke, E. (2018). Effect of Yoga Therapy on Symptoms of Anxiety in Cancer Patients. *Oncology Research and Treatment*, 41(9), 526–532.
- Jindani, F., Turner, N., & Khalsa, S. B. (2015). A Yoga Intervention for Posttraumatic Stress: A Preliminary Randomized Control Trial. *Evidence-based Complementary and Alternative Medicine: eCAM*, 2015, 351746.
- Kessler, R. C., Aguilar-Gaxiola, S., Alonso, J., Chatterji, S., Lee, S., Ormel, J., ... Wang, P. S. (2009). The global burden of mental disorders: an update from the WHO World Mental Health (WMH) surveys. *Epidemiologia e Psichiatria Sociale*, 18(1), 23.
- Lemay, V., Hoolahan, J., & Buchanan, A. (2019). Impact of a Yoga and Meditation Intervention on Students' Stress and Anxiety Levels. *American Journal of Pharmaceutical Education*, 83(5), 7001.

- Mitchell, K. S., Dick, A. M., DiMartino, D. M., Smith, B. N., Niles, B., Koenen, K. C., & Street, A. (2014). A pilot study of a randomized controlled trial of yoga as an intervention for PTSD symptoms in women. *Journal of Traumatic Stress, 27*(2), 121-128.
- Quiñones, N., Maquet, Y. G., Vélez, D. M. A., & López, M. A. (2015). Efficacy of a Satyananda yoga intervention for reintegrating adults diagnosed with posttraumatic stress disorder. *International journal of Yoga Therapy, 25*(1), 89-99.
- Reinhardt, K. M., Noggle Taylor, J. J., Johnston, J., Zameer, A., Cheema, S., & Khalsa, S. B. S. (2018). Kripalu yoga for military veterans with PTSD: a randomized trial. *Journal of Clinical Psychology, 74*(1), 93-108.
- Stancák, A., Jr, & Kuna, M. (1994). EEG changes during forced alternate nostril breathing. *International Journal of Psychophysiology: Official Journal of the International Organization of Psychophysiology, 18*(1), 75-79.
- Streeter, C. C., Jensen, J. E., Perlmutter, R. M., Cabral, H. J., Tian, H., Terhune, D. B., ... Renshaw, P. F. (2007). Yoga Asana sessions increase brain GABA levels: a pilot study. *Journal of Alternative and Complementary Medicine (New York, N.Y.), 13*(4), 419-426.
- Telles, S., Gupta, R. K., Bhardwaj, A. K., Singh, N., Mishra, P., Pal, D. K., & Balkrishna, A. (2018). Increased Mental Well-Being and Reduced State Anxiety in Teachers After Participation in a Residential Yoga Program. *Medical Science Monitor Basic Research, 24*, 105-112.
- van Lutterveld, R., van Dellen, E., Pal, P., Yang, H., Stam, C. J., & Brewer, J. (2017). Meditation is associated with increased brain network integration. *Neuroimage, 158*, 18-25.