



EAT SLEEP WORK

A Case Study of Meditation to Reduce Alcohol Use Disorder
Symptomology in Veteran PTSD Comorbidity

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VOLUME 2: 2017

ISSN (PRINT):

2205-0612

ISSN (ONLINE):

2206-5369



A journal for developing researchers who investigate
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ORIGINAL RESEARCH ARTICLE

A Case Study of Meditation to Reduce Alcohol Use Disorder Symptomology in Veteran PTSD Comorbidity

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ABSTRACT

BACKGROUND: Post traumatic stress disorder (PTSD) and alcohol use disorder (AUD) comorbidity is becoming a rising issue within the military veteran community, highlighted by research indicating individuals diagnosed with PTSD are more likely to have a drinking problem [1]. The implementation of meditation as an alternative form of stress release was aimed at reducing PTSD symptomology and therefore reducing factors that lead to drinking.

METHODS: One male veteran (28y of age) was recruited to complete a two-week intervention. The participant completed a behavioural diary noting alcohol consumption and mood. Following a one-week baseline period, an interview was undertaken to determine reasons for alcohol consumption and potential reasons and motivations for the cessation of drinking. A meditation and mantra intervention was implemented for one week.

RESULTS: Meditation was able to decrease alcohol consumption by reducing PTSD symptomology (baseline consumption 6.26 (SD 4.38) standard drinks per day vs 3.53 (SD 3.44) standard drinks per day during the intervention, however day-to-day variability was evident.

CONCLUSIONS: These results indicate that meditation as an alternative to drinking alcohol can be implemented as a successful form of treatment for PTSD symptomology in the short term. However, these findings are specific to this case study and need to be reproduced in larger samples and over a longer period of time to determine if they can be applied to the general population.

KEYWORDS: PTSD, alcohol use, behavioural intervention, meditation, military.

INTRODUCTION

Within today's military setting post-traumatic stress disorder (PTSD) is becoming an ever-increasing issue, with the problem affecting individuals regardless of socioeconomic background, gender or culture [2,3]. Coupled with the rise of drug and alcohol related issues plaguing Australia there is a potential for the two major health concerns to have a detrimental effect on the health of military veterans [3,4].

When PTSD is diagnosed in military veterans it can include a variety of symptoms including, but not limited to, substance abuse, anxiety, nightmares and depression [1,5]. Alcohol use disorder (AUD) that is comorbid with PTSD has been indicated as a main factor of concern, with 28% of United States veterans reporting substance abuse and PTSD [1]. Additionally, a study of 14,805 Australian civilians aimed to ascertain prevalence and comorbidity rates found that PTSD was prevalent in 4.4% of the population, AUD was prevalent in 4.3% of the population and that comorbidity was prevalent in 0.5% of the population [4].

The current National Health and Medical Research Council (NHMRC) advice to reduce risk from alcohol related disease or injury is that the average individual not consume more than two standard drinks per day [6]. People who consume alcohol for the purpose of self-medication, such as those diagnosed with PTSD, are drinking in an attempt to quickly alleviate and 'avoid' the symptoms such as flashbacks and anxiety attacks [2]. This highlights the potential psychological difficulties individuals face when confronting AUDs especially when linked with mental health disorders.

Meditation has been shown to reduce some of the negative psychological side effects associated with PTSD and AUD [7,8] such as stress and anxiety, [7] which impact on quality of life and social functioning [8]. Meditation requires an individual to focus their attention on a single point of reference [7], directing attention on the current moment and not on disturbing thoughts. Additionally, mantram, an important element of meditation, is utilised to calm the body, occupy and calm the mind and improve awareness through the daily practice of word repetition to oneself [8]. This is useful when other forms of meditation are not possible, and research has shown that mantram is an effective way of dealing with symptoms of military-related PTSD [9,10]. Meditation, including mantram, may be an effective intervention to help overcome alcohol misuse

in individuals with PTSD [9,10]. Mantram can be performed in any location and at any time, providing flexibility to use this as an alternative to alcohol at the time it is most needed by the individual.

Given the importance of reducing alcohol consumption in veterans, this case study explored how the implementation of meditation and mantram may reduce alcohol comorbidity in a veteran with PTSD. It was hypothesised that with the implementation of meditation as a behavioural intervention in combination with aspects of Skinner's theory of positive reinforcement [13], alcohol consumption would decline.

METHODS

PARTICIPANTS

The participant was an Australian Caucasian male veteran, aged 28 years old. The participant's background included a deployment overseas on military operation, diagnosis of PTSD and AUD comorbidity. The participant gave informed consent to participate in the study.

MEASURES

The intervention utilised a behavioural diary during the baseline and intervention period [14]. The format of the paper diary involved day/ date, how much and the type of beverage, the time and where the beverage was consumed, alone or accompanied, activity and mood. For consistent measurement NHMRC guidelines were used to determine standard drinks [6].

DESIGN

A single subject behavioural design using an A-B methodology was implemented (A = Baseline, B = Intervention phase) [15]. Initially a baseline of alcohol consumption was established by measuring alcohol intake for one week using the behavioural diary.

A structured behavioural interview was conducted following the baseline week, which consisted of 12 questions aimed at determining how the participant felt after the consumption of alcohol, the situations in which it occurred, where it occurred, how the participant felt and the future goals of the participant. The responses given by the participant allowed for the design of the intervention phase in the second week of the study. The application of Skinner's theory of operant conditioning allowed the individual

to consume alcohol in the evening only if (guided) meditation was performed every morning for 30min and mantram during the day when symptomology flared during the intervention week [13]. Alcohol was used as a reward in this preliminary intervention phase, so as to avoid complete withdrawal and with the goal of supplementing this with a different reward in the long term. Proximal goal setting can be more effective than setting a difficult goal, especially during a first attempt at behaviour change [16].

Alcohol consumption was measured during the intervention using the behavioural diary with the meditation intervention in place. This provided data for comparison of alcohol consumption between baseline and intervention weeks.

RESULTS

At baseline, mean alcohol consumption was 6.26 (SD 4.38) standard drinks per day (figure 1). During the intervention, the participant recorded an average of 30min meditation per day over and above the minimum required (Table 1). The behaviour diary and

interview revealed the circumstances around alcohol consumption; namely the consumption of alcohol whilst alone to avoid intrusive thoughts and as a coping strategy when surrounded by peers due to issues with social companionship. Mean consumption of alcoholic beverages was lower during intervention (3.53 (SD 3.44) standard drinks per day) compared to baseline, however, day-to-day variability should be noted (Figure 1).

Table 1. Minutes of meditation per day during intervention phase

INTERVENTION DAY	MINUTES OF MEDITATION
Thursday	90
Friday	60
Saturday	60
Sunday	60
Monday	60
Tuesday	30
Wednesday	60

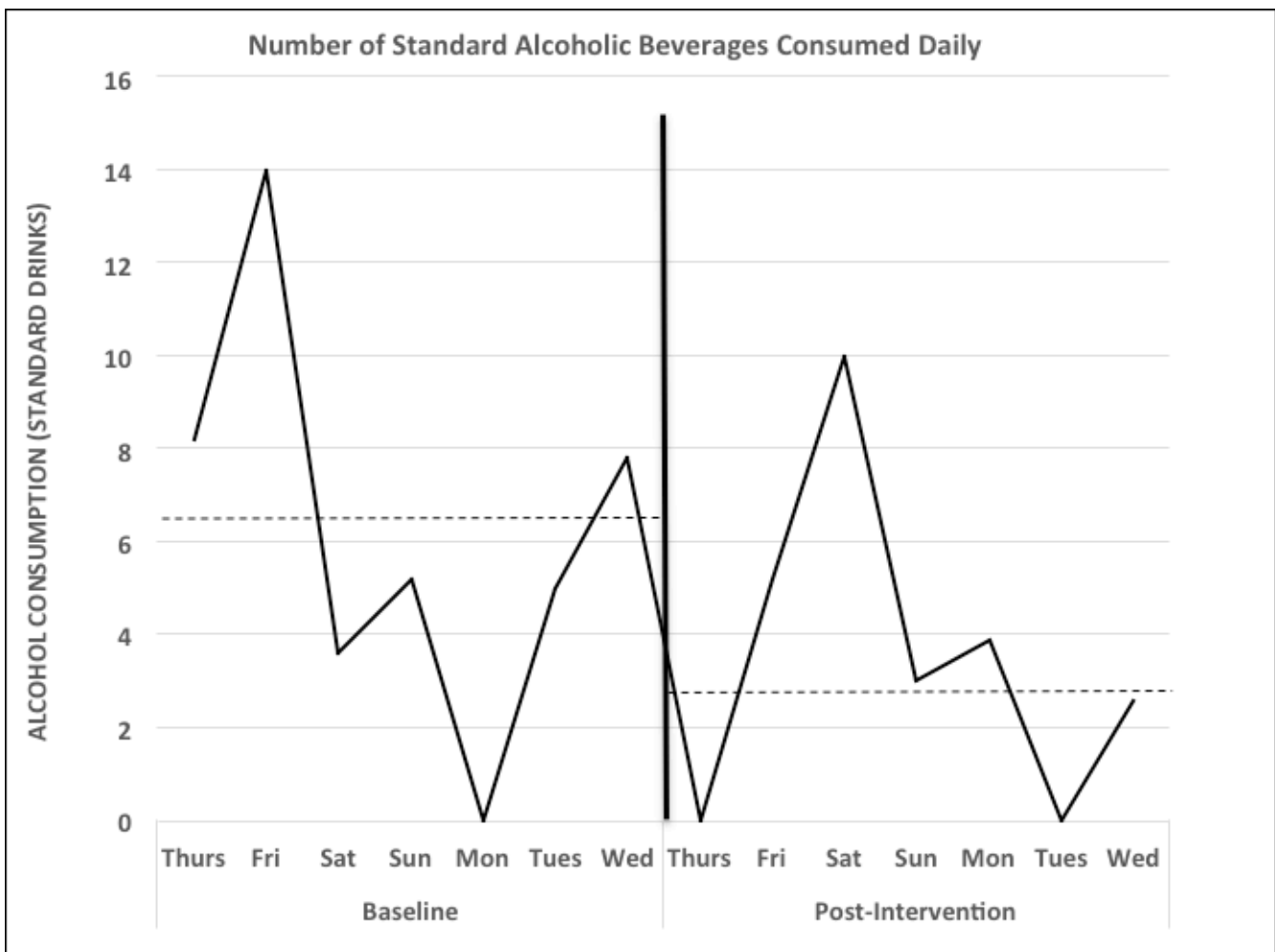


Figure 1: Alcohol consumption during the Baseline week and Intervention stage [16]. Alcoholic beverages are defined according to NHMRC standard drinks classification [6]. Black broken lines display mean standard drinks for baseline (6.25) and intervention weeks (3.53).

DISCUSSION

Following implementation of a meditation intervention for one week, alcohol consumption was reduced compared to the baseline week. The maximum number of standard drinks consumed in one day during the intervention phase (10 beverages) was lower than the baseline (14 beverages). The outcome of this intervention indicates that meditation can potentially lead to reductions in PTSD symptomology and therefore reduce the need for drinking alcohol as a coping mechanism.

The intervention has shown that meditation can reduce alcohol consumption, however the mean number of drinks consumed during the intervention week was still above NHMRC guidelines [6]. Holliday [5] conducted a study to specifically look at American veterans suffering from PTSD with AUD comorbidity and determine daily alcohol intake levels ($M=4.21$, $range=1-21$). The participant in the current study had a baseline alcohol consumption that was above the mean reported by Holliday [5], and this fell below the mean during the intervention period [5]. This suggests that whilst the levels of alcohol consumption stayed above recommended daily intake levels [6], the implementation of meditation in the short term may help to reduce alcohol intake to levels below those reported by veterans with PTSD and AUD comorbidity in the literature [5,6].

Psychoeducation has remained one of the most effective tools when treating individuals who have a mental illness [17]. Meditation skills have been adapted into treatment programmes and have been shown to be beneficial in controlling urges for coping with substance misuse [18,19,20]. Given that previous research has provided encouraging indications that meditation can lead to the improvement of health and quality of life in veterans suffering from PTSD [21,22], it is possible that psychoeducation relating to meditation may be useful for PTSD and AUD symptoms; however further studies are needed to investigate this.

Implementing an education programme prior to the intervention focusing on the individual's desire for behaviour change may be useful in future studies. Furthermore, studies could include an extended intervention phase thus allowing for periods where the individual can start to use an alternate reward instead of alcohol. Allowing for a longer intervention period also aids in establishing a routine [19]. The level of detail required in the behavioural diary left room for subjective interpretation, with the

possibility of the participant conforming to social desirability bias, i.e. guilt about documenting true feelings, which is a known issue with self-reports of alcohol consumption [23]. Single Systems designs are reflexive in relationship as the intervention causes the participant to focus on the study rather than what is natural, and only allows recording of the specific details rather than the broader aspect [18]. However, the implementation of a mixed method design would capture a much broader perspective of the issues surrounding PTSD and AUD comorbidity [24].

The results from this case study indicate that implementing a meditation intervention may reduce alcohol consumption in veterans with PTSD and AUD comorbidity. This study has led to short-term improvements in the participant veteran's attitude and PTSD symptoms. Alcohol consumption is highly prevalent within Australia and the veteran community, thus it is expected that interventions that reduce alcohol intake will lead to substantial reductions in morbidity and mortality. Further research into meditation and alcohol consumption for veterans may improve mental health and quality of life beyond the results displayed in this study.

ACKNOWLEDGEMENTS

First of all, the author would like to thank with gratitude Elaine Bell, who has always been sincere and respectful in my journey in my academic writing and supporting the sharing of my work with the wider community.

I would like to thank Associate Professor Jill Dorrian, I am extremely grateful to her for her expert, genuine and valuable guidance and encouragement extended to me.

Finally, I would like to express my appreciation to Peter Furze for his guidance, without his assistance via personal correspondence, this work could not have been completed.

REFERENCES

1. Petrakis I, Rosenheck R, Desai R. Substance use comorbidity among veterans with posttraumatic stress disorder and other psychiatric illness. *Am J Addict.* 2011 Jun;20:185-89. Available from: DOI: 10.1111/acer.12926com
2. Galatzer-Levy IR, Nickerson A, Litz BT, Marmar CR. Patterns of lifetime PTSD comorbidity: A latent class analysis. *Depress Anxiety.* 2013;30:489-96. Available from: DOI 10.1002/da.22048

3. Seal KH, Bertenthal D, Maguen S, Gima K, Chu A, Marmar CR. Getting beyond “don’t ask; don’t tell”; An evaluation of US veterans administration postdeployment of mental health screening of veterans returning from Iraq and Afghanistan. *Am J Public Health*. 2008 Apr; 98(4):714-20.
4. Forbes MK, Flanagan JC, Barrett EL, Crome E, Baillie AJ, Mills KL, et al. Smoking, posttraumatic stress disorder, and alcohol use in a nationally representative sample of Australian men and women. *Drug Alcohol Depend*. 2015 Sep;156:176-83. Available from: <http://dx.doi.org.access.library.unisa.edu.au/10.1016/j.drugalcdep.2015.09.007>
5. Holliday SB, Pedersen ER, Leventhal AM. Depression, posttraumatic stress, and alcohol misuse in young adult veterans: The transdiagnostic role of distress tolerance. *Drug Alcohol Depend*. 2016 Feb;161:348-55.
6. National Health and Medical Research Council. Australian guidelines: To reduce health risks from drinking alcohol. Canberra (AU): Commonwealth of Australia; 2009. Retrieved from <https://www.nhmrc.gov.au/guidelines-publications/ds10>.
7. Bormann JE, Smith TL, Becker S, Gershwin M, Pada L, Grudzinski AH, Nurmi EA. Efficacy of frequent mantram repetition on stress, quality of life, and spiritual well-being in veterans. *J Holist Nurs*. 2005 Dec;23(4):395-414. Available from: DOI: 10.1177/0898010105278929
8. Fiore R, Nelson R, Tosti E. The use of yoga, meditation, mantram, and mindfulness to enhance coping in veterans with PTSD. *Ther Recreation J*. 2014;48(4):337-40.
9. Bormann J, Thorp S, Wetherell J, Golshan S. A spiritually based group intervention for combat veterans with posttraumatic stress disorder: Feasibility study. *J Holistic Nurs*. 2008 Jun;26(2):109-16.
10. Bormann JE, Liu L, Thorp SR, Lang AJ. Spiritual wellbeing mediates PTSD change in veterans with military-related PTSD. *Int J Behav Med*. 2012;19:496-502.
12. Trochim WMK. Research methods knowledge base. Cincinnati, OH: Atomic Dog Publishing; 2001.
13. King AP, Block BA, Sripada RK, Rauch S, Giardino N, Favorite T, Angstadt MS, Kessler MS, Welsh R, Liberzon I. Altered default mode network (DMN) resting state functioning connectivity following a mindfulness-based exposure therapy for posttraumatic stress disorder (PTSD) in combat veterans of Afghanistan and Iraq. *Depress Anxiety*. 2016;33:289-99. Available from: DOI 10.1002/da.22481
14. Staddon JER, Cerutti DT. Operant conditioning. *Annu. Rev. Psychol*. 2003;54:115-44.
15. Paolisso M, Hames R. Time diary versus instantaneous sampling: A comparison of two behavioural research methods. *Field Methods*. 2010;22(4):357-77.
16. Engel RJ, Schutt, RK. The Practice of Research in Social Work. In: *Single Subject Design*. 2nd Edn, Sage; 2009
17. Strecher, Victor J., et al. “Goal setting as a strategy for health behavior change.” *Health Education & Behavior* 22.2 (1995): 190-200
18. Wisner BL, Krugh ME, Ausbrooks A, Russell A, Chavkin NF, Selber K. An exploratory study of the benefits of a mindfulness skills group for student veterans. *Soc Work in Ment Health*. 2015;13(2):128-44. Available from: DOI: 10.1080/15332985.2014.972009
19. Owens G, Walter KH, Chard KM, Davis, PA. Changes in mindfulness skills and treatment response among veterans in residential PTSD treatment. *Psychol Trauma*. 2012,4(2):221-28.
20. Niles B, Klunk-Gillis J, Ryngala DJ, Silberbogen AK, Paysnick A, Wolf EJ. Comparing mindfulness and psychoeducation treatments for combat-related PTSD using a telehealth approach. *Psychol Trauma*. 2012;4(5):538-47. Available from: DOI: 10.1037/a0026161
21. Baer RA. Mindfulness training as a clinical intervention: A conceptual and empirical review. *Clin Psychol Sci Prac*. 2003;10:125-43. Available from: DOI: 10.1093/clipsy/bpg015
22. Davis CG, Thake J, Vilhena N. Social desirability biases in self-reported alcohol consumption and harms. *Addict Behav*. 2010;35:302-11. Available from: doi:10.1016/j.addbeh.2009.11.001
23. Bloom M, Fischer J, Orme JG. *Evaluating Practice: Guidelines for the Accountable Professional*. Boston, MA: Pearson; 2009.
24. Shannahoff-Khalsa DS. An introduction to Kundalini yoga meditation techniques that are specific for the treatment of psychiatric disorders. *J Altern Complement Med*. 2004;10(1):91-101.
25. Cargiulo T. Understanding the health impact of alcohol dependence. *Am J Health-Sys Pharm*. 2007 Mar;64(3):1-19. Available from: DOI 10.2146/ajhp060647