

BACKGROUND

Sleep disturbance is a core feature of the PTSD diagnosis¹, and studies indicate that about 70% of the persons with PTSD experience difficulties falling or staying asleep². In addition, a high correlation has been found between PTSD symptom severity and sleep disturbances, and it is argued that sleep focused treatment should be incorporated into standard PTSD treatment³. Studies have found that music listening can improve sleep quality in persons with sleep problems due to depression⁴ and schizophrenia⁵, but the effect on trauma-related sleep problems has not been studied. Therefore, the aim of the present study was to investigate the effect of bedtime music listening on subjective sleep quality in traumatized refugees.



Picture 1. The music player and the pillow used in the study. The music player and the ergonomic pillow were used by the participants in the intervention group. The control group used only the ergonomic pillow.

METHOD

An experimental repeated measures design was used, and the dependent variables included sleep quality as measured by the Pittsburgh Sleep Quality Index. Fifteen traumatized refugees with sleep problems participated in the study, and the intervention group received a music player designed to be used in bed every night and an ergonomic pillow. The control group received only the pillow. Preselected instrumental music with a slow tempo, stable dynamics and a simple structure was used.

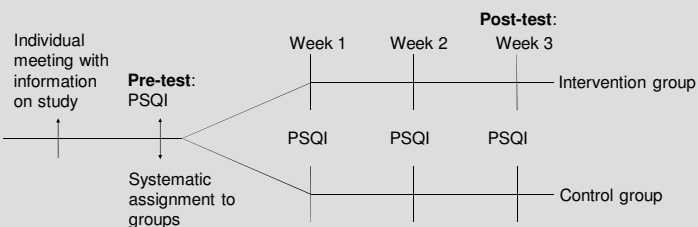


Figure 1 Study design
The intervention period was three weeks. Data on sleep quality was gathered once a week.

Acknowledgements:

The present study was conducted in collaboration with Integrationsnet – a part of the Danish Refugee Council. Financial support was received from Trygfonden and The Danish Ministry of Refugee, Immigration and Integration Affairs.

Contact: Kira Vibe Jespersen, MSc, Phd student. Mail: kjespersen@cfin.au.dk

RESULTS

The participants listening to music experienced a significant improvement in sleep quality from pre to post intervention ($t(8) = 3.34$; $p < .01$). The mean improvement in global sleep quality score was 4.1 (CI: 1.3 to 6.9), whereas the change in the control group was 0.0 (CI: -3.2 to 3.2). This difference between the intervention and control group was significant ($t(13) = 2.25$; $p < .05$). The data showed a significant pretest difference between the groups, with the music group experiencing significantly more sleep problems prior to the intervention than the control group. Still, both groups suffered from considerable sleep difficulties with scores well above the score 5 that separates 'good' and 'poor' sleepers.

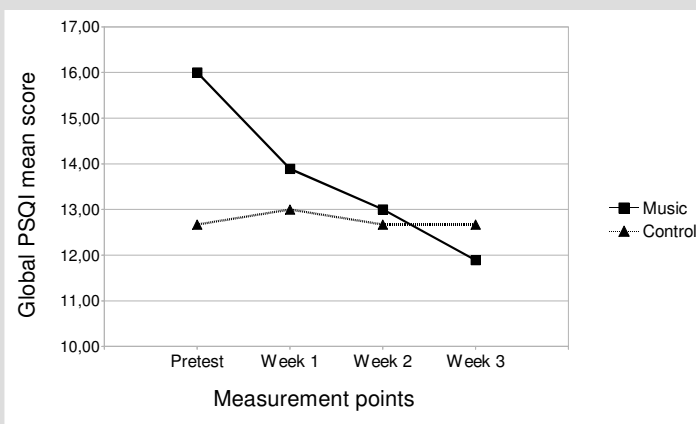


Figure 2 Global PSQI scores during intervention. Higher scores reflect more sleep problems and a score above 5 indicates poor sleep quality. A significant reduction in sleep problems was found in the music group ($t(8) = 3.34$; $p < .01$), but not in the control group. There was a significant pretest difference between the music- and control group with the music group experiencing significantly more sleep problems.

DISCUSSION

Our findings indicate that listening to slow relaxing music at bedtime can have a positive effect on sleep quality in refugees with PTSD-related sleep difficulties. In line with former studies, the results provide evidence for the use of music as a non-pharmacological intervention for sleep problems. However, a systematic review is needed to establish if the existing evidence is rigorous enough to reach a general conclusion about the efficacy of music for improvement of sleep quality⁶. Furthermore, the mechanisms involved in this putative effect should be investigated. When considering the debilitating effect of sleep problems in a wide range of populations, music offers the potential advantages of easy administration, low costs and safety.

References:

- 1 Germain, A., et al. (2008). "Sleep-specific mechanisms underlying posttraumatic stress disorder: integrative review and neurobiological hypotheses." *Sleep Med Rev* 12(3): 185-195.
- 2 Ohayon, M. M. and C. M. Shapiro (2000). "Sleep disturbances and psychiatric disorders associated with posttraumatic stress disorder in the general population." *Compr Psychiatry* 41(6): 469-478.
- 3 Belleville, G., et al. (2009). "Impact of sleep disturbances on PTSD symptoms and perceived health." *Journal of Nervous and Mental Disease* 197(2): 126-132.
- 4 Deshmukh, A. D., et al. (2009). "Effect of Indian classical music on quality of sleep in depressed patients: A randomized controlled trial." *Nordic Journal of Music Therapy* 18(1): 70-78.
- 5 Bloch, B., et al. (2010). "The effects of music relaxation on sleep quality and emotional measures in people living with schizophrenia." *Journal of Music Therapy* 47(1): 27-52.
- 6 Jespersen K. V., et al. (2013). Listening to music for improving sleep in adults with insomnia. *Cochrane Database of Systematic Reviews, Issue 3*