Mindfulness-based Therapy for the Treatment of Chronic Tinnitus: a Randomized Controlled Pilot Study

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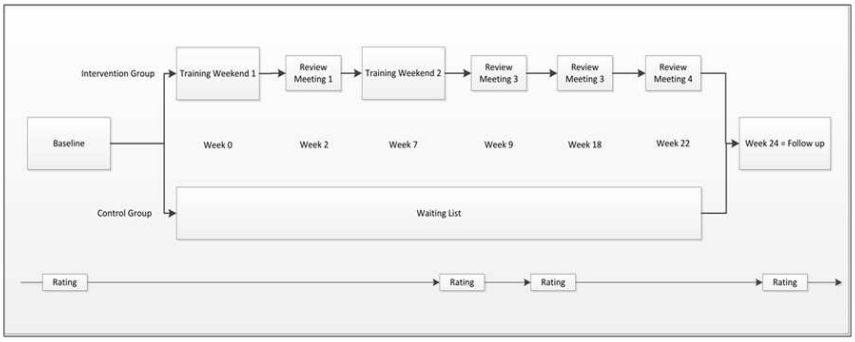
Introduction

Tinnitus, the perception of sound in absence of an external acoustic source, impairs the quality of life in 2% of the population. Since causal treatment options are scarce most therapeutic attempts aim at developing and strengthening individual coping and habituation strategies. Therapeutic interventions that incorporate training in mindfulness meditation have become increasingly popular in the treatment of stress-related disorders. Here we conducted a randomized controlled clinical study to investigate the efficacy of a specific mindfulness-based therapy program in patients suffering from chronic tinnitus.

Methods

Thirty-six patients were enrolled in the study. Treatment was performed as group therapy at two training weekends which were separated by an interval of 7 weeks (eleven hours/weekend) and in four further two-hour sessions (week 2, 9, 18 and 22). Patients were randomized to receive treatment either immediately or after waiting time, which served as control condition. The primary study outcome was the change in Tinnitus complaints as measured by the German Version of the Tinnitus Questionnaire (TQ).



Results

ANOVA testing for primary outcome showed a significant interaction effect time by group ($F=8.311$; $df=1$; $p=0.007$). Post hoc t-tests indicated an amelioration of TQ scores from baseline to week 9 in both groups (intervention group: $T=6.174$; $df=17$; $p<0.001$; control group: $T=2.494$; $df=17$; $p=0.023$), but intervention group bettered at a higher rate than control group.

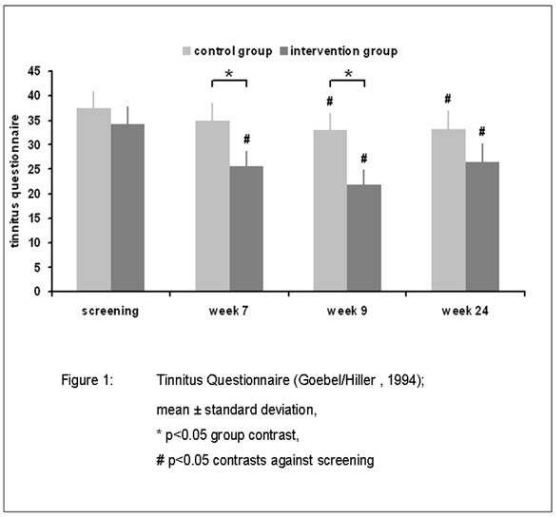


Figure 1: Tinnitus Questionnaire (Goebel/Hiller , 1994);
mean ± standard deviation,
* p<0.05 group contrast,
# p<0.05 contrasts against screening

	Intervention group	Control group	Statistics
n	18	18	
gender (male/ female)	11/7	8/10	χ^2=1.003; df=1; p=0.317
age	49.6 ± 8.8	51.7 ± 16.0	T=0.487; df=34; p=0.629
tinnitus duration	100.5 ± 119.1	142.3 ± 116.2	T=1.053; df=33; p=0.300
number of treatments	3.4 ± 2.0	3.7 ± 2.1	T=0.454; df=33; p=0.653
laterality (left, both/central, right)	6, 6, 5	8, 3, 7	χ^2=1.592; df=2; p=0.451
questionnaires			
TQ	34.1±15.8	37.4±14.9	T=0.663; df=34; p=0.512
THI	41.0±20.4	45.9±17.7	T=0.768; df=34; p=0.448
BDI	11.1±8.1	11.8±7.0	T=0.264; df=34; p=0.793
numeric rating scales			
loudness	5.7 ± 2.5	6.5 ± 2.2	T=0.992; df=34; p=0.328
annoyance	37.0 ± 37.3	33.1 ± 23.9	T=0.369; df=33; p=0.714
discomfort	6.9 ± 2.8	7.3 ± 2.3	T=0.529; df=34; p=0.600
distractibility	6.2 ± 2.7	6.4 ± 2.7	T=0.247; df=34; p=0.806
unpleasantness	5.9 ± 2.8	7.1 ± 2.2	T=1.4; df=34; p=0.169
other (no, yes)			
temporomandibular joint disorder	12, 5	14, 4	χ^2=0.237; df=1; p=0.627
neck pain	7, 10	6, 12	χ^2=0.230; df=1; p=0.631
other pain	10, 6	10, 8	χ^2=0.169; df=1; p=0.681
influence of neck movement	12, 4	9, 9	χ^2=2.242; df=1; p=0.134
psychiatric comorbidity	12, 5	14, 4	χ^2=0.237; df=1; p=0.627

Conclusion

Mindfulness-based therapy represents a promising new approach for the treatment of tinnitus and merits further evaluation in clinical studies with larger sample sizes.

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