

Mindfulness- and Body-Psychotherapy-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. [1] 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.

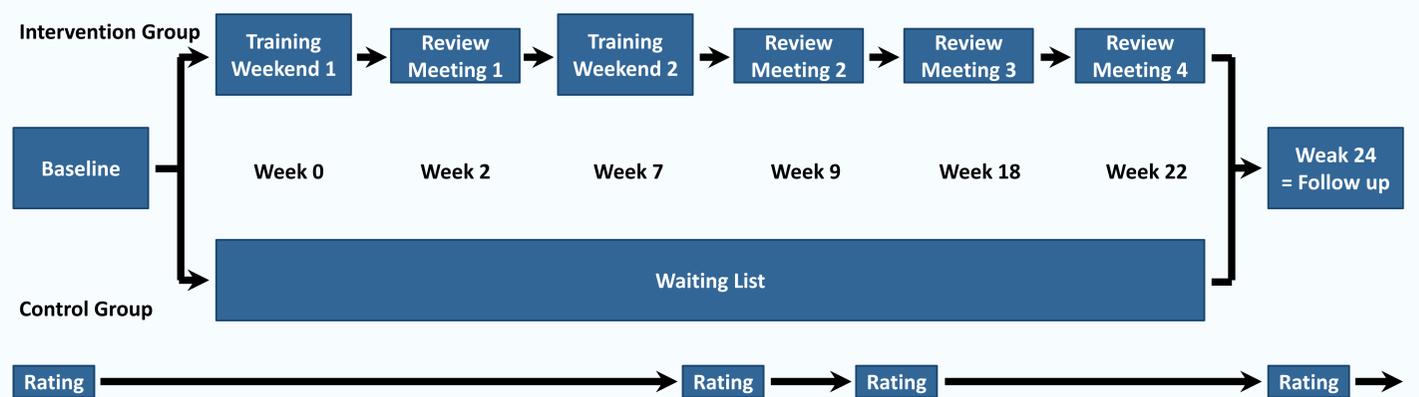
Treatment Program

The manualized therapeutic approach, which is based on mindfulness- and body-psychotherapy, has been specifically developed for the treatment of tinnitus patients ('Tinnitus Atemtherapie') [2] by Maria Holl (presenting author). Maria Holl is an experienced therapist with a focus on stress-related disorders and also conducted the therapeutic meetings in Aachen, Germany. The treatment consists of:

- imagination exercises
- self-massage and individualized gentle movement exercises
- exercises aiming at directing moment-to-moment awareness of body- and self-perception
- breathing exercises with emphasis on expiration in order to reduce muscle tension and increase relaxation.

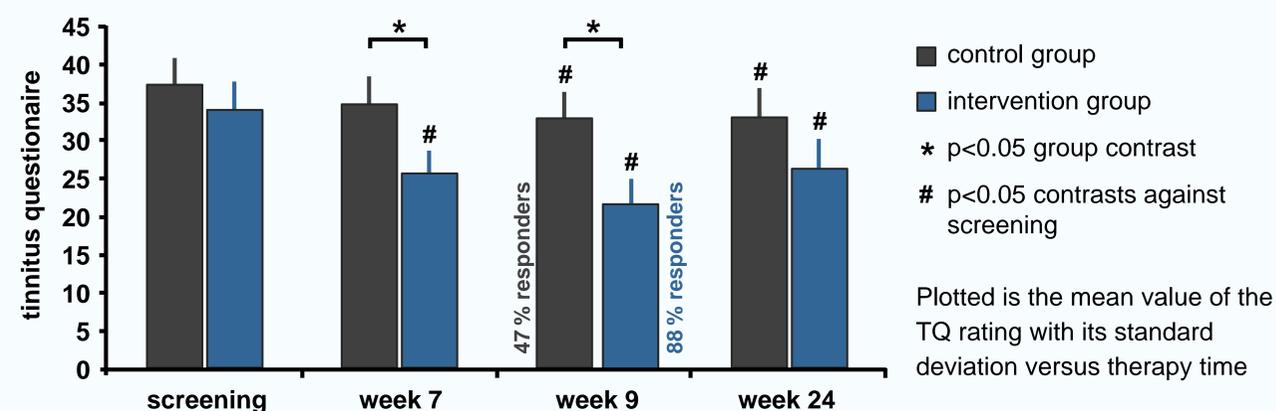
Methods

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) [3].



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.



	Intervention group	Control group	Statistics
n	18	18	
gender (male/ female)	11/7	8/10	$\chi^2=1.003$; $df=1$; $p=0.317$
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	$\chi^2=1.592$; $df=2$; $p=0.451$
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	$\chi^2=0.237$; $df=1$; $p=0.627$
neck pain	7, 10	6, 12	$\chi^2=0.230$; $df=1$; $p=0.631$
other pain	10, 6	10, 8	$\chi^2=0.169$; $df=1$; $p=0.681$
influence of neck movement	12, 4	9, 9	$\chi^2=2.242$; $df=1$; $p=0.134$
psychiatric comorbidity	12, 5	14, 4	$\chi^2=0.237$; $df=1$; $p=0.627$

Conclusion

Mindfulness-based therapy represents a promising new approach for the treatment of tinnitus and merits further evaluation which focusses on:

- Increased sample size for greater significance
- Elimination of inherent problem of waiting-list control condition
- Standardization of therapy instruction

[1] E. Bohlmeijer, R. Prenger, E. Taal and P. Cuijpers, J. Psychosom. Res. **68**, 539 (2010)

[2] M. Holl, **Die Tinnitus-Atemtherapie: So gehen Sie aktiv gegen Ihr Ohrgeräusch vor**, ISBN 978-3899935677, Schluetersche (2011)

[3] G. Goebel and W. Hiller, HNO **42**, 166 (1994)

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