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MUSIC THERAPY IN TINNITUS – A PROSPECTIVE PILOT STUDY

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BACKGROUND: Tinnitus is one of the most common disorders in ENT medicine / otorhinolaryngology. Patients suffering from chronic tinnitus experience psychiatric distress such as sleeping disturbance, scant attention, anxiety and depression. Brain imaging (PET, fMRI, MEG) revealed cortical plasiticity in the auditory cortex similar to reorganization in phantom pain.

OBJECTIVE: Due to the complexity of tinnitus, a comprehensive and interdisciplinary treatment is required. The music therapy concept, developed at the German Center for Music Therapy Research, aims at integrating the tinnitus sound into a musically controllable acoustic process. Aim of the present study is to evaluate the effectiveness of this new concept.

METHODS: Prospective pilot study; Sample: 10 patients (5 male, 5 female; mean age 51 ± 7 yrs), suffering from decompensated chronic tinnitus. All subjects underwent a comprehensive medical and psychological checkup in order to rule out organic and psychiatric diseases; Intervention: 12 sessions à 50 minutes individual music therapy; Target variables were tinnitus variables as well as psychological factors. The target variables were obtained through interviews and psychological questionnaires. Data collection: pre-post-measurements, process measurement every 4 weeks, follow-up after 24 weeks.

RESULTS: Results indicate a highly statistical and clinical significant decrease in mean TQ-Scores pre-post by 24,5 points or 52% (ANOVA: $F_{(4)} = 5{,}99$, $p = .002$).

DISCUSSION: Despite the small sample size, the innovative music therapy concept yields statistical and clinical significant results. Further research seems to be beneficial. The costs and advantages of music-therapy in treating tinnitus are discussed.

KEYWORDS: music therapy - tinnitus - therapy outcome study

Music Therapy for Tinnitus Patients- A Prospective Pilot Study

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Background

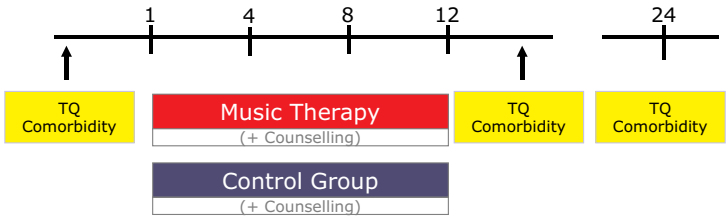
- Tinnitus is one of the most common disorders in ENT medicine / otorhinolaryngology
- Patients suffering from chronic tinnitus experience psychologic distress such as sleeping disturbance, attention deficits, anxiety and depression
- Brain imaging (PET, fMRI, MEG) revealed plasiticity in the auditory cortex similar to reorganization observed in chronic phantom pain
- Due to the complexity of the disease tinnitus, a comprehensive and interdisciplinary treatment is required

Objectives

- Development and evaluation of a music therapeutic treatment concept for patients suffering from chronic, subjective, decompensated tinnitus
- Implementation of treatment standards

Methods

- Randomized, prospective pilot study
- Sample: 20 patients (10 male, 10 female; mean age 51 ± 7 yrs), suffering from decompensated chronic tinnitus were included in the study. All subjects underwent medical and psychological checkup in order to rule out organic and psychiatric diseases. Subsequently patients were randomly allocated to one of two groups: music therapy or control group



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- Target variables: tinnitus variables (TQ, Goebel & Hiller, 1998), psychological factors
- Data collection: pre-post-measurements, follow-up after 24 weeks, for the music therapy group additional process measurement every 4 weeks

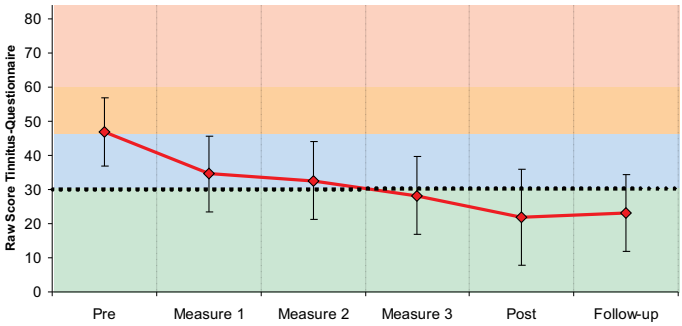
Treatment

- All patients received comprehensive tinnitus counselling. The music therapy consisted of 12 sessions à 50 minutes individual music therapy. The control group did not obtain any further treatment
- Aims of the tinnitus therapy are the integration of the tinnitus into a music controlable hearing process and subsequently attenuation of subjective annoyance

Results

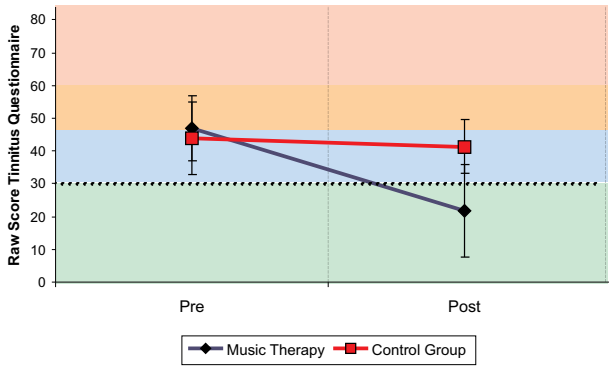
Tinnitus-Questionnaire over time

- Tinnitus pathology decreases continuously in the course of music therapy
- Regression analyses indicate a highly statistical and clinical significant decline in mean TQ-scores (B=-3,8; $F_{(1)}$ = 26,38; p = .000)



Group Comparison

- TQ-Scores diminish in the music therapy group by 24,9 points or 53% and in the control group by 2,4 points or 5%
- Results of ANOVA reveal significant group differences pre-post ($F_{(4)}$ = 5,99; p = .002) with a large effect size of d = 1,73



Individual Changes

Clinical significant reduction (*Winner*) (– 16)	N = 8	– 30 points	– 63%
Reliable reduction (*Responder*) (-6 to –15)	N = 1	– 8 points	– 20%
No change (*Nonresponder*) (-5 to +15)	N = 1	± 0 points	± 0%
Aggravation (*Looser*) (+16)	N = 0	---	---

Discussion

Despite the small sample size, the innovative music therapy concept shows statistical and clinical significant results. Further research including brain imaging seems to be beneficial and is projected.

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