

# Who is best suited for Internet treatment?

**Does Stages of Change make a difference? A study of Internet treatment, bibliotherapy and group therapy for tinnitus distress.**

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Kaldo et. al (in press), Tinnitus Stages of Change Questionnaire: Psychometric development and validation, *Psychology and Health*.





# Early data on prediction

- Old version of the Internet treatment in a clinical effectiveness study.  
(Kaldo-Sandström et al (2004), American Journal of Audiology, 13, 185-192)
- Factors associated with positive outcome:
  - Treatment compliance
  - External referrals
  - Number of earlier treatments for tinnitus
- **Preliminary conclusion:**  
Motivational factors and willingness to try new things important

# Four kinds of CBT for tinnitus

- Study A
  1. Bibliotherapy with weekly telephone support
  2. Bibliotherapy only
- Study B
  3. Group treatment
  4. Internet-based self-help
- All following the same treatment manual for about 8-10 weeks.





# Results

| Study and treatment group | Clinical significance | Effect size pre-post (Cohen's d) | Completed post-measurements |
|---------------------------|-----------------------|----------------------------------|-----------------------------|
| Biblioth. + tele.         | 35%                   | 0.69                             | 91%                         |
| Biblioth. without tele.   | <b>42%</b>            | 0.37                             | <b>63%</b>                  |
| Group treatment           | 46%                   | 0.64                             | 96%                         |
| Internet treatment        | 40%                   | 0.72                             | 96%                         |



# What about motivation and its influence on treatment?

- The transtheoretical model (TTM) has been widely used.
- Categorizes patients into different stages of willingness/readiness to change behavior and attitudes.
- CBT for tinnitus is focused on changing behavior and attitudes = the TTM should be relevant.
- Before treatment, all participants (n=151) filled out a newly created Stages of Change questionnaire adapted for tinnitus patients.



# The Stages of Change

- **Precontemplation**  
(not recognizing the problem or believing that it cannot be solved by behavioral/attitude change)
- **Contemplation**  
(considering that behavioral/attitude change might influence, not very interested in change)
- **Preparation**  
(Ready to try out different ways of coping)
- **Action**  
(Actively changing behaviors/attitudes)
- **Maintenance**  
(Changes have been made and are now maintained).

*The TTM recipe for successful treatment:*

**EARLY STAGES = MOTIVATIONAL INTERVENTION**

**LATER STAGES = TEACH COPING SKILLS (CBT)**

# Stages of Change for tinnitus

- Principal component analysis found five factors that made sense:
  - **Precontemplation (Medical solution)**
  - **Precontemplation (Helplessness)**
  - **Contemplation**
  - **Preparation**
  - **Action / Maintenance**





# But this does **not** make sense...

- **Correlation with outcome:**
  - 0.14      **Precont. (Medical solution)**
  - 0.25\***    **Precont. (Helplessness)**
  - 0.12      **Contemplation**
  - 0.07      **Preparation**
  - 0.21\***   **Action/ Maintenance**
- **Does not fit the TTM prediction!!**





# A redefinition to make sense again

- **Correlation with outcome:**

0.14     ~~Prevent. Medical solution~~

0.25\*    ~~Prevent. Helplessness~~

0.12     (*Contemplation*)

0.07     (*Preparation*)

- 0.21\*   ~~Action/Maintenance Coping~~

- **Conclusions:**

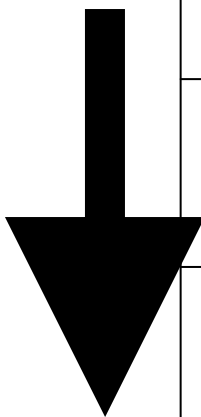
- **TTM does not fit tinnitus patients!?**

(Big difference between coping with tinnitus and reducing unwanted/harmful behavior like smoking, overeating or drug use)

- **Helpless, non-coping tinnitus patients gain more from CBT-treatment!**



# Different correlations for different treatment modalities

|  |                           | Helplessness | Coping        |
|--|---------------------------|--------------|---------------|
| <p>More therapist contact</p>  <p>Less therapist contact</p> | Group treatment           | -0.04        | -0.54**       |
|  | Bibliotherapy + telephone | 0.55**       | -0.48**       |
|  | Internet self-help        | 0.32         | 0.10          |
|  | Bibliotherapy only        | 0.13         | 0.27          |
|  | <i>(Whole sample)</i>     | <i>0.25*</i> | <i>-0.21*</i> |



# Conclusions: Pretreatment coping

- **Less** therapist contact:  
Coping → better outcome (n.s.)
- **More** therapist contact:  
Coping → not as good outcome (\*)
- Possible explanations:
  - Therapists interfere more with existing coping strategies than self-help.
  - Therapists help patients with low coping better than self-help.
- **Self-help might suit already high-coping individuals better!**



# Conclusions: Pretreatment helplessness

- Book+telephone and Internet+e-mail (i.e. **medium** therapist contact) seem best for helpless patients...
- ... but that does not make much sense...
- Might be due to differences of the two studies (patients, therapists etc).
- Might be due to specific properties of the group treatment (e.g. meeting other tinnitus patients).



# Confusions

- Correlations only...
- And not that large ones...
- Findings might apply only to tinnitus patients...
- Different kinds of coping might help OR worsen the problem...



# Future

- Since we often say "Internet is not for ALL patients" – whom is it for then?
- Difficult to find predictors!
- Easier to sort out patients suitable for self-help than to match patients to different kinds of therapy (i.g. to CBT or PDT)?
- Aggregated data from many studies of different problems might help find some predictions or even patients profiles.
- Look at many factors!