An Eclectic Social-Cognitive Behavioural Model for Stuttering Treatment

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Overview

• ESCB stuttering treatment
  – The essence...
  – Rationale
    • metatheoretical assumption: biopsychosocial model
    • a three-factor aetiological model
    • treatment goals
  – Methodology
    • experimental design
    • the clinical flow chart
    • cognitive behaviour therapy
  – Assessment as setting up explanatory hypotheses
  – Treatment as testing hypotheses
  – Treatment as the selection and implementation of behaviour modification procedures

• ESCB stuttering treatment & EBP

• Conclusions
The essence...

- apply the ability to **LEARN**
- modify speech-/language-/fluency-BEHAVIOUR
- treatment = testing **hypotheses**
- procedures **tailored to the client**
- **biopsychosocial** model
Rationale

- No scalpel, no medication... only... BEHAVIOUR!

- **Tools** =
  - knowledge (on communication, disorders, fluency, stuttering...)
  - logopedic *methodology*
  - NOT just a collection of techniques!
  - based on *biopsychosocial* view on communication and communicative problems...
Rationale > biopsychosocial model

International Classification of Functioning, Disability and Health: ICF-model (WHO, 2001)

Health Condition
(disorder/disease)

Body
function & structure
(Impairment)

Activities
(Limitation)

Participation
(Restriction)

Environmental Factors

Personal Factors
Application of the ICF on stuttering
(Yaruss & Quesal, 2004)
Biopsychosocial model implies a methodology of **behaviour modification** that applies the principles of **learning** on communicative / **stuttering behaviour**

- by carefully selecting behaviour modification procedures
- by working with the client, the parents, the environment (peers, partners, teachers, colleagues...).
Rationale > (at least) three factors...

**Predisposition**
- genetics, brain (dys)function
- temperament?
- discoordination language/motor skills, linguistic ‘fragility’...

**Precipitating (triggering) factors**
- External stressors - ‘fluency disruptors’ - balance demands/capacities?
- disharmonicity?
- emotional reactivity & regulation?

**Persisting factors**
"Reacting...learning!
- forming negative associations / connotations... ⇒ anticipation of ‘trouble’
  i.e., classical conditioning
- controlling by means of overt behavior
  i.e., operant conditioning
- vicarious learning
  ⇒ coping with linguistic/social/emotional... challenges..."
I believe...

- "(...) That most children who begin to stutter become fluent perhaps because of maturation or because they do not react to their lags, repetitions, or prolongations by struggle or avoidance.

- That those who do struggle or avoid because of frustration or penalties will probably continue to stutter all the rest of their lives no matter what kind of therapy they receive.

- That these struggle and avoidance behaviors are learned and can be modified and unlearned though the lags cannot."

Van Riper, Final Thoughts about Stuttering, J. Fluency Disord. 15 (1990), 317-318
"...we must stress that the recovery factor is critical in evaluating young children who have stuttered only a short time. Once a child has stuttered for several years, complete natural recovery is somewhat unlikely."

"We cannot help but make the intriguing observation that complete recovery did not occur in the persistent children during the course of the study in spite of intervention, whereas complete recovery occurred in the recovered group in the absence of fluency treatment."

(Yairi & Ambrose, 2005, p. 194 & 190)
**Rationale > Treatment goals**

### Overt stuttering behaviour:
- Elimination of 'stutterlike disfluencies' ??
- Modification of 'stutterlike disfluencies': reduction of number, duration, tension...
- Elimination of / minimal intensity and number of secondary behaviours
- More broadly: overt speech behaviour:
  ➔ linguistic, communicative, social and problem solving skills...

### Cognitive and emotional reactions:
- Neutral, objective, realistic, problem-solving... attitude
  ➔ about oneself as a speaker, speaking situations, the environment, ...
- Decreased sensitivity level / high(er) frustration tolerance, no anxiety, frustration, embarrassment, shame...
  ➔ towards disfluencies, 'fluency disruptors', 'challenges in the real world’ (Bernstein-Ratner, april 2008)...

Increasing or maintaining good “quality of life”!
• Experimental design:
  – clinical process as an equivalent of an experiment (empirical cycle)
  – ...with one subject (N=1)
The clinical process as empirical cycle
No cookery-book approach!

The empirical cycle in the “cookery-book approach”.

(Hermans, Eelen & Orlemans, 2007)

- reduction of the empirical cycle to... making a diagnosis and executing a treatment that goes with it
- '...for each type of problem a "ready-made" treatment'
- '...an important limitation of this type of treatments is that, all too simplistic, they are placed in a one-to-one relation with descriptive diagnoses. One and the same problem won't always require one and the same treatment.' (Hermans, Eelen & Orlemans, 2007, p. 33)
Methodology > flow chart

1. Intake
2. Establish relationship
3. Collecting information
4. Provisional problem analysis
5. Base line measurements
6. Functional analysis
7. Treatment goals / treatment plan
8. Modification techniques / methods
9. Evaluation

The behaviour therapeutic flow chart is not a set of do's and don'ts but a structure, based on the empirical cycle, that serves as a stencil for the clinical practice.
Methodology of (cognitive) behaviour therapy / experimental psychology...

- N=1 design
- Treatment = testing hypotheses about (elements of) the problematic behaviour
  - treatment plan
  - functional analysis: operants, ‘coping’
  - analysis of dysfunctional/maladaptive emotions & attitudes
    ‘meaning’ analysis
- evidence-based
- problem-oriented
- focusing on here and now
- “action”-oriented
- flexible
- individually tailored
- taking into consideration the importance of other factors
  e.g., therapeutic relationship...
• Collecting data is one essential part of assessment...
• **Reflecting on the relation between the collected data is even more important!**
  – for selecting treatment goals
  – for selecting (covert and overt) behaviour modification procedures/methods/techniques

• This implies **setting up hypotheses**...
  – based on the assessment results (testing, observation...), on knowledge (research findings) of phenomenology, etiology, co-occurrence, etc.

  ➔ about causal, external and internal **precipitating / aggravating and persisting factors**
  ➔ about the development and persistence of **specific covert and overt elements** of the stuttering behaviour – explanation of **problematic character** of the disorder in this particular client!
    E.g., avoidance, associated struggle behaviour...
  – build up explanatory hypotheses together with client!
  "collaborative empiricism"
the behaviour therapeutic flow chart is not a set of do's and don'ts but a structure, based on the empirical cycle, that serves as a stencil for the clinical practice.
Example of development of a conditioned emotional response to a stuttering moment

- CS: specific word or sound
- UCS: stuttering block
- CR: tension, shame...
- UCR:
"Meaning Analysis" (MA)
[ hypothesis concerning dysfunctional emotions & attitudes - classical cond. ]

particular word **CS**

expectation

UCS/UCR-representation
block / irritation, tension…

anxiety **CR**

- psycho-physiology
- action tendencies: avoidance…
"Meaning Analysis" (MA)

[ hypothesis concerning dysfunctional emotions & attitudes ]

<table>
<thead>
<tr>
<th>stuttering moment</th>
<th>CS</th>
<th>evaluation</th>
<th>UCS/UCR-representation</th>
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<tbody>
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<td>reference</td>
<td>make a fool of myself /</td>
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<td>tension, shame…</td>
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- anxiety CR
  - psycho-physiology
  - action tendencies: avoidance…
Four pathways to anxiety (Rachman, 1977)

- personal experience
- modeling (vicarious learning)
- symbolic learning (e.g., being told...)
- imagination
Functional Analysis (FA)
[ hypothesis concerning dysfunctional (operant) overt behaviour - instrumental learning ]

Context
Sd:

Operant behaviour
R

- representation of positive behavioral consequences (Sr+)
- actual negative consequences (Sr-)

« Someone does something (R) in a particular context Sd, because he expects Sr to happen, while in reality it leads to one or more negative consequences »
Not necessarily consciously !!
**Functional Analysis (FA)**

[ hypothesis concerning dysfunctional (operant) overt behaviour - instrumental learning ]

- **Sd**: stuttering moment in situation with time pressure
- **R**: struggle
- **Sr**:
  - Representation of positive behavioral consequences: getting out of the block
  - Actual negative consequences: more tension, longer blocking…
Based on FA & MA!

FA ⇒ modifying overt behaviour
- e.g., block modification, modifying associated behaviours...

MA ⇒ decreasing negative emotions, cognitive restructuring...
- e.g., desensitization, cognitive training...

Inspiration for realizing these procedures into concrete therapy activities: techniques and methods of different therapy programmes!
the behaviour therapeutic flow chart is not a set of do's and don'ts but a structure, based on the empirical cycle, that serves as a stencil for the clinical practice.
Modification procedures for modifying emotional responses

- 'stopping rule'
- re-evaluate the UCS
  - provide information / relabel
  - counterconditioning

exposure techniques

- omit stimuli
- add inhibitory stimuli
- provide information / relabel
- counterconditioning (syst. desens.)

CS

cognitive representations

emotion

CS

sequential

evaluative

MA
stuttering moment

- adding inhibitory stimuli
- providing information / relabeling
- reality testing
- counterconditioning (syst. desens.)

exposure techniques

UCS/UCR-representation
make a fool of myself / tension, shame…

- ‘stopping rule’
- re-evaluate the UCS
  - provide information / relabel /
  - reality testing

anxiety CR

- psycho-physiology
- action tendencies: avoidance…

Example
Modification procedures for modifying overt stuttering behaviour

**FA**

- context:
  - omitting (avoiding) Sd
  - providing information about Sd
  - relabeling Sd

- behaviour:
  - skills training (shaping, chaining…)
  - direct behavioural advice
  - modeling…

- consequence:
  - exposure, time out, ignore: R
  - for undesired behaviour: +S-, °S+, -S+
  - for desired behaviour: +S+, °S-, -S-
Some general features

- **Good client-therapist relationship** is crucial
  - therapist as coach
  - motivates, counsels/explains, structures, models
- **Atmosphere of "collaborative empiricism"**
  - client / parents take an active part in identifying the precipitating and maintaining variables
  - engagement!
- **Strong focus on prevention**
  - of negative associations
  - of negative 'action tendencies'
- **Stepped-care**
  - start with least invasive & least time consuming interventions
    - e.g., parent counseling
  - if not sufficient: more extensive interventions
    - e.g., direct intervention with the child + parent counseling
• **Not** protocol-like execution of ready-made interventions

• Nevertheless... **EBP-attitude** (Schacht & De Raedt, 2007):
  – structure for collecting data in a systematized way
  – formulation of hypotheses using scientifically validated tests and questionnaires, observation tools and checklists...
  – ...and testing them by going through the empirical cycle
  – hypotheses based on knowledge of evidence-based behavioural models
  – treatment plan built hypotheses on relation between problem components
  – wherever possible: application of evidence-based procedures
  – (continuing) outcome assessment: validated tests and questionnaires + continuously adjusting treatment

Need for **Practice-Based Evidence**, representative for clinical situations... (Hafkenscheid, 2007)
Eclectic Social Cognitive Behavioural Stuttering Treatment:

- Heuristic model: provides a methodology
  - for assessing and analyzing stuttering problems (formulate hypotheses), and
  - for setting goals, and selecting and implementing modification procedures (testing hypothesis)
  - in other words: not just WHAT & HOW, but mainly WHY & WHEN?!

- Integration of current knowledge and insights on phenomenology of stuttering & principles & applications of behaviour modification
- Strong focus on social-cognitive learning!
Eclectic Social Cognitive Behavioural Stuttering Treatment:

- “Broad-based” point of view on fluency problems (i.c. stuttering) and fluency treatment
  - addressing overt features of the fluency problem and overall communication skills (or the lack of)
  - addressing cognitive and emotional features of the fluency problem
  - considering and/or addressing potential influence of temperamental features, parents’ sensitivity to the problem, coping skills etc.
- metatheoretical assumption: dynamic, biopsychosocial model
Thank you!

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