

Tackle your Tics a brief intensive tic training

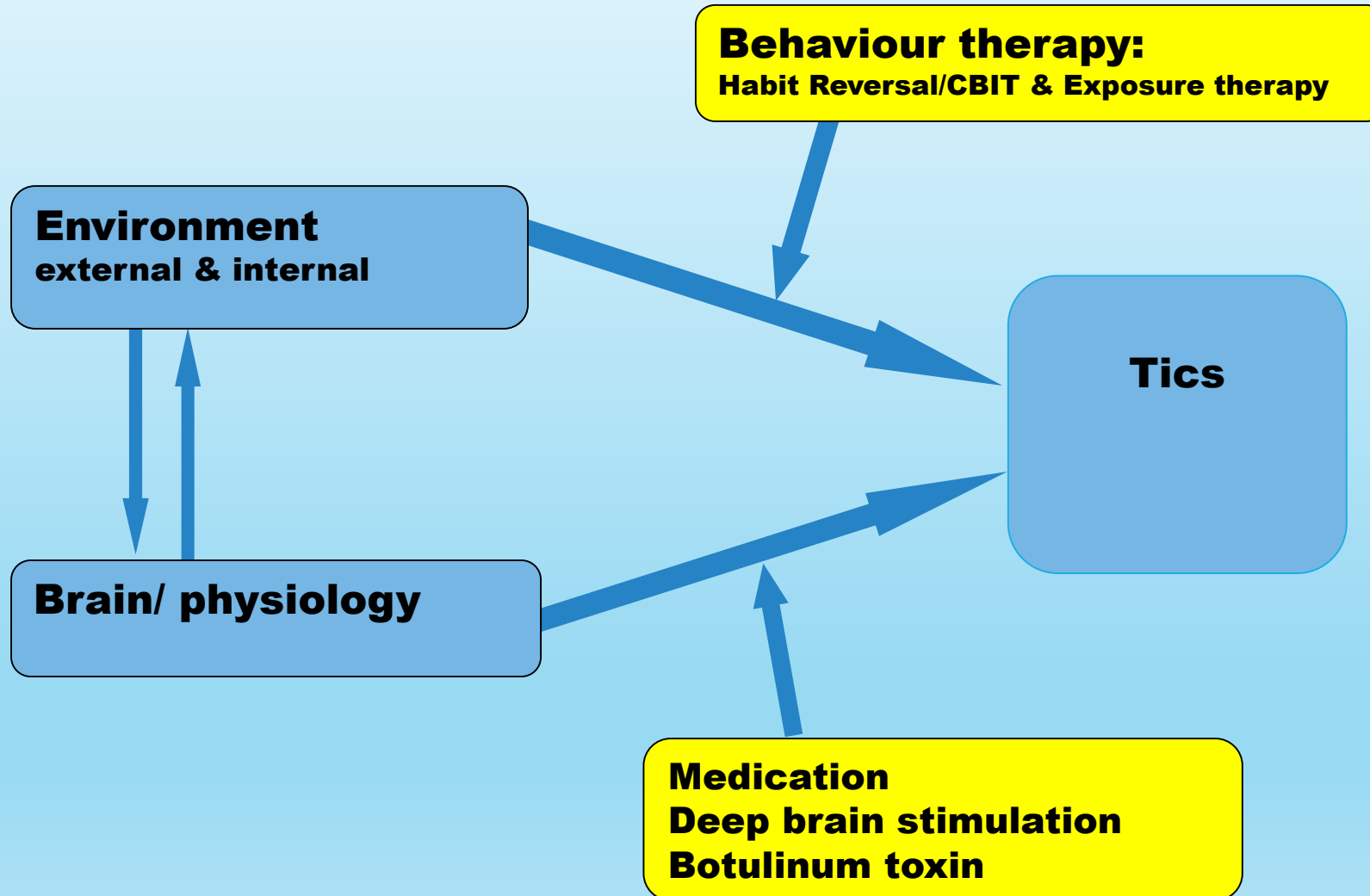
TARN meeting London

September 13, 2019

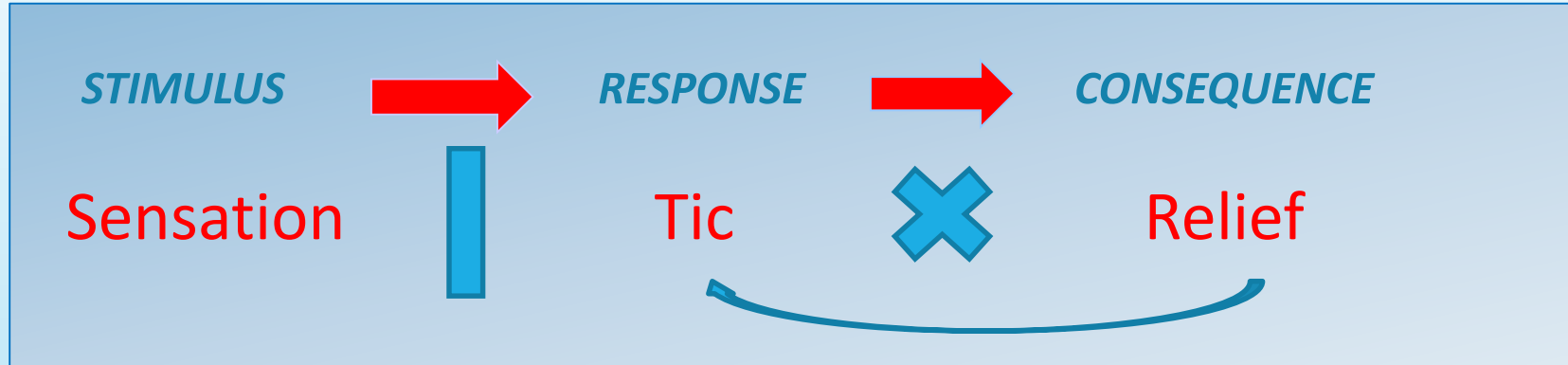
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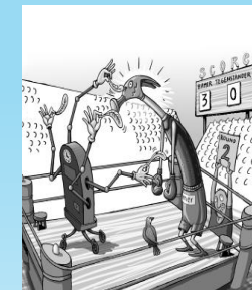
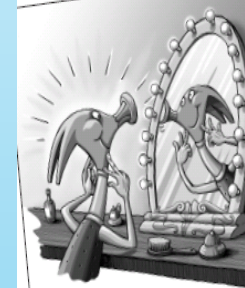
Treatment of tics



Behavioural treatments - Negative Reinforcement



- Habit reversal training (HRT; Azrin & Nunn, 1973; CBIT; Piacentini, Woods ea, 2010):
 - Treats tics one by one
 - Awareness training
 - Competing response training
 - Change environmental factors
- Exposure and response prevention (ERP; Hoogduin ea, 1997; Verdellen ea, 2004):
 - Targets all tics at once
 - Resisting tics for a long period of time
 - Exposure to premonitory urges

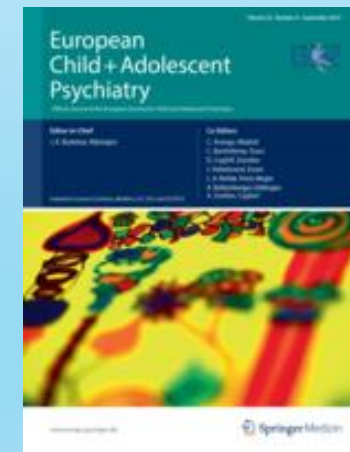


European clinical guidelines for Tourette Syndrome and other tic disorders. Part III: behavioural and psychosocial interventions

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the ESSTS Guidelines Group

Behaviour Therapy (HRT and ERP) is first-line intervention for tics

Apply medication if BT is not available or insufficient



BT evidence: how good does it work? RCTs

HRT Habit
Reversal Training
ST Supportive
Therapy
ERP Exposure
and Response
prevention
PE Psycho-
education
BT Behaviour
Therapy
MED Medication
G(RP) Group
IND Individual

| Study | N | Age M (SD) | Condi- tion | YGTSS (mean) pre post | % improve- ment | Effect size |
|---|-----|---------------|-----------------|-------------------------------------|------------------------------------|----------------------------|
| Wilhelm ea, 2003 HRT > ST | 32 | 36.2 (12.7) | HRT ST | 30.5 19.8 26.6 26.9 | 35.1% -1.1% | 1.50 -0.03 |
| Verdellen ea, 2004 HRT = ERP | 43 | 20.6 (12.1) | HRT ERP | 24.1 19.7 26.2 17.6 | 18.3% 32.8% | 1.06 1.42 |
| Deckersbach ea, 2006 HRT > ST | 30 | 35.1 (12.2) | HRT ST | 29.3 18.3 27.7 26.8 | 37.5% 3.2% | |
| Piacentini ea, 2010 HRT > ST | 126 | 11.7 (2.3) | HRT ST | 24.7 17.1 24.6 21.1 | 30.8% 14.2% | 0.68 |
| Wilhelm ea, 2012 HRT > ST | 122 | 31.5 (13.7) | HRT ST | 24.0 17.8 21.8 19.3 | 25.8% 11.5% | 0.57 |
| Yates ea, 2016 GRP HRT > GRP PE | 33 | 12.0 (1.38) | G HRT G PE | 29.0 25.6 30.5 27.2 | 18% 11% | 0.39 |
| Rizzo ea, 2018 BT > PE BT = MED | 110 | 11.2 (2.43) | BT PE MED | 19.7 12.3 21.9 21.9 24.1 14.7 | 37.5% 0% 39.0% | |
| Nissen ea, 2018 GRP HRT/ERP = IND HRT/ERP | 59 | 12.2 (2.32) | GRP IND | 23.4 15.9 23.8 14.3 | 32,1% 39.9% | 1.38 1.21 |

2019 - Where do we stand?

A lot has been achieved!

- Efficacy of BT for tics is well established
- BT is first-line intervention for tics
- Availability of treatment manuals
- 'Tics' is available in 8 languages
- Trained therapists over Europe/US
- Remote delivery of treatment




Room for improvement:

- Enhance effects on tic reduction
- Improve Quality of Life
- Personalize treatments
- Find predictors of response to treatment
- Gain more insight in mechanisms of change
- Gain more insight in neurobiological correlates
- Still working on dissemination of BT
- Working on online accessibility of BT



Working Mechanisms? What do we know?

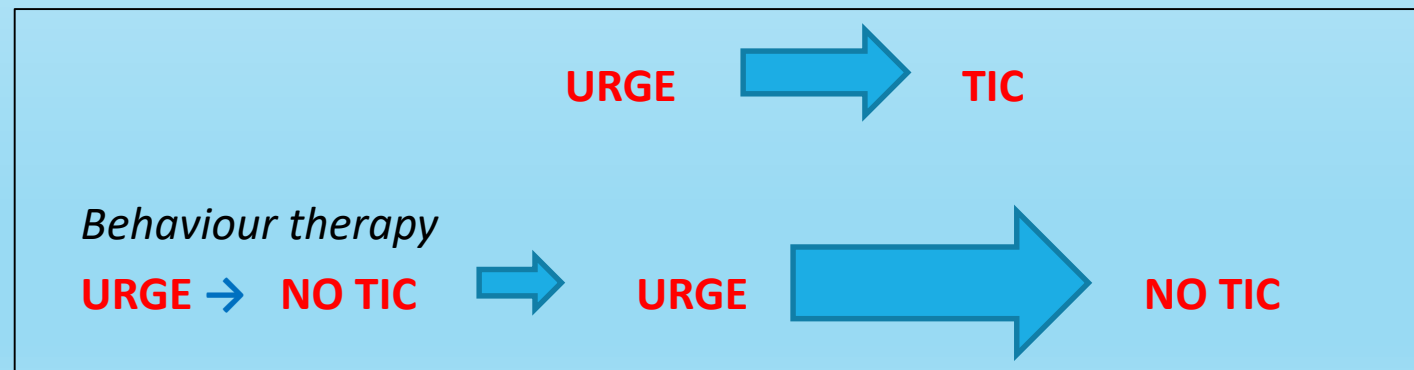


- **Habituation?** **Probably not** 
 - Verdellen ea (2008): +
 - Specht ea (2013), Houghton ea (2017), vd Griendt ea (subm): -
 - Also supported by neurological findings that tic inhibition and premonitory urges are under control of two distinct neural pathways. Urges are not directly related to tic inhibition capacity (Ganos ea, 2012)
- **Inhibitory learning / Cognitive change?**
 - Based on the inhibitory learning model of extinction as a mechanism of exposure therapy for fear and anxiety (Craske ea, 2012, 2014)
- **Other? Eg, increased inhibition ability?**
 - EEG collected during neurocognitive task suggest that BT works by increasing the brains ability to inhibit movement (LaVoie et al., 2011)

Alternative models of therapeutic change warrant further investigation

Inhibitory Learning model of extinction

- Increasing the tic free period in the presence of the premonitory urge leads to a new 'inhibitory' response
- The 'tic' response (in reaction to the urge) is still there, yet the 'inhibitory' response is stronger and more likely to win in a situation where both responses are possible
- The learned association between the urge and following tic has become weaker as a result of the newly learned response



- Urge tolerance – degree to which tics are inhibited in presence of urges

Expectancy disconfirmation

I cannot control my tics



I CAN control my tics



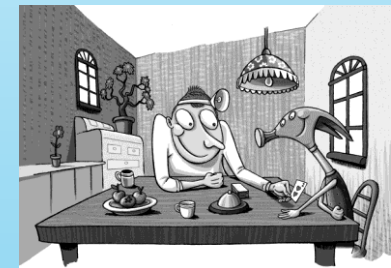
I cannot stand the urge



I CAN endure the urge

Reinforce urge tolerance: Optimizing Exposure

- Maintain focusing on the tic alarms/urges
- Provoke tic alarms:
 - Talking about tics and tic alarms
 - Describing tics and tic alarms
 - Taking a “tic posture”, start the tic
 - Watching a video of someone doing tics
 - Therapist performs the tic
 - Imagining performing the tic
 - Imagine situations with many tics
 - Bring tic eliciting objects to sessions
 - Play games! Watch out: focus on the urges!
- Pay attention to generalization:
 - When able to suppress tics even with intense urges
 - Apply ERP in different situations, eg while reading, walking, calculating
 - From easy to more difficult situations
- Dense spacing of sessions



Video
Germain

Warming up Training Match Score



Warming up

The challenge



optimizing ERP-therapy



enhancing quality of life



families needs & wishes



Training

Training program



4-day intensive exposure



group format



supporting elements



patient participation

Tackle your Tics

Feasibility of a brief, intensive group-based exposure therapy programme for children with tic disorders

Team

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Challenges



Evidence-based treatment available

First-line intervention

Demonstrated effectiveness

Behavioural therapy:

but...

Lack of local specialized therapists

Weekly visits for 12 weeks, long distance traveling, impact on family life

Room for improvement

Tactics

Intensive tic training:
4-day programme with peers and parents

Group support

to motivate, build self-esteem, support and assist each other during therapy



Coping strategies

to learn how to cope with tics and other symptoms in a positive way

**Training app
BT-Coach**

to support the ERP-exercises, when there is no therapist around



Psycho-education

to learn about tics, sensations, triggers, practice and relapse prevention



Intensive ERP

exposure and response prevention (ERP) to reduce tics in a brief period of 4 days and 12 therapy hours in holidays or short breaks from school

Relaxation

to reduce stress and muscular tension in short term



Goals



Overcome treatment barriers and make behavioural therapy more accessible

Parent meetings

to teach parents how to support their child during treatment and home exercises

Enhance tic reduction, quality of life and treatment satisfaction

Two pilot therapy weeks (N=14) are planned in 2018.
Feasibility results are expected in the beginning of 2019.

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References:
Bouton, T. H., Bolles, R. C., & Peterson, A. L. (2017). Intensive Outpatient Comprehensive Behavioral Intervention for Tics: A Clinical Replication Series. *Cognitive and Behavioral Practice*, published online 2017.
Taylor, C., Greenberg, J., Stark, D., Murphy, T., Heyman, S., & McFarlane, F. (2013). Delivery of behavioral interventions for tic in an intensive outpatient format followed by remote delivery: A UK guidelines case series. *Psychological Medicine*.
Van der Ende, J., & van der Ende, J. (2013). Behavioural treatment manual, workbook for children, workbook for parents. Amsterdam: Trimbos Bureau.
Woods, D. W., Camilleri, C. A., & Walker, M. A. (2007). Barriers to dissemination: Exploring the evidence of behavior therapy for tic. *Clinical Psychology: Science and Practice*, 14, 279-282.

Match

Design



tic severity & urges (YGTSS, PUTS)



quality of life (C&A-GTS-QOL)



behavioral problems (CBCL)



treatment satisfaction



Criteria

| Inclusion | Exclusion |
|--|---|
| <ul style="list-style-type: none">• youths aged 9 to 17 years | <ul style="list-style-type: none">• behavioural treatment for tics in past year |
| <ul style="list-style-type: none">• diagnosed with Tourette Syndrome or persistent (motor/vocal) tic disorder (DSM-5 criteria) | <ul style="list-style-type: none">• pharmacological treatment, not stable the past 6 weeks or with planned changes during study |
| <ul style="list-style-type: none">• moderate or severe tics (YGTSS total tic score >13 (>9 for children with motor or vocal tics only) | <ul style="list-style-type: none">• poor mastery of the Dutch language• IQ < 75• serious physical disease |
| <ul style="list-style-type: none">• comorbidities are allowed, unless the disorder requires immediate (change in) treatment | <ul style="list-style-type: none">• substance abuse, suicidality, psychotic disorders, severe ASD or ADHD-problems• poor group functioning |

Conclusions



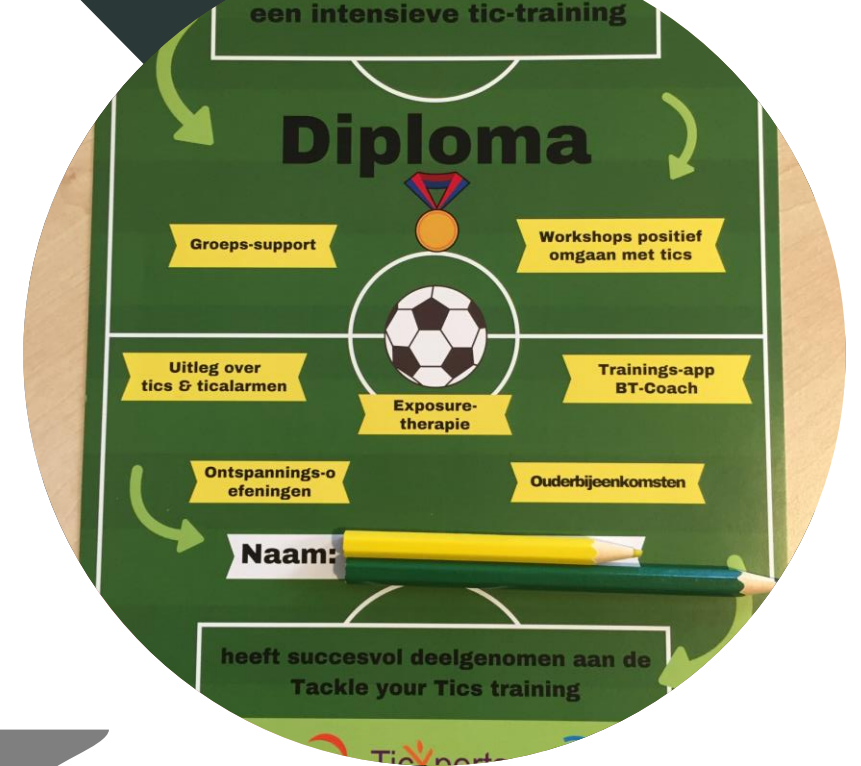
feasible & satisfactory



indications of effect on symptoms



Further research (RCT) 2019-2023



The team



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Thank you for
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