Exposure and Response Prevention versus Risperidone in the treatment of tic disorders: a randomized controlled trial

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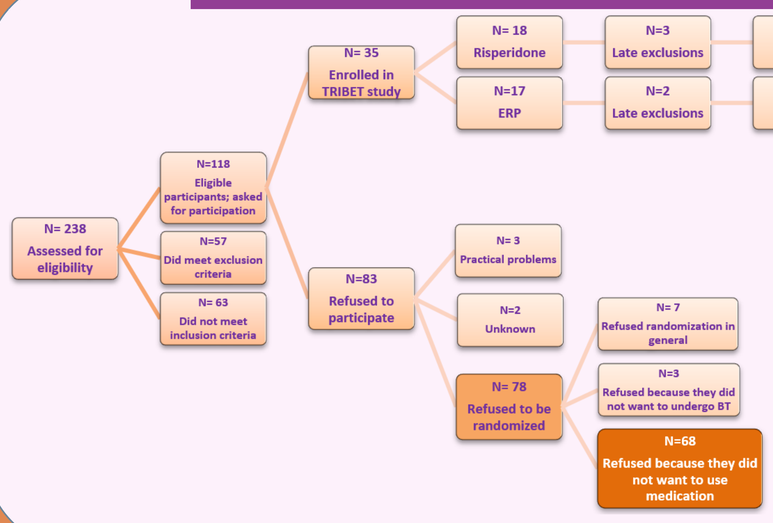
INTRODUCTION

The aim of this study is to directly compare behavior therapy (exposure & response prevention; ERP) with pharmacotherapy (risperidone) with respect to tic severity and quality of life in patients with Tourette's disorder (TD) or chronic tic disorders (CTD).

PATIENTS



Challenges in clinical research: finding eligible AND motivated patients!
A striking amount of eligible patients **refused to be randomised** because of a chance on medication – <u>is this a result in itself?</u>
Due to the relative small N=30, Bayesian statistics are used.

METHOD

<u>Patients</u>
N=30 TD/CTD patients
Age 9-53 (mean 31.70, SD 15.7)
Randomisation stratified by age (</≥18)
YGTSS at baseline 19.3 (SD6.6)

<u>Treatments</u>
12 weekly, 60 mins sessions exposure & response Prevention (ERP)
Flexible dosage of 1-6mg risperidone (RISP)

<u>Outcome measures</u>
Yale Global Tic Severity Scale; GTS-QoL; UKU Side effects

BAYESIAN STATISTICS??

Predefined informative hypotheses are evaluated using **Bayes factors (BF),** an alternative for null hypothesis testing with p-values. Bayesian statistics provide a more powerful method in the case of small samples.
BF<1: Support for alternative hypothesis
BF>1: Support for the informative hypothesis.
BF 3-10: Moderate evidence
The larger the BF, the stronger the support is for the specific hypothesis. This is also calculated as Posterior Model Probability (PMP), which means the relative support within the set of H1, H2, H3. The closer to 1, the stronger the relative support.

PREDEFINED HYPOTHESES

Hypothesis 1: *ERP > Risperidone; both treatments are effective*

Hypothesis 2*: ERP=Risperidone; both treatments are equally effective*

Hypothesis 3: *ERP=Risperidone; both treatments are <u>not</u> effective*

Tested for both YGTSS and GTS-QOL
Tested at week 0, 12, 24 and 52.

RESULTS

Results YGTSS: ERP & Risperidone are equally effective, except for week 12-24, where ERP>Risperidone

	Week 0-Week 12 (N=25)			Week 12- Week 24 (N=21)			Week 12-Week 52 (N=20)		
Hypothesis	**BF**	**PMP**	**Relative Support**	**BF**	**PMP**	**Relative Support**	**BF**	**PMP**	**Relative Support**
H1 ERP>RISP	3.87	0.38	Moderate	**3.92***	**0.78***	**Very Strong**	2.52	0.32	Moderate
H2 ERP=RISP	**5.35***	**0.53***	**Strong**	1.06	0.21	Weak	**4.59***	**0.58***	**Strong**
H3 No effect	0.89	0.09	Weak	0.05	0.01	Very weak	0.79	0.10	Weak

Results GTS-QOL: a delayed effect of ERP over Risperidone

	Week 0-Week 12 (N=24)			Week 12- Week 24 (N=22)			Week 12-Week 52 (N=14)		
Hypothesis	**BF**	**PMP**	**Relative Support**	**BF**	**PMP**	**Relative Support**	**BF**	**PMP**	**Relative Support**
H1 ERP>RISP	2.75	0.21	Weak	**3.70***	**0.70***	**Strong**	**3.08***	**0.82***	**Very strong**
H2 ERP=RISP	4.60	0.36	Moderate	1.51	0.29	Moderate	0.60	0.16	Weak
H3 No effect	**5.50***	**0.43***	**Moderate**	0.05	0.01	Very weak	0.08	0.02	Very weak

Side Effects

-After 6 weeks: significantly more tiredness and weight gain in Risperidone condition compared to ERP
-After 12 weeks, the side effects seemed to have stabilized over the second half of treatment

CONCLUSION

-Behavior therapy and medication seem to **be equally viable options** in the treatment of tic disorders
-Slight preference for ERP based on follow-up results in tic severity and quality of life, and side effects.
-Preference from patients before being randomized might be a result in itself….

Clinical conclusion: include both behaviour therapy and medication in your psycho-education, and let the patient choose!

THANKS TO

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