Metacognitive Training for Schizophrenia Patients (MCT)

A Pilot Study with Forensic and Dangerous Non-Forensic Patients

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Outline of the presentation

1. What is metacognition?
2. Why MCT? – Cognitive biases in schizophrenia
3. The MCT intervention
4. The study
5. The preliminary results
Metacognition

- Thinking about thinking
- Awareness of your own mental processes
Cognitive biases in schizophrenia

- jumping to conclusions (data gathering bias)
- bias against disconfirmatory evidence
- attributional biases
- over-confidence in errors
- impaired social cognition
- low self-esteem, depressive thinking style
MCT Modules and target domains

1. Attributional Style (blaming others for failure)
2. Jumping to Conclusions I (data gathering bias)
3. Changing Beliefs (incorrugibility)
4. Empathy I (theory of mind)
5. Memory (overconfidence in errors)
6. Empathy II (theory of mind)
7. Jumping to Conclusions II (data gathering bias)
8. Self-Esteem (depressive thinking styles)
Metacognitive Therapy for Schizophrenia (MCT)

- Manualised group intervention for 3-10 patients
- Administration twice a week
- Includes homework
- Find the cost-free material in many different languages at: www.uke.de/mkt
- Program developed by Prof. Steffen Moritz, University of Hamburg
91 eligible

33 randomly selected

20 agreed (10 forensic, 10 non-forensic)
12 declined, 1 excluded

Baseline assessment
PANSS P1, P6, G12, Sum

Pairwise randomly matched

10 Group MCT (4 forensic, 6 non-forensic)
10 Control group (6 forensic, 4 non-forensic)

PANSS P1 Delusions, P6 Suspiciousness, G12 Lack of judgement and insight, Sum = P1+P6+G12

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Study design

- Baseline assessment (n=20) & randomisation (pairwise)
- Control group (n=10)
- Treatment group (n=10)
- MCT
- TAU
- 4 weeks
- 12 weeks
- 12 weeks
- November 2011
- December 2011
- March 2012
- June 2012
- Single (rater) blind

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### Differences in mean change scores from baseline at post-treatment, 3-month follow-up and 6-month follow-up on outcome measures between groups

<table>
<thead>
<tr>
<th>Outcome Measure</th>
<th>Group MCT (n = 10)</th>
<th>Control group (n = 10)</th>
<th>Test of significance</th>
<th>Cohen’s d</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline mean (SD)</td>
<td>Mean change</td>
<td>SD</td>
<td>Baseline mean (SD)</td>
</tr>
<tr>
<td>PANSS Sum (P1+P6+G12)</td>
<td>post-treatment</td>
<td>9.60 (3.02)</td>
<td>0.30</td>
<td>1.06</td>
</tr>
<tr>
<td></td>
<td>3-mo follow-up</td>
<td>0.60</td>
<td>0.70</td>
<td></td>
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<tr>
<td></td>
<td>6-mo follow-up</td>
<td>0.50</td>
<td>0.71</td>
<td></td>
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<tr>
<td>PANSS P1 Delusions</td>
<td>post-treatment</td>
<td>2.30 (1.42)</td>
<td>0.00</td>
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<tr>
<td></td>
<td>3-mo follow-up</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6-mo follow-up</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>PANSS P6 Suspiciousness</td>
<td>post-treatment</td>
<td>2.90 (1.45)</td>
<td>0.10</td>
<td>1.10</td>
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<tr>
<td></td>
<td>3-mo follow-up</td>
<td>0.40</td>
<td>0.84</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6-mo follow-up</td>
<td>0.30</td>
<td>0.95</td>
<td></td>
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<tr>
<td>PANSS G12 Lack of judgement &amp; insight</td>
<td>post-treatment</td>
<td>4.40 (1.27)</td>
<td>0.20</td>
<td>0.42</td>
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<tr>
<td></td>
<td>3-mo follow-up</td>
<td>0.20</td>
<td>0.42</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6-mo follow-up</td>
<td>0.20</td>
<td>0.63</td>
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</tbody>
</table>

The Mann-Whitney U test was used. The exact significances are displayed. The controlled effect sizes (Cohen’s d) were computed by dividing the mean change scores in both groups by the pooled SD at the different assessment stages. MCT, metacognitive training; SD, standard deviation; PANSS, Positive and Negative Symptom Scale.

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Mean PANSS P6 suspiciousness by groups

- Treatment
- Control

Pre: 2.20
Post: 2.40
3-months: 2.60
6-months: 2.80

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Conclusions

- MCT had significant effect at the three-month follow-up on the overall severity of the illness of chronic treatment-resistant schizophrenia.
- Group MCT seems to have promising effects, especially on suspiciousness.
Kuokkanen, R, Lappalainen, R, Repo-Tiihonen, E, Tiihonen, J

The Efficacy of Metacognitive Group Training (MCT) for Forensic and Dangerous Non-Forensic Schizophrenia Patients: a Pilot Randomised Controlled Trial

Submitted

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Special thanks to MCT group leaders and translators

- Aho-Mustonen Kati
- Ahtiainen Ulla
- Komonen Sari
- Louheranta Olavi
- Määttä Heli
- Pasanen Sari
- Puranen Tiina
- Savolainen Sanna
- Suuronen Maija
The Mann Whitney U test was used for the quantitative variables. The exact significances are displayed. The chi-square test was used for the categorical variables. MCT, metacognitive training; SD, standard deviation; GAF, Global Assessment of Functioning.

* Values missing from one participant (n=9) in both groups.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Group MCT (n = 10)</th>
<th>Control group (n = 10)</th>
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<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Range</td>
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<tr>
<td>Age (years)</td>
<td>42.0 (10.4)</td>
<td>28-56</td>
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<tr>
<td>Education (years)*</td>
<td>10.3 (1.6)</td>
<td>8.0-12.5</td>
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<td>GAF*</td>
<td>18.4 (6.5)</td>
<td>11-31</td>
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<tr>
<td>Duration of illness (years)</td>
<td>16.4 (10.3)</td>
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<tr>
<td>Number of hospitalizations*</td>
<td>14.6 (13.2)</td>
<td>1-37</td>
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<tr>
<td>Duration of current admission (years)*</td>
<td>8.9 (4.7)</td>
<td>3.3-16.1</td>
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<td>Diagnosis, n</td>
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<tr>
<td>Paranoid schizophrenia</td>
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<td>9</td>
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<td>Hebephrenic schizophrenia</td>
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<td>0</td>
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<tr>
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<td>1</td>
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<tr>
<td>Number of patients with</td>
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<td>co-morbid substance abuse</td>
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<tr>
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<td>Status, n</td>
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<td>Forensic</td>
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<tr>
<td>Non-forensic</td>
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<td>Reason for admission*</td>
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<td>aggressiveness or violence</td>
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<tr>
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<tr>
<td>attempted homicide</td>
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<tr>
<td>aggravated assault</td>
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<td>1</td>
</tr>
<tr>
<td>other</td>
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</tbody>
</table>

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