Can Obsessive Compulsive Disorder be Treated Online? Results from 3 studies

Bethany M. Wootton

Supervisors: A/Prof. Nickolai Titov & Dr. Blake Dear
Disclosure

- I have no actual or potential conflict of interest in relation to this program/presentation.
The Team at the eCentreClinic ...

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- **Deputy Director:** Dr. Blake Dear
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  - Luke Johnston
  - Dr. Judy Zou
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  - Jay Spence
  - Matthew Terides
  - Genevieve Schwencke
  - Sharon Lu
  - Amanda Mullin
  - Bethany Wootton
Overview

• Obsessive-Compulsive Disorder (OCD)
• Barriers to accessing treatment
• Acceptability and efficacy of remote treatment for OCD
  – Study 1: Acceptability of iCBT for OCD
  – Study 2: Feasibility study
  – Study 3: RCT: Internet vs. Bibliotherapy vs. Waitlist Control
  – Study 4: Reduced Contact Open Trial
• Future research
• Conclusions
Obsessive-Compulsive Disorder

- Obsessions and Compulsions
  - Contamination
  - Harming
  - Unacceptable thoughts
  - Symmetry/Order

- Prevalence: 2% (Australian Bureau of Statistics, 2007)

- Treatment is delayed for many years (Abramowitz 1996)

- Treatment often non-evidence based (Crino, Slade & Andrews, 2005)
Cognitive-Behavioral Treatment for OCD

- Cognitive Behavior Therapy (CBT) is effective in the treatment of OCD

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<tbody>
<tr>
<td>Effect Size</td>
<td>1.0</td>
<td>1.5</td>
<td>1.2</td>
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</table>

- CBT treatment generally involves:
  - Exposure and response prevention (ERP)
  - Cognitive techniques to address common cognitive biases
  - Behavioral experiments
Barriers to Treatment

- **Cost**
  - Direct
  - Indirect

- **Perceived stigma**
  - Family
  - Friends
  - Therapist
Barriers to Treatment

- Difficulty accessing a psychologist locally
  - Geographical Remoteness
  - Inconvenient consultation times
- Poor access to evidence-based interventions
  - For those who can access a therapist they are most often provided with a non evidence based intervention

Remote treatments overcome many of these barriers
Internet Based Cognitive Behavior Therapy (iCBT)

- iCBT involves applying best-practice CBT skills in an online format with or without therapist guidance
- Internet based treatment for anxiety and depression are effective

<table>
<thead>
<tr>
<th>Study</th>
<th>Andrews et al. 2010</th>
<th>Cuijpers et al. (2009)</th>
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</thead>
<tbody>
<tr>
<td>Effect Size</td>
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<td>1.1</td>
</tr>
</tbody>
</table>

- iCBT studies for OCD treatment are lacking
- Little investigation of the acceptability of this treatment modality
Study 1: Acceptability of iCBT for Obsessive-Compulsive Disorder
Acceptability of iCBT for OCD

- Acceptability is an important factor likely to affect the wide scale implementation of iCBT

- iCBT is acceptable to consumers for other anxiety disorders and depression (Aydos, Titov, & Andrews, 2009; Gun, Titov, & Andrews, 2011; Perini, Titov & Andrews 2008)

- There is little research investigating the acceptability of iCBT for OCD

- An important related point is whether those who find iCBT acceptable are similar to OCD samples more generally
Acceptability of iCBT for OCD: Internet Survey

- **Aims:**
  - Investigate the acceptability of iCBT to consumers with OCD
  - Compare those seeking treatment online with existing databases of individuals with OCD

- **Method:**
  - Online survey for individuals with OCD (n = 129)
  - Demographic and symptom severity data compared with 2 existing databases:
    - National epidemiological survey (n = 297)
    - OCD patients from specialist outpatient anxiety clinic (n = 135).
Acceptability of iCBT for OCD: Internet Survey

- **Measures:**
  - Kessler 10 item scale (K-10)
  - 12 item world health organization disability assessment schedule (2nd Edition) (WHODAS-II)
  - Yale Brown Obsessive Compulsive Scale (YBOCS) – Self Report Version
  - Obsessive Compulsive Inventory – Revised (OCI-R)
Acceptability of iCBT for OCD: Internet Survey

305 individuals began the survey between April 2010 – October 2010 (7 months)

- Did not complete any survey data (n = 69)
- Did not complete YBOCS-SR (n = 58)
- Scores < 16 on YBOCS-SR (n = 46)
- Under 18 years of age (n = 3)

129 individuals met all inclusion criteria and were included in the analyses
Findings: Similarities between groups

- Internet sample comparable to other groups on demographics

  - Significant difference in age:
    - National Sample > Anxiety Dis. Clinic and Internet Sample

  - Significant difference in gender:
    - Anxiety Dis. Clinic > More males than National Sample and Internet Sample.

  - Significant difference in education:
    - Anxiety Dis. Clinic > Internet Sample > National Sample
Findings: Similarities between groups

- Internet sample reported higher levels of disability than comparative samples

<table>
<thead>
<tr>
<th>Category</th>
<th>Internet Sample</th>
<th>Anxiety Clinic</th>
<th>National Sample</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>K-10</td>
<td>31.9 (8.3)</td>
<td>28.8 (7.4)</td>
<td>20.2 (7.6)</td>
<td>.000</td>
</tr>
<tr>
<td>WHODAS-II</td>
<td>30.4 (9.9)</td>
<td>26.9 (8.1)</td>
<td>19.4 (8.0)</td>
<td>.000</td>
</tr>
</tbody>
</table>

- Significant differences on the K-10
  - Internet Sample > Anxiety Dis. Clinic and National Sample
- Significant differences on the WHODAS-II
  - Internet Sample > Anxiety Dis. Clinic and National Sample
Acceptability of iCBT for OCD: Internet Survey

Findings: Similarities with existing literature

- Internet sample reported symptom severity similar to other studies in the literature
  - YBOCS-SR: Mean = 22.8 (SD = 4.6)
  - OCI-R: Mean = 32.8 (SD = 13.6)
- Unfortunately symptom severity information was not available for comparator groups
Findings: Acceptability

• Participants reported internet based treatments would be highly acceptable

  • 86% of respondents indicated that they “definitely would” or “possibly would” try Internet based treatment for OCD
Acceptability of iCBT for OCD: Internet Survey

Findings: Perceived advantages of iCBT

- *Reduced Time* – 68%
- *No need to travel to appointments* - 63%
- *Reduced costs* - 60%
- *Privacy and anonymity* – 56%
- *Embarrassment related to face to face treatment* - 33%

- Less than 10% of participants identified disadvantages of iCBT
Acceptability of iCBT for OCD: Internet Survey

Conclusions:

• Those seeking treatment online appear to be demographically similar and had a similar level of disability to OCD samples seen in 2 comparator groups

• Most patients found iCBT acceptable

• Participants identified a number of advantages of iCBT

• Less than 10% saw any disadvantages for iCBT

This Study indicated that respondents had significant symptoms of OCD and were willing to try Internet treatment
The OCD Program

- An Internet delivered OCD treatment program
  - Based on current best practice principles
  - Contains cognitive and behavioral components
  - 8 lesson program provided in a comic format
  - Aims to target all subtypes of OCD
  - Brief telephone contact 2x per week
Study 2: An Internet Administered Treatment Program for OCD: A Feasibility Study
An Internet Administered Treatment Program for OCD: A Feasibility Study

• **Aims:**
  – Is Internet based CBT efficacious for obsessive compulsive disorder?
  – Is it an acceptable treatment for participants?

• **Method:**
  – 22 participants
  – Treatment program provided over the Internet with minimal therapist support
  – 8 week treatment
An Internet Administered Treatment Program for OCD: A Feasibility Study

- **Inclusion/Exclusion:**

<table>
<thead>
<tr>
<th>Inclusion</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Aged 18-65</td>
<td>Currently participating in treatment</td>
</tr>
<tr>
<td>Australian resident</td>
<td>Drug/Alcohol abuse</td>
</tr>
<tr>
<td>Score &gt; 16 on the YBOCS</td>
<td>History of Psychosis/Mania</td>
</tr>
<tr>
<td>Access to Internet and Printer</td>
<td>Recent medication changes</td>
</tr>
<tr>
<td>Primary diagnosis of OCD</td>
<td>Suicidal plans or severe depression</td>
</tr>
</tbody>
</table>

- **Measures** (pre, post, 3 month follow-up):
  - Yale-Brown Obsessive Compulsive Scale (YBOCS)
  - Obsessive-Compulsive Inventory - Revised (OCI – R)
  - Sheehan Disability Scale (SDS)
An Internet Administered Treatment Program for OCD: A Feasibility Study

- Symptom reduction on the YBOCS, OCI-R and SDS at pre-, post-treatment, and 3 month follow-up
An Internet Administered Treatment Program for OCD: A Feasibility Study

- **Effect sizes:**

<table>
<thead>
<tr>
<th>Means</th>
<th>Pre – treatment (n = 21)</th>
<th>Post – treatment (n = 21)</th>
<th>3-month follow-up (n = 19)</th>
<th>Effect Sizes</th>
</tr>
</thead>
<tbody>
<tr>
<td>YBOCS</td>
<td>20.9 (5.1)</td>
<td>12.6 (5.3)</td>
<td>13.5 (6.4)</td>
<td>1.5</td>
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<tr>
<td>OCI-R</td>
<td>28.1 (13.4)</td>
<td>19.0 (14.3)</td>
<td>19.6 (14.8)</td>
<td>0.7</td>
</tr>
<tr>
<td>SDS</td>
<td>16.9 (5.8)</td>
<td>9.7 (7.3)</td>
<td>9.6 (7.7)</td>
<td>1.1</td>
</tr>
</tbody>
</table>

- Effect sizes calculated using Cohen’s d
- Baseline Observation Carried Forward (BOCF) analysis used
- Effect sizes comparable to face to face outcome studies
An Internet Administered Treatment Program for OCD: A Feasibility Study

- Percentage meeting diagnostic criteria on the MINI at pre-, post-treatment and 3 month follow-up

![Bar chart showing percentage meeting diagnostic criteria on the MINI at pre-, post-treatment, and 3 month follow-up. Pre: 100%, Post: 29%, Follow-up: 48%.]
An Internet Administered Treatment Program for OCD: A Feasibility Study

- Percentage reduction on the YBOCS

- < 10% improvement: 19%
- 11-30% improvement: 14%
- 31-60% improvement: 48%
- >60% improvement: 19%
An Internet Administered Treatment Program for OCD: A Feasibility Study

• **Acceptability**
  – 81% completed the 8 lessons within 8 weeks
  – Average number of Lessons complete 7.8
  – 100% were either “very” or “mostly satisfied”
  – 100% would recommend program to a friend

• **Clinician time**
  – Mean = 86mins (SD = 54.4mins) over 8 weeks
An Internet Administered Treatment Program for OCD: A Feasibility Study

• Conclusions:
  – Preliminary evidence to suggest that OCD can be treated online
  – Small amount of therapist time is required
  – Participants found the program highly acceptable

This study provided encouraging evidence to suggest that OCD can be treated online, requiring only a small amount of therapist time.
Study 3: Remote Treatment for OCD: A Randomized Controlled Trial
Remote Treatment for OCD: A Randomized Controlled Trial

2 main types of remote treatment:

- iCBT
- Bibliotherapy

- Different strengths and weaknesses
- Patients may prefer one to the other
- No studies have compared the two treatment modalities in OCD
Remote Treatment for OCD: A Randomized Controlled Trial

- Strengths and Weakness of iCBT and Bibliotherapy
  - **iCBT**
    - Remote access
    - Cost effective
  - **Bibliotherapy**
    - No technical difficulties
    - Privacy assured
    - Ongoing access to materials
Remote Treatment for OCD: A Randomized Controlled Trial

- iCBT research for OCD

<table>
<thead>
<tr>
<th>Author</th>
<th>Effect Size</th>
<th>Symptom Reduction</th>
<th>Drop Out</th>
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<tbody>
<tr>
<td>Andersson et al. (2012)</td>
<td>1.6</td>
<td>40%</td>
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<td>1.6</td>
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<td>Wootton et al. (2011) (Study 2)</td>
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<td>40%</td>
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Remote Treatment for OCD: A Randomized Controlled Trial

- Bibliotherapy research for OCD

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<th>Symptom Reduction</th>
<th>Drop Out</th>
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<tr>
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<td>14%</td>
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<tr>
<td>Moritz et al. 2010</td>
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<td>-</td>
<td>16%</td>
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<tr>
<td>Tolin et al. 2007</td>
<td>0.7</td>
<td>17%</td>
<td>15%</td>
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The OCD Course

- A remote treatment package for OCD
  - Based on current best practice principles
  - Contains cognitive and behavioral components
  - 5 lesson program provided in a comic format
  - Aims to target all subtypes of OCD
  - Used a narrative approach where participants are taken through the course by ‘previous participants’ – rather than didactic approach with a therapist
Remote Treatment for OCD: A Randomized Controlled Trial

• **Aims:**
  – Investigate the efficacy of iCBT compared to control
  – Investigate the efficacy of Bibliotherapy compared to control
  – Is there any difference in efficacy between the two active groups

• **Method:**
  – 52 participants
  – Minimal therapist support (telephone twice weekly)
  – 8 week treatment
Remote Treatment for OCD: A Randomized Controlled Trial

- **Inclusion/Exclusion:**

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<td>Suicidal plans or severe depression</td>
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- Criteria were reduced to make the study more ecologically valid

- **Measures** (pre, post):
  - Yale-Brown Obsessive Compulsive Scale (YBOCS)
  - Dimensional Obsessive-Compulsive Scale (DOCS)
  - Sheehan Disability Scale (SDS)
Remote Treatment for OCD: A Randomized Controlled Trial

- **Effect sizes:** YBOCS

<table>
<thead>
<tr>
<th>Measure</th>
<th>Pre – treatment</th>
<th>Post – treatment</th>
<th>Pre – Post (BOCF)</th>
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<tbody>
<tr>
<td><strong>YBOCS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control (n = 17)</td>
<td>21.1 (5.6)</td>
<td>20.6 (4.8)</td>
<td>0.1</td>
</tr>
<tr>
<td>Bibliotherapy (n = 20)</td>
<td>21.8 (5.2)</td>
<td>15.6 (5.5)</td>
<td>1.2</td>
</tr>
<tr>
<td>Internet (n = 15)</td>
<td>23.5 (4.9)</td>
<td>16.6 (8.5)</td>
<td>1.0</td>
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- Effect sizes comparable to face to face outcome studies
Remote Treatment for OCD: A Randomized Controlled Trial

**Effect sizes: DOCS**

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<thead>
<tr>
<th>Measure</th>
<th>Control (n = 17)</th>
<th>Bibliotherapy (n = 20)</th>
<th>Internet (n = 15)</th>
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<tr>
<td></td>
<td>Pre – treatment</td>
<td>Post – treatment</td>
<td>Pre – Post (BOCF)</td>
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<tr>
<td><strong>DOCS</strong></td>
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<tr>
<td>Total</td>
<td>29.2 (12.0)</td>
<td>29.0 (14.1)</td>
<td>0.0</td>
</tr>
<tr>
<td>Main</td>
<td>11.9 (3.1)</td>
<td>10.8 (4.3)</td>
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<tr>
<td><strong>Control (n = 17)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>32.2 (17.0)</td>
<td>24.8 (16.6)</td>
<td>0.4</td>
</tr>
<tr>
<td>Main</td>
<td>13.2 (3.3)</td>
<td>9.6 (3.6)</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Bibliotherapy (n = 20)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>26.7 (10.0)</td>
<td>20.4 (10.5)</td>
<td>0.6</td>
</tr>
<tr>
<td>Main</td>
<td>12.1 (3.0)</td>
<td>9.3 (4.8)</td>
<td>0.7</td>
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**Remote Treatment for OCD: A Randomized Controlled Trial**

- **Effect sizes: SDS**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Effect Sizes</th>
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<tr>
<td>SDS</td>
<td>Pre – treatment</td>
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<tr>
<td>Control (n = 17)</td>
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<tr>
<td>Bibliotherapy (n = 20)</td>
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<tr>
<td>Internet (n = 15)</td>
<td>15.9 (8.5)</td>
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</table>
Remote Treatment for OCD: A Randomized Controlled Trial

• Percentage meeting diagnostic criteria on the MINI at pre and post-treatment
An Internet Administered Treatment Program for OCD: A Feasibility Study

- Percentage reduction on the YBOCS (BOCF)

**Bibliotherapy**
- <10% improvement: 5%
- 11-30% improvement: 45%
- 31-60% improvement: 35%
- >60% improvement: 15%

**Internet**
- <10% improvement: 13%
- 11-30% improvement: 7%
- 31-60% improvement: 33%
- >60% improvement: 47%

<10% improvement  11-30% improvement  31-60% improvement  >60% improvement
Remote Treatment for OCD: A Randomized Controlled Trial

- **Clinician time**
  - Bibliotherapy: Mean = 103 mins, SD = 51 mins
  - Internet: Mean = 89 mins, SD = 46 mins

- **Drop out rates**
  - Bibliotherapy: 25%
  - Internet: 33%
Remote Treatment for OCD: A Randomized Controlled Trial

- **Acceptability**
  - Percentage either “very” or “mostly satisfied”
    - Bibliotherapy – 73%
    - Internet – 78%
  - Percentage that would recommend program to a friend
    - Bibliotherapy – 93%
    - Internet – 100%
Remote Treatment for OCD: A Randomized Controlled Trial

• Conclusions
  – Preliminary evidence to suggest that OCD can be treated remotely
  – Preliminary evidence to suggest that iCBT and Bibliotherapy result in similar outcomes
  – Remote treatments are cost effective in terms amount of therapist guidance required
  – Automatic reminders appear important in reducing drop out rates

This study provided encouraging evidence to suggest that OCD can be treated online or with bibliotherapy, requiring only a small amount of therapist time
Study 4: Reduced Contact An Open Trial
Reduced Contact: An Open Trial

• **Aims:**
  – To investigate the efficacy of iCBT with weekly contact

• **Method:**
  – 11 participants (data collection ongoing)
  – Treatment program provided over the Internet with minimal therapist support (1 phone call per week)
  – 8 week treatment
## Reduced Contact: Open Trial

### Inclusion/Exclusion:

<table>
<thead>
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<tr>
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<td>Recent medication changes</td>
</tr>
<tr>
<td></td>
<td>Suicidal plans or severe depression</td>
</tr>
</tbody>
</table>

### Measures (pre, post):

- Yale-Brown Obsessive Compulsive Scale (YBOCS)
- Dimensional Obsessive Compulsive Scale (DOCS)
- Sheehan Disability Scale (SDS)
Reduced Contact: Open Trial

- **Effect sizes: YBOCS**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Pre – treatment</th>
<th>Post – treatment</th>
<th>Pre – Post (BOCF)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>YBOCS</strong></td>
<td>20.5 (5.8)</td>
<td>13.9 (7.7)</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>DOCS Total</strong></td>
<td>25.1 (16.1)</td>
<td>17.0 (14.3)</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>DOCS Main</strong></td>
<td>11.7 (4.1)</td>
<td>6.7 (5.0)</td>
<td>1.1</td>
</tr>
<tr>
<td><strong>SDS</strong></td>
<td>13.3 (7.5)</td>
<td>7.6 (8.4)</td>
<td>0.5</td>
</tr>
</tbody>
</table>
Reduced Contact: Open Trial

- Percentage meeting diagnostic criteria on the MINI at pre and post treatment (BOCF)
Reduced Contact: Open Trial

- Percentage reduction on the YBOCS (BOCF)

- < 10% improvement
- 11-30% improvement
- 31-60% improvement
- >60% improvement
Reduced Contact: Open Trial

- **Clinician time**
  - Mean = 63 minutes (SD = 54.5mins) over 8 weeks

- **Acceptability**
  - 70% were either “satisfied” or “extremely satisfied”
  - 90% would recommend program to a friend

- **Drop out rate**
  - 9%
Reduced Contact: Open Trial

• Conclusions
  – Large effect sizes can be obtained by just contacting participants once a week
  – Automatic reminders appear important for reducing drop out rates and increasing outcomes

This study adds to the emerging evidence to suggest that OCD can be treated remotely, requiring only 60mins of therapist time per participant
General Conclusions

Conclusions:

- Remote treatment for OCD using either iCBT or Bibliotherapy is effective

<table>
<thead>
<tr>
<th>Study</th>
<th>Effect Size</th>
<th>Symptom Reduction</th>
<th>Dropout</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study 2 – Open Trial</td>
<td>1.5</td>
<td>40%</td>
<td>0%</td>
</tr>
<tr>
<td>Study 3 (Internet) - RCT</td>
<td>1.0</td>
<td>29%</td>
<td>20%</td>
</tr>
<tr>
<td>Study 3 (Bibliotherapy) - RCT</td>
<td>1.4</td>
<td>28%</td>
<td>25%</td>
</tr>
<tr>
<td>Study 4 – Open Trial</td>
<td>1.1</td>
<td>32%</td>
<td>9%</td>
</tr>
</tbody>
</table>
Comparisons with Existing iCBT Studies

- iCBT research for OCD

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<td>1.5</td>
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</tr>
<tr>
<td>Study 3 (Internet Group) - RCT</td>
<td>1.0</td>
<td>29%</td>
<td>20%</td>
</tr>
<tr>
<td>Study 4 – Open Trial</td>
<td>1.1</td>
<td>32%</td>
<td>9%</td>
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Comparisons with Existing Bibliotherapy Studies

- Bibliotherapy research for OCD

<table>
<thead>
<tr>
<th>Author</th>
<th>n</th>
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<tbody>
<tr>
<td>Gilliam et al 2010*</td>
<td>14</td>
<td>-</td>
<td>51%</td>
<td>14%</td>
</tr>
<tr>
<td>Moritz et al 2010</td>
<td>43</td>
<td>0.6</td>
<td>-</td>
<td>16%</td>
</tr>
<tr>
<td>Tolin et al., 2007*</td>
<td>20</td>
<td>0.7</td>
<td>17%</td>
<td>15%</td>
</tr>
<tr>
<td>Study 3 - RCT*</td>
<td>20</td>
<td>1.4</td>
<td>28%</td>
<td>25%</td>
</tr>
</tbody>
</table>

* Indicates studies using an ITT analysis
General Conclusions

Conclusions:

• Participants find remote treatment highly acceptable
  – Study 2: 100% of participants would recommend the program to a friend
  – Study 3 - Bibliotherapy Group: 93% of participants would recommend the program to a friend
  – Study 3 – Internet Group: 100% of participants would recommend the program to a friend
  – Study 4: - 90% of participants would recommend the program to a friend
General Limitations

Limitations:

• Small sample size
• Open trial design in some studies
• Assessment raters not independent
Future Research

Self Guided Version

• Can the program be administered in a self-guided format?

Administration by non-psychologists

• Can the program be administered by a trained non-therapist

Dissemination and Integration with Face to Face services

• Can the program be used to increase access to evidence based treatment for those seeing a psychologist face to face?

• Can a similar program be used by face to face therapists to assist with preventing relapse?
General Conclusions

- OCD is a common and chronic disorder, which causes considerable disability and impairment
- There are many barriers to accessing evidence based care
- Remote treatments can be used as a way to overcome these barriers
- There is preliminary evidence to suggest that OCD can be successfully treated remotely
- We were surprised by our results, but encouraged by the possibilities that remote treatments holds for improving access to evidence based treatments.
- Further research is required
Can Obsessive Compulsive Disorder be Treated Online? Results from 3 studies

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Thank You....