Perceived Invasiveness of Psychiatric Electroceutical Interventions as Treatment for Clinical Depression

Marissa Cortright1, Emily Castillo2, Laura Y. Cabrera, PhD3, Eric D. Aachtyes, MD, MS4, Robyn Bluhm, PhD5, Aaron M. McCright, PhD6

1Neuroscience and Criminal Justice Double Major; 2Neuroscience Major; 3Center for Ethics & Humanities in the Life Sciences, Department of Translational Science & Molecular Medicine, College of Human Medicine; 4Division of Psychiatry & Behavioral Medicine, College of Human Medicine; 5Department of Philosophy, College of Arts & Letters, Lyman Briggs College; 6Department of Sociology, College of Social Science

**BACKGROUND**

An important consideration in the assessment of medical interventions is invasiveness, which generally refers to physical invasion of the body. However, little research has been conducted analyzing the various beliefs, values, and ethical concerns underlying judgements of invasiveness among psychiatric electroceutical interventions (PEIs) - therapies that use electrical or magnetic stimulation of the brain.

Psychiatrists’ views on this topic are important as they are the gatekeepers to these interventions.

**RESEARCH QUESTION**

How invasive do psychiatrists perceive each PEI to be?
- What factors influence these judgements?
- How do these judgments of invasiveness compare to more common treatments for depression such as psychotherapy and medication?

**METHODS**

- 16 Michigan-based psychiatrists were recruited via direct recommendation by a member of the team
- Each psychiatrist participated in a 30-minute semi-structured interview over the phone or video chat (ZOOM)
- Every interview was recorded and then transcribed
- Content analysis was used to identify major themes regarding a variety of important neuroethical considerations

**Psychiatrist Data**

<table>
<thead>
<tr>
<th>Gender Distribution</th>
<th>PEI experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>11</td>
</tr>
<tr>
<td>Female</td>
<td>5</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>ECT</th>
<th>TMS</th>
<th>DBS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>Psychological</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Lifestyle</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

**MAIN RESULTS**

- DBS, when compared to ECT and TMS was considered to be the most physically invasive PEI
- ECT was seen as physically invasive by 68.8% psychiatrists, and as psychologically invasive by 43.8%
- 56.3% psychiatrists believed TMS was less invasive than ECT or not invasive at all
- ECT when compared to psychotherapy was considered more invasive or invasive in a different way
- ECT when compared to medication was considered invasive in a different way

**DISCUSSION**

- Judgements of invasiveness were not only made based on the physical impact of an intervention but also by its psychological impact and life style impact
- While ECT does not involve implantation of an electrode is still considered by psychiatrists to be physically invasive
- When compared to ECT, psychotherapy and medication are still seen as invasive, but in a different way

**NEXT STEPS IN NIH-FUNDED PROJECT**

- Code and analyze interviews from patients and general public/caregivers and examine potential differences or similarities in factors that shape judgements of invasiveness
- Integrate findings from other coded neuroethical considerations concerning the use of PEIs to better understand how they might relate to judgements of invasiveness
  - Side effects/Risks
  - Benefits
  - Effect on personality

**ACKNOWLEDGEMENTS**

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