Perceptions of the Side Effects, Risks, and Benefits Associated with Psychiatric Electroceutical Interventions for Psychiatric Disorders

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**Background**

Psychiatric electroceutical interventions (PEIs) are therapies that use electrical or magnetic stimulation to alter brain circuitry and function with the goal of treating neuropsychiatric conditions.

While these interventions have variable levels of clinically-established efficacy for certain psychiatric conditions, information relating to stakeholder perceptions of their risks, side effects, and benefits is emergent and incomplete.

**Research Questions**

RQ1: How do perceptions of PEI side effects, risks, and benefits vary across stakeholder groups?

RQ2: How do stakeholder perceptions of risks, side effects, and benefits vary across PEIs?

**Methods**

- We conducted a series of semi-structured interviews with 48 Michigan-based participants:
  - Psychiatrists
  - Patients with depression
  - Members of the public

- Participants were asked questions that related to 1-2 of the PEIs listed above, including questions of risks, side effects, and benefits.

- We used qualitative content analysis to identify major themes.

**Perceptions of Risks and Side Effects**

- “[T]he primary side effect that I usually talk to the patients about [with ECT] is confusion and memory problems because those are the most common that I have seen.” (Psychiatrist #13)

- “I think the risks of [TMS and DBS] would be permanent damage… can they be specific enough to hit the exact spot and do they know enough to hit the exact spot that the problem is causing and is it going to have any residual effects?” (Patient #04)

- “My memory has been pretty badly impacted over the course of all of the sessions. It’s worse on ECT days, but it never has fully come back.” (Patient #06)

- “[T]he brain controls a lot of things so I would be more afraid of the secondary effects of the electric therapies.” (Public Member #9)

**Perceptions of Benefits**

- “It’s rapid. It’s the most rapidly acting antidepressant method that we have.” (Psychiatrist #06 on ECT)

- “I would think that these work faster because they stimulate directly the part of the brain that is not working properly.” (Public Member #09 on PEIs)

- “It probably is a little bit more beneficial because it isn’t just constantly sending like firing signals, and it’s like it seems like something that is a little bit more like advanced technologically because it can recognize something like that.” (Patient #08 on ABI)

- “Just having that more of a faster effect, and maybe even a longer-lasting effect, and perhaps even a stronger effect, because [DBS] seems like something that’s directly tying into the brain and sending these impulses.” (Patient #03)

**Main Results**

- 81% of psychiatrists, 44% of patients, and 31% of public members stated that ECT could cause short-term memory loss.

- Effectiveness and quick response were the most mentioned perceived benefits across all stakeholders. For psychiatrists, this was in reference to ECT. For patients and public, this was in reference to DBS.

**Discussion**

- Psychiatrists’ description of ECT as faster and more effective than alternatives (e.g. medication) mirrors data provided in meta-analyses of ECT.

- A majority of participants viewed memory loss as an ECT side effect. Study has shown memory loss from ECT is typically limited to three days after treatment.

- Some non-clinician participants viewed the invasiveness of DBS as both a risk and a benefit. For most psychiatric disorders, the efficacy of these interventions has not yet been established.

**Future**

- Analysis of the national survey experiment data, which includes:
  a) psychiatrists
  b) people diagnosed with depression
  c) members of the general public
  d) caregivers

The data provided by these stakeholders will allow for an expanded examination of the research questions.

**Acknowledgements**

We would like to thank the National Institutes of Health BRAIN Initiative for funding this project (#1RF1MH117802-01), as well as Emily Castillo, Marissa Cortright, & Megan Penzkofer for their contributions.