Patient and Public Perceptions of the Invasiveness of Psychiatric Electroceutical Interventions

Background

There is little discussion of the concept of invasiveness in the medical literature, and what literature exists tends to take the medical definition for granted, an intervention is invasive when they involve piercing the skin or inserting an object into the body. 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. In this study, we aim to provide insights into how different stakeholders perceive invasiveness.

Research Question

- How invasive do patients with depression and the general public 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 patients who had been diagnosed with depression, and 16 members of the public were recruited using a purposive sampling approach
- Each semi-structured interview lasted 30 minutes to 1 hour and were conducted over the telephone, video conference (ZOOM), or in person.
- Every interview was recorded, anonymized, and transcribed
- Coding and data analysis were completed using Dedoose to identify major neuroethical themes and subthemes

Invasiveness Quotes

"As far as, being invasive as far as privacy or talking about matters that people don’t feel comfortable talking about, maybe in that sense it’s not as invasive as the talk therapy, or counseling, or psychotherapy." Patient 16

"I mean for me personally, if I had the DBS implant, I would probably be thinking about the implant all the time and what it’s doing and if it’s working." Patient 08

"I’d say medications [are more invasive]. I’m wondering because, they do get into your body and, they get into your whole system rather than TMS is only working on your brain." [TMS compared to medication] Public 11

Discussion

- Types of Invasiveness
  - Physical Invasiveness
    - Standard medical definition → Insertion or piercing skin
    - ECT → Due to IV and anesthesia
    - Invasiveness on a continuum → ECT compared to DBS
  - Psychological Invasiveness (or emotional invasiveness)
    - Predominantly when discussing psychotherapy
  - Lifestyle Invasiveness
    - Frequency of treatments → Time of treatment, travel to treatment
    - Amount of choice or control

- Aspects of Interventions that Influence Perceptions of Invasiveness
  - Localization
    - Direct effect on brain function → More invasive than indirect effect
    - Diffusion of treatment → Implications and effects beyond intended target
  - Permanence → Long-term effects or effects that can stop rapidly
  - Familiarity
    - Comparisons to treatments they knew
    - Level of comfort associated with level of familiarity

Conclusions

- Judgements of the invasiveness of a therapeutic intervention are more complex than the standard distinction between invasive and non-invasive medical technologies
- Participants perceived several types of invasiveness, and several different aspects of the interventions
- More inclusive definitions or criteria of invasiveness is needed to inform:
  - Assessments of invasiveness used to craft policy guidelines
  - Effective communication between physicians and patients

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