Deep Brain Stimulation and Neuroethics

Experiences and relationships of Parkinson's disease patients undergoing deep brain stimulation

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Problem & Background

Purpose & Method

Results

Importance
Problem & Background
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- Deep Brain Stimulation (DBS) raises neuroethical issues (including efficacy, safety, and side effects particularly change in personality or self)

- The side effects have been reported and discussed in neuroethics. However, only very limited research was conducted.

- There are even fewer related studies in Korea and Asia compared to the western society.
Purpose & Method
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- To investigate the experiences of patients who received DBS
- Qualitative study was performed:
  - In-depth interviews [recored, transcribed]
  - Analyzed transcripts [qualitative analysis]
Results
# Results

- **Interviewed 17 research participants**

<table>
<thead>
<tr>
<th></th>
<th>N (%)</th>
</tr>
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<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Men/Women</td>
<td>7(41)/10(59)</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>Median (range)</td>
</tr>
<tr>
<td>Age at interview</td>
<td>67.5 (51-77)</td>
</tr>
<tr>
<td>Duration of disease (years)</td>
<td>12 (3-20)</td>
</tr>
<tr>
<td>Age at diagnosis</td>
<td>57 (38-65)</td>
</tr>
<tr>
<td>Duration of disease (years) before surgery</td>
<td>8 (2-12)</td>
</tr>
<tr>
<td>Age at deep brain stimulation (DBS) surgery</td>
<td>64 (50-75)</td>
</tr>
<tr>
<td>Time between surgery and interview (years)</td>
<td>3 (0-10)</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>17(100)</td>
</tr>
<tr>
<td><strong>Replacement Surgery</strong></td>
<td>N (%)</td>
</tr>
<tr>
<td>None</td>
<td>10(59)</td>
</tr>
<tr>
<td>One time</td>
<td>6(35)</td>
</tr>
<tr>
<td>More than one time</td>
<td>1(5)</td>
</tr>
</tbody>
</table>
Results

- Interviewed 17 research participants

- Categories derived by coding transcripts
  - Core category: “Accepting the tilted days”
Results: categories

Trajectory of patients' experience

Low quality of life before surgery

“Accepting the tilted days”

Changed, but continuing daily life

Redefining oneself and life

Decide to be changed by having surgery

Into the unknown: surgery
Results: categories

Trajectory of changing patients’ self

- General self

Low quality of life before surgery
- Self as having disease
- Recognizing the relationship body-self

Decide to be changed by having surgery
- Self in the imagination after surgery
- Self as being able to be changed

Into the unknown: surgery
- Self as ‘Reborn’

Changed, but continuing daily life
- Self in the real after surgery
- Self as with disease and machine

Redefining oneself and life
- Self in the real after surgery
- Changed Self
Results: categories

Trajectory of changing patients’ perspective: one’s life and death

Low quality of life before surgery
- Seized with feeling of death
- Thinking about committing suicide

Decide to be changed by having surgery
- “to be or not to be”
- One’s life has to be better

Into the unknown: surgery
- Divergence

Changed, but continuing daily life
- Changed meaning of death
- Changed attitude, gratitude to life

Redefining oneself and life
- Life better than before (surgery)
- Different life compared to before
Importance
Importance

- Vividly shows the experiences of people undergoing DBS
- Supports the importance of the treatment of Parkinson’s patients
  - Not only controlling symptoms appropriately but also recognizing and evaluating the physical, social, and emotional aspects that affect one’s personal life
- Contributes to...
  - improving the quality of DBS treatment for Parkinson’s patients
  - Expanding our human understanding of the relationship between body-machine-mind and social from neuroethical perspective
Thank you for your attention

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