

BACKGROUND

The motor symptoms of Parkinson's disease (PD) are usually the prominent factor of investigation following subthalamic nucleus deep brain stimulation (STN DBS). However, recent research has described the impact of non-motor symptoms, such as poor mood state, on quality of life. Literature regarding mood post STN DBS has been inconsistent.

METHODS

We examined mood differences in 16 patients diagnosed with PD who underwent STN-DBS and in 24 PD patients who served as matched controls at baseline and 6-months. Patients received a comprehensive neurological evaluation and completed the Mini Mental Status Exam (MMSE) the Beck Depression Inventory-I (BDI-I) and the State-Trait Anxiety Inventory (STAI).

Table 1

	Baseline		p
	PD	DBS	
Gender	17/7	12/4	NS
M/F	(70/30%)	(75/25%)	
Age	65.1 (7.87)	64.6 (8.22)	NS
Education	16.1 (1.27)	14.2 (1.68)	<0.01
Age of onset	60.6 (SD)	51.0 (SD)	<.01

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RESULTS

- DBS and PD patients were matched on age and gender. All DBS patients demonstrated significant motor benefit post-surgery ($p < .01$). Differences in mental status at baseline and 6-months were not found for either group.
- DBS patients were more depressed at baseline and at 6-months in comparison to the PD group (Figures 1 & 2, respectively). DBS participants were more anxious in comparison to the PD group at 6-months (Figure 2).
- Repeated measures ANOVAs did not reveal significant interactions of group by time on basic mental orientation, total depression and anxiety scores.

Figure 1

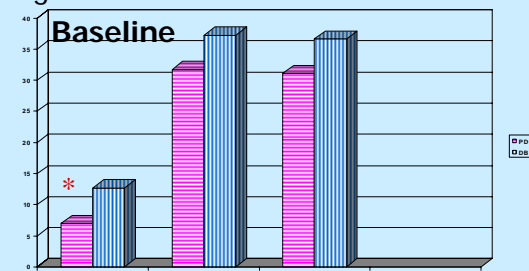
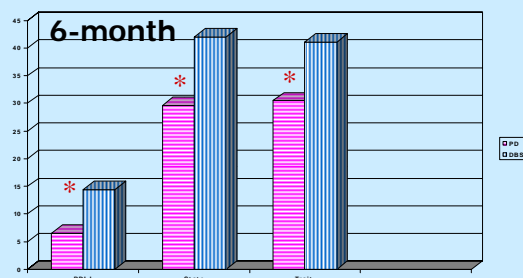
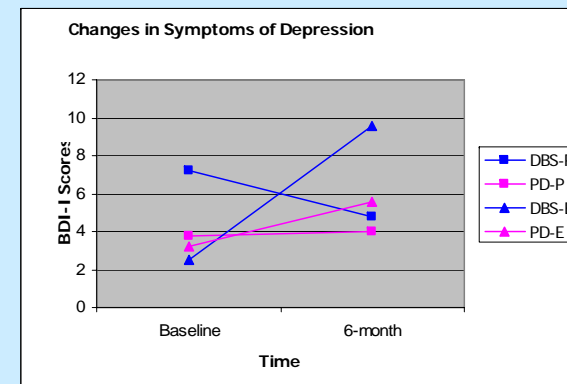


Figure 2



RESULTS

- Depression was further analyzed by distinguishing between emotional and physical distress on individual items of the BDI-I.
- The DBS group reported significantly higher levels of physical, but not emotional, symptoms of depression at baseline.
- The DBS group reported a significantly higher level of emotional, but not physical, distress following surgery.



CONCLUSION

Results support our clinical experience of a higher prevalence of emotional symptoms of depression following STN DBS despite good motor outcome. Total scores on self-report measures of depression mask the changes in mood state experienced post DBS. The importance of separately analyzing emotional and physical signs of distress in PD following STN DBS is highlighted.