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Deep Brain Stimulation: Current State of the Art

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Introduction: The limitations of the available treatment options for psychiatric disorders have spurred interest in different therapeutic methods. Deep Brain Stimulation (DBS) has been researched as a surgical therapeutic approach for treatment resistant patients with psychiatric disorders such as Depression and Obsessive-Compulsive Disorder (OCD), Gilles la Tourette syndrome, Addiction and Anorexia Nervosa.

Objective: To review the current existing evidence base for DBS in the different psychiatric and neuropsychiatric disorders.

Method: A literature review was performed through MEDLINE/PsycINFO, using the following keywords: "DBS", 'Deep-brain Stimulation', 'Psychiatry', 'Disorder', 'Depression', 'Obsessive Compulsive Disorder', 'Addiction', 'Anorexia', 'Alcohol', 'Heroin', 'Gilles la Tourette', "PTSD". All relevant papers published until the 30th of September 2014, were selected.

Results: A growing body of evidence seems to demonstrate that DBS is effective as a therapeutic approach for treatment-resistant Depression and OCD. Newer fields of research in DBS include Addiction (Alcohol, Heroin, Cocaine), Gilles la Tourette syndrome and, more recently even, Anorexia Nervosa. Regarding Addiction, there are few studies, with small patient samples, and with mixed results regarding clinical improvement. Existing evidence for Anorexia Nervosa is also scarce, but seems to demonstrate positives results in terms of effectiveness. Concerning Gilles la Tourette syndrome, there is a somewhat larger evidence base pointing to clinical improvement following DBS. Research in Post-Traumatic Stress Disorder is currently under way.

Conclusion: DBS is developing to become a valid therapeutic option for the treatment of some refractory psychiatric disorders. More clinical experience and scientific evidence is necessary to improve its effectiveness.