



Journal Homepage: - www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/18856
DOI URL: <http://dx.doi.org/10.21474/IJAR01/18856>



RESEARCH ARTICLE

IMPACT OF DEEP BRAIN STIMULATION ON THE QUALITY OF LIFE OF PARKINSON'S PATIENTS

Intissar Barbouch and Yassine Mebrouk

Department of Neurology, University Hospital Mohammed VI, Faculty of Medicine and Pharmacy Oujda,
Mohammed First University, Oujda, Morocco.

Manuscript Info

Manuscript History

Received: 10 April 2024
Final Accepted: 14 May 2024
Published: June 2024

Abstract

Deep Brain Stimulation (DBS) has transformed the management of Parkinson's disease, enhancing patients' quality of life. We retrospectively analyzed 10 patients who underwent Subthalamic Nucleus (STN) DBS at a Moroccan hospital. Pre- and postoperative assessments using the Parkinson's Disease Questionnaire revealed significant improvements in mobility, daily activities, and emotional well-being. Our findings underscore the importance of considering subjective well-being alongside clinical parameters in evaluating DBS efficacy for Parkinson's disease.

Copy Right, IJAR, 2024,. All rights reserved.

Introduction:-

Deep Brain Stimulation (DBS) is an innovative technique that has revolutionized the therapeutic management of Parkinson's disease and significantly improved the lives of countless patients [1]. The aim of our study is to investigate the postoperative evolution of quality of life within our patient population and to compare our findings with existing literature.

Materials and Methods:-

We conducted a retrospective analysis of a cohort comprising 10 patients diagnosed with Idiopathic Parkinson's Disease (IPD) in advanced stages, who underwent Deep Brain Stimulation (DBS) targeting the Subthalamic Nucleus (STN) at the neurology department of The Mohammed VI University Hospital of Oujda, Morocco over a 4-year period, spanning from September 2017 to April 2024. Prior to and one year post-intervention, patients were invited to complete the Parkinson's Disease Questionnaire – 39 items (PDQ-39). This questionnaire, a specific instrument for assessing quality of life in Parkinson's disease, evaluates eight dimensions of health in Parkinson's patients: mobility, activities of daily living, emotional well-being, psychological discomfort, social support, cognitive impairment, communication, and physical discomfort. Results are presented as percentages; higher percentages indicate poorer quality of life.

Results:-

Our study included 10 patients, comprising 4 females and 6 males, with a sex ratio of 1.5. The mean age at the time of surgery was 51.9 years. Short and medium-term follow-up showed significant clinical improvement, as evidenced by improvements in all UPDRS scores. The preoperative PDQ-39 subscores were as follows: mobility, activities of daily living, emotional well-being, psychological discomfort, social support, cognitive impairment, communication, and physical discomfort were 39%, 47%, 38%, 31%, 18%, 33%, 32%, and 50%, respectively. It is noteworthy that the dimensions of quality of life most severely affected were mobility, activities of daily living, and physical

Corresponding Author:- Intissar Barbouch

Address:- Department of Neurology, University Hospital Mohammed VI, Faculty of
Medicine and Pharmacy Oujda, Mohammed First University, Oujda, Morocco.

discomfort. One year postoperatively, the comprehensive benefits of STN-DBS led to an approximate 29% improvement in quality of life.

Discussion:-

The WHO defined quality of life in 1994 as "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns. It is a broad-ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, personal beliefs, and their relationship to salient features of their environment" [1]. Therefore, it is understood that the improvement of physical health does not necessarily imply an improvement in the quality of life, as it also depends on psychological and subjective factors. Quality of life has been used as a primary criterion in several studies evaluating the efficacy of Deep Brain Stimulation (DBS) in Parkinson's Disease (PD). These studies show an improvement in scores of about 25% [2, 3, 4, 5], which is consistent with the results of our series.

Conclusion:-

The primary goal of therapy for a chronic incurable disease is to promote and maintain subjective well-being and quality of life, reflecting both physical improvement and the patient's subjective perception of the therapeutic effects. Thus, quality of life could serve as a predictive factor of efficacy, alongside the parameters typically evaluated in this surgical indication.

Les Références:-

1. **World Health Organization. (1995).** "The World Health Organization Quality of Life assessment (WHOQOL): position paper from the World Health Organization." *Social Science & Medicine*, 41(10), 1403-1409.
2. **Deuschl, G., Schade-Brittinger, C., Krack, P., et al. (2006).** "A randomized trial of deep-brain stimulation for Parkinson's disease." *New England Journal of Medicine*, 355(9), 896-908.
3. **Schüpbach, W. M., Chastan, N., Welter, M. L., et al. (2006).** "Stimulation of the subthalamic nucleus in Parkinson's disease: a 5 year follow up." *Journal of Neurology, Neurosurgery&Psychiatry*, 77(8), 1013-1016.
4. **Diamond, A., et al. (2005).** "Cognitive improvement following deep brain stimulation." *Journal of Neurosurgery*, 103(6), 1083-1092.
5. **Lagrange, A. H., et al. (2002).** "Effects of subthalamic nucleus stimulation on mood and quality of life in Parkinson's disease." *Journal of Neurology*, 249(8), 1042-1049.