

**Does deep brain stimulation improve patients' quality of life?**

*Francesca Garini*<sup>1</sup>, M. Sacchetti<sup>4</sup>, E. Pramaggiore<sup>1</sup>, L. Magistrelli<sup>2</sup>, E. Contaldi<sup>2</sup>, R. Fornaro<sup>3</sup>, E. Corbeddu<sup>3</sup>

<sup>1</sup>Specializzando Psicologo, SSVDO Psicologia Clinica, Ospedale Maggiore della Carità di Novara, Italy

<sup>2</sup>Neurologo, SCU Neurologia, Ospedale Maggiore della Carità di Novara, Novara, Italy

<sup>3</sup>Neurochirurgo, SC Neurochirurgia, Ospedale Maggiore della Carità di Novara, Novara, Italy

<sup>4</sup>Psicologo, SSVDO Psicologia Clinica, Ospedale Maggiore della Carità di Novara, Novara, Italy

*Introduction:* Deep Brain Stimulation (DBS) is a well-known surgical treatment used to reduce the motor symptoms of Parkinson's disease [1]. This treatment, by decreasing patients' dyskinesias and motor fluctuations, is known to improve their quality of life [2].

*Objective:* Aim of the present work is to present the ongoing validation of the Italian version of the Japanese Parkinson's Disease QoL for Device-Aided Therapy (PDQ-DAT) questionnaire, which investigates the quality of life of patients with Parkinson's disease who have undergone surgery with a therapeutic device [3].

*Methods:* For this purpose, we selected 10 patients from the AOU Maggiore della Carità di Novara who underwent DBS.

To test our hypotheses, all patients were given an Italian version of the already mentioned questionnaire. This questionnaire investigates, through 24 multiple-choice questions divided into 3 macro-areas (daily activities, satisfaction with the therapeutic device, psychological well-being), the presence of particular problems that could compromise the patient's quality of life. The same questionnaire was given to the patients at the time of discharge (T0) and after one month (T1), 3 months (T2) and 6 months (T3).

*Results:* From the analysis of the questionnaires of the first 10 patients evaluated so far, a progressive improvement in the quality of life emerged, with an average decrease of 2 points for each cluster investigated. In particular, we noticed improvements in autonomy and movement, resumption of social activity, decrease in concerns related to the device, decrease in cognitive and behavioral difficulties.

*Conclusion:* In conclusion, the results achieved so far, which will certainly have to be enriched, seem to demonstrate the benefits of DBS on the quality of life of patients.

**References:**

- [1] Bloem BR, Okun MS, Klein C. Parkinson's disease. Lancet. 2021 Jun 12;397(10291):2284-2303. doi: 10.1016/S0140-6736(21)00218-X. Epub 2021 Apr 10. PMID: 33848468.
- [2] Armstrong MJ, Okun MS. Diagnosis and Treatment of Parkinson Disease: A Review. JAMA. 2020 Feb 11;323(6):548-560. doi: 10.1001/jama.2019.22360. PMID: 32044947.
- [3] Kawaguchi M, Miyagi Y, Kishimoto J, Samura K, Tokunaga Y, Watari M, Eguchi H, Ueda S, Iihara K. Development of Quality of Life Questionnaire for Patients with Parkinson's Disease Undergoing STN-DBS. Neurol Med Chir (Tokyo). 2021 Aug 15;61(8):475-483. doi: 10.2176/nmc.2020-0388. Epub 2021 Jun 21. PMID: 34148942; PMCID: PMC8365237.