

# The Use of the Therapeutic Singing Program to Enhance the Vocal Quality and Alleviate the Depression of Parkinson's Disease: Case series

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**Background:** The symptoms of Parkinson's disease (PD) patients are not only movement disorder but also voice and affective disorder so that they frequently suffer emotional depression as well as communication problems. The depression of PD patients causes reduced quality of life and delayed therapeutic responses. Music acts as a stimulus to elicit motor and emotional responses and has been applied to various neurologic disorders. Therapeutic singing activates neural mechanisms for speech using the respiratory muscles and the articulation. Singing and speaking are similar that they involve cortical regions and engage bilateral activities of the brain. Moreover, the melody and lyrics of singing frequently induce personal memories related both physical and emotional states with PD. **Methods:** The purpose of this study is to examine the therapeutic singing program to enhance the vocal quality and alleviate the depression of Parkinson's disease (PD). We studied 6 female and 3 male PD patients aged from 53 to 78. They were selected by the neurologist with clinical criteria. Each patient received an intensive music therapy session for 50 minutes in a total of 6 sessions for 2 weeks. the therapeutic singing program consisted of patterned vocalizing, vocal improvisations and song compositions for daily life. In the pre/post tests on the 1<sup>st</sup> and 8<sup>th</sup> days, we measured the Maximum Phonation Time (MPT) via the Praat test, the Voice Handicap Index (VHI), the Voice-Related Quality of Life (V-RQOL), and the Geriatric Depression Scale (GDS). We conducted the follow-up tests six months later. **Results:** The vocal quality of the patients, including acoustic and subjective vocal evaluations, was improved and the depression symptoms of the patients were alleviated. We also found that both the acoustic vocal in the MPT and the V-RQOL were increased while the VHI was decreased. The GDS was found remarkably lowered. The follow-up tests indicated positive effects of the therapeutic singing program on keeping the vocal quality and alleviating the depression. **Conclusions:** This study has confirmed the effectiveness of the progressive integration led by the therapeutic singing program based on phonetics, neuropsychology and music psychotherapy.

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