Art Therapy and Parkinson's Disease: Impact on Health-Related Quality of Life

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SUMMARY

The objective of this paper was to assess the impact of art therapy on health-related quality of life in Parkinson's disease (PD).

The study included two groups of 30 patients with PD. After randomization, the study group, in addition to drug therapy, participated in cycles of art therapy (visual and graphic expression, and music therapy) every three months for a year, and the control group remained exclusively on drug therapy. All participants were continuously evaluated by completing a validated questionnaire: the Short Form 36 questionnaire (SF-36 questionnaire).

Art therapy was associated with statistically significant and consistent improvements in health-related functioning across all dimensions of the SF-36 questionnaire.

Art therapy is a valuable non-pharmacological intervention for improving physical, psychological, and social functioning in patients with PD.

KEYWORDS

Parkinson Disease; *Art therapy*; *Quality of life*

Introduction

Parkinson's disease (PD) is one of the most common neurodegenerative diseases, and represents the fastest-growing neurodegenerative disorder worldwide[1–3]. Primarily, symptoms include a range of motor problems such as gait, balance issues, slowness, stiffness, and tremor; non-motor symptoms can also occur, and consist of mood disturbance, and cognitive, autonomic, sensory, and sleep disorders[4–6]. Although Parkinson's disease is incurable, there are many treatment options available today that slow down its progression. While medical therapy is the most common therapy, other surgical treatment options are available in cases of a chronic progressive disease course, such as ablative procedures (lesional therapy), dopaminergic medication infusion devices, and deep brain stimulation (DBS)[7]. Parkinson's symptoms significantly affect disability, but also reduce the quality of life (QoL) of patients, their families, caregivers, and the community as a whole. Based

on the results of numerous scientific studies, extremely positive effects of art therapy have been confirmed, either through acceptance (observing, listening, etc.) of art, or through personal artistic and creative expression[8–12]. One of the most frequently used instruments for quantifying art therapy outcomes is the Short Form 36 (SF-36) questionnaire, a self-reported survey that measures health-related QoL across 8 physical and mental health domains (physical functioning, role limitations due to physical health, role limitations due to emotional problems, vitality, emotional well-being, social functioning, bodily pain, and general health perceptions). It is frequently utilized in art therapy research and clinical practice to quantify changes in well-being before and after therapeutic interventions[13–15]. Although studies have confirmed the effectiveness of individual art therapy methods, there is a lack of interdisciplinary research on multiple forms of art therapy with the same patient. In our study, we showed the effect of several forms of art therapy (visual and graphic expression, and music therapy) across the 8 dimensions of QoL in PD, grouped into physical and mental health components.

Materials and methods

Participants

This study initially included a total of 60 participants (30 participants in the control group and 30 in the study group). The number of participants was calculated using the power analysis program for statistical tests by Franz Faul et al. (G*Power 3), taking into account possible dropout bias[16]. All participants met the specific inclusion criteria according to the relevant PD diagnostic guidelines without other serious comorbidities (defined as those that would prevent the subjects from participating in the research), i.e. a Hoehn and Yahr disease stage 2–3, a Mini mental state exam (MMSE) test result of ≥ 23 and age ≤ 80 years. Exclusion criteria were: severe chronic diseases (cardiovascular diseases, diseases of the locomotor system, etc.), stroke and other neurological diseases, previous participation in art therapy workshops, color blindness, hearing disorders, depressive disorder (or any other mood disorder), and age ≥ 80 years. Along with their family members and caregivers, the patients were informed about the entire research and provided a signed informed consent. The research was conceptualized and conducted in accordance with all ethical principles, and approved by the Ethics Committee of University Hospital Centre Zagreb (Class: 8.1.-21/150-1, No.: 02/21 JG), with the consent of the Ethics Committee of the School of Medicine, University of Zagreb.

Study protocol

The research spanned three years, wherein the implementation of art therapy workshops took one year, and the rest included the collection and randomization of respondents, obtaining permission to use the questionnaire, and permission from relevant ethics committees. After randomization, the study group, in addition to medication therapy, participated in two forms of art therapy — visual and graphic expression, and music therapy — every three months for one year, while the control group remained exclusively on medication therapy. All 30 participants in the study group simultaneously attended one type of workshop per week for a period of three months. During this period, they participated in a total of 12 visual and graphic therapy workshops and 12 music therapy workshops, after which they were evaluated over the next three months via the SF-36 questionnaire. Subsequently, the therapy and evaluation cycles were repeated. The study design algorithm is presented in more detail in Figure 1.

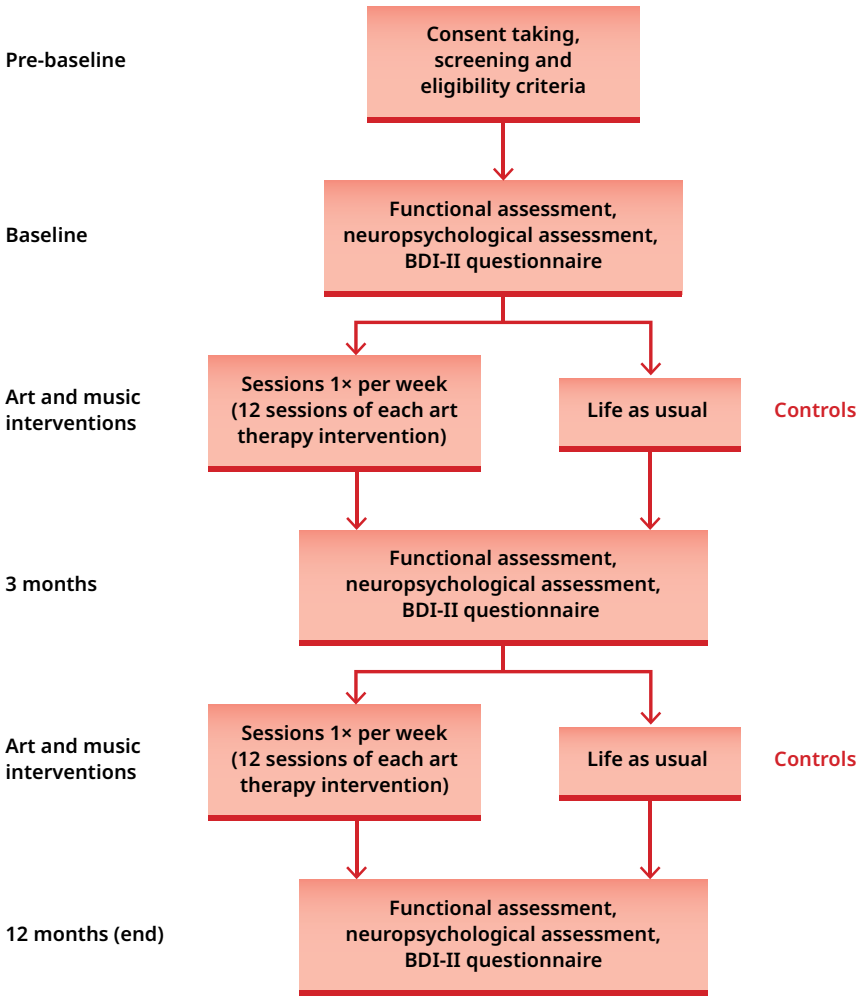


Figure 1. Study design algorithm

During the art therapy workshops, five respondents from the study group dropped out (due to relocation and difficulties with traveling to workshops). The study took place at the premises of the 'Parkinson i mi' (Parkinson's and Us) Association in Zagreb, Croatia, in the period between September 2024 and September 2025. The workshops were held by a certified art therapist, and programs were drawn up in consultation with professors from the Academy of Fine Arts and the Academy of Music. Each art therapy session lasted sixty minutes. In the visual and graphic expression workshop, the participants used different techniques (pencils, pastels, brushes, charcoal, ink, etc.) and each meeting was organized as a new thematic unit (e.g., the motif of pain, childhood, perception of one's own body, movement, photography, the sea, etc.) which the participants then processed using different techniques and colors. Emphasis was placed on the development of language skills (naming techniques, shapes, primary, secondary, and complementary colors, and emotions), memory (recalling the previous workshop, making secondary colors, parts of paintings, etc.), executive functions

(assembling parts of a painting into a whole, using different painting techniques, etc.), verbal and non-verbal communication (e.g., talking with group members about childhood events, depicting one's own emotions on canvas, etc.). The music therapy workshop consisted of an active and passive part. In the active part of the program, the participants sang and used instruments (triangle, bell, rattles, percussion), and in the second part of the workshop, they listened to classical music (selected works by Beethoven, Mozart, Vivaldi, Debussy, and Bach), i.e. music that stimulates the production of dopamine[17,18]. All participants were screened using the SF-36 questionnaire, with prior permission from the questionnaire's copyright holder. The first set of responses was collected through an interview with the participants to familiarize them with the process. After this, the participants filled out the questionnaire by themselves each time.

Statistical analysis

Data were stored using a Microsoft Access digital database, and analysis was performed using IBM SPSS Statistics software, version 26 (IBM Corp., Armonk, NY, USA). Normality of distribution was tested with the Kolmogorov–Smirnov test, and in further analyzes Friedman and Wilcoxon tests were used to determine the treatment effects. Conclusions regarding differences and correlations among variables were made at the usual level of significance of 0.05 ($P < 0.05$), that is, a reliability of 95%.

Results

Basic descriptive statistical measures (mean, standard deviation, and range of values) for the 8 dimensions of the SF-36 questionnaire are presented in Table 1. These data provide insight into the patterns of change in various aspects of physical, psychological, and social functioning during the observation period, in both the study group and the control group. In most SF-36 dimensions, the study group achieved higher mean scores than the control group, indicating more favorable subjectively perceived health-related functioning. The most pronounced differences were observed in the domains of role limitations due to physical health, in which the study group achieved a higher mean score compared to the control group (42.00 vs 20.56), and role limitations due to emotional health (65.33 in the study group compared to 42.96 in the control group). Differences in favor of the study group were also observed in the domains of physical functioning (51.33 vs 45.67), energy and fatigue (50.53 vs 46.67), and emotional wellbeing (64.37 vs 59.78). By contrast, the social functioning dimension showed higher mean values in the control group (56.53 vs 51.83). The bodily pain dimension demonstrated nearly identical mean values in both groups (60.40 in the study group and 60.19 in the control group), while similarly comparable values were recorded for the general health dimension (38.87 in the study group compared to 40.78 in the control group).

Prior to conducting an analysis of differences across the eight SF-36 dimensions between the study and control group, it was necessary to verify whether the data distribution satisfied the assumptions of normality. Therefore, the Kolmogorov–Smirnov test of normality was performed for each dimension, measurement, and group. The results of the Kolmogorov–Smirnov test (Table 2) indicated that the majority of the SF-36 questionnaire dimensions in both the study and control group deviated from a normal distribution ($P < 0.05$). A normal distribution was observed only in selected dimensions, namely physical functioning in the study group, and energy and fatigue in both groups ($P \geq 0.05$), whereas all other dimensions showed a statistically significant deviation from normality.

Table 1. Descriptive statistics of the SF-36 questionnaire by dimensions and groups

SF-36 dimension	Group	N	Mean (SD)	Min-max
Physical functioning	**Study**	75	51.33 (24.36)	0–100
	Control	90	45.67 (25.17)	5–100
	Total	**165**	**48.24 (24.89)**	**0–100**
Role limitations due to physical health	**Study**	75	42.00 (33.18)	0–100
	Control	90	20.56 (28.68)	0–100
	Total	**165**	**30.30 (32.52)**	**0–100**
Role limitations due to emotional health	**Study**	75	65.33 (36.12)	0–100
	Control	90	42.96 (40.98)	0–100
	Total	**165**	**53.13 (40.31)**	**0–100**
Energy and fatigue	**Study**	75	50.53 (17.00)	15–80
	Control	90	46.67 (17.99)	10–90
	Total	**165**	**48.42 (17.60)**	**10–90**
Emotional wellbeing	**Study**	75	64.37 (17.90)	20–88
	Control	90	59.78 (14.18)	28–92
	Total	**165**	**61.87 (16.09)**	**20–92**
Social functioning	**Study**	75	51.83 (17.76)	12.5–100
	Control	90	56.53 (19.85)	25–100
	Total	**165**	**54.39 (19.02)**	**12.5–100**
Bodily pain	**Study**	75	60.40 (19.99)	20–100
	Control	90	60.19 (24.45)	22.5–100
	Total	**165**	**60.29 (22.46)**	**20–100**
General health	**Study**	75	38.87 (15.15)	5–85
	Control	90	40.78 (18.57)	10–100
	Total	**165**	**39.91 (17.08)**	**5–100**

Although normal distribution was confirmed for certain dimensions, exclusively non-parametric statistical tests were applied in subsequent analyses in order to ensure methodological consistency and facilitate the interpretation of results. Specifically, the Friedman test was used for repeated measures, and the Wilcoxon test for post-hoc comparisons. This approach enabled a uniform analysis across

Table 2. Kolmogorov–Smirnov test results for normality of the SF-36 questionnaire score distributions by group

Variable	Group	K–S statistic	df	*P* (Sig.)	Normality
Physical functioning	*Study*	0.079	75	0.200	Normal
	Control	0.113	90	0.007	Not normal
Role limitations due to physical health	*Study*	0.191	75	<0.001	Not normal
	Control	0.319	90	<0.001	Not normal
Role limitations due to emotional health	*Study*	0.271	75	<0.001	Not normal
	Control	0.242	90	<0.001	Not normal
Energy and fatigue	*Study*	0.101	75	0.057	Normal
	Control	0.078	90	0.200	Normal
Emotional wellbeing	*Study*	0.145	75	<0.001	Not normal
	Control	0.106	90	0.014	Not normal
Social functioning	*Study*	0.261	75	<0.001	Not normal
	Control	0.273	90	<0.001	Not normal
Bodily pain	*Study*	0.145	75	<0.001	Not normal
	Control	0.177	90	<0.001	Not normal
General health	*Study*	0.129	75	0.003	Not normal
	Control	0.133	90	<0.001	Not normal

Table 3. Results of the Friedman test for changes in SF-36 questionnaire dimensions across three measurements in the study group

SF-36 dimension	Chi-square (χ^2)	df	*P* (Sig.)
Physical functioning	46.645	2	**<0.001**
Role limitations due to physical health	38.325	2	**<0.001**
Role limitations due to emotional health	33.787	2	**<0.001**
Energy and fatigue	38.860	2	**<0.001**
Emotional wellbeing	44.646	2	**<0.001**
Social functioning	9.294	2	**0.010**
Bodily pain	37.837	2	**<0.001**
General health	41.705	2	**<0.001**

all SF-36 dimensions, particularly given that the assumption of normality was not met for the majority of the analyzed variables.

The results of the Friedman test demonstrated statistically significant changes across the three measurements in all SF-36 questionnaire dimensions in the study group (Table 3). The most pronounced changes were observed in the dimensions of physical functioning ($\chi^2(2) = 46.65$, $P < 0.001$), emotional wellbeing ($\chi^2(2) = 44.65$, $P < 0.001$), and general

TABLE 4. Results of Wilcoxon tests for differences between measurements in SF-36 dimensions in the study group

SF-36 dimension	Measurement pair	Z	*P* (Sig.)
Physical functioning	1–2	−4.306	**<0.001**
	1–3	−4.299	**<0.001**
	2–3	−4.041	**<0.001**
Role limitations due to physical health	1–2	−3.508	**<0.001**
	1–3	−4.163	**<0.001**
	2–3	−3.957	**<0.001**
Role limitations due to emotional health	1–2	−3.602	**<0.001**
	1–3	−4.138	**<0.001**
	2–3	−3.169	**0.002**
Energy and fatigue	1–2	−3.843	**<0.001**
	1–3	−4.257	**<0.001**
	2–3	−4.139	**<0.001**
Emotional wellbeing	1–2	−3.783	**<0.001**
	1–3	−4.382	**<0.001**
	2–3	−4.301	**<0.001**
Social functioning	1–2	−2.249	**0.025**
	1–3	−2.285	**0.022**
	2–3	−1.580	**0.114**
Bodily pain	1–2	−3.123	**0.002**
	1–3	−4.237	**<0.001**
	2–3	−4.044	**<0.001**
General health	1–2	−4.138	**<0.001**
	1–3	−4.317	**<0.001**
	2–3	−3.675	**<0.001**

health ($\chi^2(2) = 41.71$, $P < 0.001$). Statistically significant changes were also identified in the remaining dimensions (all $P < 0.001$), while social functioning showed a weaker, yet still statistically significant change ($\chi^2(2) = 9.29$, $P = 0.010$).

The results of the Wilcoxon signed-rank tests indicated that, in the study group, statistically significant differences were observed between all pairs of measurements for the majority of the SF-36 questionnaire dimensions (Table 4). For the dimensions of physical functioning, role limitations due to physical and emotional health, energy and fatigue, emotional well-being, bodily pain, and general health, all pairwise comparisons were statistically significant (all $P \leq 0.002$). In the social functioning dimension, statistically significant differences were found between the first and second measurements, and between the first and third measurements, whereas the difference between the second and third measurements was not statistically significant ($P = 0.114$). Overall, the results indicated significant changes in health-related functioning over time in the study group.

The results of the Friedman test showed that, in the control group, statistically significant changes across the three measurements were observed in all SF-36 questionnaire dimensions (Table 5). The most pronounced changes were identified in the dimensions of physical functioning, energy and fatigue, emotional well-being, and general health (all $P < 0.001$). The remaining dimensions also demonstrated statistically significant changes ($P \leq 0.004$). The distribution of positive and negative ranks suggested a gradual increase in scores over time in the majority of SF-36 questionnaire dimensions, particularly in the domains of physical and emotional functioning, vitality, emotional well-being, bodily pain, and general health. The social functioning dimension exhibited a weaker and partially non-linear pattern of change.

The results of the Wilcoxon tests within the control group demonstrated statistically significant differences between measurements in the majority of the SF-36 domains; however, the changes were not as consistent as in the study group (Table 6). The most consistent changes were noted in the dimensions of physical functioning, energy and fatigue, emotional well-being, and general health, whereas in the domains of role limitations due to physical and emotional health, and bodily pain, some pairwise comparisons remained statistically non-significant.

Table 5. Results of the Friedman test for changes in SF-36 questionnaire dimensions across three measurements in the control group

SF-36 dimension	Chi-square (χ^2)	df	*P* (Sig.)
Physical functioning	47.040	2	**<0.001**
Role limitations due to physical health	11.171	2	**0.004**
Role limitations due to emotional health	13.632	2	**0.001**
Energy and fatigue	41.906	2	**<0.001**
Emotional wellbeing	37.118	2	**<0.001**
Social functioning	25.750	2	**<0.001**
Bodily pain	13.682	2	**0.001**
General health	34.594	2	**<0.001**

Table 6. Results of Wilcoxon tests for differences between measurements in SF-36 dimensions in the control group

SF-36 dimension	Measurement pair	Z	*P* (Sig.)
Physical functioning	1–2	−3.038	0.002
	1–3	−4.584	<0.001
	2–3	−4.440	<0.001
Role limitations due to physical health	1–2	−1.342	0.180
	1–3	−2.648	0.008
	2–3	−2.352	0.019
Role limitations due to emotional health	1–2	−2.646	0.008
	1–3	−2.972	0.003
	2–3	−1.667	0.096
Energy and fatigue	1–2	−3.671	<0.001
	1–3	−4.549	<0.001
	2–3	−4.121	<0.001
Emotional wellbeing	1–2	−3.575	<0.001
	1–3	−4.392	<0.001
	2–3	−3.261	0.001
Social functioning	1–2	−2.495	0.013
	1–3	−3.602	<0.001
	2–3	−3.286	0.001
Bodily pain	1–2	−0.422	0.673
	1–3	−1.968	0.049
	2–3	−2.992	0.003
General health	1–2	−2.372	0.018
	1–3	−4.169	<0.001
	2–3	−4.271	<0.001

Discussion

The study was conducted to assess and evaluate the impact of several forms of art therapy (visual and graphic expression, and music therapy) on health-related QoL among patients with PD. Quality of life in PD is influenced by a complex interplay of motor and non-motor symptoms. While PD is primarily recognized as a movement disorder, research consistently indicates that non-motor symptoms (specifically depression, anxiety, and sleep disturbances) often have a more profound impact on a patient's subjective well-being than motor impairments alone[19]. From a physical perspective, the progression of motor complications, such as gait instability, 'off-time' fluctuations, and impaired performance in daily activities, significantly reduces functional independence. However, the psychological burden, including cognitive decline and social isolation due to the stigma of the disease, further exacerbates the decline in QoL. Given this multifaceted impact, combining pharmacological treatment with psychosocial interventions like art therapy is essential for addressing the holistic needs of patients and improving their overall life satisfaction. Most previous studies have analyzed the effects of art therapy in a shorter period of time and are mainly based on the analysis of one form of art therapy. In our study, we hypothesized that patients with PD would experience improvements in physical, psychological, and social functioning after attending art therapy workshops once a week every three months for a year; that is, we investigated the long-term effects of multiple forms of art therapy. The results in the study group showed improvement in all dimensions of the SF-36 questionnaire, with the greatest changes in the dimensions of physical functioning, emotional well-being, and general health. Furthermore, the largest differences in PD outcomes between the study and control group were observed in the dimensions of limitations regarding physical health and limitations regarding emotional health. These findings indicate that art therapy was associated with statistically significant and consistent improvements in health-related functioning across all SF-36 dimensions in the study group over the three measurement time points. Changes in the control group were less uniform and were not observed across all dimensions, further suggesting a beneficial effect of art therapy on participants' health-related quality of functioning. The obtained results regarding the benefits of art therapy are consistent with previous research[20–24], further corroborating the significant effects of art therapy in alleviating PD symptoms and effectively reducing their occurrence. Active participation in music therapy, such as choral singing or drumming, facilitates the synchronization of auditory and motor neural pathways and promotes neuroplasticity.

Through rhythm and melody, these activities enhance the awareness of bodily signals (e.g., heart rate or breathing), thereby modulating the physiological response to stress[25]. Furthermore, energetic classical music appears to have a beneficial stimulating effect on individuals with PD and depression[26]. Similar to music-based interventions, visual and graphic expression engages complex neurobiological processes by integrating sensory, motor, and cognitive functions. Engagement in painting or sculpting has been shown to stimulate neuroplasticity through the activation of the visual cortex and the fine motor system, which may enhance functional connectivity in patients with PD[27]. Furthermore, by encouraging focused attention and emotional expression, the creative process promotes a sense of self-esteem and self-awareness, ultimately strengthening the patient's overall resiliency[28,29]. Since there is limited available research regarding the use of multiple forms of art therapy, the findings of this study contribute to the development of an art therapy algorithm and its implementation in long-term treatment. Furthermore, our study demonstrates the feasibility and high adherence to a 12-session art therapy protocol among patients with PD, suggesting that such

interventions are well-tolerated and can be practically integrated into rehabilitation programs. The inclusion of three distinct time points allowed for a detailed analysis of the progression and intensity of changes, providing a clearer picture of art therapy interventions over time. The limitations of our study included its sample size combined with the drop-out of participants from the study group. Larger trials will be necessary to confirm these findings, ensuring greater statistical power and more reliable estimates.

Also, data were collected using a self-reporting questionnaire, which might generate empirically biased data. The results of the control group were statistically significant across almost all domains, which can be attributed to a possible 'active control' effect; since these participants received standard pharmacotherapy rather than a placebo, such outcomes were expected, although this may have narrowed the statistical gap between the groups and made it more challenging to isolate the specific impact of art therapy. Furthermore, no comparison was made between individual forms of art therapy; only the simultaneous effect of multiple forms of art therapy on QoL was observed. In this regard, different effects of different forms of art therapy cannot be excluded.

Conclusion

Art therapy appears to be a promising intervention for managing both physical and mental outcomes in individuals with PD. Given the wide range of motor and non-motor symptoms of PD, emphasis must be placed on a multimodal and multidisciplinary approach that prioritizes person-centered care. Such an approach highlights the collective importance of all team members, integrating medical experts with professionals from artistic and other fields to effectively address the comprehensive needs of the patient.

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References

1. Erkkinen MG, Kim MO, Geschwind MD. Clinical neurology and epidemiology of the major neurodegenerative diseases. Cold Spring Harb Perspect Biol. 2018 Apr 2;10(4):a033118. doi: 10.1101/cshperspect.a033118.
2. Teixeira-Machado L, Araujo FM, Cunha FA, Menezes M, Menezes T, De Santana JM. Feldenkrais method-based exercise improves quality of life in individuals with Parkinson's disease: a controlled, randomized clinical trial. Altern Ther Health Med. 2015 Jan-Feb;21(1):8-14.
3. Poewe W, Seppi K, Tanner CM, Halliday GM, Brundin P, Volkmann J, et al. Parkinson disease. Nat Rev Dis Primers. 2017 Mar 23;3:17013. doi: 10.1038/nrdp.2017.13.
4. Postuma RB, Berg D, Adler CH, Bloem BR, Chan P, Deuschl G, et al. The new definition and diagnostic criteria of Parkinson's disease. Lancet Neurol. 2016 Jun;15(6):546-8. doi: 10.1016/S1474-4422(16)00116-2
5. Celik ND, Durmaz Celik N, Topal A, Kuzu Kumcu M, Ozkan S, Tezcan Aydemir S. Sensitivity of clock drawing test alone to screen for cognitive

impairment in patients with Parkinson's disease. Sisli Etfal Hosp Dis Med J. 2024;58(3):381-388. doi: 10.14744/SEMB.2024.94758.
6. Chaudhuri KR, Schapira AH. Non-motor symptoms of Parkinson's disease: dopaminergic pathophysiology and treatment. Lancet Neurol. 2009 May;8(5):464-74. doi: 10.1016/S1474-4422(09)70068-7.
7. Alotaibi S, Alfayez L, Alkhudhair M. Parkinson's disease: current treatment modalities and emerging therapies. Cureus. 2024 Dec 13;16(12):e75647. doi: 10.7759/cureus.75647.
8. Cucca A, Acosta I, Berberian M, Lemen AC, Rizzo JR, Ghilardi MF, et al. Visuospatial exploration and art therapy intervention in patients with Parkinson's disease: an exploratory therapeutic protocol. Complement Ther Med. 2018 Oct;40:70-76. doi: 10.1016/j.ctim.2018.07.011
9. Yang QQ, Shao Q, Xu Q, Shi H, Li L. Art therapy alleviates the levels of depression and blood glucose in diabetic patients: a systematic review and meta-analysis. Front Psychol. 2021 Mar 22;12:639626. doi: 10.3389/fpsyg.2021.639626.
10. Bae YS, Kim DH. The Applied Effectiveness of Clay Art Therapy for Patients With Parkinson's Disease. J Evid Based Integr Med. 2018 Jan-Dec;23:2515690X18765943. doi: 10.1177/2515690X18765943.
11. Raglio A. Music therapy interventions in Parkinson's disease: the state-of-the-art. Front Neurol. 2015 Feb 11;6:6. doi: 10.3389/fneur.2015.00185
12. Lopez-Pousa S, Lombardia-Fernandez C, Garre Olmo J, Monserrat-Vila S, Vilalta-Franch J, Calvo-Perxas L. Dopaminergic dysregulation, artistic expressiveness, and Parkinson's disease. Case Rep Neurol. 2012 Sep;4(3):159-66. doi: 10.1159/000343946
13. Liddle JLM, Parkinson L, Sibbritt DW. Painting pictures and playing musical instruments: change in participation and relationship to health in older women. Australas J Ageing. 2011;31(4):218–221. doi: 10.1111/j.1741-6612.2011.00574.x.
14. Monti DA, Peterson C, Kunkel EJ, Hauck WW, Pequignot E, Rhodes, et al. A randomized controlled trial of mindfulness-based art therapy (MBAT) for women with cancer. Psycho-Oncology 2006;15:363–73. doi: 10.1002/pon.988
15. Zhou SS, Yu MH, Zhan Z, Wnag LW, Dai Q. The effects of art therapy on quality of life and psychosomatic symptoms in adults with cancer: A systematic review and meta-analysis. Compliment. Med. Ther. 2023;23:434. doi: 10.1186/s12906-023-04258-4
16. Faul F, Erdfelder E, Lang AG, Buchner A. G*Power 3: a flexible statistical power analysis program for the social, behavioral, and biomedical sciences. Behav Res Methods. 2007 May;39(2):175-91. doi: 10.3758/bf03193146.
17. T Zaatar M, Alhakim K, Enayeh M, Tamer R. The transformative power of music: Insights into neuroplasticity, health, and disease. Brain Behav Immun Health. 2023 Dec 12;35:100716. doi: 10.1016/j.bbih.2023.100716
18. Salimpoor VN, Benovoy M, Larcher K, Dagher A, Zatorre RJ. Anatomically distinct dopamine release during anticipation and experience of peak emotion to music. Nat Neurosci. 2011 Feb;14(2):257-62. doi: 10.1038/nn.2726
19. Hinnell C, Ray Chaudhuri K. The Effect of Non-motor Symptoms on Quality of Life in Parkinson's Disease. European Neurological Review. 2010;12(1):29. doi: 10.17925/ENR.2009.04.02.29
20. Elkis-Abuhoff DL, Goldblatt RB, Gaydos M, Corrato S. Effects of clay manipulation on somatic dysfunction and emotional distress in patients with Parkinson's disease. Art Ther (Alex). 2008;25(3):122-8.
21. Alwledat K, Al-Amer R, Ali AM, Abuzied Y, Adnan Khudeir F, Alzahrani NS, et al. Creative Art Therapy for Improving Depression, Anxiety, and Stress in Patients with Stroke: A Quasi-Interventional Study. SAGE Open Nurs. 2023 Mar 5;9:23779608231160473. doi: 10.1177/23779608231160473
22. Boehm K, Cramer H, Staroszynski T, Ostermann T. Arts therapies for anxiety, depression, and quality of life in breast cancer patients: a systematic review and meta-analysis. Evid Based Complement Alternat Med. 2014;2014:103297. doi: 10.1155/2014/103297.
23. Blomdahl T, Goulias A. Art therapy for adolescents with depression: feasibility and acceptability study in child and adolescent psychiatry. Art Ther. 2025;42(1):14-23. doi: 10.1080/07421656.2024.2309422.
24. Spee BTM, de Vries NM, Zeggio S, Plijnaer M, Koksma JJ, Duits AA, et al. Unleashing creativity in people with Parkinson's disease: a pilot study of a co-designed creative arts therapy. J Neurol.

2025 Feb;272(2):161. doi: 10.1007/s00415-024-12878-0.
25. Chen WG, Iversen JR, Kao MH, Loui P, Patel AD, Zatorre RJ, et al. Music and brain circuitry: strategies for strengthening evidence-based research for music-based interventions. J Neurosci. 2022;42(45):8454-9. doi: 10.1523/JNEUROSCI.1135-22.2022.
26. Machado Sotomayor MJ, Arufe-Giráldez V, Ruíz-Rico G, Navarro-Patón R. Music therapy and Parkinson's disease: a systematic review from 2015-2020. Int J Environ Res Public Health. 2021 Oct 27;18(21):11618. doi: 10.3390/ijerph182111618.
27. Bolwerk A, Mack-Andrick J, Lang FR, Dörfler A, Maihöfner C. How art changes your brain: differential effects of visual art production and cognitive art evaluation on functional brain connectivity. PLoS One. 2014 Jul 1;9(7):e101035. doi: 10.1371/journal.pone.0101035
28. Shukla A, Choudhari SG, Gaidhane AM, Quazi Syed Z. Role of art therapy in the promotion of mental health: a critical review. Cureus. 2022 Aug 15;14(8):e28026. doi: 10.7759/cureus.28026.
29. Ettinger T, Berberian M, Acosta I, Cucca A, Feigin A, Genovese D, et al. Art therapy as a comprehensive complementary treatment for Parkinson's disease. Front. Hum. Neurosci. 2023;17:1110531. doi: 10.3389/fnhum.2023.1110531.

SAŽETAK

Art terapija u Parkinsonovoj bolesti: utjecaj na zdravljem uvjetovanu kvalitetu života

Lucija Čondić Jurjević i Srđana Telarović

Cilj rada je bio procijeniti utjecaj art terapije na zdravljem uvjetovanu kvalitetu života u Parkinsonovoj bolesti.

U istraživanje su uključene dvije skupine od 30 bolesnika koji boluju od Parkinsonove bolesti. Nakon randomizacije, ispitivana skupina je uz medikamentoznu terapiju sudjelovala u ciklusima art terapije (likovno-grafički izričaj i glazboterapija) svaka tri mjeseca tijekom jedne godine, a kontrolna skupina ostala je isključivo na terapiji lijekovima. Svi sudionici kontinuirano su procjenjivani ispunjavanjem validiranog upitnika (SF-36 upitnik).

Art terapija povezana je sa statistički značajnim i dosljednim poboljšanjima u zdravstvenom funkcioniranju u svim dimenzijama upitnika SF-36.

Art terapija je vrijedna nefarmakološka intervencija za poboljšanje fizičkog, psihološkog i socijalnog funkcioniranja kod pacijenata s Parkinsonovom bolešću.

KLJUČNE RIJEČI

Parkinsonova bolest; Art terapija; Kvaliteta života