

Research Article

Quality of Life and Family Functionality in Patients with Parkinson's Disease Over 60 Years

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Introduction

Quality of life is a multifaceted concept that reflects the impact of health on the individual's perception of their position and satisfaction in life, within the cultural and evaluative context of their existence. The World Health Organization emphasizes that health-related quality of life not only considers a person's physical state, but also encompasses psychological, emotional, social aspects and their general well-being [1-2]. Current research focuses on unraveling the multiple dimensions that WHO associates with health-related quality of life (HRQoL), including physical functioning, psychological well-being, emotional state, pain, social functioning, and general perception. Of the health. Each of these dimensions plays a crucial role in the assessment of HRQoL, especially in patients with chronic

Abstract

Background: Parkinson's Disease not only affects the individual's motor skills and autonomy, but also their quality of life and family environment. Family functionality is challenged as the patient deteriorates, generating a dynamic that can impact the well-being of all its members.

Aim: To know the quality of life in patients with Parkinson's Disease and their family functionality in people over 60 years at HGZ/MF No. 10, Santiago Ixcuintla, Nayarit.

Design: Analytic cross-sectional study.

Methods: The inclusion criteria were valid beneficiaries with a diagnosis of Parkinson's Disease. To evaluate quality of life, the Coop-Wonca sheets were used, and for Family Functionality the FF-SIL Test was used. For the statistical analysis we used descriptive statistics with measures of central tendency and dispersion, in the inferential analysis the Fisher test was used, a $p < 0.05$ was considered significant.

Results: A total of 27 patients with Parkinson's were analyzed. The average age was 74.5 ± 10.2 years. When doing the bivariate analysis between family functionality and the rest of the variables, we found the following results: sex, $p 0.33$; dimension one, $p 0.44$; dimension two, $p 0.22$; dimension three, $p 0.05$; dimension four, $p 0.26$; dimension five, $p 0.65$; dimension six, $p 0.23$; dimension seven, $p 0.24$; marital status, $p 0.02$; education, $p 0.57$; family type, $p 0.28$; socioeconomic level, $p 0.75$; and age, $p 0.04$.

Conclusion: Certain factors, such as age and marital status, appear to have a more pronounced impact on family functionality. Advanced age was correlated with higher levels of family dysfunction and widowhood was more common in dysfunctional families.

Keywords: Quality of life; Family functionality; Parkinson's disease

diseases, where functional status, disease-related symptoms, psychological stress, and disruption of social activities are considered [3-4]. Furthermore, family functionality emerges as an essential component in the management of the disease. This is defined by the family's ability to manage stress and adapt to the challenges posed by the disease, which can mitigate or exacerbate its symptoms. Family dynamics, therefore, are not static but are a dynamic element that must be evaluated over time [5-6]. Within the framework of neurodegenerative diseases, Parkinson's Disease (PD) stands out, which significantly impacts the patient's functionality. PD is characterized by a complex etiology that includes genetic and environmental factors, and manifests clinically through motor and non-motor symptoms,

which are the focus of current symptomatic treatments, with levodopa being the gold standard for motor manifestations [7-8].

This article examines the complexity of HRQoL, family functionality and how PD affect it, offering a comprehensive view that goes beyond the mere absence of disease and encompasses the complete well-being of the individual in their environment. The main objective of this study was to know the quality of life in patients with Parkinson's Disease and their family functionality in people over 60 years of age at HGZ/MF No. 10, Santiago Ixcuintla, Nayarit.

Material and Methods

Study Design and Population

An analytical cross-sectional study was conducted in Nayarit, Mexico, between January and June 2022. The research was carried out at HGZMF 10, of the Instituto Mexicano del Seguro Social (IMSS). The inclusion criteria were the following: patients with a registered diagnosis of Parkinson's Disease over 60 years, that they have electronic or physical clinical records, agree to participate. The exclusion criteria were patients with secondary parkinsonism, and incomplete surveys were eliminated.

Variables

Information was collected in a data collection form in the SPSS version 25 program. The following variables were collected: quality of life was evaluated using the Coop-Wonca test, which reflected the patient's perception of their functional capacity at the given time and allowed for periodic assessments as it was a quick, simple, understandable and attractive instrument for the patient. Family functionality was measured by the result of the score expressed in the FF-SIL Questionnaire. This questionnaire consisted of 14 propositions and 7 categories: cohesion, harmony, communication, permeability, affectivity, roles and adaptability. According to the scale, family functionality was established [9-10]. Age, sex, marital status, education, and type of family was determined by the patient in the questionnaire. The socioeconomic level was determined according to the Mexican Association of Market Intelligence and Public Opinion Agencies (AMAI), based on what the patient indicated in the questionnaire.

Statistical Analysis

The data were analyzed using descriptive statistics with measures of central tendency and dispersion for quantitative variables; frequencies and percentages for qualitative. In the inferential analysis we used the chi-square test to analyze the differences between the variables. A $p < 0.05$ was considered statistically significant.

Ethics

The study was approved by the Local Committee for Ethics and Health Research number 18028. The research was carried out under the General Health Law on Health Research, the Declaration of Helsinki and the Bioethical Principles. Due to the type of study, no informed consent was required from the participants.

Results

A total of 27 patients with Parkinson's disease were analyzed, of which 59% (n=16) were men and 41% (n=11) women. The average age of the population was 74.5±10.2 years. The most common marital status was married in 63% (n=17) of the

cases. The most prevalent level of education was secondary with 33% (n=9), followed by primary with 30% (n=8). The most representative socioeconomic level was the middle class with 44% (n=12), followed by the lower class with 30% (n=8). The type of family was distributed homogeneously between single-parent and homoparental with 48% each, the polygenetic family represented 4%. The most frequent family functionality was a moderately functional family with 74% (n=20). The previous variables are detailed in table 1.

Table 1: Sociodemographic characteristics of the participants.

Characteristic (n=27)	n(%)
Age-years	74.5(10.2)
Sex	
Man	16(59)
Woman	11(41)
Marital status	
Married	17(63)
Widowed	9(33)
Single	1(4)
Education	
No education	3(11)
Elementary school	8(30)
Middle school	9(33)
High school	4(15)
Technique	2(7)
University	1(4)
Socioeconomical level	
Middle High	1(4)
Middle	12(44)
Middle low	3(11)
Low	8(30)
Very low	3(11)
Family functionality (FF-SIL)	
Functional	2(7)
Moderately functional	20(74)
Dysfunctional	5(18)

n= frequency; %= percentage

Table 2: Dimensions of quality of life.

Characteristic (n=27)	n(%)
Physical activity (D1)	
Moderate	5(19)
Low	7(26)
Very low	15(56)
Emotional problems (D2)	
No	1(4)
Low	13(48)
Moderate	5(19)
High	6(22)
Very high	2(7)
Difficulty of usual tasks (D3)	
No	3(11)
Low	13(48)
Moderate	3(11)
High	8(30)
Social activity (D4)	
No	5(19)
Low	10(37)
Moderate	8(30)
High	4(15)

n= frequency; %= Percentage

When measuring the quality of life in each of its sections, we found that in dimension one (physical activity), the majority responded to have light activity with 56% (n=15). In dimension two (emotional problems), just under half (48%) reported a little discomfort with these symptoms. In dimension three (difficulty in activities), almost half of the participants expressed some difficulty (48%). In dimension four (social activities), the majority responded that they have limited it slightly (37%). In section five (health status), the most frequent thing was to report a health status that was the same as that of two weeks ago (67%). In dimension six (general health), the majority reported fair health (48%). Finally, in dimension seven (pain), 33% reported slight pain. The rest of the categories of each dimension are detailed in Table 2 and 3.

Table 3: Dimensions of quality of life.

Characteristic (n=27)	n(%)
Health status (D5)	
A little better	3(11)
Equal	18(67)
A little worst	6(22)
General health (D6)	
Very good	2(7)
Good	9(33)
Regular	13(48)
Bad	3(11)
Pain (D7)	
No	4(15)
Very low	7(26)
Low	9(33)
Moderate	6(22)
High	1(4)

n= frequency; %= Percentage

Table 4: Characteristics associated with family functionality.

Family functionality			
Characteristics	Dysfunctional (n=5)	Functional (n=22)	p
Age	82.6(7.7)	72.7(9.9)	0.04
Sex			
Men	2(40)	14(64)	0.33
Woman	3(60)	8(36)	
Dimension 1			
Moderate	0(0)	5(23)	0.44
Low	2(40)	5(23)	
Very low	3(60)	12(54)	
Dimension 2			
No	0(0)	1(5)	0.22
Low	1(20)	12(54)	
Moderate	1(20)	4(18)	
High	3(60)	3(14)	
Very high	0(0)	2(9)	
Dimension 3			
No	0(0)	3(14)	0.05
Low	1(20)	12(55)	
Moderate	0(0)	3(14)	
High	4(80)	4(18)	
Dimension 4			
No	0(0)	5(23)	0.26
Low	2(40)	8(36)	
Moderate	1(20)	7(32)	
High	2(40)	2(9)	

p: chi-square

Table 5: Characteristics associated with family functionality.

Family functionality			
Characteristic	Dysfunctional (n=5)	Functional (n=22)	p
Dimension 5			
A Little better	0(0)	3(14)	0.65
Equal	4(80)	14(64)	
A Little worst	1(20)	5(22)	
Dimension 6			
Very Good	0(0)	2(9)	0.23
Good	0(0)	9(41)	
Regular	4(80)	9(41)	
Bad	1(20)	2(9)	
Dimension 7			
No	0(0)	4(18)	0.24
Very low	1(20)	6(27)	
Low	1(20)	8(36)	
Moderate	3(60)	3(14)	
High	0(0)	1(5)	
Type of family			
Monoparental	4(80)	9(41)	0.28
Homoparental	1(20)	12(55)	
Polygenetic nuclear	0(0)	1(4)	
Marital status			
Married	1(20)	16(73)	0.02
Widowed	3(60)	6(27)	
Single	1(20)	0(0)	

p: chi-square

When doing the bivariate analysis between family functionality and the rest of the variables, we found the following results: sex, p 0.33; dimension one, p 0.44; dimension two, p 0.22; dimension three, p 0.05; dimension four, p 0.26; dimension five, p 0.65; dimension six, p 0.23; dimension seven, p 0.24; marital status, p 0.02; education, p 0.57; family type, p 0.28; socioeconomic level, p 0.75; and age, p 0.04. The variables associated with family dysfunction were age and marital status. In terms of age, older patients had higher levels of family dysfunction. In marital status, widowed patients had a higher frequency of family dysfunction. The previous results are detailed in Table 4 and 5.

Discussion and Conclusion

The most important finding of our research was the low frequency of dysfunctional families in patients with PD and the finding of two factors associated with family dysfunction such as age and marital status. On the other hand, in quality of life, the main finding is the tendency towards mild or moderate results in the dimensions that make up this variable. Crispino et al., [11] in their meta-analysis found several studies where gender differences have been observed in the health-related quality of life of patients with Parkinson's disease. These differences have been reported in terms of age of onset, clinical manifestations, and response to treatment. In general, women with Parkinson's disease showed more positive disease outcomes with respect to emotion processing, non-motor symptoms, and cognitive functions, although women report more clinical manifestations related to Parkinson's disease. These results differ from our study, since initially women represented a lower proportion in our study (41%) and we did not find an association of any variable with the sex of the participants.

Kuhlman et al., [7] in a study using a multivariate linear re-

gression model adjusted for age and sex, found that symptoms of depression, anxiety, apathy, and excessive daytime sleepiness were associated with worse health-related quality of life. The model explained 78% of the variance in health-related quality of life and non-motor symptoms explained 49% of the variance. They concluded that anxiety, depression, excessive daytime sleepiness, apathy, and impairment in activities of daily living related to motor symptoms were independently associated with poorer health-related quality of life. The previous results are different from our data, since we did not find a relationship between any variable and quality of life. Furthermore, our main variables (family functionality and quality of life) did not show significant differences.

Kadastik et al., [12] found in their study that the main predictors of low HRQOL were depression and motor and non-motor aspects of daily life. None of the sociodemographic variables (age, gender, urban/rural living, marital status, living alone/with other people, and educational level) were significant predictors of HRQoL. Family support was the strongest determinant of low HRQoL. These results differ from ours, since we found that age and marital status were factors associated with the presence of family dysfunction and, furthermore, we did not find a relationship between each part of quality of life and family dysfunction.

Mehanna et al., [13] found that age is an important factor for Parkinson's disease; young-onset Parkinson's disease presents unique motor and non-motor features that differentiate this subtype from typical late-onset Parkinson's disease, which begins after 61 years. It significantly affects patients in various aspects of their lives, often having an extraordinary impact on their family, social and professional life. It has an impact on employment and family, as well as its particular challenges of diagnosis and management. Our results agree with this study, since older patients had greater alterations in various variables such as family functionality and marital status. On the other hand, we did not measure the age of onset of Parkinson's, which would have given us interesting information to contrast with some studies.

Feng et al., [14] found that currently, the main therapeutic method for PD is anti-Parkinson's drugs, including levodopa, madopar, sirelin, among others. However, the effect of drug treatment has its own limitations, the most important of which is that the therapeutic effect of dopaminergic treatments gradually decreases over time. Exercise training, as an adjuvant treatment and complementary therapy, can improve the plasticity of the cortical striatum and increase the release of dopamine. Exercise training has been shown to effectively improve motor disorders and non-motor disorders in PD patients. The above represents an interesting finding for our study, since we found that only 19% carry out some type of activity in a moderate way, and the rest have light and very light activities, so our population does not obtain the benefit of exercise in the EP, which is an area of opportunity to intervene with our patients.

Buhmann et al., [15] described that the etiology and character of pain are often complex and multicausal in PD, and data on treatment recommendations are limited. Pain may be primarily related to PD, but is frequently associated with secondary diseases, such as osteoarthritis of the spine or joints. However, even basically non-PD pain is often amplified by motor or non-motor PD symptoms, such as akinesia or depression. Beyond an optimization of antiparkinsonian treatment, additional pain management strategies are generally needed to adequately ad-

dress pain in PD. This result is interesting and agrees with our population, since the frequency of pain of any type was 85%, mainly light and moderate, which translates into low intervention in the patient's painful symptoms and another area to consider for intervention.

Hoseinipalangi et al., [16] in a meta-analysis on quality of life in PD, found that 41 studies with data from 4060 patients who had Parkinson's disease showed an acceptable quality of life score. Age and duration of illness were inversely related to quality of life. South America had the highest score on the questionnaire, indicating a lower quality of life. Regarding the quality-of-life score, the instrument we use does not have a global evaluation, but it measures different dimensions that encompass the quality of life. In that sense, we agree with the author, since our results can be interpreted as acceptable in terms quality of life, because in all dimensions, the frequency of negative results was low.

Finally, in the context of the care of patients with Parkinson's disease in family medicine, the results of this study suggest that, although there are multiple dimensions that influence the quality of life of patients, certain sociodemographic factors, such as age and marital status, appear to have a more pronounced impact on family functionality. Advancing age was correlated with higher levels of family dysfunction, which could be attributed to a number of factors, including increased needs for medical care and support, as well as the natural progression of the disease and associated complications. This underlines the need to comprehensively approach older patients, considering not only medical management, but also psychological and social support, and strengthening the family nucleus.

On the other hand, family dysfunction was also more prevalent in widowed patients. This may be indicative of the importance of the emotional and physical support that having a partner provides, especially in chronic and degenerative diseases such as Parkinson's disease. In the practice of family medicine, it is essential to identify these potential points of vulnerability in order to provide more personalized, patient-centered care. However, this study has its limitations. The sample is relatively small, which could limit the generalization of the results to broader populations. Furthermore, it is important to consider that, although significant relationships were identified between certain variables, correlation does not imply causation. It would be advisable to conduct longitudinal studies with larger samples to confirm these findings. On the other hand, one of the strengths of this study lies in its multidimensional approach, which considers various spheres of quality of life, as well as family functionality, providing a holistic view of patients with Parkinson's disease. This could help guide more informed strategies and clinical decisions in the future.

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