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FACTORS IN PARKINSON'S DISEASE THAT IMPACT SELF-MANAGEMENT

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Abstract

The goal of this study was to identify factors affecting self-management in Parkinson's disease (PD) patients. On cognitive social theory. A cross-sectional template was used at three tertiary medical centers, data was collected the convenience study in Korea consisted of 356 PD patients. Higher scores for self-management were correlated with higher standard of education, getting a religion, and greater income from the home. The self-management score was positively associated with daily living tasks, self-efficacy, and social support, and correlated negatively with non-motor activities. With symptoms. Hierarchical regression research showed that it explained demographic variables and non-motor symptoms 26.2 percent of the self-management variation in PD. When self-efficacy was the explanatory power increased by 7.5 percent. Added, and by 6.7 percent as they added social support. Self-management assessment of patients with PD should be performed Along with demographic factors and non-motor symptoms, consider self-efficacy and social support. Self-management programs that represent these variables can be helpful to improve self-management in patients with PD.

Keywords: Non-motor symptoms, Parkinson’s disease, Self-efficacy Self-management, Social support.

Introduction:

Parkinson's disease (PD) is a widespread, chronic neurodegenerative disease, the prevalence of which increases gradually with the incidence of Elevation in the aging people. There were 6.1 million in 2016, Worldwide, 2.4 times more PD patients than in 1990; the global PD prevalence has risen by 74.3 percent. Since PD cannot be cured and consistently progresses due to its existence, the main goals of therapy is intended to improve the quality of life (QoL), relieve symptoms, Disability and minimizing it. Self-management in everyday life therefore is a need for PD patients [1].

Self-management is a method by which people with a health system are the issue of actively carrying out a series of activities organized in partnership with healthcare professionals. Self-management is a crucial component of improving chronic disease treatment, with an emphasis on supporting the interpersonal abilities of patients to control their illness. This, this, It means people with chronic conditions are inspired, Empowered by making educated decisions about their wellbeing, life choices, and symptom management, and engaged in everyday management. Chronic disease self-management includes the follow-up of treatment regimens, symptom control, physical examination and Psychological changes and the consequences of the disease and dealing with them, It can significantly affect the health and QoL of patients. Five key categories were established in a recent met synthesis analysis of factors affecting self-management of chronic disease. 8 Awareness, values (cultural, spiritual and health-related), psychological distress, motivation, and life habits were personal/lifestyle factors; co-morbidities, seriousness of disease, symptoms, and side effects were included in health status. Tools, including psychosocial support and financial resources, ecological features and health care environments have also been linked to chronic disease self-management. Systematic chronic disease self-management reviews have established correlations between self-management and demographic variables such as age, gender, level of education, and living status, as well as clinical factors, such as symptom severity, medication, complications, depression, and history of admission. Depending on each chronic illness, the particular factors related to self-management vary.

Furthermore in systematic reviews, self-efficacy and social support were consistently correlated with self-management of chronic illness. Self-management is deemed, as in other chronic diseases, to be an important factor for QoL improvement and PD symptom management. PD self-control requires adherence to treatment regimens, exercise, diet management, motor and non-motor symptom monitoring, Management of environmental factors and management [2]. Due to polypharmacy and complex regimens, PD patients can experience difficulties adhering to prescription medications; a multicenter European study found that the adherence to the prescribed timing of the doses of the drug was as poor as In PD patients, as 24.4%, although adherence to taking regular medications 86.2 percent was. As a treatment tool, exercise is used to enhance QoL by controlling the motor and non-motor effects of patients; tests of Home-based exercise programs have reported compliance with exercise to be consistent with In PD patients, 77 percent ~79 percent. The related population, though and the clinical features are not well understood. The PD patients are known to be susceptible to malnutrition because of different variables, with previous studies in nearly half of patients found dietary issues, In order to prevent interactions with anti-Parkinsonian medication, dietary restrictions and controls are needed. 30 Motor and non-motor symptom monitoring is important. Also needed for optimal adjustment of medications and home safety in order to prevent accidents like falls, management is needed. Furthermore, factors linked to the control of symptoms and home safety management rarely have they been investigated. Until recently, self-management research in patients with PD has concentrated on drug adherence and exercise, and thus does not reflect various other dimensions of self-management. Furthermore, few studies have investigated variables influencing self-management in PD. The self-efficacy of some forms of chronic illness has been seen in one previous study (fatigue, physical discomfort, emotional distress, symptoms or health problems, tasks and activities, and taking medication), symptom checking frequency and hospitalization independently predicted self-management in PD over the previous 6 months. Other studies have described social support, epression, and daily living activities (ADL) as important factors affecting self-control in PD patients for exercise, diet, adherence to drugs, symptom management and hospital visits, and environmental management. The aforementioned research, however, concentrated only on certain factors or groups of factors and thus did not completely define all factors, including the influences self-management, demographic and clinical variables, self-efficacy, and social support. In patients with chronic disease, multiple models have been used to clarify and strengthen self-management. Of all the cognitive social SCT is one of the most commonly used theories and has been extended to Initiation and achievement of personal improvements in actions as well as Maintenance of the transition. SCT clarifies individual conduct in Conditions of a triadic and complex model in which all actions, personal cognitive variables, and socio-environmental factors interact. In patients with chronic disease, multiple models have been used to clarify and strengthen self-management [3-5]. Of all the cognitive social SCT is one of the most commonly used theories and has been extended to Initiation and achievement of personal improvements in actions as well as Maintenance of the transition. SCT clarifies individual conduct in Conditions of a triadic and complex model in which all actions, personal cognitive variables, and socio-environmental factors interact. The combination of these variables uniquely determines each individual. Conduct. Self-efficacy, meaning faith in one's ability to perform an action that leads to an outcome, is a central concept of the model. Social support refers to the understanding of motivation and encouragement by people. Support from their social network, which is necessary for the maintenance of the personal improvement desired. In several studies of self-management in chronic illness, the effectiveness of SCT has been shown, and self-efficacy and social support have been shown to influence self-management in patients with chronic disease. PD self-management research, however seldom recognize self-efficacy and social help together [7]. Therefore this research aimed to classify factors affecting self-management based on SCT and previous related literature in a group of patients with PD in Korea.

Hypothesis of this study:

1. Age, gender, educational demographic factors Rate, marital status, faith, family income and clinical variables of age at PD onset, period of PD, Hoehn and Yahr (H&Y). Step, ADL score in Schwab and England, motor fluctuation, dyskinesia, the daily and equal dose (LED) of levodopa will be correlated with Self-stewardship.
2. A greater self-efficacy would be favorably correlated with a higher self-efficacy higher level of self-management after demographic monitoring Medical causes.
3. Higher social support will be positively linked to after controlling for self-efficacy, a higher self-management degree Demographic and clinical variables.

Material and Methods

Study design and participants

Data from a convenience sample of 356 PD patients who agreed to participate in the study were collected at three tertiary medical centers in three cities of Korea (Seoul, Incheon, and Jeonju). The study's inclusion criteria were: (1) diagnosis of PD by an ICD-10-based neurologist; (2) 20 years of age or older; and (3) no prior history of other significant health issues that could potentially impair non-motor symptoms and self-management, such as major depression, active cancer. Patients with atypical Parkinsonism, Parkinson-plus syndrome or secondary Parkinsonism have also been removed from the research. A total of 370 subjects, 10 of whom declined, were invited to participate [8]. Of the 360 standardized questionnaires that were distributed, four were subsequently omitted due to

insufficient or missing data from the study. Overall, 356 patients were eligible for study inclusion. Three tertiary medical centers' Institutional Review Board This research was accepted, and all subjects were needed to provide In compliance with IRB rules, informed consent. Subjects have had the choice of withdrawing their participation voluntarily at any time [9].

Self-management

Self-management was judged by Self-Care Results Scale created for Korean self-management success assessment Patients with PD.21 This scale contains 34 items relating to exercise, diet, Adherence to medication, treatment of symptoms and visits to hospitals, and Managing the climate. On a scale of 1 to 5, each object is ranked Points; total scores vary from 34 to 170, with higher scores showing Greater efficiency in self-management [10].

Non-motor symptoms

Using the Non-Motor, non-motor symptoms were assessed using the Symptoms Scale (NMSS).43 A typical and helpful scale is the NMSS. Scored by health for measuring non-motor symptoms in PD patients Professionals via an interview. The accuracy and validity of the Korean variant of the NMSS was introduced in the Korean PD with patients. The NMSS consists of 30 items in nine domains: cardiovascular, sleep/fatigue, mood/cognition, hallucinations/perceptual issues, attention/memory, gastrointestinal tract, urinary, sexual dysfunction, and miscellaneous (including pain, taste or smell, weight change, and excessive sweating). Each object is scored with a frequency score by multiplying a severity score (from 0 to 3) (from 1 to 4). In order to demonstrate the existence of non-motor symptoms, intensity and frequency scores of 1 or greater are considered [11].

Self-efficacy

Self-efficacy was assessed using the Self-efficacy 6-item Scale for Managing Chronic Disease (SEMCD-6), which was designed to assess the self-efficacy of chronic disease patients in the management of their disease. The reliability and validity of the Korean version of the SEMCD 6 has been established, as the scale for patients with PD is reliable and valid. The SEMCD-6 is measured on a scale of 1 To 10 (totally confident) (not confident at all). The overall scores are obtained by taking the average range of all products from 1 to 10, with Higher ratings indicate higher self-efficacy. Alpha of Cronbach's for this in the initial report, the scale was 0.9145, and in this study, 0.97 [12].

Social support

Using Perceived Social Support, social support was measured using Size, accuracy and validity of which were developed in Korean PD patients. The scale includes eight goods and a total of eight items. The scores differ from 8 to 40, with higher scores implying higher social scores Aid. In the original, Cronbach's alpha for the scale was 0.82, Analysis and 0.86 in this study [13].

Demographic and clinical characteristics

Patients' demographic information included gender, age, educational level, marital status, religion, and family income. On the basis of an analysis of the literature, clinical factors that represent the general patient's Age at the start of PD, duration of PD, Hoehn and Yahr (H&Y) level, ADL score by Schwab and England, motor presence Fluctuation and dyskinesia and the equivalent daily dose of levodopa (LED). Questionnaires were used to collect demographic and clinical details and medical papers [14].

Data collection

Between June 26, 2018, and February 15, 2019, data was collected at three medical centres. Using standardized questionnaires, three research assistants (one at each medical centre; all were registered nurses) collected data. Study assistants engaged in training sessions to ensure the accuracy of data collection. During the sessions, the research assistants were all asked to fill in a questionnaire about a specific subject at the same time. The assessment results were reviewed for inconsistencies, and in cases of disagreement, the assistants were trained to find a consensus [15].

In the neurological clinics, patients meeting the inclusion criteria of the study were chosen by nurses or neurologists. The research assistants verified that subjects followed the requirements for inclusion and thoroughly briefed eligible subjects about the objectives and procedures of the study.

Without giving more detail, the assistants read all questionnaire items verbatim, and filled out the questionnaires with the participant's answers if the participant requested assistance. In all cases, the NMSS was graded and filled out by the research assistants. The average time needed for the questionnaires to be completed was 20 to 30 minutes.

Results

Demographic and clinical characteristics of the subjects

Table 1 summarizes the demographic and clinical features of the subjects in the study. 188 (52.8 percent) of the 356 patients were women, and the mean age was 66.64 § 9.83 years. The mean age was 59.18 § 11.44 years at the start of PD, and the mean length of PD was 7.42 § 5.84 years. A total of 44 patients (12.6%) were at H&Y stage 0, 52 (14.9%) were at stage 1, 126 (36.0%) were at stage 2, 101 (28.8%) were at stage 3, and 27 (7.7%) were at stage 4.

Self-management ratings, non-motor signs, auto-efficacy, and Social Service Social Support

Table 2 presents the ratings for self-management, non-motor symptoms, self-efficacy, and social support of participants. The mean score for self-management was 120.15 § 13.12. The mean score for mood/cognition among

the non-motor subscales was 9.02 § 11.03 and the mean score for sexual dysfunction was 0.31 § 1.32. 6.83 § 2.45 and 31.69 § 8.92, respectively, were the mean scores for self-efficacy and social help [16].

Table 3 summarizes the findings according to demographic and clinical characteristics for self-management. The score for self-management was related to the level of education, marital status, faith, and family income. In patients with middle school experience or higher, self-management ratings were higher than in patients with elementary school education or less ($F = 9.00$, $p < 0.001$). Compared to those without, higher scores have also been seen in patients with a partner ($F = 3.90$, $p = 0.001$), Patients with religion relative to those without religion ($t = 2.45$, $p = 0.015$) and patients with a family income of more than 2 million won ($F = 9.85$, $p < 0.001$) compared to those with a lower family income. For gender, H&Y stage, or presence of motor fluctuation and dyskinesia, no significant differences were found in the self-management score [17].

The correlations observed between self-management and associated variables are summarized. The self-management score was positively associated with the ADL score for Schwab and England ($r = 0.219$, $p < 0.001$), self-efficacy ($r = 0.495$, $p < 0.001$) and social support ($r = 0.439$, $p < 0.001$) and was negatively correlated with non-motor cardiovascular symptoms ($r = 0.181$, $p = 0.001$). The correlations observed between self-management and associated variables are summarized. The self-management score was positively associated with the ADL score for Schwab and England ($r = 0.219$, $p < 0.001$), self-efficacy ($r = 0.495$, $p < 0.001$) and social support ($r = 0.439$, $p < 0.001$) and was negatively correlated with non-motor cardiovascular symptoms ($r = 0.181$, $p = 0.001$). There were no associations between score and age for self-management, age at onset of PD, length of PD, regular LED, or the two non-motor subscales of visual issues and sexual dysfunction symptoms [18].

Factors influencing self-management in PD patients

In order to classify factors affecting self-management in PD patients based on social cognitive theory, hierarchical regression analysis was carried out. In Phase 1, the univariate analyses identified statistically significant variables (education level, marital status, faith, family income, ADL score for Schwab and England, cardiovascular, sleep/fatigue, mood/cognition, attention/memory, gastrointestinal, urinary, miscellaneous, self-efficacy, and social support; see Tables 3 and 4). In Table 5, as seen. Move 1 found that 26.2 per cent of the variation in self-management in PD was explained by demographic variables and non-motor symptoms. Self-efficacy ($b = 0.37$, $t = 6.75$, $p < 0.001$) greatly affected self-management in Phase 2 and improved explanatory capacity by 7.5 percent. Social reinforcement ($b = 0.24$, $t = 4.97$, $p < 0.001$) significantly affected self-management in Step 3, and improved explanatory capacity by 6.7%.

35.9 percent of patients have an insufficient or inadequate medication, according to the Global Initiative for Asthma (GINA) guidelines (Table 2). GINA 1-5 steps were taken into consideration in order to determine whether the drug was adequate or not. In order to determine whether the care was satisfactory or not the maintenance treatment of patients was correlated with their exacerbations in the past and their current symptoms according to these 5 GINA steps. Of these patients with insufficient medication, 82.5% had poorly regulated (partly/uncontrolled) asthma (according to the Asthma Control Test (ACT), while 56.3% had poorly controlled asthma in patients with adequate care (odds ratio (OR) 3.65, 95% confidence interval (CI): 2.87-4.65, $p < 0.0001$; Table 3) [7-10].

Table 1: Demographic and clinical characteristics of participants (N=356)

Variables	Mean ± SD
Self-management	120.15 ± 13.12
Non-motor symptoms	
Cardiovascular	1.42 ± 2.50
Sleep/fatigue	5.97 ± 6.34
Mood/cognition	9.02 ± 11.03
Perceptual problems	1.45 ± 5.93
Attention/memory	3.23 ± 4.78
Gastrointestinal	3.96 ± 4.65
Urinary	7.18 ± 8.44
Sexual dysfunction	0.31 ± 1.32
Miscellaneous	3.30 ± 4.56
Self-efficacy	6.83 ± 2.45
Social support	31.69 ± 8.92

Table 2: Scores for self-management, non-motor symptoms and social support (N=356)

Variables	Mean ± SD
Self-management	120.15 ± 13.12
Non-motor symptoms	
Cardiovascular	1.42 ± 2.50
Sleep/fatigue	5.97 ± 6.34
Mood/cognition	9.02 ± 11.03
Perceptual problems	1.45 ± 5.93
Attention/memory	3.23 ± 4.78
Gastrointestinal	3.96 ± 4.65
Urinary	7.18 ± 8.44
Sexual dysfunction	0.31 ± 1.32
Miscellaneous	3.30 ± 4.56
Self-efficacy	6.83 ± 2.45
Social support	31.69 ± 8.92

Table 3: Self-management scores according to demographic and clinical characteristics

Variables	Category	Mean ± SD	*t* or *F*	*p*
Demographic characteristics				
Gender	Female	120.66 ± 13.74	−0.80	0.424
	Male	119.49 ± 12.36		
Education level	≤ Elementary school	115.39 ± 13.27[a]	9.00	<0.001[e]
	Middle school	122.28 ± 13.82[b]	(*a*<*b*)	
	High school	122.87 ± 12.50[b]		
	≥ College	120.24 ± 13.03[b]		
Marital status	Married	121.49 ± 12.44	3.90	0.001
	Not married	114.82 ± 14.48		
Religion	Yes	121.46 ± 13.32	2.45	0.015
	No	117.95 ± 12.52		
Family income, 10,000 won/month	< 100	114.92 ± 12.53[a]	9.85	<0.001[e]
	100–199	119.91 ± 13.83[b]	(*a* < *b* < *c*)	
	200–299	124.23 ± 12.86[c]		
	≥ 300	122.56 ± 11.81[c]		
Clinical characteristics				
H&Y stage	0	117.82 ± 12.70	0.96	0.100
	1	120.07 ± 13.00		
	2	122.72 ± 13.36		
	3	119.02 ± 12.53		
	4	117.82 ± 14.58		
Motor fluctuation	No	120.96 ± 12.90	1.59	0.205
	Yes, not disabling	117.24 ± 12.20		
	Yes, disabling	119.96 ± 13.62		
Dyskinesia	No	120.49 ± 12.67	0.925	0.397
	Yes, not disabling	117.28 ± 13.65		
	Yes, disabling	120.65 ± 13.33		

Abbreviation: H&Y, Hoehn and Yahr.
Currency conversion: 10,000 won = 8.78 US dollars.
[e] Post-hoc test using Scheffe's method.

Discussion

Self-management programs have recently been developed to control motor and non-motor symptoms and to increase QoL in patients with PD. Variables that affect self-management must be researched and identified in advance in order for these programs to be successful. In order to enhance self-management in PD, self-management programs that represent such variables can then be useful. In addition, current theoretical information can be used to clarify the structural and psychological determinants of behavior and to direct the creation and refinement of health behavior.40 Studies of health behavior based on theory are believed to be better than those that do not use theory. Thus the present study tried to classify factors Self-management, including demographic and clinical impact, Self-efficacy and social factors (motor and non-motor symptoms) Help, based on SCT and applicable current literature. The research was conducted by Strengths in seeking to clarify self-management in PD Centered on and assessed by social cognitive theory, self-management using a scale representing multifaceted PD self-management characteristics, allowing it to comprehensively consider various factors that influence self-management in PD [19].

In this analysis, the mean self-management score was 120.15 close to the results of a previous study using the same Korean population scale. The reliability and validity of this scale, however has been developed only for patients with Korean PD. While there are scales for measuring self-management in patients with any chronic condition, and it is possible to use both standardized measures and disease-specific measures to measure self-management, there are few scales for measuring disease-specific self-management for patients with PD. Therefore a scale for assessing self-management in patients with PD must be established and this scale must test multifaceted self-management behaviors (exercise, diet, medication adherence, symptom management, hospital visits, and environmental management).

This research showed that the powerful independent factor affecting self-management in PD patients was self-efficacy, explaining 7.5 percent of the variance in self-management. This result is consistent with a previous study that found that self-efficacy was an independent self-management predictor in PD. It is also comparable to previous studies showing a correlation between chronic kidney disease (CKD)-related self-efficacy and self-management behaviors, and research in which self-efficacy explained 8% of the variance in overall self-management and was a significant predictor of self-management behaviors in people with poorly managed diabetes. Together these results indicate that it is necessary to consider the role and definition of self-efficacy in designing tailored approaches and promoting the efforts of patients to control their chronic illness. Therefore when evaluating self-management for PD patients, healthcare professionals should consider self-efficacy, and enhancing self-efficacy can be an effective method to enhance the self-management of PD patients. The current study also found that social support in PD patients is a significant factor affecting self-management, consistent with other findings that social support has a significant effect on self-management. The role of social support in self-management has been consistently documented for patients with chronic disease.

A systematic analysis of self-management behaviors, for example, established a positive association between social support and self-management behaviors in adults with inflammatory bowel disease. In patients with chronic obstructive pulmonary disease (COPD), social support has been shown to play an independent positive role in the self-management actions of patients with CKD57 and to have a major effect on exacerbation-related self-management. It has been suggested that factors affecting the exacerbation-related self-management process should be addressed in the creation of self-management strategies for patients with COPD.58 In addition to self-efficacy, healthcare professionals should also determine the level of social support of PD patients and establish interventions that facilitate it. Families, in particular, are crucial to creating a healthy community and play an important role in encouraging and fostering chronic disease self-management. In patients with chronic disease, such as PD, techniques that seek to involve family members can be useful to enhance self-management [20].

The present study also found that significant factors affecting self-management in PD were the demographic characteristics of the level of education, faith, and family income. Although there is little research on the relationship between religion and self-management, a previous study noted that religion and spiritual practice can help patients with diabetes manage their condition better and make improvements in their lifestyle. Higher education achievement was also correlated with higher self-management in type 2 diabetes, and a previous analysis on educational level differences in the effects of self-management intervention found that only the more highly educated patients benefited from a cognitive-behavioral approach to self-management in type 2 diabetes or COPD and mild to moderate depression. The correlation between family income and self-management found in this research is consistent with the results of previous studies in which economic factors have been correlated with self-management in adults with type 2 diabetes mellitus. The demographic characteristics of education level, religion and family income should therefore be taken into account in the assessment of self-management in PD. This research identified among the clinical features considered Non-motor signs of mood/cognition, urinary, and miscellaneous.

This study established mood/cognition, urinary, and miscellaneous non-motor symptoms as significant factors affecting self-management among the clinical features considered. In addition to cardiovascular, sleep/fatigue, attention/memory and gastrointestinal subscales, the self-

management score was negatively correlated with mood/cognition, urinary and miscellaneous subscales. The ADL score of Schwab and England, which measures motor symptoms, was positively associated with the self-management score; however it did not indicate that the hierarchical regression study had a statistically significant effect on PD self-management. More recently, research has indicated that in patients with PD, non-motor symptoms have a greater effect on QoL than motor symptoms. Similarly, the findings of the present study showed that non-motor symptoms in patients with PD were more significantly associated with self-management than motor symptoms. Therefore in PD, non-motor symptoms should be regularly reviewed and different approaches developed to control them.

If they have low self-efficacy, social support, family income, or educational level, PD patients may be vulnerable to poor self-management; no religion; and a high level of non-motor symptoms. Therefore in PD patients with these characteristics, self-control habits, including opioid adherence, exercise, diet management, motor and non-motor symptom tracking, and environmental management, should be regularly checked programs should be developed specifically targeting this group. There are still some drawbacks to his research. First in three tertiary medical centers, which appear to see PD patients with serious and complicated symptoms, the research was conducted; this might restrict the generalizability of the findings. Secondly, the number of subjects in phases 4-5 of H&Y was limited. This research, however, established a correlation in patients with PD between self-management and self-efficacy, social support, non-motor symptoms, and demographic features.

Conclusion

Self-management assessment of PD patients should take self-efficacy and social support into account, along with demographic factors and the level of non-motor symptoms. For improving self-management in PD patients, self-management programs that represent these variables considered helpful.

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