

Effect of Nursing Teaching Protocol on quality of life for Patients with Parkinson's DiseaseAttyiat Hassan Hussein¹ and Ghaydaa Ahmed Shehata²¹ Adult Nursing Department, Faculty of Nursing, Assiut University, Egypt² Neurology Department, Faculty of Medicine, Assiut University Egypt

Abstract: **Aims** of this study were to determine the teaching needs of patients with Parkinson's disease, design nursing teaching protocol and evaluate the effect of nursing teaching protocol on quality of life for patients with Parkinson's disease. **Subjects and Methods** pretest-posttest experimental design was utilized in this study. **Hypotheses** were formulated: knowledge of Participants after application of the nursing teaching protocol was higher than their knowledge before application of it, quality of life for participants will improve. Participants will have less disease symptoms or problems as compared to prior application of nursing teaching protocol. **The Sample** was of (30) adult patients from both sex. **Setting** the study was conducted in neurology department and its out patient clinic at Assiut University Hospital. **Tool** The following tools were utilized for data collection; first tool "Patients' assessment sheet", second tool: Parkinson's Disease Questionnaire (PDQ-39) **Results** There was statistical significance difference between (pre & post) nursing teaching protocol for patients regarding to their level of knowledge and quality of life. **It was concluded that**, Application of nursing teaching protocol when dealing with Parkinson's patients shows a significantly improvement in patient's knowledge which reflected into their quality of life. **Recommendation** Reapply this research on a larger probability sample acquired from different geographical areas in Egypt for generalization. Assessment of nurse's knowledge and practices in relation to bundle of care provided for patients with Parkinson's disease.

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Keyword: Nursing Teaching Protocol, Quality of life & Parkinson's Disease

1. Introduction

Parkinson's disease (PD) is a slowly progressing neurologic movement disorder that eventually leads to disability. The degenerative or idiopathic form is the most common; there is also a secondary form with a known or suspected cause. Although the cause of most cases is unknown, research suggests several causative factors, including genetics, atherosclerosis, excessive accumulation of oxygen free radicals, viral infections, head trauma, chronic use of antipsychotic medications, and some environmental exposures. **Smeltzer & Bare, (2010)**

Parkinson's disease has a gradual onset, and symptoms progress slowly over a chronic, prolonged course. The cardinal signs are tremor, rigidity, bradykinesia (abnormally slow movements), and postural instability. The effect of Parkinson's disease on the basal ganglia often produces autonomic symptoms that include excessive and uncontrolled sweating, paroxysmal flushing, orthostatic hypotension, gastric and urinary retention, constipation, and sexual dysfunction. **Verbaan, (2010).**

Sleep disturbances are common problems affecting the quality life of Parkinson's disease. Approximately 75% of patients with Parkinson's disease experience sleep disturbances, this may be related to depression, dementia, or medications. **Bxarone, (2010).**

Complications associated with Parkinson's disease are common and are typically related to disorders of movement. As the disease progresses, patients are at risk for respiratory and urinary tract infection, skin breakdown, and injury from falls. The adverse effects of medications used to treat the symptoms are associated with numerous complications such as dyskinesia or orthostatic hypotension. **Lang, (2009).**

Parkinson's disease (PD) is a complex and progressive neurodegenerative disorder associated to profound impact to the quality of life of its survivors. **Caviness, (2014).**

Parkinson disease is a chronic disorder that requires broad-based management including patient and family education, support group services, general wellness maintenance, exercise, and nutrition. Treatment of PD can be divided into, pharmacologic, Non-pharmacologic and surgical therapy. Treatment is directed at controlling symptoms and maintaining functional independence, because no medical or surgical approaches in current use prevent disease progression. Care is individualized for each patient based on presenting symptoms and social, occupational, and emotional needs. Pharmacologic management is the mainstay of treatment. Patients are usually cared for at home and are admitted to the hospital only for complications or to initiate new treatments. **Zesiewicz, (2010).**

Significance of the study

From the extensive literature review and clinical experience in neurological department at Assiut University Hospital we observed that the patients with Parkinson's disease have physical, emotional and social problems that affect greatly their life. Those patients are needed for health teaching to improve their condition.

Aims of the study

Aims of this study were to determine the teaching needs of patients with Parkinson's disease, design nursing teaching protocol and evaluate the effect of nursing teaching protocol on quality of life for patients with Parkinson's disease.

2. Subject and Methods**Research design:**

pretest-posttest experimental design was utilized in this study.

Research hypotheses

To fulfill the aims of the study, the following hypotheses were formulated:

- knowledge of Participants after application of the nursing teaching protocol was higher than their knowledge before application of it.
- Quality of life for participants will improve.
- Participants will have less disease symptoms or problems as compared to prior application of nursing teaching protocol.

1- Technical design:**Setting:**

The study was conducted in neurology department and its out patient clinic at Assiut University Hospital.

Subjects:

Thirty adult patients with Parkinson's disease from both sex their age ranged from (18-65) year were participate in the study.

Tools:

Data pertinent to the study were collected, utilizing the following tools:

Tool I: Patients' assessment sheet:

It was designed by researcher it consists of two parts:

Part (1): Socio-demographic data about patients it includes age, gender, marital status, level of education and occupation.

Part (2): Patient's knowledge regarding Parkinson's disease such as definition, Causes and Risk Factors, Symptoms, Diagnosis, treatment and Complications of Parkinson's Disease.

Scoring system:

Each right answer was given 2 scores the total scores were 68. Those who obtained less than (50%) were considered having unsatisfactory level of

knowledge. (50%) and more were considered having satisfactory level of knowledge.

Tool II: Parkinson's Disease Questionnaire (PDQ-39):

Developed by (Peto et al., 2001) to assess patients' quality of life. This tool consists of eight domains include; Mobility, Activities of Daily Living, Emotional Wellbeing, Stigma, Social Support, Cognitions, Communication and Bodily Discomfort. The responses in each domain are calculated and transformed to have a range from 0 (best, i.e., no problem at all) through 100 (worst, i.e., maximum level of problem). Higher scores reflect greater difficulties and more severe symptoms. Lower scores indicating better health.

Nursing teaching protocol:

It was developed by the researcher based on patients assessment needs after reviewing current national and international literature. It was formulate and introduced to the patients in the forms of sessions. The nursing booklet was written in Arabic using simple language with illustrations.

II Operational design**The study was carried out on three phases:****1-Preparatory phase:**

This phase started by:

A review of current and past, local and international related literature as textbooks, articles, journals, periodicals, and magazines was done, study tools were formulated, and this phase ended by contents validity and pilot study. contents validity to test contents, clarity and comprehensiveness of the tools.

Pilot study was conducted on 10% of sample to evaluate the applicability and clarity of the tools, and test the feasibility of conducting the research, slight modification were done accordingly. These patients were included in the actual study.

To facilitate the implementation of the teaching, researcher prepared the training places, teaching aids and media (pictures, videotapes, and handouts). It was followed by arranging for the nursing teaching protocol schedule based on the contents of protocol, number of patient involved, time availability and the resources available.

2-Implementation phase:

At initial interview the researcher introduced herself to initiate line of communication in order to facilitate the implementation of the tools. The patient was interviewed individually and assessed by using (tool I and tool II) before application of nursing teaching protocol. The researcher continued to give patients the nursing teaching protocol during hospitalization until they were discharged. The nursing protocol were administered to the patient in sessions the duration of each session was about (30-45

minutes). Each patient obtained a copy of the nursing teaching protocol booklet.

The researcher was assessed The patient after application of nursing teaching protocol during follow up in the out patients neurological clinic by using (tool I and tool II).

Evaluation phase:

It was carried out through introducing (tool I and II) the patients' knowledge has been evaluated by the researcher through filling the (tool I). As well as the researcher assess quality of life of patients using (tool II) during hospitalization and after one month post discharge to evaluate the effect of the nursing teaching protocol on quality of life for patient with Parkinson's Disease.

Administrative design:

Permission to carry out the study was obtained from the responsible hospital authorities of the neurological department at Assiut University Hospital, After explain the aim of the study and the nursing teaching protocol to obtain their cooperation also oral and written permission from the participating patients.

Ethical considerations:

1. Research proposal will be approved from Ethical Committee in the faculty of nursing.
2. There is no risk for study subject during application of research.
3. The study will follow common ethical principles in clinical research.
4. Written consent will be obtained from patient's or guidance that are willing to participate in study, after explaining the nature and purpose the study.
5. Confidentiality and anonymity will be assured.
6. Study subject have the right to refuse to participate and or withdraw from the study without any rational any time.
7. Study subject privacy will be considered during collection of data.

Statistical design:

Data were collected and analyzed by computer program SPSS. Data expressed as mean, standard deviation, number and percentage. A probability level of 0.05 was adopted as a level of significance for testing the research hypotheses.

3. Results:

Table (1): Distribution of studied sample as regarding to their sociodemographic characteristics.

This table shows that, the highest percentage was between the ages 50-60 years Also there was a predominance of male and married.

Table (2): Comparison between pre and post application of nursing teaching protocol regarding to quality of life.

This table illustrates that; the mean scores of quality of life showed improvement in all domains after application of the designed nursing teaching protocol than their level before the protocol.

Table (3): Quality of life for studied sample pre and post application of nursing teaching protocol

This table shows that, there were highly statistical significant differences between pre and post application of nursing protocol.

Table (4): Relation between Sociodemographic characteristics and quality of life for studied patients.

This table shows that, there was highly significant difference between quality of life and age of studied patients.

Figure (1): Distribution of studied sample as regarding to their level of knowledge.

This figure shows that, there was highly statistical significant difference between (pre & post) nursing protocol for patients regarding to their level of knowledge.

Figure (2): Relation between duration of disease and quality of life for studied patients

This figure shows that, there were highly statistical significant differences between duration of disease and quality of life for studied patients.

Table (1): Distribution of studied sample as regarding to their sociodemographic characteristics.

Characteristics	No. (n= 30)	%
Age:		
40 - 50 years	11	36.7
50 - 60 years	12	40.0
60 years or more	7	23.3
Mean \pm SD (Range)	58.22 \pm 9.64 (40 – 65)	
Sex:		
Male	23	76.7
Female	7	23.3
Marital status:		
Married	22	73.3
Widow	8	26.7
Level of education:		
Educated	15	50.0
Illiterate	15	50.0
Occupation:		
Housewife	5	16.7
Worker	1	3.3
Employee	9	30.0
No work	15	50.0

Table (2): Comparison between pre and post application of nursing teaching protocol regarding to quality of life.

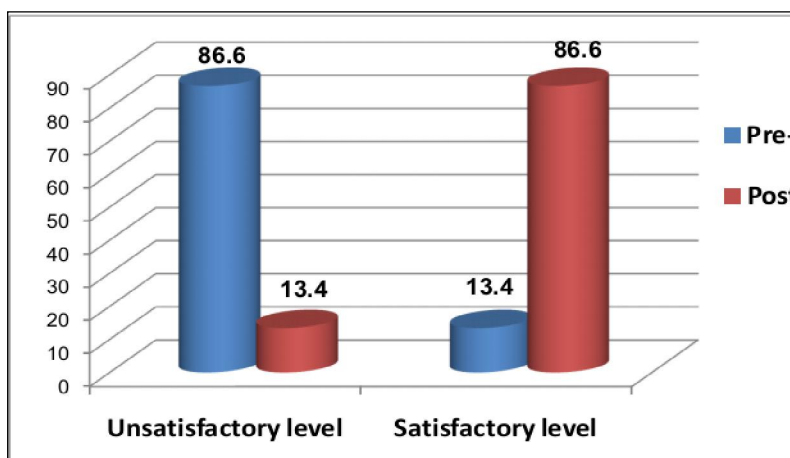
Domains of quality of life	Pre	Post	P-value
	Mean \pm SD	Mean \pm SD	
1. Mobility	2.70 \pm 1.06	1.60 \pm 0.62	0.0001***
2. Activities of daily living	2.67 \pm 1.09	1.67 \pm 0.61	0.0001***
3. Emotional well-being	3.03 \pm 1.03	1.60 \pm 0.68	0.0001***
4. Stigma	2.93 \pm 1.05	1.60 \pm 0.62	0.0001***
5. Social support	2.93 \pm 1.05	1.60 \pm 0.62	0.0001***
6. Cognitions	2.60 \pm 1.19	1.70 \pm 0.60	0.0001***
7. Communication	2.60 \pm 1.07	1.63 \pm 0.62	0.0001***
8. Bodily discomfort	2.70 \pm 1.06	1.67 \pm 0.61	0.0001***

Table (3): Quality of life for studied sample pre and post application of nursing teaching protocol

Quality of life	Pre	Post	P-value
Mean \pm SD	66.93 \pm 24.55	40.79 \pm 14.81	
Range	24.4 - 100.0	24.4 - 75.0	

Table (4): Relation between Sociodemographic characteristics and quality of life for studied sample

Characteristics	QOL		P-value
	Mean \pm SD	Range	
Age:			0.0001***
40 - 50 years	72.36 \pm 30.31	38.0 - 123.0	
50 - 60 years	108.92 \pm 28.00	77.0 - 156.0	
60 years or more	147.00 \pm 9.17	131.0 - 156.0	
Sex:			0.114
Male	110.52 \pm 38.96	39.0 - 156.0	
Female	84.29 \pm 30.18	38.0 - 123.0	
Marital status:			0.508
Married	101.55 \pm 41.02	38.0 - 156.0	
Widow	112.25 \pm 30.59	75.0 - 153.0	
Level of education:			0.759
Educated	106.60 \pm 40.87	39.0 - 156.0	
Illiterate	102.20 \pm 36.86	38.0 - 152.0	

**Figure (1): Distribution of studied sample as regarding to their level of knowledge**

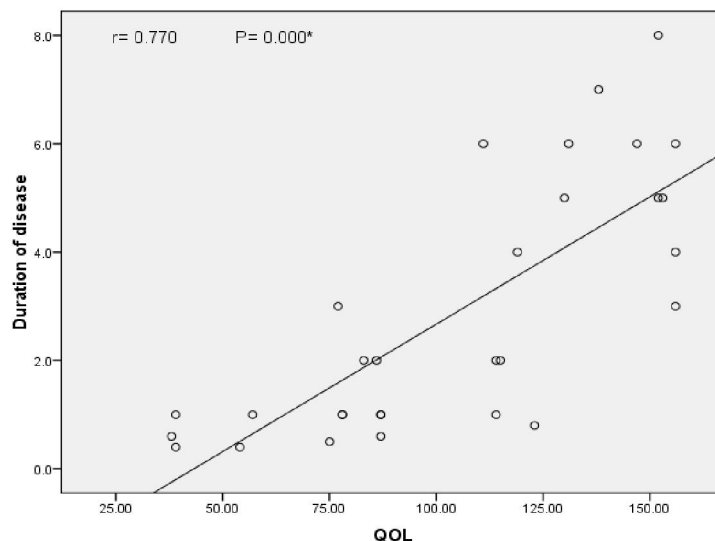


Figure (2): Relation between duration of disease and quality of life for studied sample

4. Discussion:

Parkinson's disease (PD) is a chronic, progressive neurodegenerative disorder characterized by slowness in the initiation and execution of movement, rigidity, tremor at rest and gait disturbance. **Lewis et al., (2014)**.

The present study showed that; the highest percentage of the studied patients was between the age 50-60 years. Also there was a predominance of male. This study finding was in the line with **Weaver, (2009)** who stated that, Parkinson's disease is more common in the elderly, with most cases occurring after the age of 50.

Parkinson Society Canada, (2011) reported that Males are more commonly diagnosed with PD than females. It is most diagnosed among individuals 50 to 60 years of age.

In addition **National Institute of Neurologic Disorders and Stroke, (2011)** reported that the diagnosis of PD increases with age, with the condition affecting about 2% of people over 60 years old. However, as many as 15% of those diagnosed with PD are less than 50 years old. PD is more common in men by a ratio of 3:2.

The results of the present study showed that; most of patients had unsatisfactory knowledge in the initial assessment at the time of admission before application of nursing teaching protocol. After application of nursing teaching protocol there were improvement in knowledge. The present study showed that there was statistical difference between (pre & post) nursing protocol for patients regarding to their level of knowledge.

This study finding is in the line with **Ali, (2004)** who carried out a study to investigate the impact of a

designed nursing intervention protocol on performing self care activities among arthritic women. This study found that all studied sample were lacking knowledge about their disease at the initial assessment, however after application of the nursing intervention protocol of the study; it was found that; there was a significant increase in patients' knowledge regarding disease.

The current study results agree with **Thomas, (2012)** found that there was highly significant between pre-knowledge and post-knowledge.

This study finding is in the line with **Louis, (2007)** who emphasized that patient teaching is important because the patient has the right to know and to be informed about diagnosis, prognosis of illness, treatment options, risks associated with treatments. And assigned patient teaching to the professional nurse and rationalized the advantages of a well designed comprehensive teaching plan that fit patients' unique learning needs that it reduces health care costs and improve the quality of care. As patient teaching help patients make informed decisions about their health care and to become healthier and more independent.

Lyons and Pahwa, (2011) stated that Individuals with Parkinson's disease (PD) are confronted with physical, psychological, and psychosocial issues that impact quality of life. **Slezakova and Zavodna, (2013)** added that, Parkinson's disease restrict the quality of life in areas such as mobility, daily activities, disease symptoms, emotional and cognitive functions most of the patients feel lower quality of life.

The results of the present study showed that; most of patients had poor quality of life in the initial assessment at the time of admission before application of the designed nursing teaching protocol. After application of the designed nursing teaching protocol

there were improvement in all domains of quality of life. There were significant differences between pre and post application of nursing program.

These study findings are in the line with **(Bennett, 2013)** who reported that quality of life assessment as an important determinant in meeting physical, mental and social needs of patients with Parkinson's Disease using a standardized questionnaire Parkinson's Disease Questionnaire-39 (PDQ-39) and evaluate significant differences of the various categories affecting quality of life.

This finding was consistent with **Bikmullina and Vilpponen, (2013)** who clarified that nurse's role involved in the patient education among patients with PD is very demanding and important. Based on studies, there is a lack of nursing expertise in PD patient's education. There is a Parkinson nurse that is specifically assigned for this group of patients. However, every nurse in primary and secondary health care settings should be aware of various needs of PD patients and most effective methods of teaching a PD patient. The well planned and conducted patient education is a key to improved quality of life of the patient with such chronic condition as PD.

Also supported by **Gurková, (2011)** who mentioned that nursing care in the field of improving quality of life not only focuses on the physical aspects, but mainly it seeks to support patients return to as normal life as possible, cope with daily activities, use of resources, social support, and so on.

Mark and Sage, (2012) added that Parkinson disease (PD) is a chronic movement disorder that is best managed with a combination of close monitoring, medication, education, support and therapy, exercise, and nutrition. In addition **(Saha et al., 2015)** stated that Significant improvement of patients' quality of life after participation in the Patient Education Programme for Parkinson's disease (PEPP). Large variations in change scores were found, indicating variation in benefit.

The results of the present study showed that; most of patients had poor daily living activities in the initial assessment before application of the designed nursing teaching protocol. After application of the designed nursing teaching protocol there were improvement in daily living activities. There were significant differences between pre and post application of nursing program.

These study findings are in the line with **Erwin et al., (2004)** who stated that Continuity of care is also important and it is vital that clinicians document how the patient's health status changes over time; one way to do this would be to assess and record patient-reported changes in their symptoms and how these impact their daily life at each appointment.

The present study shows that; there was significant difference between quality of life and age of studied sample. This agree with **desoky, (2014)** who stated that; there was a significant relation between quality of life and age of the studied sample.

Also this agree with **Abd-Elfatah, (2013)** who stated that; advanced age was found to affect significantly the knowledge and quality of life of them. and rationalized for this because advanced age is usually associated with limitation in self care, decreased ability to perform basic tasks, and conversely lower the quality of life.

Gmas, (2010) reported that advanced age at disease onset and time of the disease, both isolated and in association, have been associated to worse QOL on the PDQ-39 (total or some domains).

The present study shows that there were significant differences between duration of disease and quality of life for studied patients.

In this regard, **Jeukens et al., (2011)** in the same line who reported that Health-related quality of life is an important patient-reported outcome used in intervention trials and for monitoring the consequences of health status on physical, mental, and social domains. Parkinson's disease is a complex disorder that strongly affects patients' quality of life. Parkinson's disease (PD) is a complex disorder with motor impairment and nonmotor result in progressive disability and severe complication.

Conclusion:

Application of nursing teaching protocol when dealing with Parkinson's patients shows a significantly improvement in Patients' knowledge which reflected into their quality of life.

Recommendation:

Reapply this research on a larger probability sample acquired from different geographical areas in Egypt for generalization Assessment of nurse's knowledge and practices in relation to bundle of care provided for patients with Parkinson's disease.

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