

DOI: 10.15225/PNN.2016.5.4.5

Nursing Problems of Patients with Parkinson's Disease — Case Report

Problemy pielęgnacyjne pacjentów z chorobą Parkinsona — opis przypadku

Monika Biercewicz¹, Karolina Filipka², Mariola Rybka³, Beata Haor⁴,
Mariola Głowacka⁵, Kornelia Kędziora-Kornatowska¹

¹Clinic of Geriatrics, Faculty of Health Sciences Collegium Medicum Bydgoszcz,
Nicolaus Copernicus University Torun, Poland

²Students Scientific Society of Neurological and Neurosurgical Nursing Department, Faculty of Health Sciences
Collegium Medicum Nicolaus Copernicus University, Torun, Poland

³Institute of Health Sciences, Higher Vocational State School in Włocławek, Poland

⁴Neurological and Neurosurgical Nursing Department, Faculty of Health Sciences Collegium Medicum Bydgoszcz,
Nicolaus Copernicus University Torun, Poland

⁵Faculty of Health Sciences, The State University of Applied Sciences in Płock, Poland

Abstract

Introduction. Parkinson's disease is considered to be one of degenerative disorders of the central nervous system. It is classified as an incurable, progressive disease leading to significant deficits in self-care. It is regarded, just after Alzheimer's disease, as a disease of the elderly, which relates to the central nervous system (CNS). The mechanisms being the basis of this disease have not been completely understood.

Case Report. The case study refers to a 72-year-old woman diagnosed with Parkinson's disease and comorbid dizziness. This work has presented nursing diagnosis and the nursing process. There have been defined patient's problems, the purpose of the care and its implementation by planning activities. There has been also made an assessment, which is a comparison of the results of the care obtained with the objectives assumed. This work is a description of the case of a theoretical patient.

Discussion. One of the most important persons taking care of a patient with PD is the nurse. In the process of hospital treatment hospital nurse becomes the closest person to the patient. Therefore, she is required to maintain a professional therapeutic contact with the patient. The role of the nurse is primarily to motivate the patient to take actions which will lead to a slowdown in the progress of the disease (ie. encouragement to participate in activities with a therapist, to talk to a psychologist, exercise with a physiotherapist). The patient described has a problem with low self-esteem and a critical attitude towards herself. It is difficult for her to establish contacts and maintain relationship with another person. Such signals should be noticed by the nurse. The nurse is required to respond adequately to the aforementioned symptoms.

Conclusions. Parkinson's disease is defined as a primary degenerative process of the extrapyramidal system. In its course it is characterised by a slow and degenerative process. The patient described by us is fully aware of her state of health as well as of the nature of the disease. This involves a significant decrease of mood, apathy and fear. She cannot accept her condition and the developing deficit of self-care resulting from the progress of the disease. In the case of our patient after discharge from hospital there was recommended further therapy with a psychologist and participation in classes conducted by an occupational therapist and a physiotherapist. (JNPN 2016;5(4):156–161)

Key Words: Parkinson's disease, nursing care

Streszczenie

Wstęp. Choroba Parkinsona jest zaliczana do zaburzeń zwyrodnieniowych centralnego układu nerwowego. Klasyfikowana jest jako nieuleczalne, postępujące schorzenie prowadzące do znacznych deficytów samoopieki. Uważa się ją, zaraz po chorobie Alzheimera, za chorobę ludzi starszych, która dotyczy ośrodkowego układu nerwowego (OUN). Mechanizmy leżące u podstaw tego schorzenia nie zostały w pełni poznane.

Opis przypadku. Studium przypadku odnosi się do 72-letniej kobiety z rozpoznaniem choroby Parkinsona i współwystępującymi zawrotami głowy. W pracy ukazana została diagnoza pielęgniarska i proces pielęgnowania. Ustalono problemy pacjentki, cel opieki oraz jego realizację poprzez zaplanowanie działań. Dokonano również oceny, która jest porównaniem uzyskanych rezultatów opieki z założonymi celami. Praca stanowi opis przypadku pacjenta teoretycznego.

Dyskusja. Jedną z ważniejszych osób sprawujących opiekę nad pacjentem z PD jest pielęgniarka. W momencie hospitalizacji pielęgniarka staje się najbliższą osobą dla pacjenta. W związku z tym wymagany jest od niej profesjonalny kontakt terapeutyczny z pacjentem. Rolą pielęgniarki jest przede wszystkim motywowanie chorej do podejmowania działań, które będą prowadzić do wyjściowego spowolnienia rozwoju choroby (tj. zachęcanie do udziału w zajęciach z terapeutą, do rozmowy z psychologiem, do ćwiczeń z fizjoterapeutą). Prezentowana przez nas pacjentka ma kłopot z niską samoocena oraz krytycznym podejściem w stosunku do siebie. Trudność stanowi dla niej nawiązywanie kontaktów oraz relacja z drugim człowiekiem. Takie sygnały powinny być zauważane przez pielęgniarkę. Zobowiązana jest ona do odpowiedniego zareagowania na powyższe symptomy.

Wnioski. Choroba Parkinsona definiowana jest jako pierwotny proces zwyrodnieniowy układu pozapiramidowego. W swym przebiegu charakteryzuje się powolnym oraz degeneracyjnym procesem. Opisywana przez nas pacjentka jest w pełni świadoma swojego stanu zdrowia i istoty choroby. Wiąże się to ze znacznym obniżeniem nastroju, apatią oraz lękiem. Nie potrafi zaakceptować swojego stanu zdrowia i pogłębiającego się deficytu samoopieki związanego z postępowaniem choroby. W przypadku opisanej pacjentki, po wypisie ze szpitala zalecono dalszą terapię z psychologiem oraz udział w zajęciach prowadzonych przez terapeutę zajęciowego oraz fizjoterapeutę. (PNN 2016;5(4):156–161)

Słowa kluczowe: choroba Parkinsona, opieka pielęgniarska

Introduction

Parkinson's disease (PD) is defined as a primary degenerative process of the extrapyramidal system. It is regarded just after Alzheimer's disease as a disease of the elderly, which attacks the central nervous system (CNS). The mechanisms being the basis of this disease are not fully understood [1]. In its course, it is characterised by a slow degenerative process of unclassified background comprising basal ganglia, in particular the substantia nigra [2]. In order to make a diagnosis of PD the patient should be diagnosed with at least two symptoms of the classic triad: slowness of motions (bradykinesia), increased muscle tone (rigor) and resting tremor (tremor). Frequently, there are often also mental disorders (slowing down the cognitive processes, depressed mood) autonomous disorders (ie. reduced blood pressure), and the leaning of the profile forward. An important feature of PD is the asymmetry of clinical symptoms. The prevalence of PD in the general population is 1–2/1.000. That means, that in Poland this disease is diagnosed in approximately 50 000 of the population [3,4]. In the PolSenior study PD prevalence in 5638 patients aged over 55 was analysed. The disease was diagnosed in 128 (2.6%) out of 4924 respondents over 65 years of age and in 4 (0.56%) out of 714 respondents in the group aged 55–59. It was also noted that, statistically more frequently this illness had been diagnosed in respondents aged over 65 ($P < 0.01$). There has been also demonstrated statistical significance in the occurrence of the disease in terms of gender. PD has been reported in nearly 50 (2.1%) of the 2.383 women surveyed, whereas among men this disease entity was diagnosed in 78 (3.07%) out of the 2.541 surveyed [5]. The increased risk

of PD is considered to occur in patients with melanoma, brain injury, exposed to the harmful effects of pesticides as well as in those consuming large amounts of dairy products. Interesting is the fact that a reduction in the incidence of PD has been observed in respondents with higher levels of uric acid in the serum, consuming caffeine, smoking cigarettes, doing sports and in those physically active. A significant role is also contributed to genetic factors related to an earlier occurrence of the disease and its diagnosis in the family members [6]. Currently, more and more studies are being carried out showing the relationship between an increased risk of PD in patients with type 2 diabetes [7]. In the studies conducted by Lee et al. [8] it was reported that air pollution, particularly that caused by traffic, increases the risk of developing PD. On the other hand, the studies carried out by Sen et al. [9] among respondents with rheumatoid arthritis demonstrated reduced incidence of PD in the control group. However, further studies are necessary to determine the mechanisms of correlation with other disease units. Significant here is the fact that PD is a multifactorial disease [3].

The aim of the work is to identify nursing problems which occur in the patient with PD as well as to present possible solutions.

Case Report

A 72-year-old patient hospitalised in the Department of Geriatrics for the purpose of carrying out a Comprehensive Geriatric Assessment — COG and determining the cause of dizziness. The patient has been suffering

from PD for 11 years, also there coexist Addison's disease as well as hypothyroidism and osteoarthritis of the knee. The patient is a widow, lives with her son in a block of flats on the second floor. Since the previous year the efficiency of the patient has worsened, the patient has the impression that the medicines she takes in connection with the PD cease to function. The patient is depressed, concerned about her condition significantly reduced her getting out of the house after the last incident of falling over. She finds it increasingly more difficult to perform basic household activities. Additional problems being persistent constipation, difficulty in falling asleep and frequent waking up at night. Neurological examination on admission showed choreic dyskinesias of the trunk and head, by the end of the examination tremor, predominantly of right limbs without pyramidal, deliberative and cerebellar symptoms. The patient had the following specialized examinations performed: MRI of the head, carotid ultrasound, ECG, X-ray of the chest. An assessment was made with the use of scales: GDS — 15 pts., MMSE — 26 pts., IADL — 20 pts., Tinetti — 16 pts., Barthel — 75 pts., Norton — 17 pts., MNA-SF — 8 pts. Additional measurements: RR 105/65 mm Hg, HR 72/min, BMI — 17.9 kg/m².

Problem 1: Risk of Falling

Aim: Preventing falls and ensuring physical security.

Actions:

1. conducting education on the principles of getting out of bed and moving safely:
 - a. informing the patient about the need to lift the feet from the ground and perform large steps (avoiding shuffling),
 - b. adopting the upright posture with the head held high,
 - c. careful balance from one leg to the other,
 - d. instructing on the technique of getting out of bed safely — for “three”, ie. to sit on the bed with some time for a break, then put slowly the feet down with a short moment of rest and then get up slowly,
 - e. in order to change the direction of movement one must go along the curve.
2. Ensure the patient the possibility of using rehabilitation equipment ie. a walker, stick, tripod.
3. Encouraging the patient to participate actively in classes conducted by a physiotherapist, who will propose an appropriate set of exercises adjusted to the patient's condition.
4. In order to prevent the patient's leaning, the patient should be instructed to lie flat on the back two/three times a day for 15 minutes.

5. Informing families about the need to buy fitting shoes devoid slippery soles, stabilising the foot, particularly the heel.
6. If necessary, assist while walking in order to ensure assurance.

Assessment: The risk of falling over reduced.

Problem 2: Depressed Mood in the Patient Due to Health Deterioration

Aim: Ensuring safety and improvement of patient's mental state. Improving the ability to feel joy and pleasure from positive events occurring in the life of the patient.

Actions:

1. Providing the patient with constant emotional support, especially when the patient is experiencing many negative feelings, has depressed mood, is experiencing anxiety.
2. Enabling visits of acquaintances, friends, family.
3. Placing the patient in a room where the patient will be under constant nursing care.
4. Expressing concern, ensuring security and the desire to obtain effective cooperation with the patient.
5. Encouraging the patient to describe her experiences (anger, sadness, repentance) which favours the reduction of tension and brings relief.
6. Encouraging the patient to walks and socialising talks.
7. Encouraging the patient to participate in occupational therapy and talk to a psychologist.
8. Introduction of music therapy during the patient's stay at the ward.

Assessment: Improvement of patient's the well-being.

Problem 3: The Occurrence of Sleep Disorders and Difficulty with Falling Asleep

Aim: Improving the quality of sleep by obtaining effective sleep.

Actions:

1. Observation of the patient during the day.
2. Ensuring peace and quiet during sleep.
3. Ensuring appropriate microclimate in the patient's room, ventilating the room before going to bed.
4. Encouraging the patient to increased physical activity (eg. in the form of walking) in the afternoon and evening, avoiding naps during the day.
5. Educating the patient on daily and sleep care, first of all eliminating the consumption of coffee, tea, fruit juices particularly 3–4 hours before bedtime.

6. The introduction and compliance by the patient of regular hours of falling asleep and waking up.
 7. Reducing stressful situations that affect the emotional state of the patient.
 8. If necessary, drug treatment ordered by a doctor.
- Assessment: The patient was provided with proper conditions for sleep, sense of security, peace and quiet.

Problem 4: The Occurrence of Self-care Deficit in Everyday Activities Due to Dizziness and Trembling Hands

Aim: Self-care improvement and reduction of negative effects arising from the deficit.

Actions:

1. Encouraging the patient to participate actively in rehabilitation classes.
2. Introduction of behavioral therapy to the therapeutic process.
3. Teaching the methods and exercises of effective stress self-relieving.
4. Writing and drawing exercises.
5. The use of special plates, cutlery and non-slip pads while having meals.
6. Placing all items used by the patient within the reach of the her hand.
7. Assistance in underwear changing.

Assessment: Increasing self-care.

Problem 5: The Occurrence of Persistent Constipation

Aim: Reduction of symptoms resulting from constipation.

Actions:

1. Reducing the consumption of heavy meals.
2. Increasing the supply of fruit, wholemeal bread, vegetables and liquids (up to 1.5–2 liters per day).
3. Observing the frequency of bowel movements.
4. Introduction of regular time for the consumption of meals.
5. Encouraging the patient to frequent walks.
6. Consuming food rich in fiber improving the intestinal passage.
7. If necessary, laxatives and stool softeners to be provided.
8. Encouraging the patient to perform abdominal and breathing exercises.
9. Informing the patient and the family of the necessary care when taking oral laxatives as they wash out electrolytes from the body and lead to 'lazy' intestines. Less harmful agents will be those applied rectally.

Assessment: Minimizing the discomfort caused by constipation.

Problem 6: The Risk of Malnutrition in the Patient

Aim: Limiting the risk of malnutrition.

Actions:

1. Observing body weight and other indicators of nutritional status.
2. Informing the patient and the family of the need to eat neuroprotective food including vegetables, fruit, consisting mainly of vitamins A, C, D, E, β -carotene, eating oily sea fish rich in omega-3 acids.
3. Informing the family about the need to assist the patient at home while preparing meals.
4. Ensuring peace while eating.

Assessment: The risk of malnutrition reduced.

Discussion

Parkinson's disease is a progressive neurodegenerative disorder leading to deficits in the physical, cognitive and emotional field. It significantly reduces the quality of life of patients [10]. On the basis of the description of the case of our patient it may be noted that this disease has negatively affected the described domains of life and has led to a decline in the perceived quality of life.

There were observed in the patient a significant decrease in mood due to deteriorating health and reduction of independence. She avoids leaving home, meeting friends and the family. The patient cannot accept deterioration of health and loss of independence. During her stay in hospital the patient started to work with the psychologist. In many scientific reports statistically significant correlations were demonstrated between anxiety, depression and PD. In the study by Maillet et al. [11] the intensity of depression and anxiety was compared in 15 apathetic and 15 non-aphathetic patients with PD. It showed a higher depression ($P=0.0004$) as well as increased anxiety ($P=0.0004$) in apathetic patients compared to patients who could show their emotions. Patients who were not apathetic were also accompanied by symptoms of depression and anxiety. There was also showed the relationship between the incidence of apathy and the emerging serotonergic changes. A meta-analysis of research carried out by Lutz et al. [12] demonstrated that nearly 40% of respondents with PD experience anxiety, which additionally disrupts their functioning. It has been shown that anxiety in PD often correlates with demographic and clinical data (age, gender, severity of the disease, duration), motor symptoms (tremor, bradykinesia, dystonia, freezing of gait, fatigue, impairment of cognitive functions, depression) and with complications in the applied treatment. In many scientific reports, there are also descriptions of the correlation between the occurrence of anxiety and depression and

PD treatment. The preliminary test results require further analysis and cooperation of the whole therapeutic team [13]. In a study carried out by Tokuchi et al. [14] the group of respondents consisted of 288 patients diagnosed with Alzheimer's disease and 189 patients with Parkinson's disease (mean age, 74.6 ± 5.9 and 73.0 ± 8.7 years respectively). The occurring symptoms were assessed with the use of the Apathy Scale (AS), Geriatric Depression Scale (GDS), and Abe's Behavioral and Psychological Symptoms of Dementia Score (ABS). It has been proved that patients with AD (Alzheimer's disease) noted higher scores on the AS and ABS as compared to patients with PD. However, looking closer into the results obtained, it turned out that in women with AD the ABS results were worse than in female patients with PD ($p=0.001$). The analysis of subscale ABS results for men has showed no statistically significant differences.

Another major problem of PD patients are sleep disorders. According to several scientific reports sleep disorders are a common feature in PD negatively affecting the quality of life [15]. In the study by Rutten et al. [16] it was demonstrated that circadian rhythm disorders are a major cause of depressive disorders occurring in patients with PD. The presented case of the patient is also associated with sleep disorders. There occur frequent complaints about the difficulty in falling asleep, and the incidence of disturbed sleep.

Conclusions

Parkinson's disease is a progressive neurodegenerative disease associated with cognitive, motor and emotional deficits. To a large extent it leads to the deterioration of the patients' current quality of life by progressive increase of deficits in self-care. The incidence of the disease increases progressively with age. The main risk factor for the disease is age, therefore it regards mainly the elderly and manifests itself mostly in patients aged over 55. A lot of research involving patients with the PD refers mainly to disorders of the physical domain. However, numerous scientific reports indicate that the PD is inevitably connected with depression, anxiety and sleep disorders, which also predisposes to the decrease of the patients' quality of life. The patient described in this work has reported depressed mood, anxiety and disorders of circadian rhythm. She cannot adapt to the situation emerged. In the case of this patient she was recommended after discharge from hospital further therapy with a psychologist and participation in classes conducted by an occupational therapist. The patient is also actively involved in the rehabilitation, which should positively affect the delay of the development of the disease.

References

- [1] Hall J.M., Ehgoetz Martens K.A., Walton C.C. et al. Diffusion alterations associated with Parkinson's disease symptomatology: A review of the literature. *Parkinsonism Relat Disord.* 2016. doi: 10.1016/j.parkreldis.2016.09.026.
- [2] Prusiński A. *Neurologia praktyczna.* PZWL, Warszawa 2003.
- [3] Friedman A., *Choroba Parkinsona — mechanizmy, rozpoznawanie, leczenie.* Czelej, Warszawa 2005.
- [4] Opala G. Choroby układu pozapiramidowego. W: Podemski R. (Red.), *Kompendium neurologii.* Via Medica, Gdańsk 2008;322–349.
- [5] Broczek K., Mossakowska M., Szybalska A. i wsp. Występowanie objawów depresyjnych u osób starszych. W: Mossakowska M., Więcek A., Błędowski P. (Red.), *Aspekty medyczne, psychologiczne, socjologiczne i ekonomiczne starzenia się ludzi w Polsce.* Termedia Wydawnictwa Medyczne, Poznań 2012.
- [6] Ascherio A., Schwarzschild M.A. The epidemiology of Parkinson's disease: risk factors and prevention. *Lancet Neurol.* 2016;15(12):1257–1272.
- [7] Athauda D., Foltynie T. Insulin resistance and Parkinson's disease: A new target for disease modification? *Prog Neurobiol.* 2016;145–146:98–120. doi: 10.1016/j.pneurobio.2016.10.001.
- [8] Lee P.C., Liu L.L., Sun Y. et al. Traffic-related air pollution increased the risk of Parkinson's disease in Taiwan: A nationwide study. *Environ Int.* 2016;96:75–81.
- [9] Sung Y.F., Liu F.C., Lin C.C. et al. Reduced Risk of Parkinson Disease in Patients With Rheumatoid Arthritis: A Nationwide Population-Based Study. *Mayo Clin Proc.* 2016;91(10):1346–1353.
- [10] Ventura M.I., Barnes D.E., Ross J.M., Lanni K.E., Sigvardt K.A., Disbrow E.A. A pilot study to evaluate multi-dimensional effects of dance for people with Parkinson's disease. *Contemp Clin Trials.* 2016;51:50–55. doi: 10.1016/j.cct.2016.10.001.
- [11] Maillet A., Krack P., Lhommée E. et al. The prominent role of serotonergic degeneration in apathy, anxiety and depression in de novo Parkinson's disease. *Brain.* 2016;139(9):2486–2502.
- [12] Lutz S.G., Holmes J.D., Ready E.A., Jenkins M.E., Johnson A.M. Clinical Presentation of Anxiety in Parkinson's Disease: A Scoping Review. *OTJR (Thorofare NJ).* 2016;36(3):134–147.
- [13] Taylor J., Anderson W.S., Brandt J., Mari Z., Pontone G.M. Neuropsychiatric Complications of Parkinson Disease Treatments: Importance of Multidisciplinary Care. *Am J Geriatr Psychiatry.* 2016. doi: 10.1016/j.jagp.2016.08.017.
- [14] Tokuchi R., Hishikawa N., Sato K. et al. Differences between the behavioral and psychological symptoms of Alzheimer's disease and Parkinson's disease. *J Neurol Sci.* 2016;369:278–282.
- [15] Wang Y., Yang Y.C., Lan D.M., Wu H., Zhao Z.X. An observational clinical and video-polysomnographic study of the effects of rotigotine in sleep disorder in Parkinson's disease. *Sleep Breath.* 2016.

- [16] Rutten S., Vriend C., Smit J.H. et al. A double-blind randomized controlled trial to assess the effect of bright light therapy on depression in patients with Parkinson's disease. *BMC Psychiatry*. 2016;16:355.

Corresponding Author:

Monika Biercewicz
Klinika i Katedra Geriatrii
ul. M. Skłodowskiej-Curie 9, 85-094 Bydgoszcz, Poland
e-mail: kamamb@cm.umk.pl

Conflict of Interest: None

Funding: None

Author Contributions: Monika Biercewicz^{A-C, E, H}, Karolina Filipka^{A-C, E, H}, Mariola Rybka^{C, F-H}, Beata Haor^{C, F-H}, Mariola Głowacka^{F-H}, Kornelia Kędziora-Kornatowska^{F-H}

(A — Concept and design of research, B — Collection and/or compilation of data, C — Analysis and interpretation of data, E — Writing an article, F — Search of the literature, G — Critical article analysis, H — Approval of the final version of the article)

Received: 05.04.2016

Accepted: 27.04.2016