

# PATIENTS WITH PARKINSON'S DISEASE PROBLEMS IN DAILY LIFE BY GENDER

*Ligita Gukauskienė*

*Alytaus kolegija/University of Applied Sciences  
Lithuania*

---

**Abstract.** Parkinson diseases on the central system are both chronic and progressive. People have a lot of symptoms difficult controlling movement of their bodies, bradykinesia, impaired balance and other. The study was conducted by interviewing people with Parkinson's disease. The study was based on the PDQ-39 (Parkinson's Disease Questionnaire-39). The questionnaire was adapted according to examine the scientific articles. 150 respondents were interviewed, including 50 % women and 50 % men. The object of the study was the everyday problems of patients with Parkinson's disease in daily life by gender. The purpose of the research was to identify daily problems of patients with Parkinson's disease in daily life by gender. Research tasks were to evaluate men and women with Parkinson's disease collapse walk and felt fear of falling; to identify men and women sleep disturbances and memory problems; to evaluate men and women handwriting and language changed. Conclusions: women with Parkinson's disease had more problems with collapsed walk than men but men had more felt fear of falling than women; women with Parkinson's disease had more sleep disturbances than men but men had more memory problems than women; men with Parkinson's disease had more handwriting and language changed than women.

**Keywords:** Parkinson's disease, gender, daily life, problems

---

## INTRODUCTION

According to statistics data, about 300 out of 100,000 inhabitants suffer from this disease in Lithuania. In 2015, 10,848 people with the disease were recorded in the country, including 7,070 women or 65 percent of those suffering from it (Institute of Hygiene, 2016). According to the forecasts of scientists, in the next 15-20 years, the number of individuals with Parkinson's disease will be double. This disease is diagnosed in about 1% of those over the age of 60. Epidemiological studies have found that the mortality rate of the patients with Parkinson's disease is 2 to 5 times higher than that of persons of the same age without this disease.

Risk of developing Parkinson disease is twice as high in men than women (Baldereschi et al., 2000), but women have a higher mortality rate and faster progression of this disease (Dahodwala et al., 2018). This disease development might involve distinct pathogenic mechanisms in male and female (Cerri, Mus & Blandini, 2019). It is caused by a loss of nerve cells in the substantia nigra. This leads to a reduction in dopamine in the midbrain (Heller, Dogan, Schulz & Reetz, 2014). Dopamine regulates the movement of the body. Patients with Parkinson's disease have the cardinal features of rest tremor, bradykinesia, rigidity and postural instability, and a variety of other motor symptoms (Armstrong & Okun, 2020). As the disease progresses, patients lose postural stability and ability to maintain standing balance (including frequent falls), have gait dysfunction (Li, Harmer & Fitzgerald, 2012). Bradykinesia means slowness of movement and is one of the cardinal manifestations of this disease. Weakness, tremor and rigidity do not fully explain bradykinesia. Bradykinesia is the results from a failure of basal ganglia output to reinforce the cortical mechanisms that prepare and execute the commands to move (Berardelli, Rothwell, Thompson & Hallett, 2001).

Patients with PD notice that daily activities take more time than before. A tremor is intensifying if the patient tries to press or rush himself. It is important that the relatives nearby give the patient as much time as he needs to perform daily tasks independently.

The results of this study are important for clinical practice, as they draw attention to specialists and public to the fact that the early cognitive functions of PD sufferers are impaired and negatively affected quality of life. In Lithuania, motor and non-motor dysfunctions have been studied little together, and not many studies have been conducted by gender either abroad.

**The object of the study:** the everyday problems of patients with Parkinson's disease in daily life by gender.

**The purpose of the article:** to identify daily problems of patients with Parkinson's disease in daily life by gender

**Research tasks:**

1. To evaluate men and women with Parkinson's disease collapse walk and felt fear of falling.
2. To identify men and women sleep disturbances and memory problems.

3. To evaluate men and women handwriting and language changed.

## METHODOLOGY

The quantitative study was conducted by interviewing people with Parkinson's disease (PD), in 2021-2022 years. The study was based on the PDQ-39 (Parkinson's Disease Questionnaire-39). The questionnaire was adapted according to examine the scientific articles. PDQ-39 was selected because of higher precision Summary Index compared with PDQL (Martin, Duenas, Forjaz & Serrano, 2007). This is a PD-related quality-of-life questionnaire specifically designed for patients with PD. This questionnaire is designed to assess the psychosocial status of patients, the decline in daily functional functions, and the quality of life of patients with Parkinson's disease. 150 respondents were interviewed, including 75 (50 %) women and 75 (50 %) men. The data was collected with the help of the Parkinson's Society. The study was involved sick individuals or those caring for patients with this disease. The study was conducted observed ethical principles.

## RESULTS/DISCUSSION

PD is disease of old people. This study was involved men (age from 46 to 84) and women (age from 43 to 83). The average age of these people were 65 years of men and 63 years of women. At the beginning of PD, limb and body entanglement predominate. The gait of a patient with PD changes, loss of spontaneous movements and become more difficult with tasks requiring fine motor control (Bagheri, 1999). Patients find it especially difficult to start moving. Tremor in patient with PL involve problems with the lips, legs, hand, head/neck or voice. The subcategory of tremor is subclassified based on activation characteristics into rest tremor and action tremor (Bhatia et al., 2018). The rest tremor is the most frequent tremor type and present in more than half of the PD patients. However, action tremor is also present in nearly one-third of the PD patients (Gupta, Marano, Zweber, Boyd & Kuo, 2020). The respondents were asked whether they quickly get tired of walking. The majority of the respondents indicated that they often got tired of walking, i.e. 36% men and 50% women. 29% men and 17% women always got tired of walking. Women could show fewer symptoms in the preclinical stage of PD compared to men, perhaps due to the protective role of estrogens (Burn et al., 2007). 7% men and 8% women rarely got tired of going. None of the respondents indicated whether they never got tired of walking. The study sought to find out whether the patients with PD has fallen while walking. The survey data showed that the majority of the participants indicated that they were sometimes collapsed while walking, i.e. 36% men and 33% women. 29% men and 22% women rarely has fallen, and often 21% men and 6 % women have fallen too. According to the study, 14% men and 28% women have never collapsed. No men noted that they were always collapsed while walking, while 11% women were chosen this option.

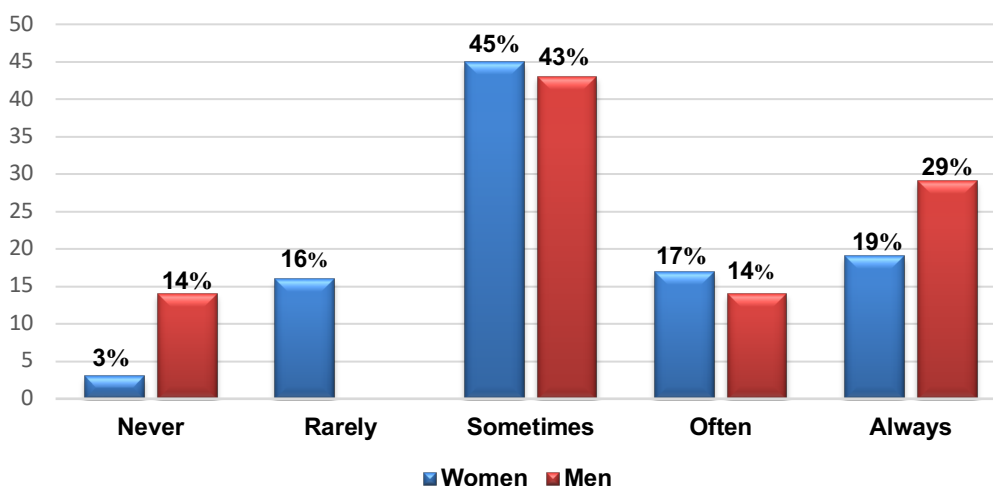


Figure 1. Filling fear of falling down

Patients with PD may occur fluctuations in blood pressure. With rapid standing up, blood pressure fall down, and occur dizziness and weakness are felt. Sometimes a person with this disease may even faint. All this affects the fear of falling back. Patients go the arms bent through the elbows and legs bent through their knees. The questionnaire was asked about patients felt fear of falling down. According to the survey, the

majority of the respondents answered that 43% of men and 45% of women sometimes felt fear of falling down. 29% of men and 19% of women always had the fear of falling down. After 14% of men reported that they never or often felt fear of falling down, but rarely – no man marked. 16% rarely and 17% often feel fear of falling down, and 3% of women had never felt afraid of it (fig. 1).

Good sleep is essential for working, mental health and good condition of the body. The quality of sleep affects psychological balance, physical exercise, nutrition and environment of sleeping. One of the negative consequences of PD is insomnia. It is difficult to fall asleep, wake up, sleep poorly. Insomnia is a mental disorder. People suffering from insomnia feel physically and mentally tired in the morning. During the day, patients complain of depressed mood, decreased attention, new information is more difficult to remember, motivation decreases, irritability and tension increase. From 60% to 98% of the patients with PD suffer from sleep disorders (Cantor & Stern, 2002).

The study showed that the majority of the respondents often had sleep disorders, i.e. 43% of men and 34% of women. 29% of the men rarely suffered from sleep disorders, and 21% of men sometimes suffered from sleep problems. Only 7% of men reported that their sleep disorders never bothered, and no man marked answer always. 33% of women sometimes, 17% always, 13% rarely suffered from sleep disorders. Meanwhile, 3% of women reported that they sleep disorders never bothered.

Patients with PD for muscle stiffness make difficult to get up or roll over in the bed. Difficulty may occur changing the position of the body from lying down to sitting and from it to standing position. The respondents were asked did them difficult to get up or roll over in the bed. After 14% of men reported that they rarely and sometimes were difficult to get up or roll over in the bed and women respectively 11% and 28%. The rest of those surveyed noted that they were often or always difficult to get up or roll over in bed. 43% of men and 33% of women reported that they often difficult to get up or roll over in the bed, and always reported 29% of men and 28% of women. None of the respondents noted that they were never difficult to get up or roll over in the bed (fig. 2).

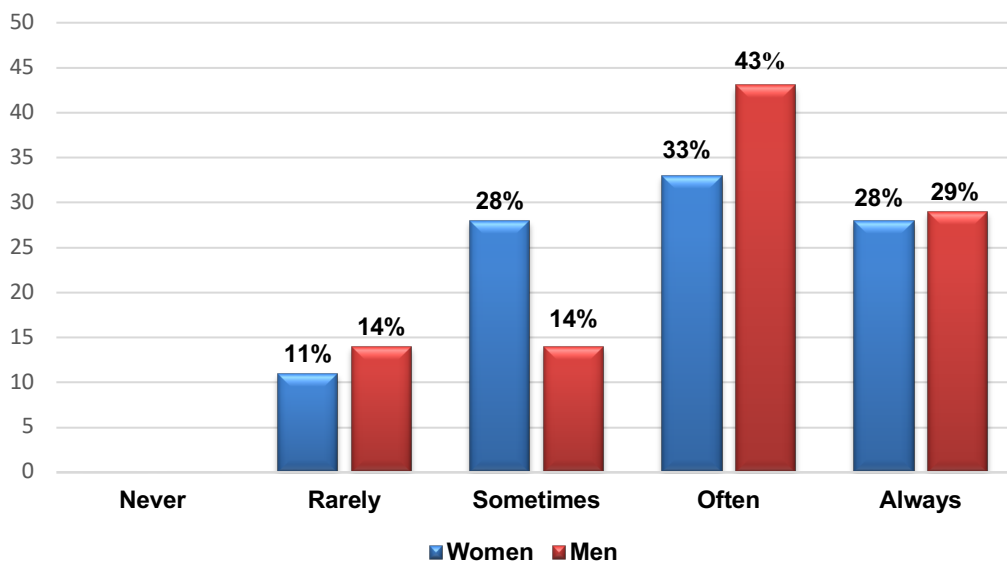


Figure 2. Difficult to get up or roll over in the bed

Tremor and bradykinesia impair the daily activities of PD patients. It is difficult for the patient to use the cutlery. To make it easier to pick up cutlery, it is advisable to use thickened cutlery handles, eat with the dishes on a non-slip mat, and use a food shredder. Many utensils were created for people with the different problems for example PD, such as the weighted spoon, the built-up handle weighted spoon and swivel spoon (Sabari et al., 2019). The study sought to find out whether it was difficult for the respondents to take cutlery. The majority of the men indicated that they rarely (43%) or often (36%) were difficult to take cutlery in the hand. The majority of the women noted that 31% often and 25% seldom were difficult to take cutlery in the hand. The questionnaire were asked if it was difficult to put food in the mouth. 21% men and 22% women never were difficult to put food in the mouth. 22% men and 25% women were rarely difficult to put food in the mouth. Sometimes 14% men and 25% women were hard to put food in the mouth. Survey data showed that often 29% men and 22% women experienced discomfort when putting food in their mouths. The least number of respondents noted that they always experienced difficult to put food in the mouth i.e. 14% men and 6% women.

PD cause a risk of dehydration and bone thinning. Patients have a sensitive digestive system, so it is advisable to use preparations that support the normal functioning of the intestines. With prolonged illness, salivation is troublesome, chewing and swallowing can get worse. The survey was intended to find out whether patients with PD often lost their appetite. The majority of the participants reported rarely or sometimes lost of appetite. Rarely noted 50% of men and 25% of women, sometimes 21% of men and 42% of women. 15% of men and 22% of women reported that they never lost their appetite. The minority of the participants said they often lost their appetite in 14% of men and 6% of women, and always 5% of women. No men has noted that they always lost their appetite.

One of the non-motor symptoms of PD is a urination disorder. It can develop very early and bother for a long time. As the disease progresses, incontinence occurs. At the beginning of PD, incontinence is not a characteristic symptom of this disease, but as the disease progresses occurs dysfunction of the autonomic nervous system. The most common form of incontinence is the irritable bladder. Medicines used to treat PD may cause incontinence. The intention was to find out whether respondents had urination problems. Many respondents reported that they often or sometimes had urination problems. After 36% of men noted that they often or sometimes had problems with urination. 33% of women often had urination problems and 22% sometimes had problems. 7% of men reported that they never and rarely had urination problems. 14% men always had urination problems. After 17% of women rare or always had urination problems and 11% of women never had problems with it. The results of this study showed that urination problems were common among patients with PD (fig. 3).

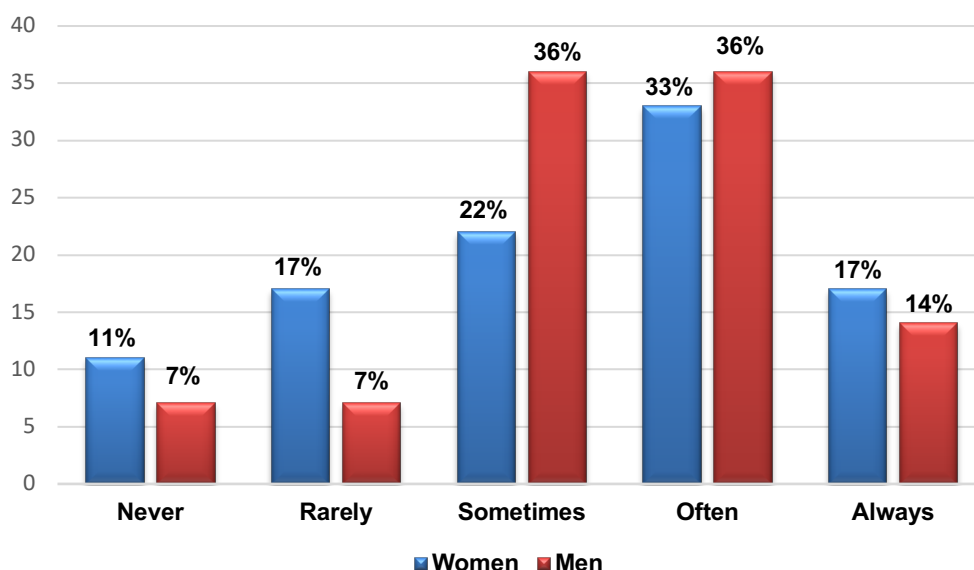


Figure 3. Problems of urination

Respondents were interviewed to see whether they were experienced difficult to washing without the help of others. The majority of the respondents indicated that often 43% men and sometimes 39% women experienced difficult to washing without the help of others. After 14% men reported that they were rarely and sometimes difficult to washing without the help of others, and never - 29% men. No men noted that they was always difficult to washing without the help of others. Women experienced difficult to wash without help 25% rarely, 19% never, 9% often and always 8% (fig. 4). The questionnaire asked whether was difficult for respondents to dressing without the help of others. A lot of participants indicated that they were sometimes or rarely difficult to dressing without the help of others. Answer sometimes chose 15% men and 39% women, rarely 29% men and 25% women. After 21% men noted that they were never difficult to dressing or often difficult to dressing without the help of others. 19% women indicated that they were never difficult to dressing without the help of others, and 11% women - often.

Pain is a normal biological response that protects the body from exposure to harmful environmental factors and informs of the occurrence of health problems. Pain depends on many factors. Most commonly patients with PD pains occur in the joints. Sometimes patients trouble shoulder or back pain. Prolonged pain disrupts patients' physical functions. Pain is accompanied by depression, anxiety and other mental disorders. When the pain lasts a long time, it has a negative effect on the body. Permanent pain disrupts communication between people with PD and highlights the social isolation of the person experiencing pain. Analyzing the

pain, the majority of the participants noted that they troubled by pains sometimes or often. Sometimes 50% of men and 34% of women suffered from pain, often suffered 21% of men and 47% of women. Other part of the participants reported that 14% of men and 8% of women rarely suffered from pain. According to the study, pain always troubled 8% of men and 11% of women. 7% of men reported that they never felled pain. However, no women indicated that they never felled pain.

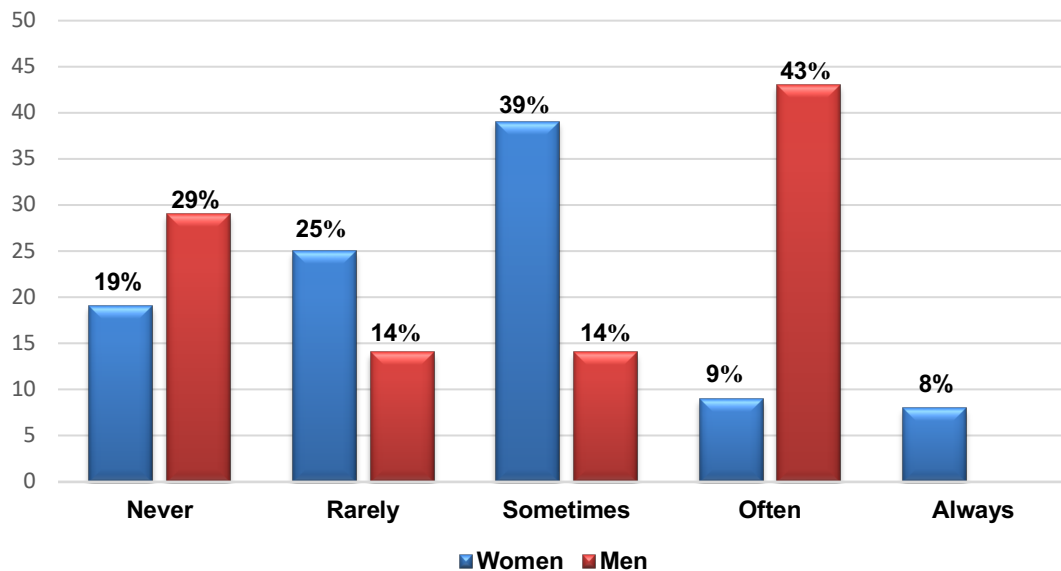


Figure 4. **Washing without the help of others**

If PD starts with damage to the right side of the body, it changes the handwriting of patients. Then patients write in small, unclear and uneven letters. This is the so-called mycography. This symptom may be an early sign of this disease. The majority of the respondents reported that handwriting had always changed, i.e. 72% of men and 42% of women. The study showed that handwriting often changed in 14% of men and 17% of women. Seven per cent of men reported that their handwriting rarely or sometimes changed. Meanwhile, 13% of women reported that they rarely change handwriting, while 28% of women reported sometimes changes. None of the respondents indicated that their handwriting had never changed.

The survey sought to find out whether the respondents had language changed. The results of the study revealed that men had the most problems with language disorders - 43%. It has always been reported by 29%, sometimes by 21% and rarely by 7% men. No men indicated that they had ever problems with language. In contrast to men, 22% women reported never had language disorder and rarely 17%, sometimes 30%, often 18%, always only 13%.

Patients with PD thinking and mindfulness slow down. Attention, working memory and executive dysfunction are the most common symptom of these patients. Patients diagnosed for the first time PD detect disorders of the speed, attention, performance of motor tasks (Kaladytė-Lokominienė, Budrys & Jatužis, 2013). Analyzed of the memory problems found that the majority of the respondents had that problems sometimes or often. After 29% of the men had memory problems sometimes or often. The highest part of the women i.e. 42% reported that they were sometimes troubled by memory problems, while often 22% women. The answer rarely was noted by 21% of men and 25% of women, and always by 14% of men and 8% of women. The least respondents reported that they were never bothered by memory problems, i.e. 7% of men and 3% of women.

The questionnaire asked what kind of specialist's assistance needed to respondents. The survey data showed that the majority of the respondents, i.e. 41% men and 40% women needed the assistance from a physiotherapist. 19% men needed the assistance a social worker and 18% occupational therapist, 15% nurse and 7% needed the assistance from a psychologist. Women indicated in the questionnaire that their needed the assistance a psychologist (21%), a social worker (16%), an occupational therapist (13%), and nurse (10%) too.

## CONCLUSIONS

1. Women with Parkinson's disease had more problems with collapsed walk than men but men had more felt fear of falling than women.

2. Women with Parkinson's disease had more sleep disturbances than men but men had more memory problems than women.
3. Men with Parkinson's disease had more handwriting and language changed than women.

## REFERENCES

- Bagheri, H., Damase-Michel, C., Lapeyre-Mestre, M., Cismondo, S., O'Connell, D., Senard, J. M., ... & Montastruc, J. L. (1999). A study of salivary secretion in Parkinson's disease. *Clinical neuropharmacology*, 22(4), 213-215.
- Baldereschi, M., Di Carlo, A., Rocca, W. A., Vanni, P., Maggi, S., Perissinotto, E., ... & Inzitari, D. (2000). Parkinson's disease and parkinsonism in a longitudinal study: two-fold higher incidence in men. *Neurology*, 55(9), 1358-1363.
- Berardelli, A., Rothwell, J. C., Thompson, P. D., & Hallett, M. (2001). Pathophysiology of bradykinesia in Parkinson's disease. *Brain*, 124(11), 2131-2146.
- Bhatia, K. P., Bain, P., Bajaj, N., Elble, R. J., Hallett, M., Louis, E. D., ... & Deuschl, G. (2018). Tremor task force of the international parkinson and movement disorder society. *Consensus Statement on the classification of tremors. from the task force on tremor of the International Parkinson and Movement Disorder Society. Mov Disord*, 33(1), 75-87.
- Burn, D. J., Cullen, B., O'Neill, B., Evans, J. J., Coen, R. F., Lawlor, B. A., ... & Horstink, M. W. I. M. (2007). Journal of Neurology Neurosurgery & Psychiatry. *J Neurol Neurosurg Psychiatry*, 78(8).
- Cantor, C. R., & Stern, M. B. (2002). Dopamine agonists and sleep in Parkinson's disease. *Neurology*, 58(suppl 1), S71-S78.
- Cerri, S., Mus, L., & Blandini, F. (2019). Parkinson's disease in women and men: What's the difference?. *Journal of Parkinson's disease*, 9(3), 501-515.
- Dahodwala, N., Shah, K., He, Y., Wu, S. S., Schmidt, P., Cubillos, F., & Willis, A. W. (2018). Sex disparities in access to caregiving in Parkinson disease. *Neurology*, 90(1), e48-e54.
- Gupta, D. K., Marano, M., Zweber, C., Boyd, J. T., & Kuo, S. H. (2020). Prevalence and relationship of rest tremor and action tremor in Parkinson's disease. *Tremor and Other Hyperkinetic Movements*, 10.
- Heller, J., Dogan, I., Schulz, J. B., & Reetz, K. (2014). Evidence for gender differences in cognition, emotion and quality of life in Parkinson's disease?. *Aging and disease*, 5(1), 63.
- Li, F., Harmer, P., Fitzgerald, K., Eckstrom, E., Stock, R., Galver, J., ... & Batya, S. S. (2012). Tai chi and postural stability in patients with Parkinson's disease. *New England Journal of Medicine*, 366(6), 511-519.
- Lokominienė, R. K., Budrys, V., & Jatužis, D. (2012). Ankstyva Parkinsono liga be demencijos sergančių asmenų dėmesys remiantis kompiuterizuoto pasirinkimo reakcijos laiko testo rezultatais. *Gerontologija*, 13(1), 3-11.
- Martinez-Martin, P., Serrano-Duenas, M., Forjaz, M. J., & Serrano, M. S. (2007). Two questionnaires for Parkinson's disease: are the PDQ-39 and PDQL equivalent?. *Quality of Life Research*, 16(7), 1221-1230.
- Armstrong, M. J., & Okun, M. S. (2020). Diagnosis and treatment of Parkinson disease: a review. *Jama*, 323(6), 548-560.
- Sabari, J., Stefanov, D. G., Chan, J., Goed, L., & Starr, J. (2019). Adapted feeding utensils for people with Parkinson's-related or essential tremor. *American Journal of Occupational Therapy*, 73(2), 7302205120p1-7302205120p9.