

# Quality of life in rural and urban patients with Parkinson's disease

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Parkinson's disease (PD) belongs to a group of neurodegenerative diseases. PD diagnosis is clinical, based on these signs: tremor, rigidity, bradykinesia, akinesia or hypokinesia. In the case of patients with chronic illnesses and impaired mobility function, impact on QOL and QOL considerations are of special importance for the consequences in everyday life.

**Aim of the work** was to determine and compare the quality of life in rural and urban patients with Parkinson's disease. Respondents were randomly selected from the register of community-based health maintenance organizations. PD patients were identified as having clinical diagnosis of Parkinson's disease.

Persons who satisfied the following criteria were eligible to participate in this study:

- Parkinson's disease or Parkinson's syndrome was diagnosed from 1 January 1978 to 1 January 2009.
- Patients with PD were alive until 1 January 2009.
- The diagnosis of PD or Parkinson's syndrome and treatment with antiparkinsonic medicines were marked in the ambulatory history of the patients.

**Results.** Quality of life in patients with Parkinson's disease is determined by motor, mental and emotional disorders. It impedes daily routine, sometimes makes a person totally disabled, affects interpersonal relationships, increases risk of self-inflicted wound. Patient's self-sufficiency decreases as illness makes progress and the patient becomes more dependent on other people and the quality of life is decreasing.

**Conclusions.** Parkinson's patients often feel pain. Both rural and urban people feel negative feelings that are hard to fight. All studied patients with dominative rigidity and slow movements had poor ability to move from the beginning of this disease. Tremor did not disabled patients so severely: patients with tremor could move easier.

**Key words:** Parkinson's disease, quality of life, WHOQOL-100

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## INTRODUCTION

Parkinson's disease (PD) belongs to a group of neurodegenerative diseases. It is one of the most common progressive neurodegenerative illnesses (1–6). PD diagnosis is clinical, based on these signs: tremor, rigidity, bradykinesia, akinesia or hypokinesia (7–10, 15, 16).

In the case of patients with chronic illnesses and impaired mobility function, impact on QOL and QOL considerations are of special importance for the consequences in everyday life. QOL studies in patients with mobility disorders have particular relevance. Impairment of consideration for patient's QOL assists in treatment comparisons and will prove increasingly important in the identification of services, facilities and in resource allocation for different patients' groups. In cases of nursing care of older people with functional limitations they should be assessed for their level of QOL. Research of factors that influence older people's lives and their QOL is important because cures may not be available but relieved suffering may be possible by improving their QOL. It supports increased consciousness of the influence of health and health care on the QOL, which can be divided into global, health-related and disease-specific (2, 8, 9, 11). Due to co-morbidity usually presented in older people impact of the specific disease on the overall QOL is hard to assess (7, 12–14).

Mobility may vary from non-impairment to immobility, led by decreased physical function and social isolation, and all together have widespread consequences for all aspects of patient's life and decreased QOL.

## OBJECTIVE AND METHODS

Respondents were randomly selected from the register of community-based health maintenance organizations. PD patients were identified as having clinical diagnosis of Parkinson's disease.

Persons who satisfied the following criteria were eligible to participate in this study:

- Parkinson's disease or Parkinson's syndrome was diagnosed from 1 January 1978 to 1 January 2009.
- Patients with PD were alive until 1 January 2009.

- The diagnosis of PD or Parkinson's syndrome and treatment with antiparkinsonic medicines were marked in the ambulatoric history of the patients.

After analyzing of medical documentation (i. e. dispensary histories, registration journals and other kinds of documents) registered by the neurologist at primary health care centres of Vilnius City since 1978, patients with the final diagnosis of "Parkinson's disease", "Parkinson's syndrome" and "parkinsonism" were selected. These patients were alive until 1 January 2009 and treatment with antiparkinsonic medicines was registered in their ambulatoric histories.

During selection, the diagnosis of PD was established according to the following clinical criteria: 1) tremor; 2) bradykinesia; 3) hypokinesia or akinesia; 4) rigidity; 5) asymmetrical beginning of the disease. The main criteria were bradykinesia, hypokinesia or akinesia.

PD patients were classified in stages according to the Hoehn and Yahr scale and their motor disability was assessed by means of the Unified Parkinson's Disease Rating Scale (UPDRS).

The objective was to assess the quality of life of Parkinson's disease patients.

The purpose was to compare the quality of life in rural and urban patients with Parkinson's disease.

Mini Mental State Examination (MMSE) was applied to define disorders of the respondents' cognitive function. MMSE was 29–30. Patients with known dementia were excluded from the study.

No significant differences in terms of age and sex were found between patients' groups. All subjects were living at home. The questionnaire was administered in face-to-face interviews at home. All patients had given their informed consent to participate in the study.

**Statistics.** The data were expressed as the mean and standard deviation. Internal validity was assessed by use of the Cronbach coefficient alpha for all respondents taken together. The coefficient of 0.70 was the minimal standard for reliability, discriminant validity. Because of the non-normal distribution of most of the data, the Kruskal-Wallis test was used when comparing the facet and domain scores between the groups. P values  $\leq 0.05$  were considered to be statistically significant. All analyses were performed using the Statistical Package for the Social Sciences (SPSS) for Windows.

## RESULTS AND DISCUSSION

We investigated 70 Parkinson's disease patients (28 rural and 42 urban).

The mean age of urban people was  $68.45 \pm 6.75$  (men –  $69.57 \pm 5.76$ , women –  $67.33 \pm 7.59$ ), that of rural patients was  $69.32 \pm 8.33$  (men –  $65.00 \pm 7.37$ , women –  $71.37 \pm 8.14$ ). The age of all studied patients was equal.

To evaluate patients' quality of life WHOQOL-100 questionnaires were used. Physical and mental health, self-sufficiency level, social relationships, surroundings and morale of Parkinson's disease patients were evaluated.

We investigated how patients valued their life, health and well being by assessing life and health quality in general.

We estimated that pain was a very common physical feeling. We analyzed negative physical feelings that patients suffered. We investigated how these feelings were disturbing patients' living and emaciated them as well. The country people were found to feel pain more often ( $3.07 \pm 0.83$ ) than the city people ( $2.50 \pm 0.63$ ). Both urban and rural people had difficulties with fighting the pain.

We assessed positive senses, psychic balance, and self-confidence to analyze psychological aspects of the quality of life. Urban people as well as country people were self-confident. We estimated how patients valued their appearance and if this disturbed them. All studied patients indicated that they were satisfied with their appearance and did not feel uncomfortable about it.

Intellection and memory were assessed as well. We investigated patients' notions of their intellection, attention, memory, and ability to make a decision.

Rural patients were more focused ( $3.43 \pm 0.50$ ) than urban people ( $2.93 \pm 0.87$ ) ( $p = 0.01$ ).

The majority of country people as well as urban people were found to feel negative emotions. Anxiety was more common to urban people ( $2.74 \pm 0.96$ ) than to rural patients ( $2.29 \pm 0.66$ ). Respectively, depression was also more common among urban ( $2.81 \pm 0.92$ ) than rural people ( $2.00 \pm 1.05$ ) ( $p = 0.001$ ).

Patients' mobility, ability to do daily work, need of help and dependence on medical staff and relatives were estimated to evaluate patients' dependence level. Urban and rural patients indi-

cate that mobility diminishes as the disease progresses. Those who have rigidity and slow motions indicated diminished mobility from the beginning of this disease. Tremor did not disabled patients so severely: those, who had tremor in their clinical presentation, could move easier. However, the majority of patients were not satisfied with their ability to move.

Daily chores were assessed. We investigated if patients were able to work every day. There were no significant differences between rural and urban patients. All studied patients indicated that working was hard for them, but majority pointed that they could do small home chores. Daily chores were hard for all studied patients as well as all studied patients were not fully satisfied with their ability to do it.

Country people were more dependent on medicines ( $4.11 \pm 0.83$ ) than urban people ( $3.66 \pm 0.69$ ) ( $p = 0.01$ ).

Assessing daily chores, we investigated that all studied patients had working difficulties. 57.1% of rural people and 31.0% of urban people were not able to work at all. Respectively, 9.5% of urban people and 10.7% of rural patients were able to work. While assessing social relationships, we investigated personal relationships between family members. Many of the studied people were satisfied with their relationships with relatives. 4.8% of urban people were not satisfied while all country people were satisfied with their relationships with relatives. While assessing surroundings, we analyzed if patients felt safe enough. Rural people feel safer than urban people ( $p = 0.02$ ), 26.2% of urban patients do not feel safe in life but all rural people do. Rural and urban people indicated that living surroundings were comfortable for them. 66.7% of urban and 42.9% of rural people pointed out that their house or apartment was very comfortable.

Financial recourses were assessed and money sufficiency for basic needs was valued. 26.2% of urban people and only 3.6% of rural patients indicated insufficient amount of money for basic needs ( $p = 0.008$ ). Majority of rural people pointed out that they were satisfied with money they had (46.4%).

Majority of urban people told that using vehicle for their basic needs was inaccessible (26.2%). Only 7.1% of rural people indicated that they could not

access vehicle they need. There was a significant difference between urban and rural people in vehicle accessibility.

Analyzing patients' inner life, we assessed how patients value their quality of life. 69.1% of urban people and only 3.6% of rural people evaluated their quality of life as very good. There were statistical significant differences between urban and rural people ( $p = 0.03$ ) which means that majority of country people valued their quality of life as bad or very bad. Both country and urban people were satisfied with their quality of life. 52.4% of urban and 32.1% of rural patients were amused with their life. Respectively, 7.1% of urban and 17.9% of rural people were not satisfied with their life.

## CONCLUSIONS

Parkinson's patients often feel pain. Both rural and urban people feel negative feelings that are hard to fight. All studied patients with dominative rigidity and slow movements had poor ability to move from the beginning of this disease. Tremor did not disabled patients so severely: patients with tremor could move easier.

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## PARKINSONO LIGA SERGANČIŲ KAIMO IR MIESTO GYVENTOJŲ GYVENIMO KOKYBĖ

### *Santrauka*

Parkinsono liga yra viena iš neurodegeneracinių ligų. Parkinsono ligos klinikinė diagnozė yra paremta šiais simptomais: tremoru, frigidžiškumu, bradikineze, akineze ar hipokineze. Ši lėtinė liga blogina ligonių mobilumą, veikia gyvenimo kokybę ir kasdieninį gyvenimą.

**Darbo tikslas** – įvertinti ir palyginti miesto ir kaimo gyventojų, sergančių Parkinsono liga, gyvenimo kokybę.

Pacientai, besigydantys pas neurologą, tyrimui buvo atrinkti miesto ir rajono poliklinikose. Įvertinta, ar pacientai atitinka klinikinius Parkinsono ligos kriterijus. Tiriamąją populiaciją sudarė asmenys, sergantys Parkinsono liga ar sindromu ir neurologų gydomi Vilniaus miesto ir rajono poliklinikose. Įtraukimo į tyrimą kriterijai:

- 1) Parkinsono liga ar Parkinsono sindromas diagnozuotas 1978 m. sausio 1 d. – 2009 m. sausio 1 d.;
- 2) sergantieji Parkinsono liga ar sindromu buvo gyvi iki 2009 m. sausio 1 d.;
- 3) ambulatorinėje kortelėje nurodyta Parkinsono ligos ar sindromo diagnozė ir taikomas gydymas priešparkinsoniniais vaistais.

**Rezultatai.** Sergantieji Parkinsono liga dažnai junta skausmą. Tiek miesto, tiek kaimo gyventojai patyrė neigiamų emocijų, kurias nelengva įveikti. Ligoniai, kurių pagrindiniai simptomai buvo frigidžiškumas ir judesių sulėtėjimas, sunkiai judėjo nuo pat ligos pradžios. Tremoras ne taip ryškiai invalidizavo ligonius: ligoniai, kuriems pasireiškė tremoras, judėjo geriau.

**Raktažodžiai:** Parkinsono liga, gyvenimo kokybė, WHOQOL-100

