ORIGINAL ARTICLE

ASSESSMENT OF DEPRESSION AND FUNCTIONAL CAPACITY IN ELDERLY PATIENTS WITH PARKINSON’S DISEASE

AVALIAÇÃO DA DEPRESSÃO E DA CAPACIDADE FUNCIONAL EM IDOSOS COM DOENÇA DE PARKINSON

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ABSTRACT

Objective: to assess the presence of depression and functional capacity in elderly patients with Parkinson’s disease. Method: this is a descriptive, epidemiological, and cross-sectional study with a quantitative approach conducted with 15 individuals of both sexes. For data collection, we used an instrument designed for characterizing the sample, Yesavage’s Geriatric Depression Scale, and Katz’s Activities of Daily Living Scale. Data were organized into tables using the softwares Microsoft Word and Microsoft Excel, in absolute and percentage values. The study was approved by the Research Ethics Committee of Universidade José do Rosário Vellano (UNIFENAS), under the Protocol 43/2011. Results: 46.8% of elderly patients had suspected depression, 66.6% were classified as independent, and 13.4% showed significant dependence. By associating the variables “functional dependence level” and “depression”, it was found out that there was no statistically significant difference (p = 0.1907). Conclusion: the elderly patients who show partial or total dependence were more susceptible to developing depressive symptoms than independent elderly patients. Descritores: Parkinson’s Disease; Depression; Elderly Patient; Nursing.

RESUMO

Objetivo: avaliar a presença de depressão e a capacidade funcional em idosos com doença de Parkinson. Método: trata-se de um estudo descritivo, epidemiológico e transversal com abordagem quantitativa realizado com 15 idosos de ambos os sexos. Para a coleta de dados, foi utilizado um instrumento destinado à caracterização da amostra, a Escala de Depressão Geriátrica de Yesavage e a Escala de Atividades de Vida Diária de Katz. Os dados foram organizados em tabelas, nos programas Microsoft Word e Microsoft Excel, em valores absolutos e percentuais. O estudo foi aprovado pelo Comitê de Ética em Pesquisa da Universidade José do Rosário Vellano (Unifenas), sob o Protocolo n. 43/2011. Resultados: 46,8% dos idosos apresentaram suspeita de depressão, 66,6% foram classificados como independentes e 13,4% apresentaram significativa dependência. Ao associar as variáveis “nível de dependência funcional” e “depressão”, constatou-se que não houve diferença estatisticamente significativa (p = 0.1907). Conclusão: os idosos que possuem dependência parcial ou total apresentaram mais susceptibilidade para desenvolver sintomas depressivos que os idosos independentes. Descritores: Doença de Parkinson; Depressão; Idoso; Enfermagem.

RESUMEN

Objetivo: evaluar la presencia de depresión y la capacidad funcional en ancianos con enfermedad de Parkinson. Método: esto es un estudio descriptivo, epidemiológico y transversal, con abordaje cuantitativo, realizado con 15 ancianos de ambos sexos. Para la recogida de datos se utilizó un instrumento diseñado para la caracterización de la muestra, la Escala de Depresión Geriática de Yesavage y la Escala de Actividades de la Vida Diaria de Katz. Los datos fueron organizados en tablas, utilizando los softwares Microsoft Word y Microsoft Excel, en valores absolutos y porcentuales. El estudio fue aprobado por el Comité de Ética en Investigación de la Universidade José do Rosário Vellano (Unifenas), bajo el Protocolo 43/2011. Resultados: en 46,8% de los pacientes ancianos había sospecha de depresión, 66,6% fueron clasificados como independientes, y 13,4% mostraron dependencia significativa. Mediante la asociación de las variables “nível de dependência funcional” y “depressão”, se constató que no hubo diferencia estadísticamente significativa (p = 0.1907). Conclusión: los ancianos que presentan dependencia parcial o total fueron más susceptibles a desarrollar síntomas depresivos que los pacientes ancianos independientes. Descritores: Enfermedad de Parkinson; Depresión; Anciano; Enfermería.

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INTRODUCTION

Population aging is a phenomenon of global extent. For developed nations, the boundary between an adult and an elderly individual is 65 years; for developing countries, it is 60 years. By 2025, according to future prospects provided by the World Health Organization (WHO), Brazil will be the 6th country in the world in number of elderly people. There will be 2 billion people over 60 years in the world, 80% of them in developing countries. This process, once restricted to developed countries, has taken place in developing countries and in a faster way. The decreased population of children and adolescents and the consequent increased adult and elderly populations are associated with continued decline in fertility rates and increase in life expectancy.

Aging is a natural process and it is accompanied by changes in individual, family, and social context. This process brings physical and mental changes that lead the elderly person to need help to fulfill her/his daily activities that were previously performed on an independent basis. Furthermore, physiopathological changes characterizing some pathologies, such as Parkinson’s disease (PD), emerge.

PD is a neurovegetative disorder characterized by loss of dopaminergic neurons from the ventral layer of the compact part of substantia nigra, culminating in severe motor symptoms, which include resting tremor, rigidity, bradykinesia, and postural instability. In addition to motor deficit, it has a variety of associated non-motor symptoms. These symptoms usually precede the onset of motor symptoms, sometimes for years, and they include anosmia, gastrointestinal motility problems, sleep disorders, sympathetic denervation, anxiety, and depression.

It is noteworthy that this disease is mainly characterized by the occurrence of changes in fine control, movement disorders, balance disorders, all of them with disabling features. Such problems shown by patients with PD may compromise an elderly patient’s basic needs.

An elderly patient’s basic needs are no different from those of any other stage of human development. However, some factors, such as daily living activities, related to functional autonomy and independence, have a decisive influence on her/his quality of life. In old age, people are more likely to feel lonely and/or depressed due to the loss of loved ones, idleness, and solitude, but depression may also be secondary to some drug interaction or an undiagnosed physical condition. These factors can cause changes in social behavior, leading elderly people to fail to fulfill their daily activities. An association between depression and PD has been established in studies conducted in hospitals.

When the person has some illness, such as, for instance, PD, which makes it difficult to fulfill daily activities, and has no longer physical conditions to meet her/his own needs, it becomes a must to undergo a systematic assessment, with planning and implementation of nursing care, in order to meet her/his health needs and prevent both disability and dependence. A nursing professional can provide a variety of instruments to assess an elderly person’s functional capacity and her/his depression level, such as Katz’s scale and Yesavage’s scale, focused on and grounded in the gerontological nursing knowledge.

Thus, it is key to assess the presence of depression and the functional capacity of elderly patients with PD, in order to know their reality and provide means that can promote a healthier aging with better quality of life.

OBJECTIVE

- To assess the presence of depression and functional capacity in elderly patients with Parkinson’s disease.

METHOD

This is a descriptive, epidemiological, and cross-sectional study with a quantitative approach, conducted at the household of PD patients enrolled in the Regional Health Management of Alfenas, Minas Gerais, Brazil, to receive drugs for treating PD.

The study population consisted of 32 patients of both sexes, with PD, who are enrolled in the service mentioned above. The sample was non-probabilistic, consisting of 15 people, since 17 elderly patients moved, refused to participate in the study, or died. We adopted as inclusion criteria: being ≥ 60 years; living in the town of Alfenas; receiving medication to treat PD from the service mentioned above; being available to participate in the study; and agreeing to participate in the study on a voluntary basis.

All study participants were informed about the survey and they were asked to sign the free and informed consent term. The subjects were informed about the guarantee of privacy, anonymity, and confidentiality of data. It was also asked to officials from the...
Municipal Health Bureau of Alfenas to make available the information contained in the database, something which made it possible to identify the PD patients in Alfenas who are using medicines to treat this disease.

To collect data, we used a questionnaire with 10 questions on sociodemographic data, as well as information on health data. To assess depression, we used an open access scale available around the world: the Geriatric Depression Scale, in its reduced version, developed by Yesavage (GDS-15), which is widely used and validated as an instrument to assess depression in elderly patients. It is a test to detect depressive symptoms in an elderly person, with 15 negative/affirmative questions, whose result ≥ 5 points reveals the presence of depression, and a score ≥ 11 points characterizes a severe depression.11-13

For individual functional assessment, we used Katz’s Basic Activities of Daily Living Scale. Activities of daily living (ADLs) are those related to self-care, i.e. they are key activities for keeping independence. This instrument contains 6 questions related to 6 aspects of ADLs. The score is obtained according to individual performance, a maximum of 6 for an independent person and a minimum of 0 for complete dependence. Total score is the sum of “yes” answers, and the total of 6 points means complete independence for ADLs; 4 points, partial dependence; 2 points, significant dependence.10

This collection was conducted in July and August 2011, and the instruments were completed by researchers as an interview, with no interference in the answers. This interview took place at the household of PD patients, after scheduling, at times that were OK for them.

RESULTS

There was a predominance of elderly men, individuals aged from 60 to 64 years, married, with uncompleted Primary Education, and Catholic (Table 1). Regarding occupation, 11 (73.3%) are retired; 1 (6.7%) works as a farmer; 1 (6.7%) works as a trader; and 2 (13.3%) do household chores. As for the presence of chronic diseases, in addition to PD, it was found out among the elderly patients under study that most have some other disease (Table 1), and hypertension is the most frequently reported. In terms of use of medicines, most elderly patients used other drugs along with those to treat PD, especially antihypertensives.
Table 1. Sociodemographic characteristics of elderly patients with Parkinson’s disease. Alfenas, 2011. (n = 15)

<table>
<thead>
<tr>
<th>Variables</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>12</td>
<td>80.0</td>
</tr>
<tr>
<td>Female</td>
<td>03</td>
<td>20.0</td>
</tr>
<tr>
<td>Age group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60-64</td>
<td>05</td>
<td>33.4</td>
</tr>
<tr>
<td>65-69</td>
<td>03</td>
<td>20.0</td>
</tr>
<tr>
<td>70-74</td>
<td>02</td>
<td>13.3</td>
</tr>
<tr>
<td>75-79</td>
<td>02</td>
<td>13.3</td>
</tr>
<tr>
<td>Marital status</td>
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<td></td>
</tr>
<tr>
<td>Married</td>
<td>11</td>
<td>73.3</td>
</tr>
<tr>
<td>Single</td>
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<td>6.7</td>
</tr>
<tr>
<td>Widow/widower</td>
<td>03</td>
<td>20.0</td>
</tr>
<tr>
<td>Educational level</td>
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<tr>
<td>Illiterate</td>
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<td>20.0</td>
</tr>
<tr>
<td>Incomplete Primary</td>
<td>09</td>
<td>60</td>
</tr>
<tr>
<td>Incomplete Higher Education</td>
<td>01</td>
<td>6.7</td>
</tr>
<tr>
<td>Religion</td>
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<td></td>
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<tr>
<td>Catholic</td>
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<td>80</td>
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<tr>
<td>Spiritualist</td>
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<td>13.3</td>
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<tr>
<td>Evangelical</td>
<td>01</td>
<td>6.7</td>
</tr>
<tr>
<td>Type of housing</td>
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<tr>
<td>Homeownership</td>
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<td>100</td>
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<tr>
<td>Chronic diseases</td>
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<td></td>
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<tr>
<td>Yes</td>
<td>10</td>
<td>66.6</td>
</tr>
<tr>
<td>No</td>
<td>05</td>
<td>33.4</td>
</tr>
</tbody>
</table>

Regarding the elderly patients with depression, suspicion of this pathology was found in 46.8% of the sample. As for the ADLs, 66.6% of the elderly people were classified as independent; 20.0% have partial dependence; and 13.4%, total dependence (Table 2). By associating the variables “functional independence level” and “depression”, we found out that there was no statistically significant difference (p = 0.1907).

Table 2. Association between the functional independence level and depression in patients with Parkinson’s disease. Alfenas, 2011. (n = 15)

<table>
<thead>
<tr>
<th>Dependence level*</th>
<th>With suspected depression</th>
<th>No suspected depression</th>
<th>Total (n = 15)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Independence</td>
<td>03</td>
<td>20.0</td>
<td>07</td>
</tr>
<tr>
<td>Partial dependence</td>
<td>02</td>
<td>13.4</td>
<td>01</td>
</tr>
<tr>
<td>Total dependence</td>
<td>02</td>
<td>13.4</td>
<td>0</td>
</tr>
<tr>
<td>Total (n = 15)</td>
<td>07</td>
<td>46.8</td>
<td>08</td>
</tr>
</tbody>
</table>

* Application of Fisher’s exact test, p = 0.1907.

**DISCUSSION**

We found out a predominance of elderly men and the age group between 60 and 64 years. The incidence of PD increases with advancing age, around 1.5% occurs in people > 65 and around 2.5% occur in those > 85 years. The prevalence is about 550 per 100,000 at 70 years of age¹, with a slightly higher prevalence among men.¹⁴ Thus, age and gender are consistent with previous reports in the literature.

In the results obtained on profession and marital status, we identified that most elderly people are retired (80%) and married (73.3%). According to the Brazilian Institute of Geography and Statistics (IBGE)³, in the Southeast region 55.1% of elderly people are retired; 13.4% are pensioners; and 7.8% are both retired and pensioner. The proportion of marriages among single individuals in the Southeast region is 85.1%. The occurrence of depression is associated with factors such as age, marital status, and social status, among others, thus, the fact that most individuals are married can help reducing the loneliness feelings that arise in this life phase. Besides, retirement may favor obtaining a fixed income, and this is a positive aspect along with the presence of a companion who assists in ADLs.¹⁵

Among the elderly patients under study, there was a predominance of incomplete Primary Education (60%) and illiteracy (20%). These data obtained are similar to those from IBGE³, which show that in 2009 the average educational level in the country was 7.1 years of schooling in the age group comprising people aged ≥ 25 years, representing an educational level below completion of Primary Education. This indicator, observed from the perspective of per capita monthly income, shows that among the richest 20% the average is also below completion of Primary Education, 10.4 years of schooling. Regarding illiteracy, IBGE³ highlights the main

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characteristics of this group, which are: 32.9% of illiterate people are ≥ 60 years old. The literature points out that low educational level may be associated with geriatric depression, and in this study we observed a prevalence of elderly people with low educational level, making them vulnerable to the emergence of depressive symptoms. This suggests the importance that the multidisciplinary team is attentive to this population.16

Regarding the religious choice of the elderly people surveyed, there was a predominance of the Catholic religion. Comparing this result to data from a study conducted in the same region, Catholicism also ranked first.15 This finding is important, since a study analyzing the symptoms of depression self-reported by elderly individuals showed that those who have no commitment to a belief or religion had a depressive level that deserves attention, i.e. in cases like this, as in this study, religion becomes a protective factor against depression.15

Results of this study showed that more than half have an income up to 1 minimum wage and between 1 to 3 minimum wages. In fact, when compared to data from IBGE3, in the set of families claiming to go through much difficulty, 64.2% lived with up to 3 minimum wages of monthly household income, something which demonstrates, in fact, those with lower income levels have mentioned more difficulties or have pointed out greater perception of difficulties in getting to the end of the month with this income level.

All patients surveyed in this study are homeowners. The fact that these elderly people live in an urban area in a small town may have contributed to acquire a house of their own. Homeownership is among the indicators considered in the dimension “confidence of owning” and, in this case, 73.1% of the Brazilian households located in urban areas were declared as belonging to those who live in them.3

As for the presence of chronic diseases, it was found out that 10 individuals (66.6%) have some other chronic disease, and systemic hypertension (SH) is the most frequently reported. In this context, it is noteworthy that blood pressure has a direct and linear relation to age, and the prevalence of SH is > 60% among those > 65 years.18

A study carried out in Natal, Rio Grande do Norte, Brazil, aiming to investigate cognitive function and functional capacity and their correlation among hypertensive and normotensive elderly people suggests that hypertension directly affects an elderly patient, by compromising the individual’s capability to fulfill her/his basic activities independently, reducing functional mobility, especially if associated with other comorbidities and unhealthy lifestyle. Furthermore, this study shows that hypertension has a deleterious effect on cognition. Thus, in order to keep the elderly person in society in an active way, there is a need for more programs to prevent and fight chronic degenerative diseases, so that the elderly patient keeps her/his cognition preserved and can fulfill her/his ADLs independently.19

Concerning the use of medicines, most patients do use other drugs in addition to those used to treat PD, and the antihypertensives stand out. This finding is corroborated by the previous information, and SH is the most frequently reported disease by the population surveyed.

Regarding the elderly patients with depression, suspicion of this disease was found in 46.8% of the sample. A study aiming to compare the prevalence and severity of depression in PD with a group of patients having other chronic diseases and the relation of depression to disability and quality of life in PD indicated that the prevalence of depression was significantly higher in PD when compared to control individuals.20

It is noteworthy that the costs associated with depression in old age are high, in addition to family stress, increased risk of diseases, functional decline, worse recovery from diseases, and premature death by suicide or other causes.21

Also in this context, we emphasize that depression, anxiety, cognitive impairment, and sleep disorders are common neuropsychiatric manifestations in PD.22 Although several clinical factors have been associated with depression in PD, the relation between depression and stage of disease, as well as between depression and disability level, remains controversial.23

A study conducted in North America collected data from 1,378 cases of PD involving 632 families, by using multiple tests, in which depressive symptoms were significantly associated with Hoehn and Yahr stages and other clinical measures, but not with any genetic variant. Contrary to what was indicated by several reports, the results of this study indicate that advanced stage of disease, motor disability, and functional disability are strongly correlated with depressive symptoms.23
Having in mind the ADLs, 66.6% of the elderly patients were classified as independent; 13.4% have partial dependence; and 13.4%, total dependence. It is noteworthy to emphasize that there are few studies on the functional capability of the Brazilian elderly patients with dementia, hindering the comparison of results from this study to the literature. Considering the demographic characteristics of the sample, the results of this study were, overall, similar to those reported in the literature also investigating elderly patients with dementia.24

Postural instability involves the risk of fall, but the physical and psychosocial sequelae of excessive reduction of movements may be more harmful than the fall itself. Functional impairment is associated with the prevalence of depression up to 6 times higher, and it is possible to associate depression and postural instability with functional impairment.15,25,26

A study conducted in the state of Rio Grande do Sul, in order to investigate the association between motor, cognitive, and depressive manifestations in individuals with PD, found out that 70% of them had some degree of depression. This claim is in line with data shown in the results.27

The elderly patients with suspected depression report a partial or total dependence. Although this study did not show statistically significant information by associating the variables “functional independence level” and “depression”, its main limitation was the insufficient number of respondents, as the population of elderly patients enrolled in the Regional Health Management of Alfenas is small, something which hampered a more detailed statistical analysis.

CONCLUSION

Elderly patients with partial or total dependence were more likely to develop depressive symptoms than independent elderly individuals. Thus, a current complex challenge for a public health policy, as well as for a multiprofessional team, is acquiring motivation to act in an interactive and integrated way to prevent and treat both depression and functional disability among elderly patients with PD.

REFERENCES


Assessment of depression and functional capacity...

