

Pain and Parkinson disease in the elderly: impact on quality of life measured by McGill Questionnaire

Dor e Doença de Parkinson em idosos: impacto na qualidade de vida medido pelo questionário McGill

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SUMMARY

Pain is a frequent complaint in Parkinson disease (PD), but also in general elderly population. Its impact on daily life is considered to be high. The McGill Questionnaire (Br-MPQ) is an instrument developed to measure the magnitude of pain impact on life quality. Objective. Measure the pain impact on life of old patients with and without PD. Method. Br-MPQ was applied in a group of PD patients (GI=15) and in age-matched controlled subjects (GII=15). Results. Pain was reported in 53% of GI (n=8) and in 47% of GII (n=7). A small increase of Br-MPQ negative answers about social and daily life activities in GI was observed, but without significant statistical differences in none of Br-MPQ items ($p>0.05$). Conclusion. In face of recent literature, these data are dissonant, but it is important to note that the sample is small and no generalizations are permitted. It is possible, however, to speculate that other PD major dysfunctions might overcome the pain impact measured by Br-MPQ or, perhaps, this instrument could not be suitable. A possible bias resulted from differences of educational level of the studied subjects and the great difference sex-related between GI and GII should be also considered.

Keywords. Parkinson Disease, Pain, Quality of Life

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RESUMO

Dor é uma queixa freqüente entre os pacientes portadores de Doença de Parkinson (DP), mas também entre idosos em geral. Seu impacto no cotidiano é considerado alto. O Questionário de McGill (Br-MPQ) é um instrumento desenvolvido para medir a magnitude do impacto da dor na qualidade de vida populações idosas. Objetivo. Medir o impacto da dor em pacientes idosos com e sem DP. Método. Br-MPQ foi aplicado em grupo de pacientes parkinsonianos (GI=15) e em controles pareados por idade (GII= 5). Resultados. Dor foi relatada em 53% de GI (n = 8) e 47% de GII (n=7). Um pequeno aumento nas respostas negativas sobre vida social e no cotidiano foi observado em GI. Essa impressão não atingiu diferença estatisticamente significativa em nenhum dos itens do Br-MPQ ($p>0,05$). Esse dado é dissonante da literatura recente, mas é importante salientar que a presente casuística é relativamente pequena e não permite maiores generalizações. É possível especular, entretanto, que outras complicações maiores da DPI possam sobrepujar o impacto da dor na qualidade de vida desses pacientes medidos pelo Br-MPQ, ou, talvez, esse instrumento não esteja adequado. Um possível viés derivado de eventuais diferenças no nível educacional dos elementos estudados e da grande diferença quanto ao sexo entre GI e GII também deveriam ser considerados.

Unitermos. Doença de Parkinson, Dor, Qualidade de Vida.

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INTRODUCTION

Idiopathic Parkinson's disease (PD) ranks second in prevalence of degenerative disease of the nervous system. It is estimated that 0.3% of population is affected¹. A recent Brazilian study carried out in the town of Bambuí, State of Minas Gerais, disclosed that PD affects 3.3% of individuals aged over 65 years². The increase of life expectancy has changed the epidemiology of PD. Nowadays, it is considered to be a public health problem in the elderly population¹⁻³.

Motor and cognitive-behavioral manifestations plus a myriad of autonomic dysfunctions are the cardinal elements, which generally promote most of the morbidity in PD. Although pain is not considered to be a prominent feature, it may be a frequent complaint in PD⁴⁻⁷. Variations in pain prevalence in PD have been described in the literature, ranging from 38 to about 50%^{5,8-10}. The painful syndromes usually arise from one of five different categories: musculoskeletal pain, neuropathic pain, dystonia-associated pain, primary or central pain and akathitic discomfort⁹. A minority of patients has such a severe pain which could eventually overshadow other symptoms¹⁰.

However, pain is an emergent issue and also a frequent disabling problem in geriatric population¹¹. It is important to observe that its impact can be so significant on the quality of life, frequently with social isolation¹². World Health Organization (WHO) observes that population aging increases the incidence of chronic degenerative diseases with more disability and restrictions in the daily life activities¹³. The high frequency of these pain disorders in the general population makes it hard to establish whether pain is more frequent among people with PD than among age-matched controls. Even though pain is frequently present in PD patients, it can be quite difficult to perform a direct correlation with the disease and to quantify its impact on the daily life activities of these patients, being, sometimes, underreported in PD¹⁴. Besides, similar pain complaints can be correlated with another dysfunction associated with aging process.

The main question is to distinguish pain in parkinsonians and pain in non-parkinsonians, considering its real impact and the comprehension of the differences between these two groups.

METHOD

Sample

The present study was approved by the Ethics Committee in Research with Human beings of the Center of Biological Sciences and Health of the Universidade Estadual do Oeste do Paraná – UNIOESTE (protocol number 22153/2007). The inclusion criteria in GI were: age same or superior to 50 years, medical diagnosis of non-severe PD without dementia, evaluated by a full-trained neurologist. These patients were recruited from outpatient clinics of Neurology and Neurosurgery Department of University Hospital of UNIOESTE. The volunteers of GII were obtained from the "Group of the Third Age" of Cascavel – PR. GII inclusion criteria were: age same or superior to 50 years, without evidence of Parkinson's disease. The exclusion criteria for both groups were individuals with age below 50 years, with evidence of cerebrovascular disease, previous brain injury, dementia syndromes, rheumatic diseases, fibromyalgia, sharp traumas, tumors, neuropathy or under treatment with painkillers. One group of 15 patients with IPD (GI) and a control group of 15 non-parkinsonian patients were studied.

Study design and data collection

The data collection was accomplished at the Clinic of Physiotherapy of Unioeste from october to november of 2007. The McGill pain Questionnaire¹¹ (Br-MPQ) is a seven item scale developed to study the chronic impact of pain on old populations. Both groups were evaluated with Br-MPQ by a physiotherapist.

Statistical analysis

The data analysis was accomplished through descriptive statistics with presentation of dispersion measures, measures of central tendency and frequency distribution. To obtain the relative results of the impact of the pain on the daily life activities for PD patients, the following categories were considered: I - social problems, II - performance on daily life activities, III - of the other, IV - pain tolerance, V - sensation of disease, VI - sensation of uselessness and VII - satisfaction with life. The qui-square test was used to confirm differences among the answers positive or negative on the impact of the

studied variables, with level of significance of 5%.

RESULTS

GI was composed by 15 volunteers with IPD, being 11 men and 4 women, between 53 to 82 years of age (71 ± 7.32 years). GII was composed by 15 volunteers (3 men and 12 women) without PD, with medium age of 69.87 ± 8.82 ranging from 53 to 90 years.

Pain was reported in 53% (N = 8) of GI patients while 47% (N = 7) of GII subjects described this symptom.

Table 1 reveals some clinical features of GI. A low cultural level was observed and one third of patients were illiterate.

Table 2 and 3 disclose the data obtained from Br-MPQ, about the pain impact on the social and daily life, daily life activities and perception of the other and pain tolerance, feeling of sickness and dissatisfaction with life. It was possible to verify that the GI apparently referred larger social damage than GII, with more impact on home activities, on relationship with relatives and friends and also on the leisure. Concerning the impact on daily life activities, some influence of pain in GI was observed, with more disturbances on locomotion and sleep. As for the perception of the other people's behavior in relation to the patient pain, both GI and GII had the same amount of negative perception. A greater proportion of GI reported more pain intolerance and dissatisfaction with life.

However, on statistical basis, when the number of positive and negative answers was compared between both groups, the qui-square test showed no significant differences in any of Br-MPQ items ($p > 0.05$).

DISCUSSION

Concerning Br-MPQ, the present study did not reveal statistical differences among both parkinsonian and non-parkinsonian patients. However, a small increase of negative answers in items as social damage, difficulties in daily life activities, pain intolerance, self-perception of sickness and dissatisfaction with life were observed in PD group (GI). A social damage was observed with a large number of negative answers was verified for home activities, relationship with relatives and friends

and in leisure in GI. It was also found in the literature statements that the independence to accomplish daily activities is directly associated with the quality of life of the parkinsonians and with the progression of the disease. Also, a gradual decrease of independence was observed in this group¹⁵⁻¹⁷. Besides,

Table 1. DP patients features (GI).

Patient	Sex	Ages(year)	literacy
1	M	74	no
2	M	53	yes
3	F	63	yes
4	M	74	yes
5	M	77	yes
6	M	67	yes
7	M	65	yes
8	M	70	yes
9	F	77	yes
10	F	70	no
11	M	67	yes
12	M	82	no
13	M	79	no
14	F	75	no
15	M	72	yes

pain causes frequently a great mental and social suffering with disturbances of the well-being, leading to alterations in daily life habits with impact on the familiar relationships of PD patients¹⁷.

Some data disclosed the difficulty in elucidating the origin of pain in people with PD⁸. In a group of 123 parkinsonians, 285 different types of painful syndromes were observed. Pain was present in 64.2% of the patients and mostly of pain complaints didn't have a clear relationship with the disease⁸. Similar studies with different instruments of evaluation^{5,10,18} disclosed distinct data, but these articles are different in design with larger participants. However, a recent important case-control study¹⁸ which compared 402 patients with 317 age-matched healthy control subjects, observed, based on logistic regression analysis, a significant higher frequency of pain in PD, but after a division of the survey in a "dystonic pain" group (more correlated with PD) and a "nondystonic pain" group (not well correlated

The pain promotes:	GI	GII	p
I- Social life damage	53% (n=8)	47% (n=7)	0.7125
Work difficulties	0% (n=0)	13% (n=2)	
Absentism at work	0% (n=0)	7% (n=1)	
License health	0% (n=0)	7% (n=1)	
Job loss	0% (n=0)	7% (n=1)	
Retirement	27% (n=4)	20% (n=3)	
Difficulties at school	0% (n=0)	7% (n=1)	
Leisure	33% (n=5)	13% (n=2)	
Difficulties at home	53% (n=8)	47% (n=7)	
Family relationship troubles	33% (n=5)	20% (n=3)	
Friends relationship troubles	33% (n=5)	20% (n=3)	
No impact	47% (n=7)	53% (n=8)	
II- Daily life problems	53% (n=8)	33% (n=5)	0.1213
Sleep disturbances	33% (n=5)	20% (n=3)	
Initial insomnia	7% (n=1)	0% (n=0)	
Terminal insomnia	13% (n=2)	0% (n=0)	
No reparative sleep	13% (n=2)	7% (n=1)	
Difficulties with feeding	13% (n=2)	0% (n=0)	
Difficulties with hygiene	13% (n=2)	0% (n=0)	
Difficulties with dressing	13% (n=2)	0% (n=0)	
Difficulties with locomotion	47% (n=7)	7% (n=1)	
No impact	47% (n=7)	67% (n=10)	
III- Perception that you feel about other people	13% (n=5)	13% (n=2)	0.5962
They are irritated with me	7% (n=1)	7% (n=1)	
They express frustration	7% (n=1)	7% (n=1)	
They feel rage of me	0% (n=0)	7% (n=1)	
They ignore me	0% (n=0)	7% (n=1)	
No perception	87% (n=13)	87% (n=13)	

Table 2. Frequency Distribution of the McGill Pain Questionnaire in GI and GII.

with PD) and a “nondystonic pain” group (not well correlated with PD), the frequency was similar to controls.

The small number of patients is likely to be the main problem in the present article and does not permit a well-defined conclusion. Besides, Br-MPQ could not be suitable for individuals with low education level.

perception	GI	GII	p
IV-Pain tolerance			0,9307
Not hard	60% (n=9)	73% (n=11)	
A little hard	0% (n=0)	7% (n=1)	
Hard	33% (n=5)	20% (n=3)	
Very hard	7% (n=1)	0% (n=0)	
Impossible to resist	0% (n=0)	0% (n=0)	
V-Do you feel sick ?			0,1663
No	60% (n=9)	80% (n=12)	
A little	27% (n=4)	20% (n=3)	
Very sick	13% (n=2)	0% (n=0)	
Totally	0% (n=0)	0% (n=0)	
VI-Do you feel yourself useful?			0,0964
Yes	47% (n=7)	100% (n=15)	
Less than before	40% (n=6)	0% (n=0)	
No, my life is useless	13% (n=2)	0% (n=0)	
Very useless	0% (n=0)	0% (n=0)	
Totally useless	0% (n=0)	0% (n=0)	
VII-Is your life satisfactory ?			0,0974
Yes	60% (n=9)	93% (n=14)	
Partial	33% (n=5)	7% (n=1)	
Disatisfactory	7% (n=1)	0% (n=0)	
Completely disatisfactory	0% (n=0)	0% (n=0)	

Table 3. Frequency distribution of McGill Pain Questionnaire about the pain perception

Difference of educational level between case and control may be a relevant factor in comprehension of all the items purposed in the questionnaire. Later, the absence of such educational selective criterion revealed itself to be a bias.

Depressive disorder commonly plays an important role in the context of chronic pain syndromes 14,17, being not only a co-morbidity but also with increment of pain complaints. However, Br-MPQ does not contemplate depression evaluation in none of its items. Perhaps, the present study

failed in not considering such factor in statistical analysis.

An absence of sex-matched controlled group revealed to be also a problem. GII had a larger number of females than GI. Women, according to some authors^{19,20} are more prone to develop chronic pain syndrome than males. Therefore, it should also be considered a source of bias.

Another possible explanation for such results is the fact that pain may be important as a negative factor on quality of life of PD patients, but not important enough to obscure other major PD dysfunctions, for instance, motor and cognitive-behavioral impairments.

CONCLUSION

Based on the present results, pain seemed to be very frequent in both healthy elderly population and in PD patients. However, in spite of all statistical bias and methodological concerns, its impact on quality of life may be high and quite similar in both groups. Further investigation with larger sampling and better criteria in matching cases and controls, considering a potential cultural and sex-related bias correlated with Br-MPQ, are important to confirm these preliminary data, mainly with the aim of improving or developing new diagnostic tools and therapeutic strategies about pain in DP.

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