ORIGINAL ARTICLE

The Frequency of Non Motor Symptoms (NMS) among patients with Parkinson's disease in a tertiary care hospital

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ABSTRACT

Background: Parkinson disease (PD) is a combination of many symptoms, of which non motor symptoms (NMS) are important ones.
Aim: To determine the frequency of NMS among patients with PD.
Methods: This cross-sectional study was done atDepartment of Medicine,Avicenna Medical College, Lahore. The duration of this study was 6 months. All the patients diagnosed with PD and taking anti-Parkinson medications were included and a translator asked questions regarding NMS from those who can't understand English, for symptoms using NMS Questionnaire. All data was analyzed using SPSS version 24
Results: In this study, we included 89 patients. The mean age of the patients was found to be 58.87 ± 9.45 years. Most of the patients were male (64%) and mean duration of symptoms was 4.5 years. the mean duration of treatment was 4.1 years in these patients. Most frequent symptom was found to be impaired concentration among 61 patients (68.5%). Next common symptom was Sialorrhea (62.9%), nocturia (61.79%) and urinary urgency (57.3%).
Conclusion: We conclude that NMS are frequently encountered among patients with PD, even in those receiving anti-Parkinson medications. So it is important to guide these patients about NMS during course of the disease
Keywords: Parkinson disease; Symptoms; Concentration; Non-motor symptoms

INTRODUCTION

Parkinson's disease (PD) is a complex disease, which has wide spectrum of motor and Non Motor symptoms (NMS) associated with it. PD is the second most common neurodegenerative disease following Alzheimer Disease. A complete description of PD was first narrated by James Parkinson [(1)]. Its incidence is 18 in 100,000 population and prevalence is 360 in 100,000 population in United Stated [(2)]. In US, 1% of population above age 60 years and 5% of population above 80 years have reported to be having PD. It involves dopaminergic nigrostriatal, cholinergic frontal region, serotonergic fibers and many other pathways, which makes it a complex disease to understand and having a lot varied presenting symptoms [(3, 4)]. NMS includes smell, mood, sleep and autonomic functions. Other NMS that may arise in patients particularly not being treated by anti-Parkinson medication include cognitive impairment, autonomic dysfunction and sleepiness. Among patients having Parkinsonism, 80-85% are reported having PD and remaining 15-20% usually have atypical PD and secondary Parkinsonism. In order to completely understand the pathology of PD, early recognition of NMS is essential. PD, due to its long list of symptoms, may affect severely the quality of life of patients and pose a heavy burden to the healthcare system. NMS are commonly found in PD patients; however, its frequency in PD has been presented with varied results.The objective of this study was to determine the frequency of NMS among patients with PD.

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MATERIALS AND METHODS

It was a cross-sectional study and was done at Department of Medicine, Avicenna Medical College, Lahore. This study was done in 6 months duration from January, 2018 to June, 2018. We included all the patients who were diagnosed cases of PD and taking anti-Parkinson medications with the age being >50 years. After ethical permission from the hospital, this study was started. All patients were explained study objectives and written consent was obtained. We excluded those patients who were known psychiatric patients taking antipsychotic medications also along with anti-Parkinson medicines. All patients included in the study were asked for NMS questionnaire. A translator who was one of the investigators asked those who can't understand English, for symptoms. All the proforma were filled in the same manner. All data was analyzed using SPSS version 24 using simple descriptive statistics for all variables.

RESULTS

In this study, we included 89 patients. The mean age of the patients was found to be 58.87±9.45 years. Regarding gender, most of the patients were male (64%). The mean duration of symptoms was 4.5 years and the mean duration of treatment was 4.1 years in these patients. All of these patients were on anti-Parkinson medications and reported a good compliance (Table 1).

Table 1: Demographic details of the patients in the study

Age (mean± SD)	58.87±9.45 yrs
Male Female	57(64%) 32(35.9%)
Duration of illness (mean ± SD)	4.5±2.26 yrs
Duration since start of treatment(mean±SD)	4.2±1.91 yrs

We evaluated NMS using NMS Questionnaire. Using this questionnaire, most frequent symptom was found to be impaired concentration among 61 patients (68.5%). Next common symptom was Sialorrhea (62.9%), nocturia (61.79%) and urinary urgency (57.3%). All the details of the NMS questionnaire are given in in table 2.

Table 2: NMS Questionnaire and frequencies of symptoms

Non-Motor Symptoms	n
Gastrointestinal tract	
Sialorrhea	56(62.9%)
Dysphagia	17(19.1%)
Nausea	8(8.9%)
Constipation	50(56.17%)
Bowel incontinence	1(1.12%)
Incomplete bowel emptying	32(35.95%)
Hyposmia	44(49.43%)
Weight change (unexplained)	37(41.5%)
Urinary tract	
Urinary urgency	51(57.3%)
Nocturia	55(61.79%)
Sexual function	
Sexual dysfunction	17(12.9%)
Impaired libido	33(25.1%)
Cardiovascular	
Orthostatic symptoms	41(46.06%)
Falls	8(8.9%)
Lower limb swelling	27(30.33%)
Neuropsychiatric and cognitive	
Forgetfulness/memory	47(52.8%)
Impaired concentration	61(68.5%)
Anxiety	19(21.3%)
Low mood	26(29.2%)
Loss of interest/apathy	28(31.46%)
Delusions	4(4.4%)
Visual hallucinations	2(2.2%)

DISCUSSION

PD is a diverse disease having both motor and NMS associated. NMS are common in patients with PD and many studies have shown their higher frequency among PD patients when compared to controls [5, 6]. All NMS are reported higher in early phases of PD and particularly those who are not being treated. We found impaired concentration as the most common symptom followed by Sialorrhea and nocturia. Muller et al found Sialorrhea and drooling as the most common symptom in their series [7]. In another large series, drooling of urine and other urinary symptoms were narrated as the most common symptoms [5]. Drooling in patients with PD is reported due to finding of Lewy bodies in Submandibular glands of PS patients with leads to dysphagia and these symptoms [8-10].

In our series, urinary symptoms were also much frequent and reported in as high as 61.7% of patients. Although both urinary symptoms including nocturia and urinary urgency may be due to many other reasons also in older age, but still they are clearly more frequent in PD patients than their age-matched controls [5]. Many studies have reported their high prevalence in PD patients [11, 12].Another study has shown significant improvement of symptoms, particularly mood symptoms in patients of PD after start of treatment in both genders; however, men reportedly had increase in symptoms related to dopaminergic group particularly urinary symptoms [13].

Based on this study, we conclude that NMS are frequently encountered among patients with PD, even in those receiving anti-Parkinson medications. Therefore, it makes important for the medical specialist to understand the complete pathophysiology and whole spectrum of PD, to anticipate the symptoms, timely diagnose them and then properly manage these symptoms to prevent the patients from developing complications.

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