

Awareness About Shoulder Pain and/or Stiffness as an Early Symptom of Parkinson's Disease among Physiotherapists in India

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ABSTRACT

Introduction: Parkinson's disease is a progressive neurological disorder. Musculoskeletal pain is known to be an associated symptom of Parkinson's disease (PD). The shoulder joint is found to be more affected according to previous studies. The symptoms of Parkinson's disease worsen as the condition progresses over time and so, awareness about more early symptoms offers an opportunity for early diagnosis and early treatment of the disease, with consequent benefits to the patient's quality of life and cost savings. The purpose of this study is to gain an understanding of awareness about this condition amongst physiotherapists in India, so as to avoid misdiagnosis, improper treatment and unrecognized Parkinson's Disease.

Methodology: A questionnaire of a "Survey about awareness of shoulder pain/ stiffness as an early symptom of Parkinson's disease" was circulated on online platforms. 209 responses were received by google form, from which 206 responses were accepted in the study on the basis of inclusion and exclusion criteria and statistical analysis of the obtained data was done.

Result: In this study, results showed that 50.49% of physiotherapists practicing in India are aware of shoulder pain and /or stiffness as an early symptom of Parkinson's disease.

Conclusion: This study concludes that there is average awareness of shoulder pain and/or stiffness as an early symptom of Parkinson's disease among physiotherapists in India.

Keywords: [Awareness, Early Symptom, Shoulder pain and stiffness, Parkinson's disease, Physiotherapists, India]

INTRODUCTION

Parkinson's disease is a chronic, progressive neurodegenerative disorder associated with lifelong disability (1). It is the second most common neurodegenerative disease worldwide and incidence is rising with changing population demographics (2). The prevalence of Parkinson's disease in India was found to be 0.7 per 1,000 population as per a study conducted in 2021(3). The early signs and symptoms can be prevalent earliest by 55 years of age mostly (4). Symptoms of the disease are due to the progressive loss of dopamine-producing

neurons in the basal ganglia, and people living with Parkinson's disease (PLWPD) generally do not present with symptoms until 60-80% of dopamine loss has occurred (5,6). The early symptoms involve musculoskeletal pain or disorders also along with the classical signs of Parkinson's disease like tremors, rigidity, mask-like face, bradykinesia and festinating gait(5).

Pain and other nonmotor symptoms in PD are increasingly recognized as a major cause of reduced health-related quality of life. In early-stage PD, pain was rated as the most bothersome nonmotor symptom, ranked

after the three motor symptoms of slowness, tremor, and stiffness(7). The onset of pain can vary in relation to motor symptoms, and may precede its appearance by several years, or occur after the diagnosis of PD has been made(5,8). Musculoskeletal pain in the context of PD can have many causes, including rigidity and skeletal deformity(9). Shoulder pain and/or stiffness have been reported to be more prevalent among musculoskeletal pain and disorders in patients with Parkinson's disease according to previous studies(5,8). The mechanism of shoulder pain in PD is suspected to be rigidity and bradykinesia, leading to immobility and subsequent shoulder dysfunction and discomfort, is a possible explanation. Levodopa-related motor fluctuations and wearing-off sensory symptoms are found in the majority of patients within 5 years after the onset of PD(10). Frozen shoulder manifested by marked limitation of the range of motion, usually accompanied by local pain, is a common feature and may even be the presenting symptom(7). In addition, shoulder or other peripheral injuries, including falls, may cause joint pain and, as a result of central reorganization, may lead to "peripherally induced" tremors and parkinsonism.

Shoulder pain is often an underrecognized, misdiagnosed, or improperly treated symptom of PD. Failure to recognize this pain as a presenting symptom of PD may delay correct diagnosis and treatment, leading to unnecessary invasive procedures(10). Early diagnosis and treatment of PD is important to limit the impact of the disease on quality of life and, potentially, lower long-term treatment costs as well as appropriate management of shoulder pain and/ or stiffness(5). Thus, awareness among health professionals such as Physiotherapists in India who see individuals above the age of 55 years suffering from shoulder pain and/ or

stiffness, in various public and private settings about the possibility of it being an early symptom of Parkinson's disease is necessary.

MATERIALS & METHODS

The present study was an observational study carried out amongst Physiotherapists practicing in India by the Convenient sampling method. A questionnaire "Survey about awareness of shoulder pain/ stiffness as an early symptom of Parkinson's disease among Physiotherapists" developed by Dr. Sarah Walmsley, The University of Newcastle was used for which written permission was taken and minor modifications were made as discussed with the author(5). The survey included all Physiotherapists practicing in India who worked as Clinicians, Academicians, Ph.D. scholars, and Doctorates. Whereas Bachelor of Physiotherapy students and Physiotherapists practicing in countries other than India were excluded from the study. 209 responses were received by google form from Gujarat, Maharashtra, Karnataka, Delhi and Kerala in the span of 3 months, from which 206 responses were accepted in the study on the basis of inclusion and exclusion criteria.

STATISTICAL ANALYSIS

Statistical analysis of the obtained data was done in MS Excel version 2207.

RESULT

A total of 206 Physiotherapists were included in the study. The result showed that there is 50.49% awareness among physiotherapists in India about shoulder pain and /or stiffness as early symptoms of Parkinson's disease. The mean age of all Physiotherapists included was 26.65 years and SD was 6.53 years. Out of 206 physiotherapists, 22.3% (46) were males and 77.7% (160) were females.

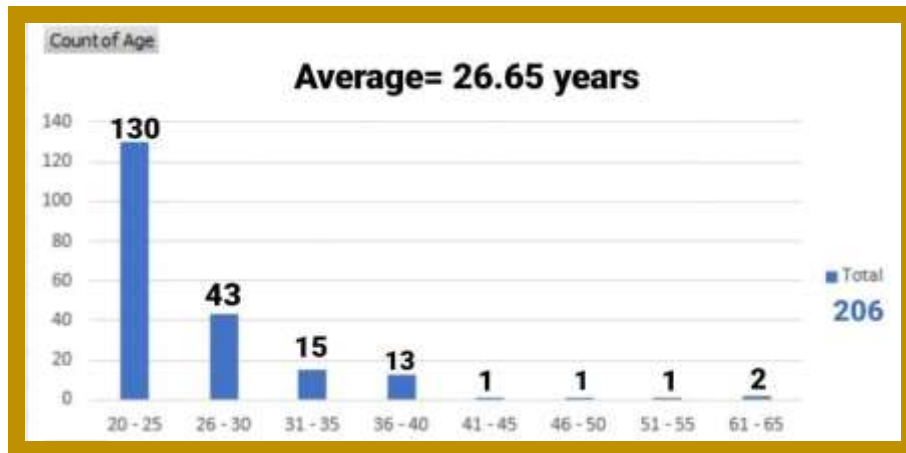


Figure 1: Mean age of Physiotherapists

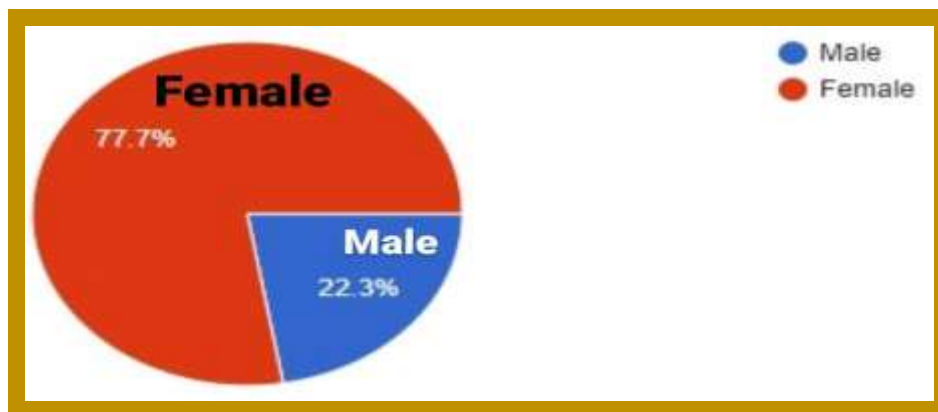


Figure 2: Gender of Physiotherapists

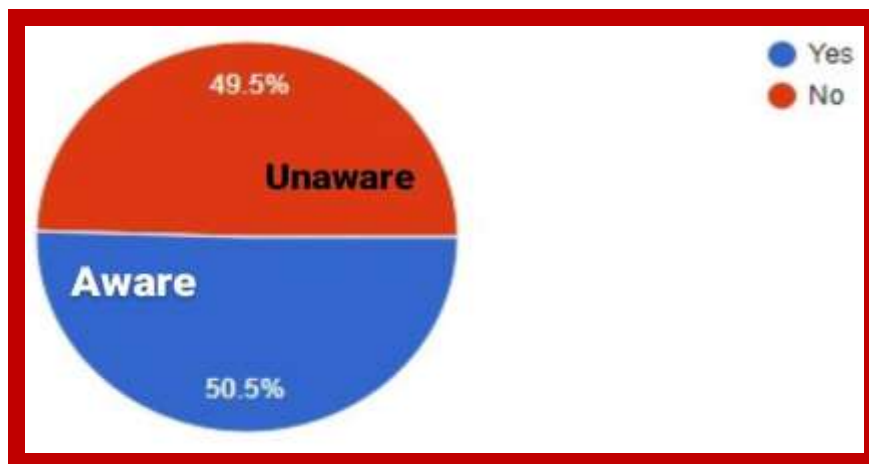


Figure 3: Awareness About Shoulder Pain and/or Stiffness as an Early Symptom of Parkinson's Disease among Physiotherapists in India where Yes = Aware and No = Unaware

52.4% of Physiotherapists had 0-2 years of experience, 21.4% had 3-5 years of experience, 15% had 6-10 years of experience, 9.7% had 11-20 years of experience and 1.5% had more than 30 years of experience. The highest

physiotherapy qualification of 1.5% had a Graduate Diploma degree, 63.6% of Physiotherapists was Bachelor's degree, 32.5% had a Master's degree and 2.4% had a Doctorate degree.

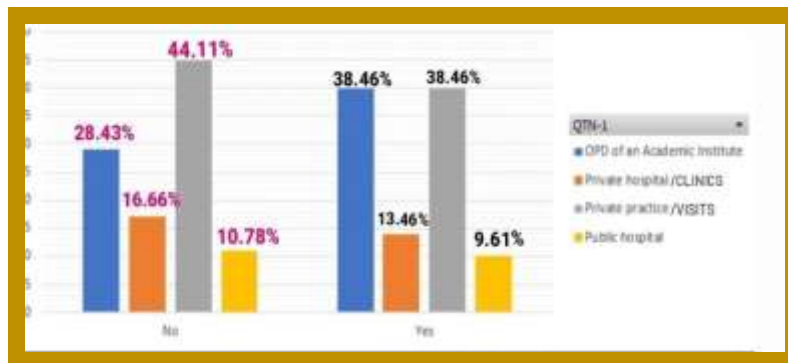


Figure 1: Fig.3 Rate of Awareness and unawareness on the basis of type of practice

83.5% Of the Physiotherapists were a member of their respective state council whereas 16.5% of Physiotherapists were not and 29.6% of Physiotherapists were registered members of the Indian Association of Physiotherapists (IAP). 38.46% of Physiotherapists who practiced in OPD of an academic institute, 13.46% who practiced in private hospitals, 38.46% who

practiced privately (home visits) and 9.61% who practiced in public hospitals were aware of this topic. 79.1% of all the Physiotherapists surveyed agree that there would be a change in Physiotherapy management of shoulder pain and/ or stiffness if Parkinson's disease was suspected.

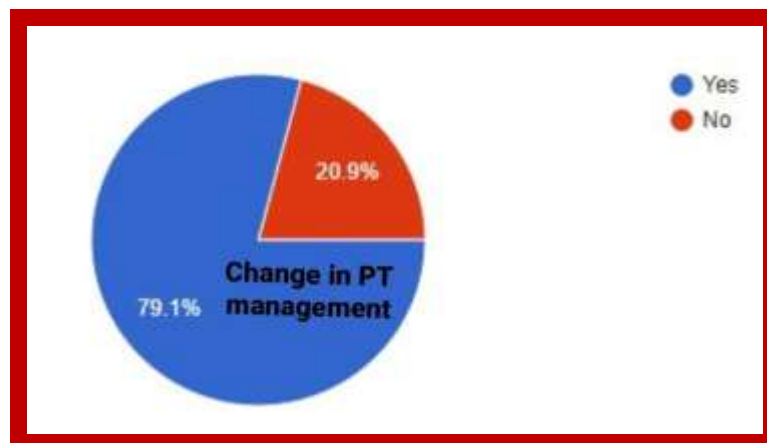


Figure 2: Physiotherapists who agree to change in PT management if Parkinson's Disease was suspected

DISCUSSION

In the present study, the awareness among physiotherapists in India about this early symptom was found to be average(50.49%). 96.6% of physiotherapists see patients aged more than 55 years with non-traumatic shoulder pain and /or stiffness. There were 85(41.26%) respondents practicing privately, 31(15.04%) from Private hospitals, 21(10.19%) from Public hospitals and 69(33.49%) from Outpatient departments of any Academic Institute having an awareness of 38.46%, 13.46%, 9.61% and 38.46% respectively. There are 163 respondents(79.12%) who admit that

the Management of a patient with shoulder pain and/or stiffness would differ from the conventional treatment if Parkinson's disease is suspected. Of these, 87(53.37%) were aware of this possibility whereas 76(46.62%) were unaware.

Sarah Walmsley et al. found 26% awareness about this topic in a similar population in Australia.^[2]

In the discussed previous study, the hard copies of survey forms were distributed among registered Physiotherapists within the local health district (LHD) who were working private clinics or outpatient physiotherapy departments at private and

public hospitals only. Whereas in the present study, the survey form was circulated on online platforms which was asked to be filled by Physiotherapists who are registered under the National or respective state council for physiotherapists working as Clinicians, Academicians, Ph.D. Scholars and also doctorates throughout India. Thus, an increase in the awareness level among physiotherapists was found. This difference might be because of an increase in the sample size as well as the variability in the population. The education system, the curriculum for Physiotherapy students and the years of experience as the Physiotherapist may also be responsible for the awareness of shoulder pain and/or stiffness as an early symptom of Parkinson's Disease among Physiotherapists in India. In future studies, further increase in sample size, widening of the sampling frame and increasing the platforms for circulation of forms may provide greater insight into the level of awareness. Expanding on the pattern and description of shoulder pain and/or stiffness would provide further clarification regarding this topic. Also, follow-up on the delivery of education, and repeating the survey in the future may also be valuable to determine whether the knowledge and awareness of physiotherapists on this topic change over time.

CONCLUSION

The study showed the awareness of shoulder pain and/or stiffness as an initial symptom of Parkinson's Disease among Physiotherapists in India to be Average, which thus identified a key focus area for physiotherapy professional development. By increasing the knowledge and awareness of health professionals on this topic through awareness programmes would lead to earlier and more accurate diagnosis for patients living with Parkinson's Disease, which would facilitate appropriate treatment and reduce the costs associated with misdiagnosis and mismanagement.

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Conflict of Interest: None

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