

L. D. A. Yeshesh, P. D. T. Perera

Scientific Supervisor: Ph.D., associate professor N. N. Usova

Education Establishment

«Gomel State Medical University»

Gomel, Republic of Belarus

AWARENESS, RISK FACTORS AND PUBLIC PERCEPTION OF PARKINSON'S DISEASE IN SRILANKA: A SURVEY-BASED STUDY

Introduction

Parkinson's disease (PD) is a long-term, progressive condition that affects the brain, gradually impacting both movement and a wide range of non-motor functions. First identified in 1817 by James Parkinson – who referred to it as the “shaking palsy” – the disease has since become known as the second most common neurodegenerative disorder worldwide, following Alzheimer's disease. Today, it affects more than 10 million people across the globe. At the core of PD is the gradual loss of dopamine-producing neurons in a part of the brain called the substantia nigra. This leads to a significant drop in dopamine levels in the striatum, a region that plays a key role in controlling movement [1].

People with Parkinson's typically begin to notice symptoms such as tremors at rest, stiffness in the limbs, slowed movement (bradykinesia), and difficulty with balance or coordination. As the disease progresses, it doesn't just affect the body – it can also impact the mind and emotions. Many individuals experience memory and concentration issues, depression, anxiety, sleep problems, and challenges with things like digestion or blood pressure regulation. These non-motor symptoms can be just as disruptive as the physical ones and add to the personal and societal burden of the disease.

The causes of Parkinson's are complex and not yet fully understood. Most cases are considered idiopathic, meaning they occur without a known cause. However, research shows that a mix of genetic and environmental factors is likely involved. Mutations in certain genes, including SNCA, LRRK2, PARKIN, and PINK1, have been linked to inherited forms of PD. At the same time, exposure to environmental toxins such as pesticides or heavy metals may increase the risk. One of the key biological markers of Parkinson's is the presence of Lewy bodies – abnormal clumps of protein, primarily alpha-synuclein, that build up inside brain cells and are believed to contribute to their dysfunction and death [2].

Despite decades of research, there is still no cure for Parkinson's disease. Current treatments are focused on managing symptoms, with medications like levodopa being the gold standard for improving motor function. However, these treatments can become less effective over time and may lead to side effects such as involuntary movements (dyskinesias). Because of this, there is growing interest in developing therapies that go beyond symptom relief approaches that could potentially slow, stop, or even reverse the disease. Promising areas of research include gene therapy, stem cell treatments, targeted immunotherapies, and drugs designed to protect or restore brain cells.

Goal

The goal of this article is to assess public awareness, perceived risk factors and general perceptions regarding Parkinson's disease among the Sri Lankan population through a survey-based study.

Material and methods of research

This study used a cross-sectional survey conducted among the Sri Lankan population to assess their awareness, perceived risk factors, and public perception of Parkinson's disease using an online questionnaire. A total of 366 responses were collected from diverse demographic groups and analyzed quantitatively to identify patterns in knowledge, beliefs, and risk factor awareness. Data processing and statistical analysis were performed using Microsoft Office Excel 2013.

The results of the research and their discussion

According to the Figure 1 below the age group of 30 shows the highest awareness percentage of 95.04 % but the age group of 30–50 shows the least awareness percentage of 18.75 %.

According to the Figure 2 below the number of responses for having a family history of Parkinson's disease and getting exposure to pesticides/chemicals have identical percentage of responses of 6.01% and the number of responses for not having a family history of Parkinson's disease and not getting exposure to pesticides/chemicals have identical percentage of responses of 93.99%.

According to Figure 3 below the Western Province shows the highest awareness percentage of 89.5% but North Central (28.57%) and Uva (30.77%) province shows the lowest awareness percentage.

According to Figure 4 below 73.22% of responses indicate that there is very little awareness of Parkinson's disease in Srilanka.

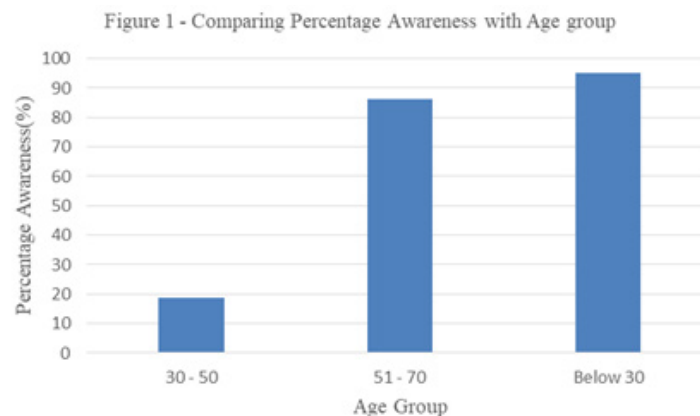


Figure 1 – Comparing percentageaAwareness with age group

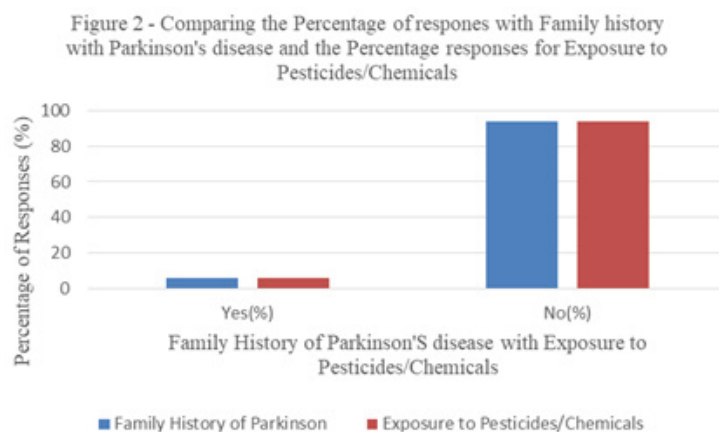


Figure 2 – Comparing percentage of response with family history with Parkinson's disease and percentage respons for exposure to pesticides

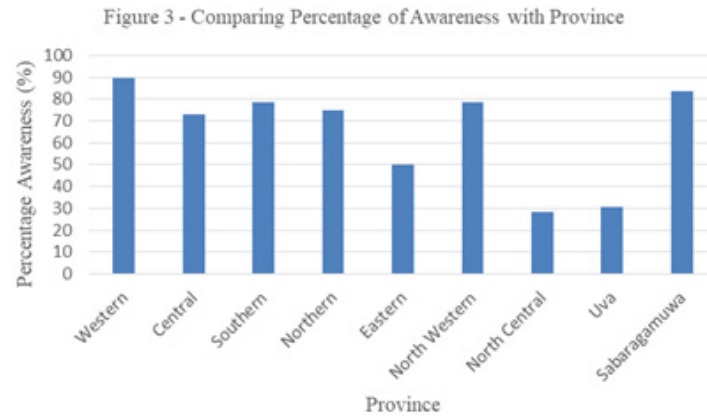


Figure 3 – Comparing percentage awareness with provins

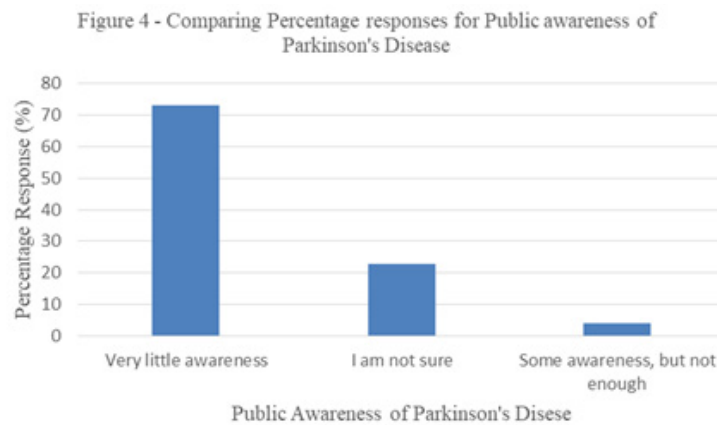


Figure 4 – Comparing percentage response for public awerness of Parkinson's disease

Conclusions

Awareness of Parkinson's disease varies significantly across age groups, regions, and demographics. Young adults (below 30) show the highest awareness (95.04%), while those aged 30–50 have the lowest (18.75%), highlighting a gap in knowledge among middle-aged individuals.

Family history and pesticide exposure show identical response rates (6.01% for Yes, 93.99% for No), suggesting a potential link worth further study.

Regionally, the Western Province has the highest awareness (89.5%), while North Central (28.57%) and Uva (30.77%) have the lowest indicating that people in these regions may have fewer resources or exposure to information about Parkinson's disease.

Most importantly, 73.22% of respondents believe there is very little awareness of Parkinson's disease in Sri Lanka, emphasizing the urgent need for better public education and outreach. Targeted awareness programs can help bridge these gaps and improve early detection and support.

LITERATURE

1. Lau, L. M., Epidemiology of Parkinson's disease / L. M. Lau // The Lancet Neurology. – 2006. – T. 5. – №. 6. – P. 525–535.
2. Poewe, W. Parkinson disease / W. Poewe, K. Seppi // Nature Reviews Disease Primers. – 2017. – T. 3. – P. 170–173.