

DETECTING PARKINSON'S BEFORE IT'S TOO LATE

Focus should be placed on non-motor symptoms as an early warning mechanism for early diagnosis and management of Parkinson's.

About 5,2 million people suffer from Parkinson's disease (PD) worldwide, PD affects s primarily older people, with men being particularly at risk. Both genetic make-up and environmental impacts, such as the type of job a person does, can make someone susceptible to contracting the disease. Rest tremor, bradykinesia, rigidity and loss of postural reflexes are generally considered the cardinal signs of PD however, focus should be placed on non-motor symptoms as an early warning mechanism for early diagnosis and management of Parkinson's. Non-motor symptoms include: neuropsychiatric conditions such as dementia, depression and hallucinations; autonomic disturbances (such as constipation, postural hypotension); sleep disorders and sensory symptoms (such as pain).

Rotenone is a pesticide commonly used by farmers. The pesticide is also effective in removing unwanted fish from a dam quickly and relatively safely. However, prolonged exposure to rotenone has been linked to the development of Parkinson's disease.

Parkinson's kills brain cells and disrupts a patient's movement. The disease is considered to be in a very late stage when



Farmers are especially at risk of contracting Parkinson's disease.

many brain cells have died and when the patient starts showing difficulty in moving.

Using animal models, researchers at the University of KwaZulu-Natal have replicated the effects of rotenone and have found that the pesticide replicates many features of Parkinson's disease, including brain changes and related symptoms. Like Parkinson's, rotenone kills brain cells that carry a chemical known as dopamine, which helps in movement memory and other important brain functions.

"Findings show that non-motor symptoms should be looked for as an early detection mechanism for the disease in order to start treatment that might stop or slow the death of neurons," says Dr Thabisile Mpfana. "People in high-risk occupations should follow pesticide-use guidelines and see a doctor if they experience any unusual negative changes in memory or symptoms such as constant constipation, as these may be an early indication of the disease."

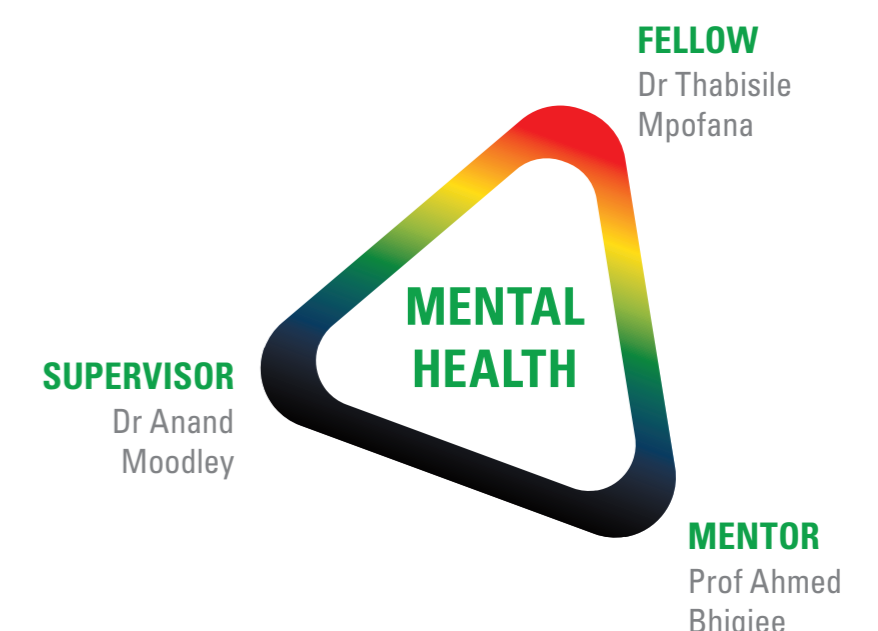


Towards Research Leadership

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