

Parkinson's disease



- Student name: Manasvi Patel
- Student ID: 2520168
- Module: LCHS7003
- Lecturer: Muhammed Khan
- Assignment title: Parkinson's disease
- (FOCUS ON PERSON-CENTRED CARE IN OLDER AGE GROUP)

Definition

“Parkinson's disease is a progressive movement disorder of the nervous system. It causes nerve cells in parts of the brain to weaken, become damaged, and die, leading to symptoms that include problems with movement, tremor, stiffness, and impaired balance”.(NINDS,2023)

There is five stages of Parkinson's disease.(PF,2024)

Around 6.3 million people have a Parkinson disease. (Medtronic, 2024)

As the world's population gets older, the number of people with Parkinson's disease is expected to increase a lot, possibly double in next two decades.

Symptoms

- **Motor symptoms**

Dyskinesia

Involuntary movement (tremor)

Muscles stiffness

Falls and dizziness

Inability to move (freezing)

Muscles contraction

Slowness of movement

Rigidity

- **Non motor symptoms**

Fatigue

Eating , swallowing problem

Eye problem (glaucoma)

Bladder and bowel changes

Pain

Speech problem

Sleep problem

Low blood pressure

Behavioural changes

Anxiety

Depression

Hallucination (Parkinson's UK,2022)

Mood disorders

Urinary frequency (Johns Hopkins medicine,2024)

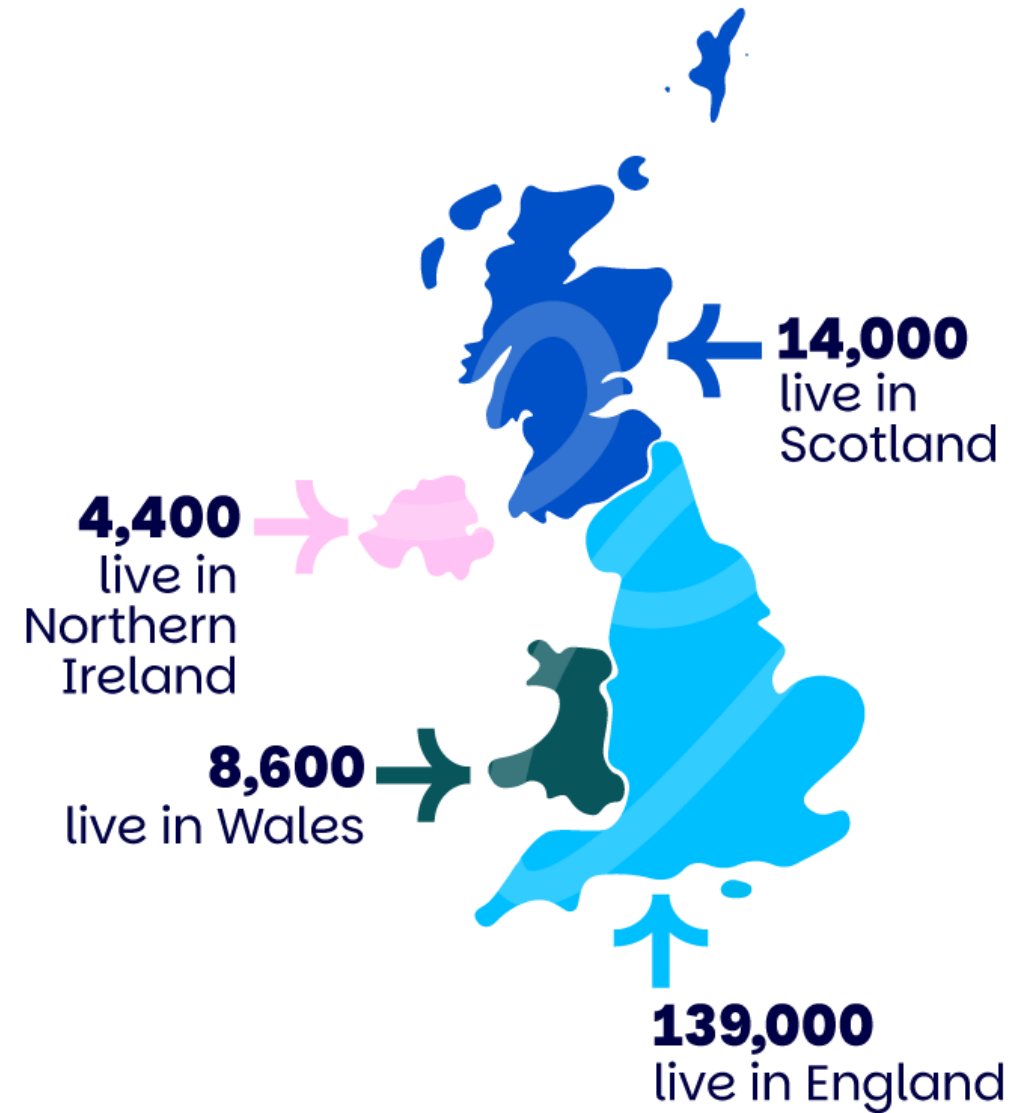


Causes

- Decreased production of dopamine.
- Genetics (very less)
- Environmental factors-pesticides and chemicals (Parkinsons UK)

Prevalent

- In 2019 , over 8.5 million people have Parkinson's disease that an increased 81% since 2000.
- 3,29,000 people died that an increased 100% since 2000.(WHO,2023)
- Around 1,66,000 people diagnosed with Parkinson's disease in 2025.(Parkinson's UK,2025)



(Parkinson's UK,2025)

Economic burden

UK, people with advanced Parkinson's disease cost more to treat than those with mild or moderate stage.

- In the UK, patients with advanced disease cost about £1,069 extra per person.
- Advanced Parkinson's disease costs more than mild or moderate stages.

In Australia, cost for severe disease are almost 4 times higher than mild cases.

In Sweden and Europe show that care services become the higher cost in later stages.

In Brazil also confirms that costs rise as the disease becomes more severe.

Economic burden

- In China, around 24% of patient were admitted to hospital for treatment.
- The average yearly hospital cost per patient was about \$496.
- “Deep Brain Stimulation” can improve life of patient.
- It may also reduce medication use and movement problem, it is very expensive.
- The average yearly surgery cost per person is about \$556.

(Weaver *et al.* 2012)

Diagnosis and Assessment

- Transcranial Doppler ultrasonography (Stoessl *et al.*, 2011)
- Positron Emission Tomography
- Single Photon Emission Computed Tomography
- Functional MRI
- Perfusion imaging
- PET and SPECT scans using dopamine transporter tracers are very important, they assess dopamine loss in the brain.

Diagnosis and Assessment

- Hoehn and Yahr scale
- There is five stage in this.

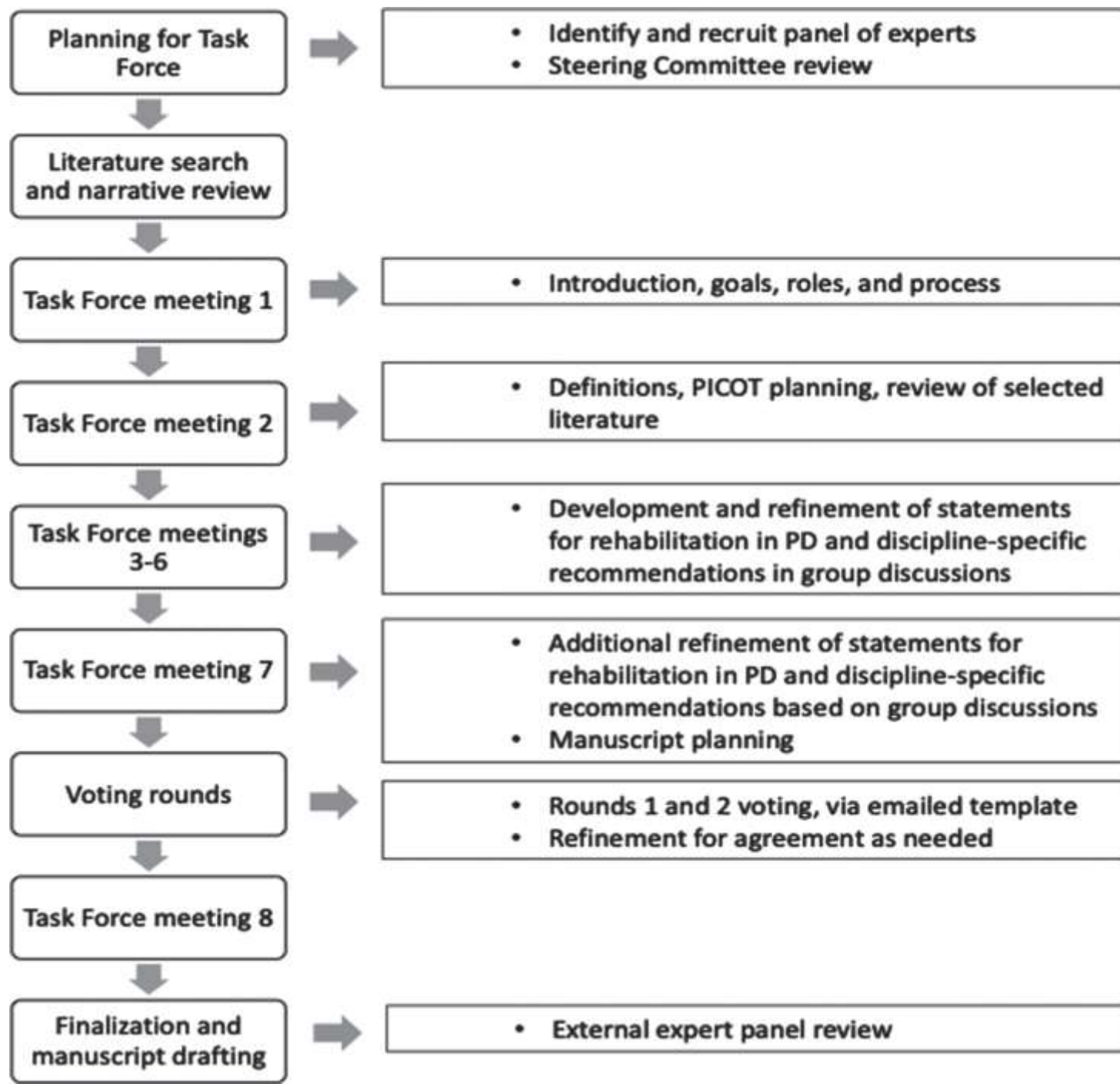
1	Bilateral impairment
2	Postural control difficulties
3	Postural instability
4	Loss of physical independence
5	Wheelchair bound or bed bound

(ScienceDirect, 2026)

Model and Framework

- PICOTS framework

Population	Total number of Parkinson patient
Intervention	Treatment like rehabilitation, medication, therapy
Comparison	Treatment and services being tested like surgery and standard care
Outcomes	Results measurement like symptoms, function, patient goal
Timing	Time period of the study like Short-term and Long-term time period
Setting	Where care or study takes place like hospital, clinic and community



Treatment

- Dopamine agonists
- MAO-B inhibitors (NICE,2017)
- COMT inhibitors
- Levodopa (Clarke, 2007)
- Amantadine
- Anticholinergics
- Lecigon
- Apomorphine
- Produodopa
- Supportive therapy
- Physiotherapy
- Occupational therapy
- Speech therapy
- Diet plan advice

(NHS,2023)

Treatment

- Rehabilitation for Parkinson's patient
 - Balance and Gait training
 - walking speed and stability
 - Reduces freezing of gait and fall risk (tomlinson,2021)

Comorbidity

Chronic diseases

- Diabetes
- Depression
- Anaemia
- Cancer

Neurological conditions

- Cognitive impairment
- Dementia

Non motor symptoms

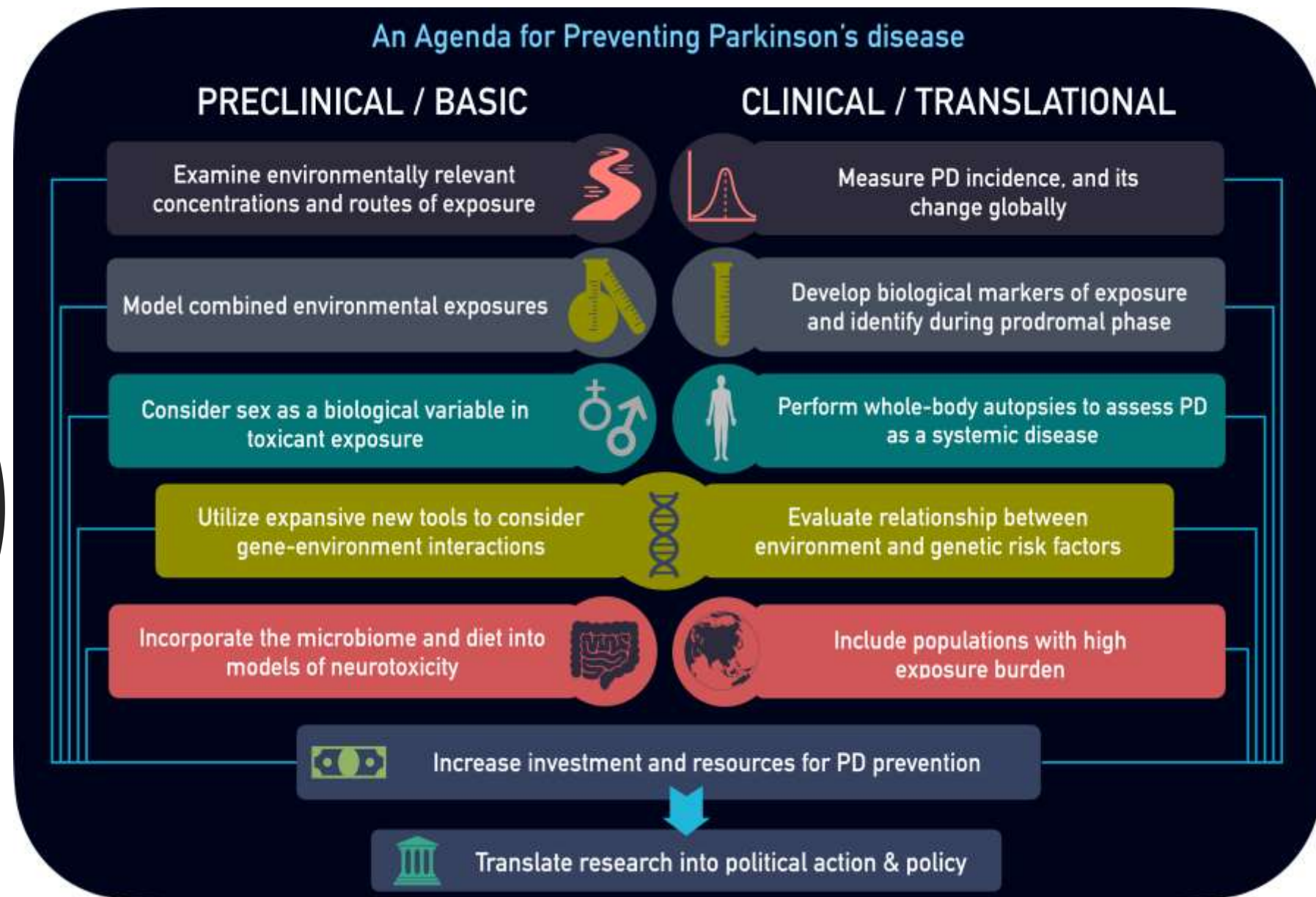
- Constipation
- Fatigue
- Sleep disorders
- Restless legs syndrome
- Urinary problems

Comorbid physical conditions

- Bone fractures
- Stroke
- Hypertension

(Santiago, Bottero and Potashkin, 2017)

PREVENTION



Prevention

- Target on healthy lifestyle interventions like increase physical activity. (Crotty ,2022)
- Exercise is strongly linked to reduced risk of developing Parkinson's disease.
- (Unified Parkinson's disease rating scale) use for inter rater variability, motor impairment.
- Digital biomarkers(smartwatch, smartphone) use for monitoring to capture passive data.
- Caffeine is help to decrease the progression of disease.
- Supplement called NAC (N-acetylcysteine) , when take with selenium, can help the body make more glutathione.
- Glutathione is a natural substance that protects brain cells from damage caused by oxidative stress.

Productive care and skills

- Observation of patient thoughts.
- Speech therapy and language therapy practice for manage communication with family and patient.
- Educate patient and family about condition.
- involved family members during assessment.
- Video recording everyday conversation help to verbal and non verbal communication.

Comprehensive model

Personalize care management.

- Nurse is central role in this condition.
- Nurse help to patient care also support patient for self monitoring and self management.
- Care must adapt to motor symptoms and non motor symptoms.

Care management

Information provide

Patient Navigation

Care of Coordination

Monitoring

Early detection of sign and symptoms

Shared decision making

- Clear discussion between patient and doctor.
- Patient have choice to make own decision.
- Doctor gives enough time during consultation to discuss choice properly.
- Trust is important between patient and doctor.
- The neurologist has strong knowledge and experience with treatment options.

Personal health budgets

- In UK, NHS provide adults, children and young people health budget.
- Information about personal health budgets is available through the local Integrated Care Board website. (NHS England, 2024)
- **Social prescribing** link workers are introduced into primary care networks across England, so person are in England should be able find the criteria through GP..
- NHS provide peer support, **self management** education and health coaching for self management support.

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