

Commentary

Navigate through Parkinson's disease in Italy: Is it time for a more comprehensive nursing care?

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Introduction

Parkinson's disease (PD) is a progressive neurodegenerative disorder characterized by changes that progressively lead to striatal dopamine depletion and disruption of basal ganglia circuits, which are essential for motor function (1). Parkinson's disease is closely associated with aging and presents with a wide range of symptoms that can significantly impact quality of life (2). Classical motor symptoms—including resting tremor, bradykinesia, rigidity, and postural instability—typically emerge only after a substantial loss of dopaminergic neurons in the substantia nigra. In contrast, non-motor symptoms such as olfactory impairment, sleep disturbances, autonomic dysfunction, neuropsychiatric manifestations, and cognitive decline often precede or accompany motor symptoms, contributing substantially to the overall disease burden (3).

Epidemiologically, PD ranks as the second most common neurodegenerative disease worldwide, with both prevalence and incidence rates continuing to increase compared to previous decades. Indeed, between 1990 and 2021, global prevalence increased from 3.15 million cases to 11.77 million cases, while the age-standardized incidence rate increased from 11.24 to 15.63 per 100,000 population (3).

In Europe, Western nations report some of the highest age-standardized prevalence and incidence rates globally (4). In Italy, a meta-analysis of sixteen regional

studies estimated a pooled prevalence of 193.7 per 100,000, with age-specific rates ranging from 37.8/100,000 in individuals under 65, to 1,235/100,000 in those aged 75 and older (4).

The care pathway for PD typically begins with a clinical diagnosis based on established criteria of the Movement Disorders Society (5), supported by imaging (e.g., DaTscan), which has seen notable technological advancement in recent years (6). Following diagnosis, patients are generally referred to neurologists or movement disorder specialists, ideally within an interdisciplinary team, including PD nurses, physiotherapists, speech and occupational therapists, psychologists, and primary care practitioners (7). Long-term management focuses on regular monitoring of motor and non-motor symptoms, as well as functional status, with ongoing adjustments to therapy aimed at maintaining the highest quality of life possible for each patient (7).

Pharmacological treatment of PD remains centered on levodopa, which is particularly effective in managing bradykinesia and rigidity (3). In more advanced stages, neurosurgical and device-assisted treatments, such as deep-brain stimulation and continuous dopaminergic infusion via levodopa-carbidopa intestinal gel or apomorphine pumps, can offer substantial benefits (3).

Alongside these pharmacotherapies, non-pharmacological interventions play a

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pivotal role. These include physiotherapy and exercise programs (e.g., dance, tai chi), voice therapy (e.g., Lee Silverman Voice Treatment), occupational therapy to support activities of daily living, cognitive-behavioral therapy to address mood or sleep disorders, and tailored nutrition strategies emphasizing Mediterranean-style diets and increased dietary fiber intake (8).

Despite recent advances, several critical challenges persist in the PD care pathway. Early diagnosis is often delayed or inaccurate, which can hinder timely intervention (9). Access to specialized interdisciplinary care and advanced treatments is uneven, particularly across different regional areas of Italy (10). In fact, rehabilitation services are often inconsistently delivered, while the adoption of assistive technologies and telemedicine is limited by factors such as infrastructure, cost, and patients' digital literacy. Additionally, care coordination among specialists, primary care providers, and community services is frequently fragmented, further complicating the comprehensive management of PD patients (11).

***Supporting the patient in the care pathway:
The role of nurse navigator***

In recent years, the role of the nurse navigator has emerged as a pivotal component of chronic disease management, providing structured, patient-centered coordination and bridging often fragmented care systems (12). In the context of Parkinson's disease (PD) in Italy, a multifaceted disorder requiring interdisciplinary management, introducing nurse navigation care models may address key systemic shortcomings and enhance patient outcomes.

Often known in PD care as the Parkinson's Nurse Specialist (PN), the nurse navigator acts as a dedicated case manager who supports patients throughout their care journey (13). This role includes assessing individual needs, coordinating access to various services, managing both non-medical and medical issues, facilitating communication among healthcare providers, and ensuring timely escalation

when problems arise (13). While this model is well-established in oncology (14). It remains relatively uncommon in other fields within Italy. However, both international experience and emerging Italian pilot programs indicate that nurse navigation can offer significant benefits in managing PD patients (12,15).

One of the most notable Italian initiatives occurred during the COVID-19 pandemic with the implementation of a two-step telemedicine framework called "ParkinsonCare," which was supported by telenursing led by Parkinson's disease nurses (15). Between March and May 2020, 525 patients received 2,021 remote interventions, with the majority (62%) resolved solely through nurse-led telephone triage. Importantly, 70% of patients gave positive feedback, underscoring the acceptance and effectiveness of nurse-led telecoordination in a real-world Italian context (15).

Beyond the immediate demands of the pandemic, ongoing efforts like the IMPACT study—currently underway in Italy for atypical Parkinsonism—are investigating the role of case-manager nurses within a telemedicine-integrated, home-based care model (16). This program combines passive telemonitoring with semi-structured follow-up protocols to prevent complications, reduce hospital admissions, and improve continuity of care. By proactively tracking motor symptoms, fall risk, and medication side effects, the nurse-led approach aims to identify and address problems early, marking a shift from reactive to proactive management (16).

Research specific to Parkinson's disease has highlighted the versatile role of Parkinson's nurses. Systematic reviews emphasize their contributions in areas such as medication monitoring, coordination within multidisciplinary teams, patient education, psychosocial support, and assistance with decisions regarding advanced therapies like deep brain stimulation or infusion pumps (13).

Although quantitative improvements in quality of life have been variable—likely reflecting differences in how these roles are implemented—there is consensus on the broad and valuable impact of Parkinson's

nurse specialists (13). Available evidence echoes this potential. Recent literature particularly emphasized that Parkinson nurses can coordinate the care pathway, strengthen in-home support, facilitate effective communication with patients, and accelerate early recognition of disease progression, leading to timely referral to specialists (17).

This is particularly important in Italy, where geographic and institutional disparities often limit consistent access to multidisciplinary care and advanced treatments. The practical implementation of nurse navigation in Parkinson's disease care could address these gaps across several key domains (Figure 1).

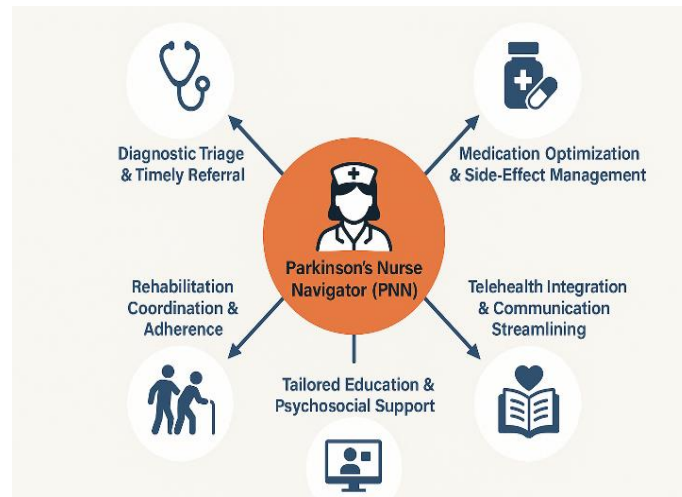


Figure 1. Supportive role of Parkinson's nurse navigator

- **Diagnostic triage and timely referral:** Following initial suspicion or diagnosis, nurse navigators could perform structured assessments - either in person or via telehealth - to triage patients by urgency and complexity. Such models are proven in Italy and enable earlier specialist engagement when needed, while managing routine concerns remotely (18).
- **Medication optimization and side-effect management:** Nurses are well-positioned to monitor motor fluctuations, manage non-motor issues like orthostatic hypotension, and liaise with neurologists to adjust pharmacotherapy. Evidence from a UK randomized trial shows that nurse-led medication reviews improved appropriate levodopa use and reduced less effective adjunctive agents (19).
- **Rehabilitation coordination and adherence:** Nurse navigators can ensure timely referrals to physiotherapists, speech, and occupational therapists according to individual needs, fostering adherence to evidence-based non-pharmacological interventions (13).
- **Tailored education and psychosocial support:** Through structured frameworks, PNs can deliver tailored education on disease progression, management techniques, caregiver involvement, and advanced care planning—aligning with emerging nurse-led palliative care models currently planned across seven European countries, including Italy (8).
- **Telehealth integration and communication streamlining:** Through telemedicine and telenursing platforms, nurse navigators can streamline communication among neurologists, rehab specialists, and families, overcoming geographic fragmentation (15,16).

These figures, placed in a specialized outpatient setting, could truly represent a “clinical consierge” of PD patients, harmonizing the care they receive. Several challenges must be overcome to fully realize this vision in Italy. First, comprehensive and standardized training for Parkinson's nurse specialists is required. Current evidence suggests specialized education modules focused on care coordination, telehealth use,

and patient-centered communication (13). Yet in Italy, such training pathways are limited and lack recognition. Second, funding and reimbursement models must reflect the clinical and economic value of nurse navigation, as demonstrated by telehealth reimbursement models introduced during the COVID-19 pandemic (15).

Finally, successful implementation depends on robust digital infrastructure and strong institutional support to ensure equitable access, while also addressing barriers related to patients' digital literacy (20).

Conclusion

Integrating nurse navigators into the Italian Parkinson care pathway represents a promising, evidence-based approach to address diagnostic delays, optimize medication management, streamline rehabilitation, and bolster patient education and support.

Existing Italian experiences provide a solid foundational model of tele-nurse navigation, demonstrating its feasibility and value. To fully realize this potential, it will be crucial to expand these models both locally and nationally, establish standardized training programs, and secure sustainable funding—paving the way for more comprehensive, patient-centered care for people living with Parkinson's disease.

Conflict of interest

The authors declare that they have no conflicts of interest.

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