Commentary

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Thinking Outside the Walls: Partnerships for Improving Outcomes in Hospitalized People with Parkinson's Disease

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Keywords

Parkinson's disease; Hospitalized; Inpatient; Electronic health record; Intervention

Description

Several studies have examined the reasons for the higher hospitalization rates of people with Parkinson's disease (PWP) and the factors contributing to the poor outcomes during and following their in-hospital stays [1-4]. To overcome the negative impact of hospitalization, interventional studies have attempted to minimize the harmful practices previously identified. The protocols used were based on education sessions incorporation of [5-8] alert systems and increasing the accessibility of dopaminergic medications. The interventions effectively improved the timely delivery of drugs and reduced the prescription of contraindicated medications [6-8]. However, it did not significantly impact the length of stay or the frequency of clinical complications [7,8].

One study evaluated the introduction of a Specialist in-patient Parkinson's Disease (PD) Unit encompassing trained staff, enhanced stock of dopaminergic drugs, guidelines for PD management, and easy access to PD therapists, resulting in significantly shorter length of stay and better patient-reported experience of care [9]. As acknowledged by the authors, implementing such units may be challenging. There was pressure on the need for beds for other patients, leading to many PWP being sent to other wards and, therefore, excluded from the intervention. Likewise, PWP requiring a different special care unit, such as coronary or trauma units, were excluded [9]. Thus, the interventional studies conclude that education sessions, customized alerts, and easy access to dopaminergic medications effectively improved the metrics analyzed but may not be sufficient to change safety outcomes. On the other hand, a special unit may change safety outcomes but may not be feasible or appropriate for patients admitted for problems requiring other specialized care.

Given the need for more comprehensive models of inpatient care designed for PWP, the Cleveland Clinic Foundation, in partnership with the Parkinson's Foundation, is conducting an interventional project as part of the Parkinson's Inpatient Safety Initiative. The paper entitled "Establishing a framework for quality of inpatient care for Parkinson's disease: A study on inpatient medication administration" by Yu et al. constitutes the first part of the project, which examined medication administration practices in the hospital setting [10]. Unlike previous publications that quantified deviations in the hospital medication administrations based on the inpatient medication order, Yu et al. quantified the deviations relative to the latest stable outpatient regimen, providing a better estimate of the timing, formulation, and LEDD (Levodopa Equivalent Daily Dose) discrepancies. In January 2023, the project advanced to implement a proactive intervention, which aims to mitigate the sources of adverse outcomes identified by Yu and colleagues and to gradually implement the recommendations from the recently released "Parkinson's Foundation Hospital Care Recommendations" [11].

This phase included gradual changes in the Electronic Health Record (EHR), such as drug-disease alerts and the specification of time-critical medications to reduce prescriptions of contraindicated

drugs and timing deviations. In addition, a census of patients with Parkinsonism was built using an EHR tool to allow the PD-specialist advanced practitioners to screen, monitor, and proactively intervene in inpatient management. Active interventions included, but were not limited to, comparing inpatient prescriptions with the outpatient regimen, notifying providers in case of discrepancies, monitoring NPO indications and the Speech-Language Pathologist (SLP) evaluations, and encouraging early mobilization and referral to rehabilitation. Furthermore, management of PD exacerbations and hospital-related complications was systematically performed, and expert consultations were available in person and virtually. A multi-disciplinary team, including physicians, advanced practitioners, clinical pharmacists, SLPs, researchers, Parkinson's community and Parkinson's Foundation representatives, periodically met to discuss improvements in the intervention implementation.

Implementation of a project that modifies a long-standing intra-hospital structure is challenging and requires extensive coordination with internal partners, as elucidated above and with external ones, such as the EHR vendors, developmental organizations, and funding agencies. Once the effectiveness of the proactive intervention is statistically supported, and the scientific community validates its implementation, additional steps and partnerships will still be needed for its consolidation, such as:

Enrollment of specialized human resources

Advanced practitioners specialized in the management of PWP to proactively monitor and guide the management of PD exacerbations and in-hospital complications.

Neurological pharmacists to review PD medication orders and to work with pharmacy informatics, safety event committees and hospital formularies, to ensure safe and effective medication distribution and administration.

Rehabilitation team to provide speech and swallow evaluations, physical therapy and occupational therapy as appropriate.

Education and training

Multidisciplinary continuing education and training to empower professionals involved in PWP care, ensuring the continuum of the intervention.

Collaboration with information and technology internal teams and EHR vendors

Developing and promoting customized EHR tools designed for PWP care, facilitating its optimization and adoption by other health facilities.

Adaptative re-design

Continuous data collection and interim analysis to assess the impact of interventions, followed by re-designing the interventions based on findings.

Replicability across different settings

Disclosure of the intervention content and replication in other facilities with varying acuity of care, including regional hospitals.

Creation of a network of remote assistance services for inpatient management designed to support health facilities with insufficient experts in the care of PWPs.

While data from the proactive intervention research is being collected, analyzed, and compared with the historical reference year, and the internal and external bridges for PWP care are under construction, the Parkinson's Foundation within their Hospital Care Initiative has united hospital care experts, PD specialists, and PWP to establish a set of best practices. The result of this effort is the "Parkinson's Foundation Hospital Care Recommendations" based on their pre-defined chief care standard: Customized orders for PD medications; configuration of PD drugs as time-critical, prioritizing their administration within 15 minutes of the due time; elimination of harmful medications; routine mobilization of patients; and dysphagia screening within 24 hours of admission. These recommendations will guide healthcare providers in optimizing care for PWP, helping to fill the existing gap [11].

In conclusion, there has been an increasing call to action to promote increased involvement of specialists during the hospitalization of PWP and to develop an effective model of care [2,12,13]. Earlier establishment of adequate solutions has been hindered by the complexity of the process, which demands close coordination and partnerships that extend beyond the hospital walls. Together with the Parkinson's Foundation and sharing the same goal of optimizing safety and care among hospitalized PWP, this initiative aims to establish a model that is replicable for hospital systems worldwide.

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