REVIEW ARTICLE

Knowledge, Attitudes and Practices of Healthcare Practitioners on Falls Prevention in Parkinson's Disease Patients: A Scoping Review

Thamayanthi Naidu Manoharan[1], Asmidawati Ashari[1,2], Tengku Aizan Tengku Abdul Hamid[1], Sankari Nedunsaliyan[1]

[1] Malaysian Research Institute on Ageing (MyAgeing™),, 43400 Serdang, Selangor, Malaysia
[2] Faculty of Human Ecology, University Putra Malaysia, 43400 Serdang, Selangor, Malaysia

ABSTRACT

Parkinson's disease (PD) is a neurodegenerative disease with progressive in nature, presenting with symptoms such as gait impairments and postural instability that leads to fall with complications such as fractures, disability and mortality. Alarming demands on care by the healthcare practitioners increasing by time. However, there is no study published regarding association between knowledge, attitude and practice (KAP) of healthcare practitioners on fall prevention among PD population. Therefore, this study aims to provide a comprehensive overview of studies dealing with KAP of healthcare practitioners and fall prevention in PD. Methods: The studies published between year 2013 to February 2023 were evaluated.The search was conducted within international electronic databases. A scoping review was conducted using the Arksey and O'Malley framework. All journal articles that focused on the KAP of healthcare practitioners on fall prevention in PD patients were selected. In overall, 5 studies included in this review discussed about studies related to KAP of healthcare practitioners based on screening of result. There were no direct KAP study of healthcare practitioners on falls prevention among PD population. Conclusion: Paucity of literatures observed related to role of healthcare practitioners in falls prevention in PD population.
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Keywords: Knowledge, Attitude, Practice, Healthcare practitioners, Falls prevention, Parkinson's Disease

Corresponding Author:
Thamayanthi Naidu Manoharan, Bsc
Email: tamramaya87@hotmail.com
Tel: +603-89472377

INTRODUCTION

Parkinson's disease (PD) is described as a "progressive neurodegenerative disease" that "is characterised by several symptoms, including gait impairments and postural instability, which lead to falls" (1). Falls among people with Parkinson's disease (PD) can cause fractures, disability, and even death. 13% of PD patients were said to have fallen more than a week. Falls affects quality of living of PD patients to live independently and recurrent falls may lead to hospitalisation and increase financial burden of the population. Gait and postural instability are one of the reason of falls among PD population (2).People with PD with shuffling gait and freezing of gait may had difficulty to balance themselves and more likely to falls as PD progresses. Among the PD populations, cognitive impairment is a non-motor risk factor of falls. Gait and fall risk have been linked to planning and working memory. Individuals with cognitive impairment possesses reduction in executive function and attention. Delayed response due to slower reaction times will likely increase risk of falls (3-5).

A study by Kalilani and colleagues in year 2016 at United States (US) resulted, higher risk of falls and fractures observed in PD patients compared to their peer (6). The study findings also suggests development of guidelines for disease management in clinical practice for PD population is crucial. Lack of PD specific expertise among physiotherapists is identified as one of factor that impacts quality of physiotherapy in PD (6). Moreover, PD patients with high risk of falling had access with healthcare system yet unaware of risk factors related with falling. Anyhow, a previous survey on incident rate of falls and fracture of matched population with and without PD resulted, healthcare professionals were fundamentally having awareness on fall risk factors among PD patients (6).

Despite the fact of PD fall prevention is highly a knowledge translation practice, a qualitative study carried out about

barriers faced by healthcare professional when managing falls in older people in Kuala Lumpur, Malaysia resulted, there is a lack of clinical knowledge and skills on falls management healthcare practitioners on falls prevention among aging population. It was supported by limited educational resources and less exposure of healthcare practitioners on management of falls prevention among aging population (7). Most studies focused on fall management in older population. Literally, gaps between recommended practice and current clinical practice in managing falls and its prevention are limited from the published studies(8). Previous published studies are limited on exploring association between KAP of healthcare practitioners on falls prevention in PD population. Therefore, the purpose of this scoping review was to look into the gaps in healthcare practitioners' KAP regarding fall prevention. The Scoping review used to address broad research questions and to map evidence from a variety of sources (10). Therefore, the scoping review objective is to provide a comprehensive overview of studies dealing with KAP of healthcare practitioners on falls prevention among PD and identify any knowledge gaps of the research topic.

METHODOLOGY

The scoping study focused on healthcare practitioners' knowledge, attitudes, and practises regarding falls prevention in PD patients in accordance with Arskey and O'Malley's and Levac et al.'s 2010 guidelines (10). The following are the steps in the Arksey and O' Malley framework that were used in this study: defining the research question, finding pertinent studies, choosing studies, charting data, and gathering, summarising, and reporting evidence. This investigation adhered to the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews) checklist (Supplementary File 1)(10). The studies published between year 2013 to February 2023 were evaluated.

Identifying the research question

The study adopted the Population - Concept - Context framework to determine the research question (10). The population is healthcare practitioners, and the concepts are KAP on falls prevention in PD patients. Thus, it is very important for the healthcare practitioners to have apt KAP on falls prevention in PD patients. The context of the study is no specification on setting such as hospital or community care centre and selected countries included in the study. The main review question was "What is the existing evidence on KAP of healthcare practitioners on falls prevention among PD patients?" The second review questions were "What are the barriers for healthcare practitioners to improve KAP in fall prevention among PD patients?"

Literature Search

The following databases were thoroughly searched for potentially eligible articles:

EBSCO Host (Academic Search Complete, Health Business Elite, Psychology and Behavioral Sciences Collection, CINAHL Plus with Full Text, Cochrane Central Register of Controlled Trials, Cochrane Clinical Answers, Cochrane Database of Systematic Reviews, Cochrane Methodology Register, MEDLINE Complete and Scopus) article was used to search the articles. There was no limitation for timeframe of the database and English language, and abstract that using keywords were screened during the search except for key word search for Boolean terms (AND/OR) and parentheses were used to separate the keywords. The previous systematic reviews and literatures that generating similar meanings were included during the keywords search in the databases. To widen the scope of the search and capture the full range, the study design restriction was removed during databases search. The search was conducted on 05th January 2023 and was updated up to 4th February 2023.

The search keywords uses the following format. AB ("healthcare practitioner*" OR "healthcare professional*" OR "health care practitioner*" OR "health care professional*" OR "occupational therap*" OR "physiotherap*" OR "physical therap*" OR "rehabilitation" OR nurse OR doctor) AND (parkinsons disease or parkinson's disease or parkinson's or parkinsons or parkinson or pd) AND TI (knowledge or attitude or experience or practices or perception or awareness or belief or view) AND (falls prevention or preventing falls or prevent falls or reduce falls).

Study Selection

The title screening and database search were carried out independently while being guided by the eligibility requirements. This study contains primary papers that are mostly concerned with PD, have no particular research design, report investigations of healthcare professionals' KAP on fall prevention, and were written in English. The study excludes the use of the "grey literatures," which include theses, dissertations, conference abstracts, non-research papers, and secondary data analysis. The grey literatures excluded for this study as it is not peer review and not indexed in major bibliographic resources (11-12). Non - accessible full text research articles also were excluded from the research during data screening (13).

Data Charting

A comprehensive reading and screening of data extraction of the study details, study title, aim or objectives, study design, target population were extracted. To ensure the consistency, the author independently extract the data from included study from Mendeley Reference Manager to Microsoft Excel . Thorough check duplicates was done , 242 articles were excluded. The findings of screening reported in Prisma Flow Diagram (Figure 1).

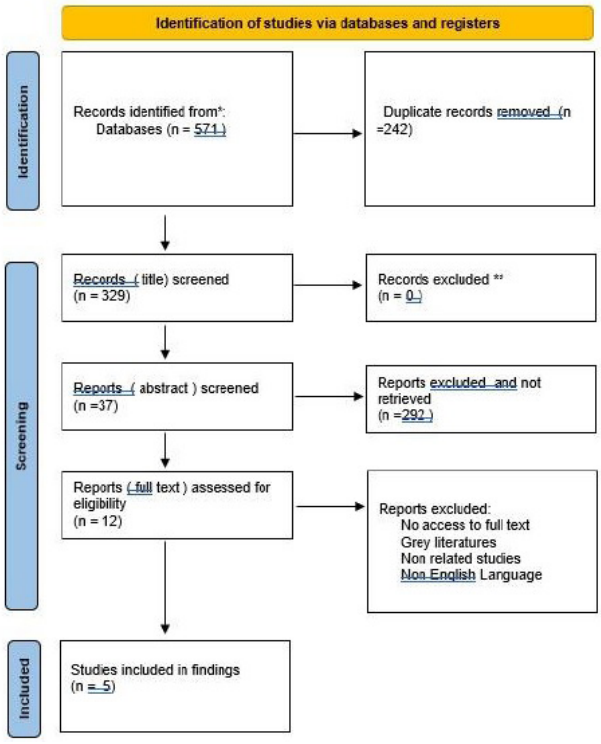

Figure 1: PRISMA flowchart

RESULTS

In all, 5 articles (14-18) met the eligibility criteria out of 329 at the title screening stage. Out of the articles, 242 were duplicates hence, they were deleted prior to abstract screening. Subsequently, 292 articles were also excluded following title, abstract and full-text screening respectively. At the end of the study section process, 5 articles met the inclusion criteria that were included in data extraction (Figure 1).

Characteristics and findings of included studies

Of the included 5 studies (14-18) , one was a cross sectional study, two qualitative studies, one was a descriptive survey, and a descriptive study. The further details and findings about the study in collated table at Table I. The findings related to KAP of healthcare practitioners among PD were briefly summarised at table (Table I).

KAP of Healthcare Practitioners on Fall Prevention among PD patients

Owen et al. (2022) highlighted the role of healthcare practitioners in falls prevention in terms of delivering falls information, executing customised falls exercises, and intervening on severity based on condition. The patient's assessment of the GP's lack of competence in the management of Parkinson's disease patients in terms of providing proper care and support for falls. Furthermore, people with Parkinson's perceive work of healthcare practitioners to be limited to medical management, making the role of healthcare practitioners irrelevant for advanced PD patients. As a result, it was identified that Parkinson's patients' misconceptions about the roles of healthcare practitioners act as a barrier to seeking professional palliative care (15).

According to Acebedo-Urdiales et al. (2014), practical knowledge gained by nurses working in ICU units is far superior to empirical knowledge. Nurses' competency is related to their high degree of knowledge, proper attitude, and practise. Falls prevention was practised for high-risk patients, such as those with spinal cord injuries, by providing reassurance and ensuring the safety of the immobilised patient. The nurses accept responsibility by providing emotional support and reasoning to fragile patients so that they are aware of their position and treatment, and who are afraid of being transported using a hoist (14).In contrast, through context-specific fall-prevention clinical recommendations for practice in Nigeria for physiotherapists, potential gaps in understanding of risk factors, documentation, and referrals to other professionals have been highlighted.

The complexity of managing falls for Parkinson's patients is heightened by the advanced stage of the disease. The therapists focused on the impairments that Parkinson's patients experienced, and they identified cognitive deficit, co-morbidities, and dyskinesia as difficult treatment challenges (16). According to Huh et al., (2021), there is a positive link between age and patient safety competence, supporting the idea that older nurses had better experience, skillful and competency in patient's safety context. The highest patient safety competence scores were achieved by nurses with higher educational achievements(18). So, it's possible to draw the conclusion that patient safety nursing actions are carried out to assure patient safety at the hospital for incidence-related falls, particularly for chronic degenerative disorders like PD.

DISCUSSION

There were no articles published related to KAP healthcare practitioners of falls prevention specifically for PD population. The published articles were mainly interventional studies, cross sectional survey and qualitative study which focus on fall management in neurological ageing population and PD population where it mentioned about fall prevention and role of healthcare practitioners. The direct role of healthcare practitioners and practice of falls prevention in PD patients were not clearly stated. Therefore, overview of possibilities of barriers on falls prevention and future research and practice, related to falls prevention in PD's patients will be discussed.

Barriers faced by healthcare practitioners for implementation falls prevention

Lack of knowledge and skill is one of the obstacles to adopting successful fall prevention techniques (8).

Lack of information for evidence-based fall prevention procedures caused clinicians to underdocument and underuse clinical guidelines for fall management(19). Although doctors were aware of the need of fall prevention, they were unsure of how to incorporate it into their practises and failed to send high-risk patients to the appropriate therapies (19).According to Steven & Phelan (2013), healthcare professionals did not place falls above other health issues, and some did not initiative to learn about fall prevention treatment. According to Davenport et al. (2020), emergency department staff are aware of the significance of fall prevention in the elderly population but are unaware of specific screening procedures. The level of knowledge of nurses on fall patients is higher for those who have experience treating patients in fall prevention, according to research done to examine KAP on fall prevention in hospital settings (19). The nurses who have participated in fall prevention education sessions at least five times and had more than five years of nursing experience reported having good attitudes towards fall prevention (20).

Time constraint is another barrier faced by healthcare practitioners on implementing fall prevention practices.

Table II: Findings related to KAP of healthcare practitioners among PD

Author and year	Study setting (Country)	Study design	Purpose of Study	HCP's Knowledge related to fall prevention	HCP's Attitude / Perception towards falls prevention	HCP's Practice towards fall prevention	Relevant findings
María Sagrario Acebedo-Urdiales, José Luis Medina-Noya, Carme Ferré-Grau (2014) (14)	Spain	Qualitative study	To describe knowledge that the more experienced nurses the in ICU make use of and discover the components of care it includes. Understanding this knowledge can contribute to improving the working practices of nurses with less experience.	Contextual Practical knowledge, compared with empirical knowledge.	Able to communicate better with patient, with problem solving skills.	Experience influence quality of practice.	I guarantee that you will never, ever fall out of this hoist. In my 20 years here, I have never had a patient fall out of a hoist, so you'll be the first if you do, right? This hoist is really safe. Hook the hoist at the proximal side now, then the distal side.' "Okay, that looks like you twisted it, don't say that." The other person responds, "Good." At that point, I might look and see that they do it that way, but they mustn't know that you're doubtful. it's ridiculous, but it's not like, "You twist it, right?" or "It looks like you twist it here." Continue as such and make changes.
Charlotte L. Owen, Christine Gaulton, Helen C. Roberts, Laura Dennison (2022) (15)	Australia	Qualitative study	Explored how people with Parkinson's disease and their family caregivers understood and experienced falling and healthcare services relating to falls prevention and management.	Lack of PD knowledge among General Practitioners (GP).	Communication of healthcare practitioners to person with Parkinson's and carer is poor.	"Caregivers and PwPD were often more positive about physiotherapist and occupational therapist's roles. They described physiotherapists providing movement and behavioural strategies, which included teaching the PwPD how to get up from the floor, strategies to overcome freezing, how to rise from a chair and exercises for them to practice. Participants described occupational therapists giving them advice and equipment, which they perceived had reduced their risk of falls".	N/A

Table II: Findings related to KAP of healthcare practitioners among PD (continued)

Author and year	Study setting (Country)	Study design	Purpose of Study	HCP's Knowledge related to fall prevention	HCP's Attitude / Perception towards falls prevention	HCP's Practice towards fall prevention	Relevant findings
Hulbert S, Chivers-Seymour K, Summers R, Lamb S, Goodwin V, Rochester L, Nieuwboer A, Rowsell A, Ewing S, Ashburn A (2021) (16)	United Kingdom	Descriptive study (single blinded, Randomised controlled trial)	To explore the clinical reasoning of physiotherapists using PDSAFE; according to disease severity and their experiences of treatment delivery in a large fall-prevention trial for people with Parkinson's (PwP).	N/A	N/A	"The personalised intervention was reflected in the range of strategies and exercises prescribed. Most prescribed fall-avoidance strategies were 'Avoiding tripping', 'Turning' and 'Freezing Cues' and all possible combinations of balance and strength training within the programme were selected. PwP with greater disease severity were more likely to have received less challenging strategies, balance and strengthening exercises than those with lower disease severity".	"Therapists considered the focus on fall events and fall avoidance strategies an improvement on 'impairment only' treatment. The presence of cognitive deficits, co-morbidities and dyskinesia were the most challenging aspects of delivering the intervention". Falls management for PwP is complex and heightened by the progressive nature of the condition.
Michael E Kalu Athina (2019) (17)	Nigeria	Cross sectional study	To determine the self-reported levels of knowledge on risk factors of fall and practices about fall prevention in older adults among physiotherapists in Nigeria.	Among physiotherapists in Nigeria, 89% rated their level of knowledge about preventing falls among older adults as high. Among the individual items that measured knowledge, 40% of the participants reported a moderate level of knowledge about multiple medications as a risk factor for falls.	N/A	64% of them rated their level of practice on this topic as high. Half of the participants reported a low level of practice of referral to other health care professionals, whereas 40% and 41% reported a moderate level of practice on documenting risk factors and treatment plans, respectively.	"Physiotherapists in Nigeria have adequate knowledge and practice for fall prevention in older adults. However, there are potential gaps in knowledge of risk factors, documentation, and referrals to other professions that may be addressed through developing context-specific fall-prevention clinical guidelines for practice in Nigeria".
Ayoung Huh , and Juh Hyun Shin (2021) (18)	Korea	Descriptive survey	To analyse factors influencing person-centered care practice, patient safety competence, and patient safety nursing activities of geriatric nurses.	N/A	N/A	"The positive correlation between age and patient safety competence supports the findings that nursing skills and competence improve with increasing age and clinical experience. In terms of education level, nurses with postgraduate and higher educational accomplishments scored the highest in patient safety competence, which may be attributable to the fact that postgraduate and specialized nursing programs enhance problem-solving abilities across nursing-related subareas and procedures".	Patient safety nursing activities are nursing activities undertaken to ensure patient safety in hospitals including falls, for age related , chronic degenerative disease such as PD.

Limited time during office visits, assessing and screening older adults by physician for falls will increase discussion and length of the visit, which is not practical in a high – volume facility .The family physicians reported that time constraints in clinical practice is the main barrier for fall prevention practice which is 70% in the survey, followed by demand of immediate actions, and lack of personal training and lack of educational resources on fall prevention to give to patients (21). Patients' perceptions of falls can make it difficult to manage them effectively. Due to the misconception that falls are a natural aspect of ageing, medical experts believed that patients underreported gait abnormalities and falls (8). There is a perception of falls among older patients, that falls affecting their reputation.According to Loganathan et al. (2015), some patients perceive falls as a disorder that lowers their self-esteem and quality of life and forces them into nursing homes. Patients' perceptions that adhering to fall prevention programmes and utilising an assistive device are weak or fatalistic and would harm an older adult's.

Establishing a Comprehensive Framework For Falls Research in Parkinson's Disease

To build a roadmap for fall study, the International Classification of Functioning, Disability, and Health (ICF) model is an approach to bridge and to assess and provide comprehensive falls prevention. The ICF is appropriate to properly evaluate falls in clinical practise because falls risk is multimodal (7). The physical limitations that PD patients experience, such as tremor, bradykinesia, rigidity, and postural irregularities, gradually alter their gait, make them prone to fall, and may limit their ability to engage in daily activities. Healthcare professionals therefore have a critical role to play in identifying fall risk factors in PD patients and emphasising to them the importance of lowering their own risk, not only in terms of their medical conditions but also in terms of their environment and how they engage in and participate in activities. There will be fewer falls if medical professionals with significant expertise and experience in fall prevention can translate their knowledge to PD patients. A new tool that can be utilised by healthcare professionals in many contexts with ease and consistency (25) might be created incorporating evidence from the viewpoints on the risk of falls that could guide falls intervention efforts.The ICF model can be used as a framework by the interdisciplinary team for PD management, which may include a physiotherapist, doctor, occupational therapist, nurse, and other health professionals, to examine the relationship between falls and clinical assessment tools related to motor and balance functions while taking into personal and environmental factors (26) in PD patients. Further research need to be carried out to investigate factors that are focused on intervention in fall risk management in PD and determine if the perspectives of healthcare practitioners are translated into clinical practice (27).

Implication for Practice

There is a need for educational training programme related to PD fall prevention to encourage engagement of healthcare practitioners on falls prevention (25). Development of falls prevention strategies is crucial for a particular setting and specific condition for neurodegenerative condition such as PD. Appropriate motivation and rewards can be provided to healthcare practitioners to encourage them practice (25) and having positive attitude on reduce risk of falls in PD patients .

Implications for Research

This scoping review demonstrate a limited published research articles directly related to KAP of healthcare practitioners on fall prevention in PD patients. Further systematic review and meta-analysis and intervention based of studies should be conducted to evaluate efficacy of falls prevention practices and perception of healthcare workers on implementation of knowledge in PD population.

Strength and Limitation

This is the first study that map the literatures related to KAP of healthcare practitioners and falls prevention in PD population. There was no quality appraisal was conducted as this study is a narrative review of literatures . There might be bias during screening of articles and limited time frame as the study was conducted independently by the researcher. The key words usage for databases searches by using wider population such as geriatric population could results to better resources or literatures. Methodological approach should be conducted in the future studies. The relevant databases such as EMBASE with highly cited remarks could be helpful for future studies to generate better findings of suitable articles. Other languages articles should be incorporated in future studies. The consultation with stakeholders such as PD management team must included to improve strength of the study.

CONCLUSION

There is a paucity of literatures related to role of healthcare practitioners in falls prevention in PD population. This study suggests further studies on knowledge, practice, and attitude of falls prevention in PD with geriatrics population study could be done by mapping the PD management with geriatrics population.

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