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Occupational therapists' perceptions of psychosocial strategies for clients with Parkinson's disease

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Abstract

Psychological strategies are a promising adjunct to pharmacological treatment for symptoms, including depression and anxiety associated with Parkinson's disease. In this study, we investigated perceptions and reported behaviors of occupational therapists regarding the use of psychosocial strategies during their practice with clients with Parkinson's disease. The results of a cross-sectional online survey ($n = 115$ occupational therapists) demonstrated that the majority of participants (83%) reported using psychosocial strategies with their clients living with Parkinson's disease, with goal setting the most frequent. Almost all occupational therapists (99.1%) reported that it was moderately to extremely important to have knowledge about psychosocial strategies for practice with clients living with Parkinson's disease, and 96.5% rated it important to be able to offer these strategies in practice with their clients living with Parkinson's disease. The majority (91.3%) felt incorporating psychosocial strategies into their practice was moderately to extremely beneficial, and 93.9% reported that psychosocial strategies have a moderate-to-extremely positive effect on Parkinson's disease management outcomes. These findings have important implications for the education and training of occupational therapists working with clients living with Parkinson's disease to help ensure the best possible outcomes for people with Parkinson's disease.

Keywords

anxiety, depression, occupational therapist, Parkinson's disease, psychology, psychosocial strategies

1 | Introduction

Parkinson's disease (PD) is one of the most prevalent neurodegenerative disorders, affecting 1% of those over 60 years of age, and 5% of those over 85 years (Reeve, Simcox, & Turnbull, 2014). PD has significant implications for affected individuals, caregivers, and healthcare systems, globally. The motor aspects of PD have been extensively examined, resulting in enhanced diagnostic accuracy and the development of effective measurement and treatment methods. However, it is now evident that in addition to cardinal motor features, over 90% of individuals living with PD might also experience various non-motor symptoms (Berganzo et al., 2016). Over the course of the disease, these non-motor symptoms become increasingly prevalent and can include cognitive impairment, sleep disorders, autonomic dysfunction, and psychological disorders (Kalia & Lang, 2015).

George Engel presented a biopsychosocial model in 1977 to address the inadequacies of the biomedical model, stating that in addition to biologic factors, psychological and social factors must also be considered in order to comprehensively understand and manage disease (Engel, 1977). The biopsychosocial perspective has been successfully adopted in research and clinical healthcare settings for the management of chronic diseases, including PD (Hermanns, Deal, & Haas, 2012). Recognition of the biologic, psychological, and social aspects of PD has initiated a change in the approach to care that individuals with PD receive (Hermanns et al., 2012). Although a focus on pharmacological-only treatment is still highly valued, it is evident that pharmacology alone is insufficient to manage both the motor and non-motor symptoms of PD (Martin & Wieler, 2003). Researchers, clinicians, and government organizations are now advocating a biopsychosocial, multi-disciplinary management approach to comprehensively address the multi-faceted challenges faced by individuals with PD (WHO, 2006).

Depression and anxiety are two of the most clinically significant psychological non-motor symptoms of PD, affecting up to 50% of individuals with PD (Chen & Marsh, 2014). Depression and anxiety have been found to have a greater impact on disability and health-related quality of life than motor features, even in the most advanced stages of disease where motor symptoms have fully progressed (Kadastik-Eerme, Rosenthal, Paju, Muldmaa, & Taba, 2015). Individuals with PD consider psychological non-motor symptoms as some of their primary symptoms of concern. Identifying effective treatment strategies for these symptoms has become both a clinical and research priority (Deane et al., 2014).

Pharmacological management has typically constituted the first-line treatment for psychological non-motor symptoms in PD. However, the efficacy of these treatments is still unclear, and both clinicians and patients have raised concerns about polypharmacy and potential adverse side effects (Skapinakis et al., 2010). Consequently, there has been an increase in the interest regarding psychosocial strategies to address psychological non-motor symptoms in PD (Dobkin et al., 2013). Psychosocial strategies refer to approaches that include cognitive, behavioral, and interpersonal methods (Barlow & Durand, 2015). Research currently supports the utilization of a range of psychosocial strategies for the treatment of psychological non-motor symptoms in PD, including, but not limited to, goal setting, positive reinforcement, cognitive behavioral therapy (CBT), motivational interviewing (MI), relaxation, social support, and mindfulness (Butterfield et al., 2016; Dobkin et al., 2011; Lee et al., 2017; Pickut et al., 2015; Saeedian et al., 2014).

Despite research demonstrating the efficacy of psychosocial strategies, numerous barriers prevent individuals with PD from accessing mental health services, including resource constraints, geographic location, transportation and mobility issues, limited PD-trained psychologists, and stigma surrounding mental illness (Dobkin et al., 2013). Research has

highlighted that alternative methods of delivering psychosocial strategies to individuals with PD might need to be examined to address barriers to mental health care. Psychosocial strategies delivered via technology or by specialist allied health professionals, such as occupational therapists, have been identified as possible alternatives that might counter identified barriers, and subsequently facilitate the optimal management of psychological non-motor symptoms in PD (British Psychological Society, 2009; Dobkin et al., 2011).

1.1 | Literature review

While research literature has considered the efficacy of psychosocial strategies in ameliorating symptoms associated with PD, there is a paucity of research that has considered occupational therapists' experiences of using such approaches. This deficiency in current knowledge presents an important limitation to the evidence-based design of effective training and support approaches for occupational therapists working with clients living with PD.

Occupational therapists are holistic, client-centered health practitioners who play an integral role in PD management, aiming to work alongside clients to enhance independence, physical functioning, participation in meaningful activities, and overall quality of life (Martin & Wieler, 2003). In addressing the psychological needs of their clients, numerous evidence-based psychosocial strategies are considered to be within the scope of occupational therapy practice, including goal setting, mindfulness, CBT, relaxation, MI and positive reinforcement, psychoeducation, and social support (American Occupational Therapy Association, 2016; Hardison & Roll, 2016; Nielsen, Stube, & Bass, 2015).

Research over the past two decades has increasingly provided support for the efficacy of occupational therapy in PD, and clients and healthcare professionals have consistently emphasized the value of occupational therapists in home and community-based PD care (e.g. Jansa & Aragon, 2015; Jansa, Aragon, & Lundgren-Nilsson, 2011). Furthermore, professional practice documents and national guidelines (in the Netherlands) have been developed to support occupational therapists in employing a wide range of interventions to address both the physical and psychosocial aspects of PD (Sturkenboom et al., 2011). While previous research has examined the use of psychological theories and techniques by occupational therapists working in mental health settings (Ashby, Gray, Ryan, & James, 2017), to the best of our knowledge, only two studies have briefly reported the views and practices of occupational therapists regarding psychosocial strategies in practice with PD clients (Deane, Ellis-Hill, Dekker, Davies, & Clarke, 2003a, 2003b). Deane et al. (2003a, 2003b) conducted a two-wave nationwide survey in the UK aiming to document current trends in practice and develop a consensus regarding best practice of occupational therapy for PD. Results indicated that only 3% of occupational therapists surveyed reported setting psychological goals, such as managing anxiety and depression, and almost half of the occupational therapists could not rate the efficacy of psychosocial techniques, such as anxiety management and counselling techniques, owing to a lack of knowledge (Deane et al., 2003a, 2003b). As biopsychosocial philosophies underpin the profession, occupational therapists receive a comprehensive education that prepares them to address the physical, psychological, and social aspects of health in all clients (Hartmann, Nadeua, & Tufano, 2013). Deane et al. (2003b) postulated that the content of occupational therapy education, a perception that psychosocial goals might be of lesser practical importance, time constraints, and insufficient knowledge and training in psychosocial techniques might have accounted for these findings. Indeed, 79% of occupational therapists reported the need for further postgraduate training in psychological techniques (Deane et al., 2003a). However, it is likely that there are differences in education styles and focus between countries, and that occupational training has developed since Deane's research.

It is evident that the detection and management of psychological non-motor symptoms in PD is an essential element of current practice, and that as a result of identified barriers, various allied health professions within the multi-disciplinary

team, in addition to psychologists, might be required to deliver appropriate care. Given their wide-ranging education and training in physical and psychological adaptation to disability, occupational therapists are well positioned to offer care from a biopsychosocial perspective and implement evidence-based psychosocial strategies with PD clients in home, community, and healthcare settings (Foster, Bedekar, & Tickle-Degnen, 2014; Nielsen et al., 2015). While the views and practices of occupational therapists regarding psychosocial approaches to care have been examined in mental health settings, since the Deane et al. (2003a, 2003b) surveys, there has been no research examining the current practices, perceptions, and experiences of occupational therapists regarding the use of psychosocial strategies in practice with PD clients (Ashby et al., 2017; Ceramidas, 2010; Kohn, Hitch, & Stagnitti, 2012).

Given the importance of this topic and to address this substantial gap in the literature, the overarching aim of this study was to examine the perceptions and reported practices of occupational therapists regarding their use of psychosocial strategies with clients living with PD. In order to address this aim, we proposed the following research questions: First, how important and beneficial do occupational therapists perceive psychosocial strategies to be in the management of PD? Second, how frequently, and which psychosocial strategies, are occupational therapists currently utilizing in their own practice with clients living with PD?

2 | Methods

2.1 | Design

A descriptive, cross-sectional, online survey design was used in this study.

2.2 | Ethical considerations

Prior to participant recruitment, ethical approval to conduct the study was obtained from the University of the Sunshine Coast Human Ethics Research Committee (S/17/1017). Research participant information was presented at the start of the survey, detailing what their involvement in the study would entail and highlighting the voluntary, anonymous, without-incentive nature of participation, and that participants could withdraw at any stage without explanation.

Participants acknowledged their understanding of this information and consented to participating by selecting “yes” at the beginning of the survey.

2.3 | Participants and recruitment

This research was part of a larger investigation utilizing a concurrent, embedded, mixed-methods, online cross-sectional survey with both quantitative and qualitative components exploring occupational therapists' perceived knowledge, reported use, considerations, attitudes, and beliefs toward psychosocial strategies in their practice. Registered occupational therapists practicing within the past 2 years, self-identified as working with PD clients, were recruited on a voluntary basis to take part in the study. Purposive and snowball sampling recruitment occurred over 8 months, with professional organizational bodies (e.g. Canadian Association of Occupational Therapy, Occupational Therapy Australia, Occupational Therapy New Zealand, United Kingdom College of Occupational Therapists, and Parkinson's Canada) placing adverts and links to the research survey in newsletters, emails, websites, and social media.

2.4 | Instrument

The survey was developed specifically for this study, informed by a literature search that identified key areas of interest, and based on surveys by Driver, Lovell, and Oprescu (2019) and Driver, Oprescu, and Lovell (2019) that examined

TABLE 1 Participants' perceptions of importance and effectiveness of psychosocial strategies in their practice with clients living with Parkinson's disease

Question	N	Response (%)					Mode
		Not at all	Slightly	Somewhat	Moderately	Extremely	
How important do you think it is for occupational therapists to have knowledge about psychosocial strategies for practice with Parkinson's disease clients?	115	.0	.0	.9	24.3	74.8	Extremely
How important do you think it is for occupational therapists to be able to offer psychosocial support in their practice with Parkinson's disease clients?	115	.0	.0	3.5	27.8	68.7	Extremely
How beneficial do you feel it is to incorporate psychosocial strategies in your practice?	114	.0	.9	7.9	40.4	50.9	Extremely
How much of a positive effect do you think psychosocial strategies can have on the management outcomes of Parkinson's disease?	114	.0	.0	6.1	51.8	42.1	Moderately

Reported use of psychosocial strategies was evaluated by asking occupational therapists to select which of the listed strategies (Table 2) they had used in the past 24 months (selection of more than one strategy was permitted), and which single psychosocial strategy they used most often (only one selection was permitted). Participants were also given the option of “other”, which prompted a text response to describe the “other”. The list of psychosocial strategies participants could select from was developed from previous research considering physiotherapists practitioners' experiences of using psychosocial strategies in their practice (Driver, Lovell et al., 2019; Driver, Oprescu et al., 2019). Furthermore, the survey was piloted using a purposeful sample (n = 5) of local occupational therapists.

TABLE 2 Percentage of participants reporting their use of psychosocial strategies in practice with clients living with Parkinson's disease

Psychosocial strategies	Strategies used in the past 24 months ^a (N = 88)	Strategy most used (N = 88)
Goal setting	97.7	40.9
Social support	83.0	1.1
Coping strategies	80.7	17.0
Positive reinforcement	75.0	9.1
Relaxation	73.9	9.1
Positive self-talk	45.5	5.7
Mindfulness	42.0	1.1
Imagery	40.9	3.4
Motivational interviewing	30.7	5.7
Cognitive behavioral therapy	19.3	3.4
Acceptance and commitment therapy	11.4	1.1
Other ^b	9.1	.0

^aMultiple answers were permitted by each individual (% does not add up to 100).

^bThe “other” category included sleep hygiene and bed restriction, modeling, cognitive stimulation, reflective listening, strengths-based intervention, solution-focused brief therapy, errorless learning of new techniques, and movement strategies (i.e. tai chi).

Demographic questions were asked at the beginning and end of the survey, and assessed participants' age, sex, years of practice, and practice location. Prior to the completion of the survey, participants were also given the opportunity to make any additional comments. Survey settings prevented multiple answers from same participant. Internet provider addresses were not collected.

2.5 Data analysis

Data collected by SurveyMonkey.com was exported into IBM Statistical Product and Service Solutions version 24 for analysis. Descriptive statistics, including frequency distributions, and percentages, were used to analyze data. To determine the strength and direction of any relationships between responses, Spearman's rank-order correlations were performed. For all statistical analyses, significance was set at $P < .05$.

3 | Results

One hundred and fifteen occupational therapists provided meaningful responses. Participants were 91% female, 40.5 ± 9.9 years of age, with 14.1 ± 8.9 years of practice experience. The survey completion rate was 79%. This sample size is comparable to previously published survey research of occupational therapists from Australia and the UK. The majority of participants were from the UK (46.9%) and Australia (31.9%), the remaining being from 9.7% from New Zealand, the USA (4.4%), Canada (4.4%), Argentina (.9%), Hong Kong (.9%), India (.9%), and the Netherlands (.9%).

3.1 | What are occupational therapists' perceptions regarding the importance and benefits of psychosocial strategies in Parkinson's disease management?

Almost all occupational therapists reported that it was moderately to extremely important to have knowledge about psychosocial strategies for practice with PD clients, (99.1%, $n = 114$), and 96.5% ($n = 111$) of participants surveyed stated that it was also moderately to extremely important for occupational therapists to be able to offer these strategies in practice with PD clients (Table 1). Furthermore, 91.3% ($n = 104$) of occupational therapists felt that incorporating psychosocial strategies into their practice can be moderately to extremely beneficial, and 93.9% ($n = 107$) reported that they felt psychosocial strategies can have a moderate-to-extremely positive effect on PD management outcomes (Table 1).

Spearman's rank-order correlation did not reveal any significant or meaningful relationships between years of practice and perceived importance of having knowledge of psychosocial strategies ($r_s [93] = .007$, $P = .944$), perceived importance of being able to offer psychosocial strategies in practice with PD clients ($r_s [93] = .166$, $P = .113$), or perceived positive effects of psychosocial strategies in the management outcomes of PD ($r_s [93] = -.071$, $P = .499$).

3.2 | How frequently, and which psychosocial strategies, are occupational therapists utilizing in their practice with clients living with Parkinson's disease?

Of the occupational therapists surveyed, 83% ($n = 88$) reported using psychosocial strategies with PD clients in the past 24 months. Specifically, of the participants who reported using psychosocial strategies in the previous 24 months, goal setting was reported as the most used strategy (97.7%). After goal setting, a cluster of strategies, including social support (83%), coping strategies (80.7%), positive reinforcement (75%), and relaxation (73.9%), were reported as being used most in the previous 24 months (Table 2). Acceptance and commitment therapy and CBT were reported as the two least used strategies in the previous 24 months. Occupational therapists reported goal setting as the single most used psychosocial strategy in general (Table 2).

| Discussion

In this study, we examined the perceptions of occupational therapists regarding the importance and benefits of psychosocial strategies during practice with clients living with PD. Additionally, psychosocial strategies frequently used by occupational therapists with clients living with PD were identified.

Regarding the first research question, it was found that the majority of occupational therapists believe it is important to have knowledge about psychosocial strategies, and to be able to offer these strategies in their practice with clients living with PD. Additionally, occupational therapists feel strongly that incorporating psychosocial strategies can be beneficial for their practice, and feel as though these strategies positively affect PD management outcomes.

Previous research has identified that occupational therapists are increasingly adopting psychosocial strategies and frames of reference in mental health practice settings (Ceramidas, 2010). While issues, including role blurring, have been raised, studies have indicated that occupational therapists generally consider psychosocial strategies as important and valuable tools for their mental health practice (Ashby et al., 2017). In a recent survey examining the application of psychosocial therapies in Australian mental health practice, occupational therapists reported that using psychosocial techniques enhanced their practice by increasing their professional repertoires and offering additional ways to work with clients (Ashby et al., 2017). However, as Ashby et al. (2017) examined the views of only nine occupational therapists in regional New South Wales, it is evident that additional research is needed to corroborate these views.

Only two previous surveys have briefly examined the thoughts and experiences of occupational therapists regarding psychosocial strategies in their work with clients living with PD (Deane et al., 2003a, 2003b). While Deane et al. (2003b) found that occupational therapists considered psychological and social aspects of PD to be as important as physical aspects, researchers did not specifically ask occupational therapists how important they perceived psychosocial strategies to be in this area of practice. Therefore, the results of this study support previous research from mental health settings, confirming that occupational therapists recognize the value of offering psychosocial strategies in practice. Additionally, our study contributes novel findings to the literature, suggesting that occupational therapists' positive perceptions regarding the importance and benefits of psychosocial strategies might extend to practice with clients living with PD.

The second research question sought to identify which psychosocial strategies occupational therapists are utilizing in their practice with clients living with PD. In this study, we found that occupational therapists reported goal setting as their most used strategy with clients living with PD, followed by a cluster of strategies, including social support, coping strategies, positive reinforcement, and relaxation. This finding is consistent with previous literature, which documents and encourages the use of these strategies by occupational therapists during practice with clients living with PD, as well as with clients experiencing multiple system atrophy, and various psychological disorders (Jansa & Aragon, 2015).

Client-centered goal setting has been utilized by occupational therapists in numerous areas of practice, including PD (Chapman & Nelson, 2014; Deane et al., 2003a; Ortelli et al., 2018). The occupational therapy practice framework highlights the importance of therapists collaborating with clients to create meaningful goals throughout the intervention process (American Occupational Therapy Association, 2014), and both the UK and Dutch guidelines for occupational therapists working with clients living with PD encourage the use of goal setting (Sturkenboom et al., 2011).

Despite the recognition that goal setting is fundamental to occupational therapists' intervention, the implementation of client-centered goal setting, particularly within neurological rehabilitation, presents several challenges (Conneeley, 2004). Barriers to effective goal setting can include time constraints, communication issues, disease characteristics, and conflicting client and

therapist priorities (Plant, Tyson, Kirk, & Parsons, 2016). Deane et al. (2003a, 2003b) investigated the goals that occupational therapists set during practice with PD clients, and found that the majority focused on self-care and physical functioning, as opposed to psychological and social functioning. Deane et al. (2003b) posited whether this emphasis was due to time constraints or occupational therapists feeling that functional goals were more important, and highlighted the need for occupational therapists to focus on wider psychosocial goals. Individuals with PD have identified non-motor symptoms, particularly those of a psychological nature, as treatment priorities (Politis et al., 2010). Given that incongruity between therapist and client priorities and perspectives has been shown to obstruct goal setting effectiveness (Tryon & Winograd, 2011), it is pertinent to further investigate the use of goal setting by occupational therapists to ensure that goals set during practice are client centered and address the biopsychosocial needs of clients living with PD.

A further key issue that needs to be acknowledged is what should be occupational therapists' scope of practice pertaining to psychosocial strategies? Practicing psychologists undergo many years of training to competently apply psychosocial strategies with their patients. To expect occupational therapists to master the same range and depth of complex strategies, without such training, appears unrealistic. It is not our objective to venture a position regarding to what extent occupational therapists should, or be allowed to, practice psychosocial strategies as part of their treatment of people living with PD (noting legal and professional limitations to the practice of psychology and psychosocial services in countries, such as Australia, the USA, and UK). However, data from this study strongly suggest that occupational therapists are using psychosocial strategies with their clients living with PD.

3.3 | **Study limitations**

There are limitations in this study that should be considered. The purposive and snowball sampling methods used to recruit participants are often considered to produce a non-representative sample, and have implications regarding the generalizability of findings. However, as this research required occupational therapists who had specific experience with PD clients, and considering that this subgroup of occupational therapists can be difficult to locate due to their ability to practice in varying settings, this sampling method was considered to be the most effective way of recruiting occupational therapists of interest. Survey research utilizing a non-probability sampling method is also vulnerable to participation bias due to voluntary participation and self-selection. It is possible that the findings of this study, for example, regarding the perceived importance of psychosocial strategies in PD management, might have been artificially inflated, as participants who self-select might demonstrate a response bias because of their vested interest in the topic. There is also the potential that a larger sample would have produced more generalizable findings and increase the power of the correlation analysis. Therefore, consideration should be made when drawing inferences from the results.

Additionally, it should be acknowledged that this study only measured the perceptions and reported behaviors of occupational therapists working with clients living with PD. As such, the findings might not be an accurate representation of occupational therapists' practice with clients living with PD, or their knowledge regarding psychosocial strategies. Triangulation of data regarding behavior and knowledge using researcher observation and measurement methodologies could provide additional validity and reliability to the findings, and result in a more comprehensive understanding of occupational therapy practice with clients living with PD.

3.4 | **Directions for future research**

The findings of this study have revealed several avenues for future research. These findings, as well as previous research, suggest that the psychosocial strategies that occupational therapists are choosing to use with PD clients might be a reflection of

their experience, perceived knowledge, and confidence levels, rather than the perceived needs of the client (Moll, Tryssenaar, Good, & Detwiler, 2013). It is pertinent that future research investigates the specific training in psychosocial strategies that occupational therapists working with clients living with PD have received, as well as other factors that might contribute to their decision-making processes when selecting which strategies to utilize with these clients.

Further research should also consider occupational therapists' confidence in using psychosocial strategies with clients living with PD, and what their perceived value of further training in this area might be. Similarly, if occupational therapists working with clients living with PD do value further training, research should consider which psychosocial strategies occupational therapists would like to access, and how they would like such training programs to be provided.

This study does raise some potential scope of practice issues. The scope of occupational therapy practice is extensive and involves physical and psychosocial interventions. Consequently, issues including role blurring and professional boundaries have been discussed within occupational therapy literature, specifically regarding mental health (Ceramidas, 2010). Given the rapidly changing nature of health care and the need to address clients from a biopsychosocial perspective, role blurring might prevent occupational therapists from implementing psychosocial strategies with clients living with PD. Future research should investigate potential barriers and enablers affecting the use of psychosocial strategies in occupational therapy practice with clients living with PD. Furthermore, as numbers of occupational therapists per populous varies across participants' countries, and each country of participants has their own medical system, staffing of a medical team, ratio of clients living with PD to clients having occupational therapy, and requirements for occupational therapy license to practice, further research could consider differences between nations.

Finally, this study did not consider the perspectives of clients living with PD or their caregivers. Clients have their own personal experiences, perspectives, and expectations surrounding PD and its management, and successful client-centered care recognizes clients and caregivers as essential members of the healthcare team (Post, Van Der Eijk, Munneke, & Bloem, 2011). In adhering to a biopsychosocial framework, future research should endeavor to explore the perceptions of clients and caregivers regarding psychosocial strategies and their use by occupational therapists during therapy.

4 | Conclusion

While previous research supports the use of psychosocial interventions by occupational therapists as part of a biopsychosocial approach to PD management, to the best of our knowledge, this study is the first to explore the perspectives and reported behaviors of occupational therapists concerning the utilization of psychosocial strategies in practice with clients living with PD. The findings from this research indicate that occupational therapists feel positive about the importance and benefits of incorporating psychosocial strategies into their practice of PD management, and are currently using a variety of strategies in their practice. These observations have important implications for the education and training of occupational therapists working with clients living with PD to help ensure the best possible outcomes for people living with PD.

Author contributions

Study design: A.A.C., C.D., J.K.P., and G.P.L. Data collection: A.A.C. and G.P.L.

Data analysis: A.A.C. and G.P.L.

Manuscript writing: A.A.C., C.D., J.K.P., and G.P.L.

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References

- American Occupational Therapy Association. (2014). Occupational therapy practice framework: Domain and process 3rd edition. *The American Journal of Occupational Therapy*, 68(S1), S1–S48.
- American Occupational Therapy Association. (2016). *Mental health promotion, prevention, and intervention: Across the lifespan*. Retrieved from www.aota.org/~media/Corporate/Files/Practice/MentalHealth/Distinct-Value-Mental-Health.pdf
- Ashby, S., Gray, M., Ryan, S., & James, C. (2017). An exploratory study into the application of psychological theories and therapies in Australian mental health occupational therapy practice: Challenges to occupation-based practice. *Australian Occupational Therapy Journal*, 64(1), 24–32.
- Barlow, D. H., & Durand, V. M. (2015). *Abnormal psychology: An integrative approach*. Stamford, CT: Cengage Learning.
- Berganzo, K., Tijeroa, B., González-Eizaguirre, A., Somme, J., Lezcano, E., Gabilondo, I., Gómez-Esteban, C. (2016). Motor and non-motor symptoms of Parkinson's disease and their impact on quality of life and on different clinical subgroups. *Neurología (English Edition)*, 31(9), 585–591.
- British Psychological Society. (2009). *Psychological services for people with Parkinson's disease*. Leicester: British Psychological Society.
- Butterfield, L. C., Cimino, C. R., Salazar, R., Sanchez-Ramos, J., Bowers, D., & Okun, M. S. (2016). The Parkinson's active living (PAL) program: A behavioural intervention targeting apathy in Parkinson's disease. *Journal of Geriatric Psychiatry and Neurology*, 30(1), 11–25.
- Ceramidas, D. M. (2010). A case against the generalisation of mental health occupational therapy in Australia. *Australian Occupational Therapy Journal*, 57(6), 409–416.
- Chapman, L., & Nelson, D. (2014). Person-centred, community-based occupational therapy for a man with Parkinson's disease: A case study. *Activities, Adaptation, & Aging*, 38(2), 94–112. <https://doi.org/10.1080/01924788.2014.901045>
- Chen, J. J., & Marsh, L. (2014). Anxiety in Parkinson's disease: Identification and management. *Therapeutic Advances in Neurological Disorders*, 7(1), 52–59.
- Conneeley, A. L. (2004). Interdisciplinary collaborative goal planning in a post-acute neurological setting: A qualitative study. *British Journal of Occupational Therapy*, 67(6), 248–255.
- Deane, K. H. O., Ellis-Hill, C., Dekker, K., Davies, P., & Clarke, C. E. (2003a). A Delphi survey of best practice occupational therapy for Parkinson's disease in the United Kingdom. *The British Journal of Occupational Therapy*, 66(6), 247–254.
- Deane, K. H. O., Ellis-Hill, C., Dekker, K., Davies, P., & Clarke, C. E. (2003b). A survey of current occupational therapy practice for Parkinson's disease in the United Kingdom. *British Journal of Occupational Therapy*, 66 (5), 193–200.
- Deane, K. H. O., Flaherty, H., Daley, D. J., Pascoe, R., Penhale, B., Clarke, C. E., Storey, S. (2014). Priority setting partnership to identify the top 10 research priorities for the management of Parkinson's disease. *British Medical Journal Open*, 4(12), 1–10.
- Dobkin, R. D., Menza, M., Allen, L. A., Tiu, J., Friedman, J., Bienfait, K. L., Mark, M. H. (2011). Telephone-based cognitive-behavioural therapy for depression in Parkinson disease. *Journal of Geriatric Psychiatry and Neurology*, 24(4), 206–214.
- Dobkin, R. D., Tiu Rubino, J., Friedman, J., Allen, L. A., Gara, M. A., & Menza, M. (2013). Barriers to mental health care utilization in Parkinson's disease. *Journal of Geriatric Psychiatry and Neurology*, 26(2), 105–116.
- Driver, C., Lovell, G. P., & Opreescu, F. (2019). Physiotherapists' views, perceived knowledge, and reported use of psychosocial strategies in practice. *Physiotherapy Theory and Practice*. [Epub ahead of print]. <https://doi.org/10.1080/09593985.2019.1587798>
- Driver, C., Opreescu, F., & Lovell, G. P. (2019). Exploring physiotherapists' considerations regarding the use of psychosocial strategies in practice. *Physiotherapy Research International*. [Epub ahead of print]. <http://doi:10.1002/pri.1783>
- Engel, G. (1977). The need for a new medical model: A challenge for bio-medicine. *Science*, 196(4286), 129–136.
- Foster, E. R., Bedekar, M., & Tickle-Degnen, L. (2014). Systematic review of the effectiveness of occupational therapy-related interventions for people with Parkinson's disease. *The American Journal of Occupational Therapy*, 68(1), 39–49.
- Hardison, M. E., & Roll, S. C. (2016). Mindfulness interventions in physical rehabilitation: A scoping review. *The American Journal of Occupational Therapy*, 70(3), 1–9.
- Hartmann, K. D., Nadeua, B., & Tufano, R. (2013). Clinical experiences to promote student education of psychological and social aspects of mental health: A case report. *Work*, 44(3), 329–335.
- Hermanns, M., Deal, B., & Haas, B. (2012). The biopsychosocial and spiritual aspects of Parkinson disease: An integrative review. *Journal of Neuroscience Nursing*, 44(4), 194–205.
- Jansa, J., & Aragon, A. (2015). Living with Parkinson's and the emerging role of occupational therapy. *Parkinson's Disease*, 2015(3), 1–8.
- Jansa, J., Aragon, A., & Lundgren-Nilsson, A. (2011). How people living with Parkinson's disease in four European countries view occupational therapy. *European Neurological Journal*, 3(1), 1–7.
- Kadastik-Eerme, L., Rosenthal, M., Paju, T., Muldmaa, M., & Taba, P. (2015). Health-related quality of life in Parkinson's disease: A cross-sectional study focusing on non-motor symptoms. *Health and Quality of Life Outcomes*, 13(1), 83–90.
- Kalia, L. V., & Lang, A. E. (2015). Parkinson's Disease. *The Lancet*, 386 (9996), 896–912.

- Kohn, M., Hitch, D., & Stagnitti, K. (2012). Better access to mental health program: Influence of mental health occupational therapy. *Australian Occupational Therapy Journal*, 59(6), 437–444.
- Lee, J., Choi, M., Yoo, Y., Ahn, S., Jeon, J. Y., Kim, J. Y., & Byun, J. Y. (2017). Impact of an exercise program and motivational telephone counselling on health-related quality of life in people with Parkinson's Disease. *Rehabilitation Nursing*, 44(3), 161–170. <https://doi.org/10.1097/rnj.000000000000106>
- Martin, W. R., & Wieler, M. (2003). Treatment of Parkinson's disease. *The Canadian Journal of Neurological Sciences*, 30(S1), S27–S33.
- Moll, S. E., Tryssenaar, J., Good, C. R., & Detwiler, L. M. (2013). Psychotherapy: A profile of current occupational therapy practice in Ontario. *Canadian Journal of Occupational Therapy*, 80(5), 328–336.
- Nielsen, S. K., Stube, J., & Bass, G. (2015). Bridging the gap: Evaluation of a pilot project to facilitate use of psychosocial strategies across an occupational therapy curriculum. *Occupational Therapy in Health Care*, 29 (2), 126–138.
- Ortelli, P., Ferrazzoli, D., Bera, R., Caremani, L., Giladi, N., Maestri, R., Frazzitta, G. (2018). Effectiveness of a goal-based intensive rehabilitation in parkinsonian patients in advanced stages of disease. *Journal of Parkinson's Disease*, 8(1), 113–119. <https://doi.org/10.3233/JPD-171247>
- Pickut, B., Vanneste, S., Hirsch, M. A., Van Hecke, W., Kerckhofs, E., Marien, P., Cras, P. (2015). Mindfulness training among individuals with Parkinson's disease: Neurobehavioural effects. *Parkinson's Disease*, 2015, 1–6.
- Plant, S. E., Tyson, S. F., Kirk, S., & Parsons, J. (2016). What are the barriers and facilitators to goal-setting during rehabilitation for stroke and other acquired brain injuries? A systematic review and meta-analysis. *Clinical Rehabilitation*, 30(9), 921–930.
- Politis, M., Wu, K., Molloy, S. G., Bain, P., Chaudhuri, K. R., & Piccini, P. (2010). Parkinson's disease symptoms: the patient's perspective. *Movement Disorders*, 25(11), 1646–1651. <https://doi.org/10.1002/mds.23135>
- Post, B., Van Der Eijk, M., Munneke, M., & Bloem, B. R. (2011). Multi-disciplinary care for Parkinson's disease: Not if, but how! *Postgraduate Medical Journal*, 87(1031), 575–578.
- Reeve, A., Simcox, E., & Turnbull, D. (2014). Ageing and Parkinson's disease: Why is advancing age the biggest risk factor? *Ageing Research Reviews*, 14, 19–30.
- Saeedian, R. G., Nagyova, I., Krokavcova, M., Skorvanek, M., Rosenberger, J., Gdovinova, Z., Van Dijk, J. P. (2014). The role of social support in anxiety and depression among Parkinson's disease patients. *Disability and Rehabilitation*, 36(24), 2044–2049.
- Skapinakis, P., Bakola, E., Salanti, G., Lewis, G., Kyritsis, P., & Mavreas, V. (2010). Efficacy acceptability of selective serotonin reuptake inhibitors for the treatment of depression in Parkinson's disease: A systematic review and meta-analysis of randomized controlled trials. *BMC Neurology*, 10(1), 49–60.
- Sturkenboom, I. H. W. M., Thijssen, M., Gons-van Elsacker, J., Jansen, I., Maasdam, A., Schulten, M., Munneke, M. (2011). *Guidelines for occupational therapy in Parkinson's disease rehabilitation*. Nijmegen, The Netherlands: ParkinsonNet. Retrieved from http://www.parkinsonnet.info/media/14820461/ot_guidelines_final-npf3.pdf
- Tryon, G. S., & Winograd, G. (2011). Goal consensus and collaboration. *Psychotherapy*, 48(1), 50–57. <https://doi.org/10.1037/a0022061>
- World Health Organisation. (2006). *Neurological disorders: Public health challenges*. Geneva, Switzerland: World Health Organisation Press. Retrieved from https://www.who.int/mental_health/neurology/neurodiso/en/