

Parkinson's Disease:

Literature Review

Casey Buchanan

Lakeview College of Nursing

## **Parkinson's Disease**

Parkinson's disease involves the breakdown of neurons in the brain and typically affects people sixty years and older (National Institute on Aging, 2017). The common symptoms that patients with Parkinson's have include tremors, loss of balance, and slowed movement, which is attributed to the loss of dopamine produced by neurons in the brain (Mayo Clinic, 2018). The cause of Parkinson's is unknown, and there is no cure. Treatment is focused on medication and lifestyle changes to control symptoms (Mayo Clinic, 2018). While healthcare professionals can quickly notice the outward signs, healthcare professionals must treat all aspects of the disease and symptoms that may not be as noticeable but still debilitating.

### **Abdominal massage for the alleviation of symptoms of constipation in people with Parkinson's.**

While everyone can witness the motor effects that people with Parkinson's disease have, other behind the scenes symptoms may be present, changing that person's quality of life, comfort, and emotions. Many people with Parkinson's develop constipation (Mayo Clinic, 2018). People with Parkinson's are susceptible to constipation due to the breakdown of neurological tissue that promotes peristalsis in the digestive tract and lack of physical activity due to motor issues (McClurg et al., 2016). Constipation is the most common gastrointestinal issue a person with Parkinson's reports and is often ignored or treated with overuse of laxatives or stool softeners (McClurg et al., 2016). Many patients report that the medical team didn't ask questions about their bowel movements, the healthcare team didn't reach out to follow up, and the healthcare team mostly emphasized symptoms such as motor characteristics and coping with the disease (McClurg et al., 2016). Constipation is painful, debilitating, often causes straining,

takes a long time, and the unpredictable overuse of laxatives may interact negatively with medications used to treat Parkinson's disease or may cause diarrhea and cramping (McClurg et al., 2016).

### **Key Points**

In this study, participants made up of patients with Parkinson's disease, and chronic constipation was split into two groups. Researchers gave the control group advice on lifestyle modifications, a journal to keep track of bowel movements, and weekly check-ins with a medication professional for six weeks. Researchers also gave the intervention group lifestyle modifications, a journal, and weekly check-ins, as well as instructions on how to give an abdominal massage to facilitate bowel movements and an instructional DVD on abdominal massages. The advice and lifestyle modification included guidelines on adequate fluid intake, a healthy diet high in fiber, and how to sit correctly on the toilet to facilitate more comfortable bowel movements. Researchers and patients had interviews at the end of week six, after a total of six, once weekly check-ins. The control group was given the DVD about abdominal massage and a brief instruction after the week six interview. Another follow up meeting was conducted on week ten. The four weeks between week six and ten, allowed patients to continue on their own with the information they learned but without constant medical supervision.

### **Assumptions**

The primary assumption and inference the authors are making in this study are that treatments such as abdominal massage, in conjunction with lifestyle modifications, will improve debilitating constipation issues seen in Parkinson's patients. Another assumption the authors

make is that medical professionals lack the continuation of care for problems like chronic constipation. Treatment of Parkinson's symptoms that medical professionals can physically see, such as tremors, often takes priority over symptoms not seen, like chronic constipation. It is also brought to our attention that most patients get treatment with only laxatives and that this treatment alone is not appropriate (McClurg et al., 2016).

### **Deficit/Conclusion**

In the intervention group, four out of the seven participants had significant improvement. They improved with regular bowel movements, less straining, completion of bowel movement in less time, less bloating, and the ability to tell when they were going to have a bowel movement after the first six weeks (McClurg et al., 2016). They also noted that the abdominal massage made them more relaxed, comfortable, and more in tune and control of their Parkinson's symptoms (McClurg et al., 2016). Three out of the seven participants in the intervention reported little to no change with bowel habits. All but three participants stopped doing regular abdominal massage between weeks six through ten due to various reasons such as difficulty doing the massage or not feeling as though it would provide relief (McClurg et al., 2016). Others from the control group that did not receive an in-depth education on abdominal massage, often felt they were not doing it correctly (McClurg et al., 2016). Three participants continued doing abdominal massage regularly and reported that they had improvements (McClurg et al., 2016). Two participants also noted a reduction of their use of laxatives and were more motivated to attend social gatherings, without worrying about an unexpected bowel movement (McClurg et al., 2016). The study did show promise that for some patients' abdominal massage along with lifestyle modifications can reduce the use of laxative use and discomfort associated with

constipation in patients with Parkinson's disease and also serves as a reminder to healthcare professionals to listen to all the symptoms patients report and follow through with appropriate interventions.

### **Choreographing life-experiences of balance control in people with Parkinson's disease.**

Balance and gait complications are significant concerns for people with Parkinson's disease and often lead to falls. In this study, twelve out of the eighteen participants had at least one fall in the last year (LaGrone et al., 2020). Falls can cause severe injury or embarrassment to the individual, and the fear of falling often leads to decreased participation in events or activities (LaGrone et al., 2020). In some instances, people with Parkinson's may avoid commonly visited places, such as grocery stores, because other people may throw off their gait and cause them to fall. According to Mayo Clinic (2018), individuals in later stages of Parkinson's disease can quickly lose their balance by a small bump or push. The primary purpose of this article is to interview people with Parkinson's disease to determine what common themes occurred surrounding balance issues and how that knowledge could help shape future Parkinson's interventions and treatments.

### **Key Points**

The key question this article discusses is the similarities and differences in dealing with balance and the strategies these individuals use to cope with the disease. Researchers selected eighteen participants, with Parkinson's disease of varying stages, that met their study criteria. All of the participants took some form of Parkinson's medication during this study (LaGrone et al., 2020). The researchers conducted open-ended interviews to collect data. The topics of the

questions included limitations in mobility, planning for the fluctuation of symptoms, the limitation of walking in public spaces, conscious movement strategies, navigation of uneven terrain, tendency to avoid activities, impact on social freedom, and everyday strategies (LaGrone et al., 2020). The researchers found that the most important information was that the participants all used a form of planning to carry out everyday activities. For example, many participants choreographed actions at times that they were taking their Parkinson's medication because they had a better motor function at that time (LaGrone et al., 2020).

### **Assumptions**

The main inference in this article is that people with Parkinson's disease use planning, more than other tools, to function throughout their daily life. The article mentions that other devices such as a cane or other walking aid meant to help the person balance can often increase instability due to adding another item for the person to focus on (LaGrone et al., 2020). Whereas the individual being aware of times in which their medicine is working is the best time for them to do activities (LaGrone et al., 2020). Another inference mentioned in the article is that many of the participants can help control their movements when focusing on one idea at a time and being aware of how their body is moving (LaGrone et al., 2020).

### **Deficits/Conclusion**

The key concept in this article is that people with Parkinson's disease will develop balance and stability issues. In the early stages, symptoms may go unnoticed but will grow in time (Mayo Clinic, 2018). Through interviews, researchers can better understand how people affected with Parkinson's cope. The authors make the main assumption that people with

Parkinson's are aware of the balance and gait issues they have and cognitively try to plan out activities that are safe for participation. If the information found in this article is taken seriously, researchers can use it as a guide to target specific interventions that can improve the quality of life for people living with balance issues (LaGrone et al., 2020). If the information from this study is not taken seriously, crucial future research, including medication or physical therapy to aid people with Parkinson's, may not be developed.

### **Perspectives on deep brain stimulation and its earlier use for Parkinson's disease.**

Medication is a common form of treatment for people with Parkinson's disease. Levodopa and dopamine agonist are two medications that often work well to treat Parkinson's, but medicine doesn't continue to work as well after five to seven years of use (Cabrera et al., 2020). Another form of treatment is deep brain stimulation. Deep brain stimulation involves surgery to place electrodes on a part of the brain that stimulates to stop tremors, rigidity, and slow movements seen in patients with Parkinson's disease (National Institute on Aging, 2017). In the past, deep brain stimulation was a treatment for patients who had Parkinson's for many years and was considered a last resort type of treatment (Cabrera et al., 2020). However, more recently, researchers have been exploring the positives and negatives of implementing deep brain stimulation sooner as a treatment. The main purpose is to interview people that have received deep brain stimulation devices and their outlook on early implementation of this treatment. The key question the researcher asks the people who received a deep brain stimulation device is that if given a chance, would they have done it sooner.

## **Key Points**

Researchers in this study interviewed twenty patients with Parkinson's disease that had previously undergone deep brain stimulation surgery. The participants were asked open and closed-ended questions about the satisfaction of their deep brain stimulation treatment, and if they wished they had the procedure sooner (Cabrera et al., 2020). Another essential detail the researchers found was that many patients would have liked to ask other people that had already undergone deep brain stimulation surgery about what to expect after the procedure (Cabrera et al., 2020). The most important information in this article is that almost all of the participants are very satisfied or somewhat satisfied with their procedure, with only one participant saying they were unsatisfied (Cabrera et al., 2020). Another key point is that eight participants stated they would have done the treatment sooner, seven wouldn't have done it earlier, and five were unsure (Cabrera et al., 2020).

## **Assumptions**

One main inference in this article is that deep brain stimulation is overall an excellent treatment for Parkinson's disease regardless if done in earlier or later stages of treatment and should be considered by patients and physicians. In the study, two patients report that their physician didn't mention the use of deep brain stimulation the patient brought it up themselves (Cabrera et al., 2020). Another six participants report that their physician suggested deep brain stimulation after seven years after a Parkinson's diagnosis (Cabrera et al., 2020). Another inference the article makes is that deep brain stimulation is a significant surgery and done when other treatment options are not sufficient (Cabrera et al., 2020). There is a risk that the positive effects of deep brain stimulation can fade as the disease progresses.

**Deficit/Conclusion**

While the participants were satisfied overall with the effects of deep brain stimulation, they differed on if they would choose to have it done sooner. Many agreed that it would be beneficial for healthcare teams to provide panels of patients that have previously undergone the treatment to answer questions and provide opinions on realistic outcomes (Cabrera et al., 2020). The pilot study did hold some limitations. For example, all of the participants were white, had high levels of education, and were from the Michigan area (Cabrera et al., 2020). Future studies about the effects of deep brain stimulation would be beneficial to poll a large number of individuals from different populations with varying backgrounds. If future researchers and scientists take this information seriously, they can make significant advances in the medical treatment of people with Parkinson's disease. Researchers should continue to monitor and interview patients after receiving deep brain stimulation to find continuing trends. If the information in this study is not taken seriously, many people with Parkinson's will continue to suffer from motor symptoms without knowing possible treatments.

**Conclusion**

Alternative treatments for patients with Parkinson's disease cannot be strict or have rigid guidelines. Treatment is specific to the individual and different among patients. While there is no cure yet, many new studies are emerging with new alternate or extreme procedures promoting positive results. It is up to the health care team to continue using evidence-based practice and researching emerging studies to provide relief and improve health in patients with Parkinson's disease.

## References

- Cabrera, L. Y., Kelly-Blake, K., & Sidiropoulos, C. (2020). Perspectives on deep brain stimulation and its earlier use for Parkinson's disease: A qualitative study of US patients. *Brain Sciences*, 10(1). <https://doi.org/10.3390/brainsci10010034>
- LaGrone, S., Joseph, C., Johansson, H., Enberg, B., & Franzén, E. (2020). Choreographing life-experiences of balance control in people with Parkinson's disease. *BMC Neurology*, 20(1). 50. <https://doi.org/10.1186/s12883-020-01632-4>
- Mayo Clinic. (2018, June 30). *Parkinson's disease*. <https://www.mayoclinic.org/diseases-conditions/parkinsons-disease/diagnosis-treatment/drc-20376062>
- McClurg, D., Hagen, S., Jamieson, K., Dickinson, L., Paul, L., & Cunnington, A. (2016). Abdominal massage for the alleviation of symptoms of constipation in people with Parkinson's: A qualitative study. *Parkinson's Disease* (20420080),1-10. <http://dx.doi.org/10.1155/2016/4842090>
- National Institute on Aging. (2017, May 16). *Parkinson's disease*. <https://www.nia.nih.gov/health/parkinsons-disease>