

# Frequency of Depression among Caregivers of Patients with Parkinson's Disease

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## ABSTRACT

**Objective:** To determine the frequency of depression in caregivers of Parkinson's disease patients.

**Study Design:** Descriptive cross-sectional study.

**Place and Duration of Study:** This study was conducted at the Department of Neurology, Services Hospital, and Lahore from 1<sup>st</sup> May 2017 to 31<sup>st</sup> October 2017.

**Materials and Methods:** One hundred and fifty cases fulfilling the inclusion/exclusion criteria were enrolled from Neurology Department, Services Hospital Lahore. Detailed history was taken from the caregivers by the researcher herself. The caregivers were evaluated for depression according to DSM-IV criteria. The presence/absence of depression was recorded.

**Results:** Caregiver's common age was calculated as 49.64±5.30 years, 48.67% (n=73) were male and 51.33% (n=77) were females. Frequency of depression in caregivers of Parkinson's disease patients was recorded in 44.67% (n=67) whereas 55.33% (n=83) did not have depression.

**Conclusion:** The frequency of depression is higher in caregivers of Parkinson's disease patients, however, the results of our study generated the baseline data and it will be helpful for the caregivers and psychiatrists as well while managing the Parkinson's disease.

**Key Words:** Parkinson's disease, Caregivers, Depression.

**Citation of article:** Faheem B, Aslam A, Batool S. Frequency of Depression among Caregivers of Patients with Parkinson's Disease. Med Forum 2019;30(11):53-55.

## INTRODUCTION

Worldwide, Parkinson's disease (PD) is the most common neurodegenerative disorders with almost ten million people are effected with this neurological disorder.<sup>1</sup> In Asia the number is expected to increase from 2.57 million in 2005 to 6.17 million in 2030.<sup>2</sup> It is a progressive condition with both motor and non-motor symptoms that can have a profound impact not only on the patients but also on family members who often adopt the role of a caregiver.<sup>3</sup> Parkinson's disease can place significant demands on the caregiver, as they take on more daily tasks and increasingly provide physical, emotional and economic support.<sup>4-5</sup>

It is recognized that caregivers of people with PD have a reduced quality of life (QoL),<sup>4</sup> where their social activities and work schedules reduce to be more involved in caring.<sup>6</sup> Caregiver spouses are less likely to spend time outside of house or take a than caregiver spouses,<sup>5</sup> and older spousal caregivers often have to face age-related challenges themselves.

Caregiver burden (CB) is a factor that increases in caregivers looking after relatives with PD. Caregiver burden refers to stress and impact of looking after a relative and refers to the physical, mental and socioeconomic problems that caregivers may encounter.<sup>7</sup> There is a significant correlation between increasing CB and a reduction in a caregiver's QoL<sup>8</sup> and level of depression.<sup>9</sup> Research has shown that PD caregivers have more psychological distress than the general population.<sup>10</sup> This commonly manifests with higher levels of depression, anxiety, and stress, which are associated with increasing disease progression. The present study was conducted aimed to examine the frequency of depression among caregivers of patients with PD.

## MATERIALS AND METHODS

This descriptive cross-sectional study conducted in Out Patient Department of Neurology, Services Hospital Lahore from 1<sup>st</sup> May 2017 to 31<sup>st</sup> October 2017. One hundred and fifty caregivers of Parkinson's disease patients were included. Detailed history was taken from the caregivers. Age, gender, educational status, and other demographic information belonging to the cares were included. In addition to the demographic information, degree of relation of the cares to the patient, their circumstances to care for them and patients' clinical information on PD duration were also recorded. Professional careers, patients with additional neurodegenerative disease and those who were not interested to participate were excluded. The caregivers

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Received: June, 2019

Accepted: August, 2019

Printed: November, 2019

were evaluated for depression according to DSM-IV criteria. The presence/absence of depression was recorded. Comparison of depression in care givers of Parkinson's disease according to relation was recorded. All the data was analyzed by SPSS 24. Chi-square test was applied to compare the depression according to duration and relation. Frequencies and percentages were obtained. P-value <0.05 was set as significant. The data was entered and analyzed in through SPSS-20.

## RESULTS

**Table No. 1: Baseline characteristics (n=150)**

| Variable           | No. | %     |
|--------------------|-----|-------|
| <b>Gender</b>      |     |       |
| Males              | 73  | 48.67 |
| Females            | 77  | 51.33 |
| <b>Age (years)</b> |     |       |
| 40 – 50            | 82  | 54.67 |
| 51 – 60            | 67  | 45.33 |
| <b>Depression</b>  |     |       |
| Yes                | 67  | 44.67 |
| No                 | 83  | 55.33 |

**Table No. 2: Comparison of depression according duration of care giving**

| Duration of care giving (months) | Depression |    | P value |
|----------------------------------|------------|----|---------|
|                                  | Yes        | No |         |
| 7 – 12                           | 23         | 25 | 0.77    |
| >12                              | 44         | 53 |         |

**Table No. 3: comparison of depression in care givers of Parkinson's disease according to relation**

| Relation | Depression |    | P value |
|----------|------------|----|---------|
|          | Yes        | No |         |
| Spouse   |            |    |         |
| Yes      | 22         | 29 | 0.58    |
| No       | 45         | 49 |         |
| Son      |            |    |         |
| Yes      | 11         | 30 | 0.003   |
| No       | 56         | 48 |         |
| Daughter |            |    |         |
| Yes      | 17         | 10 | 0.05    |
| No       | 50         | 68 |         |
| Sister   |            |    |         |
| Yes      | 10         | 14 | 0.62    |
| No       | 57         | 64 |         |
| Brother  |            |    |         |
| Yes      | 7          | 11 | 0.50    |
| No       | 60         | 67 |         |

There were 48.67% (n=73) males and 51.33% (n=77) were females with mean age was 49.64±5.30 years. Depression in caregivers of Parkinson's disease patients was recorded in 44.67% (n=67) whereas 55.33% (n=83) had no depression (Table 1).

The mean duration of care giving was recorded as 14.67±4.29 months. The data was stratified for age, gender, duration of caregiving, relation with the patient i.e. spouse, brothers, sisters, son, daughter to address the effect modifiers. Post stratification chi-square test was applied to see the significance. P value ≤0.05 was considered as significant (Tables 2-3)

## DISCUSSION

This study was planned with the view that previous studies determined that caregivers of Parkinson's disease have higher rate of depression but we found no local and international study showing the frequency of depression in caregivers of Parkinson's disease. However, the results of our study may generate a baseline data and helpful for the caregivers and psychiatrists as well while managing the Parkinson's disease. We compared our results with a previous study<sup>8</sup> who recorded 57.4% of the cases with depression in PD patients.

In present study we found depression in 44.67% caregivers. A study conducted by Eloise et al<sup>11</sup> reported that depression rate was significantly high among caregivers whom duration of care giving was more than 6 months. In our study 48.67% patients were males while 51.33% were females. In this study, we found frequency of depression was high caregivers whom duration of caregiving was above 12 months (29.33%) and depression in 23 caregivers whom duration of care-giving was less than 12 months. These results showed similarity to many other studies in which depression rate reported quite high among caregiver of PD patients and mostly caregivers had duration of caregiving were above 12 months.<sup>12-14</sup>

Better QoL in the psychological domain was associated with caregivers being more conscientious. Conscientious people have been shown to have problem-solving coping mechanism with strong attention regulation, which allows them to disengage from negative thoughts allowing them to have a better psychological health.<sup>15</sup> This coping method could be beneficial in caregivers with high levels of neuroticism.<sup>16-17</sup> A person who is conscientious may overcome unexpected obstacles more easily than a person who is less motivated to achieve important life tasks.<sup>18</sup> In this context such people may gain a sense of pleasure and gratification from successfully operating in the role of a caregiver.

In the present study, comparison of depression in care givers of Parkinson's disease according to relation, 14.67% caregivers were spouse and had depression, 7.33% were son of patients and had depression, 11.33% caregivers were daughters, 10 caregivers were sisters and 7 caregivers were brothers of PD patients whom were found depression. Many of previous studies illustrated that QoL of caregivers of PD patients affected due to potential caregiving. Previous studies

reported spouse caregivers had a high depression rate.<sup>19-20</sup>.

## CONCLUSION

Parkinson's disease is one of the most common neurodegenerative disorders with high rate of morbidity in all over the world. Caregivers of patients with PD played an important role in the treatment of PD. Anxiety and depression are most common among caregivers of PD patients and these factors affected caregivers QoL. We concluded from this study that the frequency of depression is higher in caregivers of Parkinson's disease patients, however, the results of our study generated the baseline data and it will be helpful for the caregivers and psychiatrists as well while managing the Parkinson's disease.

### Author's Contribution:

Concept & Design of Study: Bushra Faheem  
 Drafting: Ayesha Aslam  
 Data Analysis: Saima Batool  
 Revisiting Critically: Bushra Faheem, Ayesha Aslam  
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**Conflict of Interest:** The study has no conflict of interest to declare by any author.

## REFERENCES

- Higginson IJ, Gao W, Saleem TZ, Chaudhuri KR, Burman R, McCrone P, et al. Symptoms and quality of life in late stage parkinson syndromes: a longitudinal community study of predictive factors. *PLoS One* 2012;7(11):e46327
- Gao Y. Roadmap to the urine biomarker era. *MOJ Proteomics Bioinform* 2014;1(1):18.
- Grün D, Pieri V, Vaillant M, Diederich NJ. Contributory factors to caregiver burden in Parkinson disease. *Am Med Dir Assoc* 2016; 17(7): 626-32.
- Carod-Artal FJ, Mesquita HM, Ziomkowski S, Martinez-Martin P. Burden and health-related quality of life among caregivers of Brazilian Parkinson's disease patients. *Parkinsonism Relat Disord* 2013; 19(11): 943-8.
- WHO Definition of Palliative Care. Available from: <http://www.who.int/cancer/palliative/definition>. Accessed January 5, 2017
- Chaudhuri KR, Odin P, Antonini A, Martinez-Martin P. Parkinson's disease: the non-motor issues. *Parkinsonism Relat Disord* 2011;17(10): 717-723.
- Poewe W. Non-motor symptoms in Parkinson's disease. *Eur J Neurol* 2008;15(1):14-20.
- Carver S, Connor-Smith J. Personality and coping. *Ann Rev Psychol* 2010; 61: 679-704.
- Worku DK, Yifru YM, Postels DG, Gashe FE. Prevalence of depression in Parkinson's disease patients in Ethiopia. *J Clin Mov Disord* 2014;1:10
- Tew EH, Naismith SL, Pereira P, Lewis SJG. Quality of life in Parkinson's disease caregivers: the contribution of personality traits. *Biomed Res Int* 2013;2013:151872.
- Abendroth M, Lutz BJ, Young ME. Family caregivers' decision process to institutionalize persons with Parkinson's disease: a grounded theory study. *Int J Nurs Stud* 2012;49(4): 445-54.
- Martinez-Martin P, Rodriguez-Blazquez C, Forjaz MJ, Frades-Payo B, Agueera-Ortiz L, Weintraub D, et al. Neuropsychiatric symptoms and caregiver's burden in Parkinson's disease. *Parkinsonism Relat Disord* 2015;21(6): 629-34.
- Tomlinson CL, Stowe R, Patel S, Rick C, Gray R, Clarke CE. Systematic review of levodopa dose equivalency reporting in Parkinson's disease. *Mov Disord* 2010;25:2649-53.
- Ozdilek B, Gunal DI. Motor and non-motor symptoms in Turkish patients with parkinson's disease affecting family caregiver burden and quality of life. *J Neuropsychiatr Clin Neurosci* 2012; 24: 478-83.
- Terum TM, Andersen JR, Rongve A, Aarsland D, Svendsboe E, Testad I. The relationship of specific items on the Neuropsychiatric Inventory to caregiver burden in dementia: a systematic review. *Int J Geriatr Psychiatr* 2017; 32(7):703-17
- Leroi I, Harbisetar V, Andrews M, McDonald K, Byrne EJ, Burns A. Carer burden in apathy and impulse control disorders in Parkinson's disease. *Int J Geriatr Psychiatr* 2012; 27(2): 160-6.
- Benavides O, Alburquerque D, Chaná-Cuevas P. Burden among caregivers of patients with Parkinson disease. *Rev Med Chil* 2013;141(3): 320-6.
- Prakash KM, Nadkarni NV, Lye WK, Yong MH, Tan EK. The impact of non-motor symptoms on the quality of life of Parkinson's disease patients: a longitudinal study. *Eur J Neurol* 2016;23(5):854-60
- Den Brok MG, van Dalen JW, van Gool WA, Moll van Charante EP, de Bie RM, Richard E. Apathy in Parkinson's disease: a systematic review and meta-analysis. *Mov Disord* 2015; 30(6): 759-69
- Siciliano M, Trojano L, Santangelo G, De Micco R, Tedeschi G, Tessitore A. Fatigue in Parkinson's Disease: a systematic review and meta-analysis. *Mov Disord* 2018; 33(11):1712-23.