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Brief report

No impact of confinement during COVID-19 pandemic on anxiety and depression in Parkinsonian patients

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ABSTRACT

Background. – Governments around the world have imposed varied containment measures to curb the spread of the COVID-19 infection. The psychological impact could be highly negative in patients with neurologic condition like Parkinson's Disease (PD).

Methods. – We prospectively evaluated symptoms of depression and anxiety in 50 (26 females; mean age at 60.4) non demented Moroccan PD patients, using Hospital Anxiety and Depression Scale (HADS), at the beginning and after 6 weeks of a full confinement.

Results. – At the first evaluation, 28% of patients had depression while 32% had anxiety. After 6 weeks of confinement, some patients got worse and others got better scores but no significant statistical difference for both troubles was seen.

Conclusion. – Our results show that there is no significant impact of 6 weeks of confinement on overall anxiety and depression scores. However, confinement could have an unexpected positive psychological impact on a significant number of PD patients.

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1. Introduction

SARS-CoV-2 spread across the world from his origin in Wuhan in China, infecting many millions of patients and responsible for many hundred thousand deaths worldwide [1]. Attempts to curb its spread have led to large human confinement, leading to a partial or full lockdown of populations. Therefore, all areas of

daily habits and behaviors were deeply changed particularly work situation, family dynamics, leisure options, and social life, leading to negative psychological concern on an individual's anxiety and depression [2]. Also, regular clinical services for people with pre-existing medical health conditions have been suddenly suspended, causing worries and confusion. However, for some reason like spending more quality time with family, lockdown could have unexpected positive effects on mental health.

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In Parkinson's disease (PD), anxiety and depression are common neuropsychiatric disorders, occurring in up to 30-40% of patients and can be stress-related [3,4]. Indeed, in the context of the current COVID-19 pandemic, it seems that PD patients are more prone to psychological disturbances compared to controls [5].

Our prospective study aims to evaluate the impact of 6 weeks of total confinement on anxiety and depression in Moroccan PD patients. In Morocco, a country much closer to Europe and located in the north of Africa, the first patient with COVID-19 disease was diagnosed on March 2, 2020, and on March 16, lockdown measures have been ordered by Moroccan authorities [6].

2. Methods

In this study, we prospectively evaluated symptoms of depression and anxiety of 50 randomly chosen PD patients, who are regularly followed (every 3 months) in movement disorders consultation, using the Moroccan dialect version of Hospital Anxiety and Depression Scale (HADS). The scale was sent via the Internet to the participants who previously gave their consent at the beginning and after 6 weeks of home confinement and the results of the two evaluations were compared. All patients were homebound with their families except for 6 patients (12 %) who lived alone. In the second evaluation, factors linked to worsening or improving scores were collected from the phone interviews. For each patient, age, sex, Hoehn and Yahr (HY) stage were collected retrospectively from the electronic chart. All patients were on stable dopaminergic and psychiatric treatment during the 6 weeks of the confinement. Six patients were on Deep Brain Stimulation (DBS) and no patient was under paramedical care before or during the lockdown. Patients with dementia were excluded based on clinical assessment and family allegations of cognitive deterioration but no specific scale was used.

HADS contains 14 statements describing symptoms of anxiety and depression, 7 statements for each one. Response options for each question range from 0 to 3 and ask patients about their agreement with the statements or how often they apply. Scores range from 0 to 21 and three subcategories are individualized: score of 11 or greater indicates anxiety or depression; 8 to 10 indicates possible abnormality and 7 or lower indicates no signs of anxiety or depression [7]. In our study, we established a cut-off score of ≥ 11 as an indicator of a characterized disorder and we have defined an improvement or a worsening as a move from one sub-category to another.

Statistical analysis was performed using IBM SPSS Statistics 22. Descriptive statistics were calculated for socio-demographic variables and psychological impact factors (anxiety and depression). The Pearson correlation coefficient was also used to measure the correlation between various socio-demographic variables and the psychological impact of COVID-19 containment. Beside, the multiple regression analysis methods was used to measure the effect of socio-demographic variables on the psychological effects of confinement, and the t-test was also used to study differences in the psychological impact of coronavirus confinement between

Table 1 – Comparison of the anxiety and depression between the beginning and after confinement.

	At the beginning	After 6 weeks	P-value
Trouble			
Depression	14 (28%)	17 (34%)	0.11
Anxiety	16 (32%)	15 (30%)	0.49
Mean HADS score			
Depression	7.90	8.56	0.14
Anxiety	7.98	8.24	0.44

men and women, a P-value less than 0.05 was considered significant.

3. Results

Fifty PD patients (26 females and 24 males) with a mean age at 60.4 ± 10.4 year-old had completed the two consecutive questionnaires of the HADS. No patient presented infectious symptoms or has been tested positive for Covid-19 during the 6 weeks of the confinement. At the first evaluation, the mean HAD score for depression was 8.56 and 8,24 for anxiety, and 28% of patients had depression while 32% had anxiety. After 6 weeks of confinement, we couldn't find a significant statistical difference for both depression ($P = 0.14$) and anxiety ($P = 0.44$) groups comparing to the first evaluation and the mean HAD score was not statistically different between the two evaluations for both troubles (Table 1). Some patients got worse and others got better scores, sometimes within the same sub-category. There is no effect of age, sex, or severity of the disease according to the HY scale on both depression and anxiety (Table 2). Otherwise, 4 among 6 patients who received DBS therapy worsened their HADS scores either on depression score (3 patients) or anxiety score (2 patients). For patients who felt better after confinement, the main reason given was related to the presence of relatives in 40%, while for those who mentioned deterioration, 33.3% was affected by reduced physical activities and 14% by the lack of family support.

4. Discussion

In the present study, we prospectively investigated the impact of 6 weeks of confinement on the anxiety and the depression in

Table 2 – Worsening and improvement (moving from one sub-category to another) of anxiety and depression in the study Groups.

	Rate Age		Sexe	Hoen/Yahr		DBS		
	≤ 60	>60		F	H ≤ 2.5	>2.5		
Total	50	25	25	26	24	28	22	6
Depression								
Improvement	5	1	4	2	3	3	2	0
Worsening	12	8	4	6	6	6	6	3
Anxiety								
Improvement	4	1	3	2	2	2	2	0
Worsening	8	7	1	5	3	5	3	2

Moroccan PD patients using the HADS scale and the factors that influence the changes. To our knowledge, no study with a prospective design focused on the impact of the COVID-19 pandemic containment in PD patients was published. In one study [5], using the Beck Anxiety Inventory scale questionnaire administered at one time during the lockdown, the incidence of anxiety was highest in the PD subgroup followed by their caregivers, then controls. The same finding was reported on anxiety and depression using another scale in another report [8]. In these studies, the increase in anxiety and depression scores would be more linked to the thinking about and the fear of getting COVID-19 infection, than to the confinement itself.

Despite the trend towards worsening scores, our results show that confinement has no significant impact on overall anxiety and depression scores in a group of Moroccan PD patients. Indeed, there were no significant changes in the mean HADS scale and several patients remained stable. However, it should be noted that some patients have worsened while others have improved their scores. A clinically but not statistically significant negative impact was observed in younger age patients (under 60) and patients receiving DBS therapy, which could be explained by the marked reduction in physical activities and the impact of the lockdown on certain habits of daily life. Otherwise, most patients with higher HY stage remained stable because all of them are used to stay at home. Some of them even get better which could be due to the presence of their relatives and better family support secondary to our sociocultural framework.

Among others, the limitations of this study are linked to the relatively small number of patients studied, and thus, will not make it possible to generalize these results over the entire PD population. However, in addition to the negative consequences traditionally reported, our study demonstrates that containment could have an unexpected positive psychological impact on a significant number of PD patients.

Also, this finding must be interpreted with caution because the study of the effect of confinement on the psychological state is complex. Several medical factors (perceived higher risk of contracting the virus, restriction of ambulation...), social and familial factors (presence of relatives, having more time to take care of oneself...), or economic concerns (decrease in income or the loss of a job...) may interfere with the perceived psychological impact.

5. Conclusion

In the present study, no impact of the confinement on overall depression and anxiety scores is seen in Moroccan PD patients. However, some patients have worsened while others have improved their scores, and the reasons for those changes were not able to be revealed in this study.

Disclosure of interest

The authors declare that they have no competing interest.

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