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RESEARCH ARTICLE

PSYCHOLOGICAL IMPACT OF COVID-19 PANDEMIC ON PATIENTS WITH OBSESSIVE-COMPULSIVE DISORDER

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Abstract

Introduction: Obsessive-compulsive disorder is characterized by persistent irrational thoughts manifested by repeated actions. These disorders often have an impact on the social life of those who suffer from them, with a tendency towards isolation which can be exacerbated during this period of confinement. Among these disorders, the fear of contamination is very common. This fear is influenced by culture, society, and global health issues. Thus, in 1920, many cases of "fear of syphilis" emerged following major awareness campaigns pertaining to the disease. In the 1980's, obsessive disorders related to the risk of HIV infection appeared. Likewise, the Covid-19 coronavirus epidemic is likely to cause a significant deal of anxiety for some people with obsessive-compulsive disorder, thus justifying the aggravation of the clinical condition of this category of patients.

The hand-washing recommendations that were promoted during the pandemic would prove to be a major trigger for obsessive-compulsive disorder. Quickly, this gesture becomes an obsession and gradually as the virus spreads, experts expect the cases of associated obsessive-compulsive disorders to increase [1].

Closeness between family members and disrupted habits during confinement can lead to conflict, which can increase the frequency of compulsions. Meditation can also increase the flow of uncontrolled thoughts which can promote the emergence of obsessions.

During this time of the pandemic, doctors and people with obsessive-compulsive disorders find themselves in a dilemma. On the one hand, to treat obsessive-compulsive disorders, hand washing is prohibited, and on the other hand, to prevent the spread of the virus, hand washing is strongly recommended. Covid-19 can therefore be an unbearable nightmare, and harder to manage for people with obsessive-compulsive disorders.

Objective: This study aims to assess the psychological repercussions of confinement on patients suffering from obsessive-compulsive disorders during the Covid-19 pandemic, and to underline the link between the aggravation of the symptoms of obsessive-compulsive disorder and the underlying perceived stress associated with it.

Methodology: This is a descriptive and analytical study, which involves a sample of patients tracked for obsessive-compulsive

disorders, and which is founded on collecting their individual information through an anonymous survey, which was submitted via social networks, either by using smartphones or during consultations. As an assessment instrument, in addition to the survey for collecting socio-demographic data, we opted for the Yale-Brown Scale to assess the severity of the symptoms of obsessive-compulsive disorder, as well as the Cohen Perceived Stress Scale (PSS-10) to assess the perceived stress on this group of patients during this pandemic. These scales were chosen because of their frequent use in several studies on the same topic.

Results: We collected 102 responses, of which 55% were women; 39% of our candidates worked remotely and only 38.8% of patients were able to continue their medical follow-up at the hospital during the confinement.

Concerning our results, it was observed that our participants experienced significant changes in terms of the severity of the total symptoms of obsessive-compulsive disorder during the period of confinement with an accentuation of 90% of the symptoms of contamination and 53.8% of the hands washing compulsions during the Covid-19 pandemic. Respondents, who had symptoms of obsessive-compulsive disorder, since the onset of Covid-19, were the only ones who were significantly more likely to be vulnerable to moderately high stress. Likewise, respondents who compulsively washed their hands were significantly more likely to experience vulnerability to moderate to high stress. 45.3% of our applicants were extremely anxious, 33% were very anxious, and 21.7% were anguished to a tolerable level, with a rate of 75.5% of patients developing a social handicap or an inability to function.

The sample showed that subjects who could not work or study from a remote position during the quarantine, those who lived with a relative in the same house during the quarantine, and those who showed symptoms of contamination, had significantly greater aggravation of the obsessive-compulsive disorder total symptoms during the confinement. Effects were not significant for other variables including gender, use of online social network sites and applications during the quarantine and remission status on obsessive-compulsive disorder symptoms before quarantine.

Conclusion: Our results suggest that the stressful period of the pandemic is associated with a significant worsening of symptoms on patients with obsessive-compulsive disorder, particularly on those with contamination obsessions and washing compulsions. Having obsessive-compulsive disorder would increase the likelihood of experiencing significant stress during this pandemic.

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..... Introduction:-

SARS-COV-2 (severe acute respiratory syndrome coronavirus 2) first appeared in Wuhan province in China on November 17, 2019, before spreading around the world.

The Coronavirus is a fast-spreading air born infectious disease, with serious social, economic and above all psychological consequences that brings about serious mental health problems. In recent months, more and more research has been carried out on the increasing levels of anxiety and depression among the general population and especially on patients with psychiatric pathologies, as patients with mental disorders seem particularly vulnerable to this pandemic, primarily those with obsessive-compulsive disorder.

The Coronavirus disease 2019 (Covid-19) can cause a form of severe acute respiratory syndrome that can quickly lead to death among vulnerable people. It has a high droplet transmission rate from person to person, with a death rate of 2-5% [5]. As of March 2020, around 136 countries imposed strict measures to limit the spread of Covid-19, including staying at home, social distancing and banning social gatherings. This has been accompanied by extensive public health campaigns on regular hand washing, hygiene, and personal protective equipment (PPE) such as face masks and gloves [6].

Although these measures are essential, they can have a negative impact on the mental health of vulnerable people. Limitations and restrictions imposed on people to protect the public from transmittable diseases can exacerbate mental illness. In this context, public perception is positively correlated with the psychological impact of an epidemic. A major risk factor for mental illness during a pandemic is a person's constant worry for themselves and about their family members. Excessive worry is an etiologic factor which is implicated in the development of symptoms of obsessive-compulsive disorder [3].

Obsessive-compulsive disorder is characterized by persistent irrational thoughts manifested by repeated actions. Among these disorders is the fear of contamination by dirt or germs, which is very common. This generates distress which often results in compulsions to temporarily reduced anxiety [9].

This fear is influenced by culture, society, and global health issues. Thus, in 1920, many cases of "fear of syphilis" emerged after the promotion of major awareness campaigns about the disease. In the 1980s, obsessive disorders related to the risk of HIV infection appeared. Likewise, the Covid-19 coronavirus epidemic is likely to cause a significant spike in anxiety for some people with obsessive compulsive disorder. Therefore, an increase in cases of associated obsessive-compulsive disorder is feared.

Confinement measures, i.e., quarantine, social distancing and self-isolation, imposed globally to reduce the risk of infection, and as a preventive measure, can represent a stressful life event and have dramatic mental health consequences, especially on people with obsessive-compulsive disorder.

Along with social restrictions, another important way to slow the spread of the virus is through good hygiene. The handwashing recommendations that were made during this pandemic period would prove to be a major trigger for obsessive-compulsive disorder. Quickly, this gesture becomes an obsession and as the virus spreads, experts expect the cases of associated obsessive-compulsive disorder to increase.

Proximity between family members and disrupted habits during the confinement can lead to conflict, which can increase the frequency of compulsions, and the use of online social sites would in turn increase the flow of uncontrolled thoughts, which, in turn, can promote the emergence of obsessions.

There are little data describing the prevalence of obsessive-compulsive disorder symptoms during communicable disease pandemics although these represent a time when people need to be hyper-vigilant to prevent the threat of infecting themselves and others. The objective of our work would therefore be to assess the psychological repercussions, during the Covid-19 pandemic, on patients with obsessive-compulsive disorder; to probe the aggravation of their symptoms during this pandemic; to detect the appearance and the development of psychological distress (stress) during the pandemic on these patients; to determine if it is associated with certain characteristics such as sex, age, marital status, work; and finally to propose elements of guidance to reorganize psychiatric care in the context of a pandemic.

Material And Methods:-

The development of this work was based on the completion of an anonymous online survey through Google forms, and shared on 04/23/2020. It took two months to conduct this study (from 04/23/2020 to 06/23/2020), which targeted patients with obsessive-compulsive disorder.

Subscribers received a link to the online survey designed to collect demographic variables such as age, gender, education, employment status, relationship status and housing status. The 10-minute survey (mean duration) also assessed obsessive-compulsive symptoms with two items from the Brief Obsessive-Compulsive Scale (BOCS) and perceived stress with the Perceived Stress Scale.

Inclusion criteria:

The subjects were patients followed in an outpatient clinic who had fulfilled the criteria for a primary diagnosis of obsessive-compulsive disorder according to the Diagnostic and Statistical Manual of Mental Disorders 5. The diagnosis of obsessive-compulsive disorder was made by a clinical interview conducted by a doctor and psychiatrist and was supported by the administration of the Yale-Brown Symptom Checklist (Obsessive Compulsive Symptom Scale).

All patients were on stable pharmacological treatment for the last 6 months before the quarantine with an adequate drug (mainly selective serotonin reuptake inhibitors such as fluvoxamine and sertraline, and tricyclic antidepressants such as clomipramine) at high doses in combination with low doses of atypical antipsychotics (mainly risperidone and aripiprazole).

All patients should be 18 years or older and should give their informed consent in writing to participate in the study.

Exclusion criteria:

Subjects were excluded if they had (a) concomitant psychotic or bipolar disorders, (b) intellectual disability, (c) or organic diseases.

For measurements:

The Y-BOCS-SC was used to identify the content of obsessions and compulsions. The Y - BOCS severity score, a 10-item instrument developed by Goodman et al. (1989), was used to assess symptom severity and response to treatment. This scale is a reliable semi-structured interview, divided into obsession and compulsion subscales. Each of the five types of obsessive-compulsive symptoms are rated on a scale from 0 (no symptoms) to 4 (extreme symptoms): time devoted, degree of interference (discomfort in daily life), distress (anxiety), resistance (higher resistance is assigned lower scores) and perceived symptom control. The subscale scores are added together to give the total scores. The scale makes it possible to distinguish: an obsession score: the addition of 5 items ($0 \leq \text{score} \leq 20$) and a compulsion score: the addition of 5 items ($0 \leq \text{score} \leq 20$). Depending on the total score obtained ($0 \leq \text{score} \leq 40$), a distinction can be made between (10-18) mild obsessive-compulsive disorder causing distress but not necessarily dysfunction where the help of a third person is not requested, and (18-25) distress and handicap; ≥ 30 : severe handicap requiring outside help. In the present study, the Y-BOCS severity score was administered 6 weeks after the start of confinement [1].

In addition to the Yale-Brown Scale, subjects completed an online survey gathering socio-demographic data (which focused on age, sex, marital status, housing, medical-surgical history, psychiatric, toxic habits during the last 3 months, city, function, remote work) as well as clinical information relating to the Covid-19 pandemic and life during the quarantine, to assess the psychological repercussions of the Covid-19 pandemic on these patients.

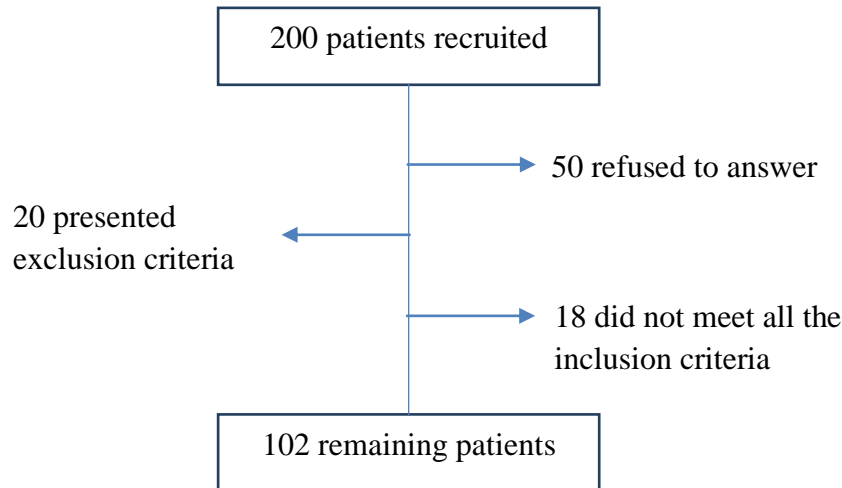
The stress exploration was carried out by the Cohen Perceived Stress Scale in French version (PSS-10).

In the context of this study, we chose to work on the 10-item version because it does not only present the best overall psychometric qualities, but it also remains the shortest and therefore the most practical version. In addition, this scale provides comparative value on the basis of its use in several similar works. Data collection was done by using Google Forms and data processing was done through Microsoft Excel 2016. This is while Statistical analysis was performed using SPSS software. Chi-square test was performed for unified qualitative analysis of the data.

A $p < 0.05$ was considered to be the threshold.

Results:-

Of the 200 people invited to take an online survey, 102 responded, or a response rate of 51%.



A detailed overview of socio-demographic characteristics, midlife variables and clinical characteristics are provided in Table 1.

102 patients were included (main age = 42 years), of which 55% were women and 68% were married, 36.7% had a medical-surgical history and 80% presented an anxiety disorder.

69% had a higher level of education and 48% had a permanent job. 25.1% traveled to work and 73.2% lived with a relative in the house.

38.8% had follow-up in hospital and 35.2% had follow-up by teleconsultation.

73.3% used social network for pandemic monitoring and 75.5% had a social handicap and inability to function during the pandemic.

The data displayed in Table 1, indicates that 90% of the respondents had obsessions related to contamination by dirt, germs, or viruses, and 53.8% had compulsions to wash their hands repeatedly or in a special way, both of which got worse during the Covid-19 pandemic.

Table 2 suggests that there were statistically significant correlations between obsessions with dirt, germs and viruses, and all the demographic variables assessed. Respondent groups that included men, over 60 years of age, university educated, retired and widowed, contained a higher proportion of respondents who expressed concerns about contamination from dirt, germs and viruses, compared to other respondents.

Table 3 suggests that all demographic variables except sex and marital status had statistically significant relationships with compulsive hand washing. Patients over the age of 60, with university education and in retirement, washed their hands more compulsively compared to other respondents.

The data displayed in Table 4 indicate significant correlations between obsessions with dirt, germs, and viruses, and between those who engaged in compulsive handwashing, and the likelihood of respondents having moderate to high stress.

Analysis indicates that respondents who did not worry about dirt, germs and viruses only, since the start of the Covid-19 pandemic, were significantly more likely to have moderate to high stress compared to respondents who never worried about dirt, germs and viruses. Likewise, respondents who compulsively washed their hands were significantly more likely to have moderate to high stress, compared to respondents who never compulsively washed their hands.

The results showed an overall worsening of the Y-BOCS score during the confinement period, as shown in Table 5.

In addition, our study also showed that subjects who could not work or study remotely during the quarantine, those who lived with a relative in the same house during the quarantine, and those who presented symptoms of contamination, had a significantly greater aggravation of overall symptoms of obsessive-compulsive disorder while in confinement. Effects were not significant for other variables including gender, use of online social media sites and apps during the quarantine, remission status on obsessive-compulsive disorder symptoms before the quarantine, as is explained in Table 6.

Discussion:-

This population-based cross-sectional survey of 102 respondents during the Covid-19 pandemic is among the few studies reporting the psychological impact of Covid-19 on patients with obsessive-compulsive disorder. The high levels of stress symptoms and the aggravation of obsessive-compulsive disorder symptoms on these patients underscore the need to target prevention, intervention and mental health monitoring of vulnerable groups affected during the Covid-19 pandemic.

The results of this study support the hypothesis that studying the symptom dimensions of obsessive-compulsive disorder is important for future planning for a pandemic, where strict public health measures (for example, requiring regular hand washing, face mask use, and social distancing) are implemented or enforced. 90% of patients were obsessed with the fear of contamination and 53.8% had compulsive hand washing. The analysis found that people with new symptoms of obsessive-compulsive disorder were statistically more likely to have high stress.

Since global pandemics are associated with increased somatic and cognitive anxiety, the combination of this stress and contamination concerns specific to obsessive-compulsive disorder can result in negative cognitive ruminations that activate stress vulnerabilities. The correlation between obsessive-compulsive disorder and anxiety has been explained by the overlap of common genetics, neurobiology, and shared psychological constructs [8].

Thus, the question is whether the new symptoms of obsessive-compulsive disorder observed in our study are linked to a real risk of obsessive-compulsive disorder disease, or a phobia-type expression in the context of Covid-19, or a combination of the two, which will be determined by future research. Obsessive-compulsive symptoms may also be an adaptive response to protect oneself and others from the virus, as the sampled behaviors are consistent with public health recommendations. To assess the adaptive nature of the symptoms of obsessive-compulsive disorder during the Covid-19 pandemic, the persistence or resolution of these symptoms must be determined at the stage of recovery from the pandemic when the acute phase has ended.

Several studies in the literature assess symptoms of obsessive-compulsive disorder and the coronavirus pandemic in the United States, China, United Kingdom, and India. The morbidity of the coronavirus and its status as a global pandemic transmittable from person to person, has heightened personal perceptions of distress. The predicted shortage of vital medical equipment to fight the coronavirus due to the daily increase in Covid-19 cases has a strong social impact. The world is facing perpetual reports of a high number of coronavirus cases, more people in quarantine and a rising death toll; those who are not infected increasingly fear its proximity. Social media, print media, and electronic sources offer numerous tips on how to prevent coronavirus infection. Pandemics go beyond physiopathology and medical phenomena to reach associations with an intense psychosocial impact [7]. Studies have established that people with existing mental disorders are prone to relapses, fear of flawed Covid-19 prevention measures, distress, and suicidal thoughts during pandemics. Precautionary measures are aimed at slowing the spread of the coronavirus, but these drastic repetitive measures create increased anxiety in the mental health of people with obsessive-compulsive disorder. Despite the nature of their conditions, these people must adhere to routine processes, such as washing their hands, wearing masks and gloves, and disinfecting their hands. By taking into account the asymptomatic nature of people with obsessive-compulsive disorder, routine measures to combat Covid-19 have a fast-paced and detrimental effect on their mental health and state of relaxation [4].

The spread of fear, anxiety and even panic due to the Covid-19 pandemic can lead to the aggravation of pre-existing psychiatric conditions (Yao et al., 2020). Despite the prevalence of 1 to 3% of obsessive-compulsive disorder in the general population (Ruscio et al., 2010) and its particular clinical picture (fear of contamination and compulsion to wash), there are few studies evaluating the impact of the Covid-19 pandemic in this clinical population [2].

In our study, we explored changes in obsessive-compulsive disorder symptoms during the confinement on a group of obsessive-compulsive disorder patients, controlling variables related to life in quarantine (i.e., using the online

social networking sites as a means of maintaining social relationships, problematic internet use, isolation, living with a parent in the same house, the ability to work or study remotely) and examining the association between the aggravation of the symptoms of obsessive-compulsive disorder and perceived stress. The results showed a significant aggravation of symptoms on these patients especially in those with symptoms of contamination and washing rituals.

A study done by (Prestia et al, 2020) in Genova, Italy assessed the impact of the Covid-19 pandemic on patients with obsessive-compulsive disorder. Thirty patients were included, their main age (years) was 43.17 years, of which 16 (53.33%) were women [10].

The results were similar to our study, showing significant changes in the severity of total obsessive-compulsive disorder symptoms, obsessions, and compulsions between the pre-quarantine and quarantine period, suggesting an overall aggravation of the total severity score. YBOCS > 20.46.

Our results showed a significant increase in the obsession and the severity of the compulsion after the onset of the pandemic like the results of the previous study (Prestia et al, 2020), highlighting above all an aggravation of the symptoms of contamination and the rituals of the washing and cleaning [10].

In China, a study was carried out by Guangjun et al. 2020, using the same scale to rate obsessive compulsive disorder. This study aimed to examine whether fear of negative events affects the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) scores in the context of a Covid-19 fear-invoking environment. All of the participants were university medical students and voluntarily completed three surveys via a smartphone or computer. The surveys included the Y-BOCS and the Zung Self-Rating Anxiety Scale (SAS). 11.3% of participants (1519/13,478) obtained a score ≥ 16 on the Y-BOCS. Participants with possible obsessive-compulsive disorder expressed greater intensity of fear and had higher SAS standard scores ($P < .001$). Along with our results, fear of Covid-19 was associated with a higher Y-BOCS score, suggesting that an environment (Covid-19 pandemic) \times psychology (fear and / or anxiety) interaction could be involved in the obsessive-compulsive disorder and a fear of negative events may play a role in the etiology of obsessive-compulsive disorder [1].

On the other hand, people with a higher intensity of fear, a higher level of anxiety, male, with one or more siblings and specializing in a non-medical discipline, were more likely to have a Y score. -BOCS higher. In addition, the Y-BOCS score was negatively correlated with changes in fear intensity.

In Canada, a study (Danial Li et al, 2020) examined the prevalence of symptoms of obsessive-compulsive disorder at an early stage of the Covid-19 pandemic in 32,805 people. study, both symptoms of obsessive-compulsive disorder, stress, probable generalized anxiety disorder (GAD) and major depressive disorder (MDD) were assessed using the Brief Obsessive-Compulsive Scale (BOCS), Perceived Stress Scale (PSS), Generalized Anxiety Disorder 7- (GAD-7) and the Patient Health Scale. Overall, 60.3% of respondents reported the aggravation of obsessive-compulsive disorder symptoms and 53.8% had compulsions to wash their hands during the Covid19 pandemic [3].

Our results join the latest research in the literature. Obsessive-compulsive disorder symptoms worsened during the Covid-19 pandemic, at a rate significantly higher than the pre-pandemic rates reported for the sample population. Having symptoms of obsessive-compulsive disorder increased the likelihood of having high stress, possibly generalized anxiety disorder and major depressive disorder.

A work carried out in France by Marielle wathlet and al. 2020, with 69,054 students at the average age (interquartile range) was 20 (18-22) years. The sample was mainly composed of women (50,251 [72.8%]) and first year students (32,424 [47.0%]). The prevalence of suicidal thoughts, severe distress, high level of perceived stress, severe depression, and high level of anxiety was 11.4% (7,891 students), 22.4% (15,463 students), 24.7% (17,093 students), 16.1% (11,133 students) and 27.5% (18,970 students), respectively, with 29,564 students (42.8%) reporting at least 1 result, of which 3,675 (12.4%) declared having consulted a healthcare professional [1].

The results of this study suggest a high prevalence of mental health problems among students who were quarantined, highlighting the need to strengthen prevention, surveillance, and access to care.

Overall, there has been an increase in the obsession and severity of the compulsion after the onset of the pandemic. Symptoms of contamination were associated with greater aggravation. Perhaps the catastrophic news on TV, radio and social media, combined with hygiene advice, could have been a stressful situation for this vulnerable group, especially for those with pre-existing symptoms of infection. (Gao et al., 2020) These results contrast with other studies reporting a significant association of obsessive-compulsive disorder with younger age, marital status and female sex, particularly with symptoms of HIV infection or obsessive-compulsive disorder. The average age of those interviewed in our study is 42 years, which is higher than the generally reported average age at the onset of obsessive-compulsive disorder of 17.9 years. This is important because the onset of obsessive-compulsive disorder before age 20 is associated with a poor prognosis, while the onset beyond age 20 tends to have a shorter course and better outcomes. Therefore, given the advanced age of the onset of obsessive-compulsive disorder symptoms in our study, those who develop obsessive-compulsive disorder symptoms during the Covid-19 pandemic are likely to have a better prognosis.

This study suggests that symptoms of obsessive-compulsive disorder are associated with responsibilities related to increased stress. Overall, in a survey of 705 Hong Kongers and 1,201 Singaporean residents during the SARS outbreak, general anxiety measured using the State-Trait Anxiety Inventory (STAI) was adaptive and positively associated with the adoption of personal protection measures in Hong Kong [8].

This study, however, adds the association of stress in a pandemic to the obsessive symptoms, which may indicate an additional risk of vulnerability to adverse psychological sequelae.

Finally, for all of the studies we found that obsessive-compulsive disorder status before quarantine was associated with the greater aggravation of obsessive-compulsive disorder symptoms during quarantine. Therefore, mental health professionals should provide the necessary support not only to treat patients who are still reported to symptoms, but even to improve relapse prevention during any time of social restraint.

We should recommend, for example, limiting access to news, or reading it only through reliable sources, devoting time daily to pleasurable or physical activities that can help distract from intrusive thoughts and decrease the level of anxiety.

So we need to educate all patients to seek help from mental health professionals, and we need to improve alternative strategies such as online consultations and digital psychiatry. Digital technologies may have the advantage of allowing both individual and group sessions, which have been shown to be effective for obsessive-compulsive disorder.

In conclusion, we underline the importance of relapse prevention strategies that should be implemented, especially after cognitive behavioral therapy (Sookman&Steketee, 2010), as they can help reduce the risk of relapse, which are generally quite high on patients with obsessive-compulsive disorder regardless of the pandemic.

Conclusion:-

Patients already suffering from psychiatric disorders would be the most affected by the psychiatric sequelae linked to the Covid-19 pandemic.

Our work assessed the aggravation of symptoms on patients with obsessive-compulsive disorder during confinement.

Our results suggest that this period of pandemic is associated with a significant aggravation of symptoms, particularly on patients with symptoms of contamination and compulsions to wash with a high level of stress during confinement.

It would therefore be desirable to carry out more studies to be able to offer an algorithm and appropriate treatment in the event of the next pandemic on vulnerable patients with mental disorders.

Limitations of the study:

There are certain limitations and future directions that need to be recognized. A relevant problem pertains to the small sample size and low statistical power which prevented us from exploring the role of additional variables. This

is because the study did not assess the effects of other symptoms often seen by worsening symptoms on patients with obsessive-compulsive disorder such as depression, generalized anxiety disorder or comorbid personality.

The absence of a control group without obsessive-compulsive disorder or even of another psychiatric group did not allow us to establish whether such worsening of symptoms was specific to patients with obsessive-compulsive disorder.

In addition, the increase in symptoms of obsessive-compulsive disorder may reflect the real threat posed by Covid-19. As a result, it is possible that once the pandemic is over, a proportion of those with new symptoms of obsessive-compulsive disorder would not continue to report these symptoms. Post-pandemic studies are therefore necessary to determine and understand the temporal relationship between the symptoms of obsessive-compulsive disorder and the Covid-19 pandemic.

Finally, this investigation is unable to make the direct effect of Covid-19 on people with a confirmed diagnosis of obsessive-compulsive disorder and new patients with obsessive-compulsive disorder during confinement distinct, which will remain an area of interest for future investigation.

Appendices

Table 1:- Sociodemographic and clinical characteristics of a group of patients with obsessive-compulsive disorder.

Meanage (years)	42 years
18-29	30.6%
30-39	29.8%
40-49	35.4 %
50-65	2.6%
>65	1.5%
Region	Rabat-Salé-Kénitra :68% Casablanca-Settat : 8.7% Tanger-Tetouan-Al Hoceima : 5.3% Marrakech-Safi : 4.7% Fès-Meknès : 4.5% Darâa-Tafilalet : 2.7% Oriental : 2.4% Souss-Massa : 1.9% Béni Mellal-Khénifra : 1.2% Laâyoune-Sakia El Hamra: 0.3% Guelmim-Oued Noun : 0.1% Dakhla-Oued Ed-Dahab: 0.1%
Gender	Woman: 55% Man :45%
Marital status	Married: 68% Single: 21% Divorced: 9% Widower: 2%
Study's level	High:69% Unschoolled: 1% Primary: 2% Secondary: 28%
Profession	Fixed employment:48% Occasional work:30% Unemployed :12% Student :10%
medical and surgical history	No history :63.3% Good prognosis:31% Unknown prognosis: 5.7%
Living with Family	Yes :73.2%

	No :26.8%
History of psychiatric comorbidities before quarantine	Psychiatric history: No history :7% Depressive disorder: 10% Anxiety disorder: 80% Others: 3% Toxic habits: Without: 52.5% Tobacco: 31.4% Benzodiazepines: 7.7% Alcohol: 5.6% Caffeine: 1.8% Cocaine: 0.3% Cannabis: 0.6% Opiate: 0.1%
Continuity of work or study during confinement	Remote work: 39% Displacement: 25.1% Time off work: 8.6% Not working: 27.3%
Have been affected or exposed to a friend or relative Covid +	Yes :64% No :36%
Increased Symptoms of obsessive-compulsive disorder	Contamination Symptoms: 90% Compulsions to wash hands: 53.8%
Degree of anxiety	Extremely anxious: 45.3% Anguish at a tolerable level: 21.7% Very anxious: 33%
Social disability or inability to function	Yes :75.5% No :24.5%
Medical follow-up	Hospital: 38.8% Teleconsultation: 35.2% No follow-up: 26%
Using social networks	Yes :73.3% No :26.6%

Table 2:- Demographic characteristics of respondents with obsessive symptoms (dirt, germs, and viruses).

Variables	Worried about dirt, germs and viruses		
	Only since the COVID-19 pandemic "After"	Before and during the COVID-19 pandemic	Never
Gender			
Man	53.2%	27.3%	19.5%
Woman	50.6%	26.5%	22.9%
Age			
≤25	52.2%	31.8%	16%
26–40	50.8%	36%	13.2%
41–60	50.9%	33.4%	15.7%
> 60	55.7%	30.1%	14.2%
Study's level			
Primary	52.8%	40%	7.2%
Secondary	55%	34.2%	10.8%
University	73.1%	23.3%	3.6%
Profession			
Employee	63%	23.2%	13.8%

Unemployed	55%	20.7%	24.3%
Retired	53.8%	31%	15.2%
Student	69.3%	25 %	5.7%
Marital status			
Married	51.6%	25.3%	23.1%
Separated/Divorced	63%	21.3%	8.3%
Widowed	67%	24.7%	8.3%
Single	57.2%	23.9%	18.9%
Housing status			
Homeowner	64%	27.3%	8.7%
Living with family	51.4%	30.7%	17.9%
Rental	67%	23.6%	9.4%

Table 3:- Demographic characteristics of respondents with compulsive symptoms (repeated hand washing).

Variables	Washing hands very often or in a special way to make sure he / she is not dirty or contaminated		
	Only since the COVID-19 pandemic "After"	Before and during the COVID-19 pandemic	Never
Gender			
Man	56%	28.9%	15.1%
Woman	54.2%	31.4%	14.4%
Age			
≤25	36.7%	43.5%	19.8%
26–40	50.2%	39%	10.8%
41–60	53.7%	33%	13.3%
> 60	57.3%	29%	13.7%
Study's level			
Primary	46%	49.3%	4.7%
Secondary	51.2%	30.5%	18.3%
University	54.6%	36%	9.4%
Profession			
Employee	51%	31.3%	17.7%
Unemployed	45.8%	36.9%	17.3%
Retired	62.7%	26.5%	10.8%
Student	45%	34%	21%
Marital status			
Married	53.7%	30.1%	16.2%
Separated/ Divorced	51.6%	31.6%	16.8%
Widowed	54.6%	39.1%	6.3%
Single	52.7%	38.1%	9.2%
Housing status			
Homeowner	55%	31.1%	13.9%
Living with family	33.5%	45.2%	21.3%
Rental	56%	26.7%	17.3%

Table 4:- Chi-square test of association between obsessive-compulsive symptoms and perceived stress.

Variables	Perceived stress
	Moderate / highStress
Worried about being contaminated with dirt, germs and viruses	
Only since the COVID-19 pandemic	75.6%

Before and during the COVID-19 pandemic	88.2%
Never	56%
Washing hands very often or in a special way to make sure hands are not dirty or contaminated	
Only since the COVID-19 pandemic	77.6%
Before and during the COVID-19 pandemic	86.8%
Never	48.5%

Table 5:- Changes in the severity of obsessive-compulsive disorder during the pandemic.

	Score
Y-BOCS obsessions during quarantine	10.5
Y-BOCS compulsions during quarantine	11.2
Y-BOCS Total during quarantine	21.7

Table 6:- Comparisons on symptoms change of obsessive-compulsive disorder between socio-demographic and clinical characteristics.

	Change in total severity of obsessive-compulsive symptoms	Change in severity of obsessions	Change in severity of stress
Sex	Male: 4 Female: 6.3	Male: 1.7 Female: 4.7	Male: 2.3 Female: 1.6
Remote work or study during quarantine	Yes: 3.29 No: 8.66	Yes: 1.72 No: 4.26	Yes: 1.57 No: 4.40
Living with a parent in the same house during quarantine	Yes: 5.86 No: 1.22	Yes: 3.11 No: 0.57	Yes: 2.75 No: 0.65
Use of online social networks during quarantine	Yes: 3.75 No: 5.2	Yes: 1.5 No: 2.65	Yes: 2.25 No: 2.55
Contamination symptom	Yes: 9.55 No: 2.68	Yes: 5.47 No: 1.54	Yes: 4.08 No: 1.14

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