
Fear of COVID-19 and Socio-cultural factors as Predictors of Sleep disturbances among Obsessive Compulsive Disorder PatientsMinahil Siddiqui¹, Syeda Ayesha Noor², Ayesha Sarfaraz³**Abstract**

The Coronavirus disease (COVID-19) outbreak has significantly impacted the course, severity and adherence to the treatment, thereby, exacerbating the preexisting conditions associated with psychological disorders. The objective of the current study was to examine the impact of fear related to COVID-19 along with other religious and socio-cultural factors such as paranormal beliefs on the sleep disturbances of Obsessive Compulsive Disorder (OCD) patients. Purposive sampling strategy was employed in order to collect the data from a sample of 100 individuals with the age range of 20-45 diagnosed with OCD. The data was collected through online resources via google forms. Fear of COVID-19 scale, the centrality of religiosity scale, revised paranormal belief scale, PROMIS sleep disturbance scale and Yale Brown obsessive compulsive scale were used to measure the study variables. Variables were statistically analyzed by Pearson product moment correlation coefficient, multiple linear regression and *t* test analysis. The outcome of the present research illustrated significant positive relationship among fear of COVID-19, intense religiosity, paranormal beliefs and sleep disturbances. Moreover, results indicated that individuals with severe OCD scored higher on components of religiosity, paranormal beliefs, fear of COVID-19 and sleep disturbances as compared to patients reporting moderate level OCD symptoms. The results will help in understanding the psychological impact of COVID-19 and its associated socio-cultural and religious factors on sleep disturbances of OCD patients.

Keywords: COVID-19, Obsessive Compulsive Disorder (OCD), Paranormal Beliefs, Religiosity, Sleep Disturbance

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Introduction

With the spread of COVID-19 epidemic and its variants, a significant number of people have been affected by it throughout the globe; resulting in an overall increase in stress and anxiety around the globe (Jelinek et al., 2021). The rising efforts of washing hands and hygiene practices have become important part of life during COVID-19, which can cause the obsession with contamination fear and compulsion of handwashing. Thus COVID-19 operates as a challenge for individuals suffering from obsessive-compulsive disorder (OCD) and it is likely to have an adverse effect on OCD patients (Taher et al., 2021). COVID-19 has been linked to an increase in the severity of general symptoms,

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especially contamination-related obsessions and compulsions (Khosravani et al., 2021). Obsessive-compulsive disorder (OCD) is a psychological condition that consists of repetitive thoughts referred to as obsessions and resulting behavioral activities often referred to as compulsions (Fontenelle & Miguel, 2020). OCD-associated thoughts and actions may become detrimental to sleep quality since earlier studies suggested that people with OCD also suffer from sleep problems, but these difficulties are often not clinically noticed and diagnosed (Nordahl et al., 2018). For several aspects of daily functioning, particularly mood and emotional well-being, sleep disturbance has been shown to have profound adverse effects. Several factors have been linked with sleep disturbances and have been shown to impact the efficacy of management related to treatment for OCD patients. A study conducted in 2021 shows that fear of COVID-19 resulted in poor sleep quality and more sleep disturbances among OCD patients (Segalàs et al., 2021). Thus, we can say that stress and fear related to COVID-19 pandemic has created additional burden on global mental health, therefore, there is a need to understand these factors in exuberating sleep disturbances among OCD patients of Pakistani society where vulnerable population with a ruminative thinking is highly susceptible to suffer psychologically as a result of COVID-19 pandemic (Kshitij, 2018). In addition to this, religious and socio-cultural factors such as paranormal beliefs may act as maintaining factors and have the potential to further influence important life functioning of OCD patients. According to a study, religiousness can satisfy the psychological needs of the person. It is a sense of protection for people who suffer from different psychological issues such as OCD or have worries and malfunctions in other specific areas (Ok & Gören, 2018).

However, some studies identified mixed results of religiosity and OCD severity suggesting the predisposition of ruminative thinking which is the forte of OCD patient as the possible cause of this relationship (Henderson, et al., 2020). Another recent study also confirms that stress and religiosity could contribute to the severity of the obsessive-compulsive disorder (Bakht & Batool, 2019).

Another study by Bonchek and Greenberg (2009) also found that excessive prayer and rituals were prevalent among OCD patients who were more religious. Their focus on strict rules of thinking and behavior, high moral standards, inflexibility, remorse, perceptions about the impact of thoughts, and religious adherence may increase misinterpreting of unpleasant intrusive thoughts (Bonchek & Greenberg, 2009). Handerson (2016) in his research also reported significant correlation among religious, socio-cultural factors and mental well-being.

In addition to religious beliefs, some researchers have also explored the relationship among paranormal belief such as superstitious beliefs and witchcraft, personality traits such as openness, conscientiousness and agreeableness as well as quality of life of patients with obsessive compulsive disorder. The results revealed that paranormal beliefs affect the quality of life (Fatima & Jameel, 2020).

However, in case of Pakistan, there are limited researches looking at the interplay of the above-mentioned variables in exuberating sleep disturbances among OCD patients especially during COVID-19. Thus, the objectives of the current research were to see how fear of COVID-19, religiosity and paranormal beliefs predict sleep disturbances among OCD patients. It also intends to investigate the relationship of fear of COVID-19, religiosity, paranormal beliefs and sleep disturbances in OCD patients.

Moreover, the research also investigated the difference in fear of COVID-19, religiosity, paranormal beliefs and sleep disturbances between patients having moderate and severe OCD.

Theoretical Background

Existing literature spanning over the past decade demonstrates a close relationship between sociocultural and religious factors (such as spirituality, religiosity), personal beliefs and mental well-being (Handerson, 2016). Superstitious and personal beliefs pertaining to witchcraft and black magic can have a great impact on the presentation and treatment adherence of various psychiatric conditions. A study by Buchholz and Abramowitz (2020) also showed that religion and symptoms of OCD were positively correlated. Individuals with OCD have also been reported to show higher levels of religious conflict. As a study by Himle et al. (2011) shows that devout Christians were more likely to approve of thought patterns that can lead towards development and maintenance OCD symptoms such as the belief that individuals are responsible for their own thoughts and should be able to control them.

Other researchers have also found similar link between religious beliefs and OCD, where people having moderate to strong religious beliefs reported the need to channelize and control one's thinking as compared to those who are less religious. Moreover, excessive prayer and frequency of religious rituals is more common among such individuals. Inclination towards religion makes one more prone to misinterpreting unwanted thoughts due to its emphasis on the strict rules of thought and conduct (Bonchek & Greenberg, 2009). A number of studies indicate that religiosity and OCD are positively correlated in different cultural contexts, across different religions or denominations, and also between clinical and non-clinical populations (Henderson, 2016).

Additionally, previous literature also shows a link between paranormal beliefs and OCD symptoms. Repetitive thinking patterns, impulses and compulsive behaviors have been found to be positively correlated with paranormal beliefs. Additionally, researchers have found link between OCD symptoms and paranormal beliefs in both clinical and non-clinical samples. It has been observed that in certain cultures, paranormal belief can work as a preserving factor and lead to long-term sustainment of OCD related obsessions and compulsions (Kshitij, 2018). Another study reported that superstitious beliefs are derivatives of magical thinking which may maintain obsessive symptoms. (Einstein & Menzies, 2004). Grover et al. (2014) also found similar results, where more than half the patients in their sample attributed their illness to supernatural causes.

A recent research was also conducted on Pakistani population which investigated the relationship among paranormal belief, personality traits and quality of life of patients with obsessive compulsive disorder (Fatima & Jameel, 2020). The results revealed that paranormal beliefs affect the quality of life in OCD patients. Researches including clinical case studies of OCD patients also demonstrate that those with greater levels of paranormal beliefs were at high risk of meeting criteria for OCD, had severe OCD symptoms, and recommended OCD signs associated to religion. Yorulmaz et al. (2011) also found positive correlation between high levels of paranormal beliefs and high levels of checking, recurrent intrusive thoughts, and OCD severity. Paranormal beliefs were also significantly correlated with checking, cleaning, obsessing, hoarding, ordering, neutralizing, and scrupulosity symptoms along with OCD total scores (Mauzay et al., 2016). These studies demonstrate that paranormal and religious beliefs are significantly positively correlated with dysfunctional beliefs which

may lead to OCD symptoms severity (Mauzay & Cuttler, 2019).

Additionally, severity of OCD symptoms as a result of religious or paranormal beliefs is also linked with sleep disturbances (Nichols, 2019). In 2019, a meta-analysis of fourteen studies showed that thoughts and behaviors associated with obsessive compulsive disorder could become disruptive to sleep (Nichols, 2019). A recent study in 2020 explored the link between quality of sleep and severity of OCD symptoms. The results showed that individuals with OCD had more disturbed sleep as compared to the individuals who did not have OCD or any other psychiatric condition (Segalàs, et al., 2021).

Previous literature also reports that individuals who suffer from OCD tend to have lower quality of sleep and other related sleep issues which generally go unnoticed or are not clinically reported. Another research concerning individuals with OCD found that many had co-morbid sleep problems, and the severity of such problems depends on the type of dysfunctional beliefs, many of which were related to supernatural phenomenon (Nordahl et al., 2018). Another research revealed a significant, independent link between obsessions and insomnia symptoms (Timpano et al., 2014).

Hypotheses of the Study

1. There will be a relationship among fear of COVID-19, religiosity, paranormal beliefs, and sleep disturbance in OCD patients.
2. Fear of COVID-19, religiosity and paranormal beliefs predict sleep disturbances in OCD patients
3. There will be a significant difference in fear of COVID-19, religiosity, paranormal beliefs and sleep disturbances between moderate and severe OCD patients.

METHOD

Research Design

Quantitative correlational research design was used in which questionnaires were employed for the purpose of collecting data from the research participants.

Sampling Strategy and Sample Characteristics

The sample size was calculated using G-power software. Using purposive sampling strategy, a sample of 100 individuals diagnosed with obsessive compulsive disorder with age range of 20-45 years were included in the research. Participants with minimum 6 months' diagnosis of obsessive-compulsive disorder with active symptoms and individuals who were currently taking any medicine or therapy and were being treated at any public/private sector hospital or psychiatry clinic for OCD were part of the study. Participants with any other physical or psychological condition or who did not meet the inclusion criteria were excluded from the study. The data was collected using google forms.

Measures

In the current research a self-prepared form was used to collect sociodemographic information about the participant, such as age, education, gender, socio-economic status and family system.

Fear of COVID-19 Scale

Fear of COVID-19 scale has seven items. Responses are obtained on a five-point Likert type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The overall fear score (ranging from 7 to 35) was generated by summing up all of the item scores. A higher overall score means greater COVID-19 fear. Cronbach's alpha reliability coefficient was 0.82 (Ahorsu et al., 2020).

The Centrality of Religiosity Scale (CRS)

The Centrality of Religiosity Scale (CRS) is a psychological instrument that assesses the significance of religious ideas in personality. CRS is a fifteen-item scale organized into 5

subscales: intellect, ideology, private practice, religious experience, and public practice. But for this research shorter version of CRS comprising of 5 items was used. The Cronbach 's alpha reliability coefficient of the CRS-5 was found to be 0.85 (Huber & Huber, 2012).

Revised Paranormal Belief Scale (RPBS)

Revised Paranormal Belief Scale (RPBS) is a 26-item self-report instrument that assesses 7 different types of paranormal beliefs: traditional religious belief, psi belief, witchcraft, superstition, spiritualism, extraordinary life forms, and precognition. The subscales that are used in our research are witchcraft and superstition (due to their cultural relevance). Each item is assessed on a seven-point Likert scale, with a higher grade signifying a more enthusiastic endorsement. Cronbach's alpha reliability coefficient was found to be 0.87 (Huntley & Peeters, 2005).

PROMIS Sleep Disturbance Short Form

The PROMIS Sleep-Related Impairment questionnaire, consisting of eight items, is designed to assess self-reported alertness, drowsiness, weariness, and functional impairments related with sleep issues during the previous seven days. The measures are employed on a five-point Likert scale, and the raw score is converted to a standardized *t*-score using conversion tables, higher the scores are, there will be more sleep/wake disruption. Cronbach's alpha reliability coefficient was found to be 0.85 (Yu, 2011).

Yale Brown Obsessive Compulsive Disorder Scale (Y-BOCS)

Yale brown Obsessive Compulsive disorder scale is utilized to assess the prevalence and severity of obsessive-compulsive symptoms in patients The Y-BOCS comprises 10 items, five of which are for obsessions and five of which are for compulsions, which include questions such as: time spent, interference with performance, distress,

resistance, and management. Y-BOCS validity was alpha value of 0.67 and Cronbach Alpha ranging at 0.78. (Goodman, 1989).

Procedure

Permission was taken from the institute and from the authors of the selected scales. Due to the COVID-19 pandemic and associated lockdown, google forms were used to collect data. The online questionnaires included a link to a form requesting informed consent for the target groups' voluntary participation. The Fear of COVID-19 scale, the Centrality of Religiosity Scale (CRS), the Revised Paranormal Belief Scale (RPBS), the PROMIS Sleep Disturbance Short Form, and the Yale Brown Obsessive Compulsive Disorder Scale (Y-BOCS) were all used to collect data. Complete instructions were provided for each scale. Link of google forms was shared via social media platforms to relevant groups as well through personal contacts and with the help of psychiatrist and psychologists working in different hospitals and clinics. Participants were supposed to respond to a series of questions concerning their diagnosis and treatment they were currently seeking. They were also required to mention the name of the hospital/clinic from which they were seeking treatment. It took almost 20 to 30 minutes to complete all the questionnaires. Initially 162 forms were received via google forms, out of which only 100 forms were selected who met the research's inclusion and exclusion criteria. After obtaining data from completed questionnaires, the findings were graded according to the scoring procedures specified for each scale. For statistical analysis, data were converted to the Statistical Package for Social Sciences (SPSS v25). Correlation analysis, linear regression analysis, and the *t*-test were employed to determine the relationship, prediction, and difference between the research variable

Results

Out of the total 100 subjects, 48 (48%) were males and 52 (52%) were females. The

participants belonged to middle and upper socio-economic status with minimum 12 years of education.

Table 1

Pearson Product Moment Correlation Analysis for determining the Relationship among Religiosity, Paranormal Beliefs, Sleep disturbance and Fear of COVID-19 in OCD patients (N=100)

Variables	M	SD	1	2	3	4	5
FOC	27.71	3.73					
CRS	3.98	0.75	.38**				
PBS(W)	4.15	1.58	.41**	.49**			
PBS(S)	2.39	1.08	.41**	.51**	.72**		
SD	25.75	3.64	.20*	.55**	.72**	.71**	

Note: FOC (Fear of COVID-19 Scale), CRS (Centrality of Religiosity Scale), PBS(W) (Paranormal Beliefs Witchcraft), PBS(S) (Paranormal Beliefs Superstitious), SD (Sleep Disturbances)

* $p < .05$

Pearson Product Moment Correlation was used to look at the relationship between fear of COVID-19, religiosity, paranormal beliefs, and sleep disturbances. Results using

two-tailed analysis revealed that there is a significant positive correlation between all the study variables (Table 1).

Table 2

Multiple Regression Analysis Showing Fear of COVID-19, Religiosity and Paranormal Beliefs as Predictors of Sleep disturbances in OCD patients (N=100)

Variables	B	β	SE
Constant	19.94		1.80
FOC	-.20	-.21	.06
CRS	1.14	.23	.35
PBS(W)	.97	.42	.20
PBS(S)	1.24	.37	.30
R ²	.81		
ΔR^2	.65		

Note: FOC (Fear of COVID Scale), CRS (Central Religiosity Scale), PBS(W) (Paranormal Beliefs Witchcraft), PBS(S) (Paranormal Beliefs Superstitious)

$p < .05$

Multiple linear regression analysis was carried out to see whether fear of COVID-19, religiosity and paranormal beliefs predict sleep disturbances in OCD patients. The data fulfilled all the assumptions of the test such

as normality, linearity etc. Results showed that fear of COVID-19, religiosity and paranormal beliefs significantly predicted sleep disturbances among OCD patients using 95% confidence interval (Table 2).

Table 3

Independent Sample t-test Measuring Differences in Religiosity, Paranormal Beliefs and Sleep disturbances between Moderate and Severe OCD (N=100)

Variables	Moderate OCD		Sever OCD		<i>t</i> (<i>df</i>)	<i>p</i>	<i>Cohen's d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
FOC	26.26	2.28	27.77	4.00	-1.98 (81)	0.05*	0.46
CRS	3.60	0.84	4.02	0.61	-2.57 (81)	0.01*	0.57
PBS(W)	2.69	1.25	4.63	1.14	-7.28 (81)	0.01*	1.62
PBS(S)	1.55	0.52	2.48	0.95	-5.13 (81)	0.00**	1.24
SD	22.47	2.80	26.18	1.87	-7.22 (81)	0.00**	1.55

Note: FOC (Fear of COVID-19 Scale), CRS (Central Religiosity Scale), PBS(W) (Paranormal Beliefs Witchcraft), PBS(S) (Paranormal Beliefs Superstitious) SD (Sleep Disturbances)

** $p < .01$, * $p < .05$

t-test was carried out to see whether there were differences in fear of COVID-19, religiosity, paranormal beliefs and sleep disturbances between patients having

moderate and severe OCD. Results revealed that there are significant differences in all the study variables (Table 3).

Discussion

The research was carried out to look at the impact of fear of COVID-19, religiosity and paranormal beliefs on sleep disturbances among OCD patients. The first hypothesis was to examine the association between fear of COVID-19, religiosity, paranormal beliefs, and sleep disturbances in patients with OCD. Furthermore, fear of COVID-19, religiosity, and paranormal beliefs are hypothesized to predict sleep disturbances. The findings suggested that all variables had a significant positive association. These findings are associated with previous literature as researches conducted round the globe have empirically demonstrated a relationship between study variables (Taher et al., 2021).

These findings could be explained in such a way that due to corona virus pandemic, there was suspension of congregational prayers in

Mosques and thus Muslims had to offer their prayers at home which might have generated a certain fear in their minds that perhaps God is angry and it is punishment from God, since majority of Pakistani Muslims consider sickness, natural calamities and empty mosques as signs of punishment from God. Apart from religious component, the amount of rising controversies concerning coronavirus on social media increased superstitious beliefs regarding the COVID-19. Thus, in the impending pandemic crisis, social media can be regarded as the major carrier of superstitions. Each day, hundreds of thousands of such messages are spread virally by unknown sources, causing widespread fear among the general public. Such messages were forwarded by a great amount of people, including the newly digitally literate.

Religiosity and paranormal beliefs have some similar characteristics since they are both taken in account while dealing with frightening situations and crises and contribute to high levels of intuitive thinking. Previous researches on the relationship between religiosity and paranormal belief provides some considerable evidence of a significant positive relationship between these two variables and how they impact mental health (Hergovich et al., 2005).

In Pakistani society, OCD is one of the major psychological health problems prevailing now a days and it is reported to be the most frequent mental disorder worldwide (Taher et al., 2021). Our culture may not help psychological disorders considerably, since instead of taking the patients to a psychiatrist or a psychologist, family members try to hide it, or use alternate medicine or prefer going to faith healers resulting in aggravating the condition of the patients. As Pakistan is a Muslim country, there are certain belief system that Muslims follow. Many highly religious people may tend to possess higher risk of OCD as evident from review of literature that religious belief is linked to OCD (Henderson, 2016). For instance, if an individual is obsessed with cleanliness so that he is ready to offer his prayer he might wash himself over and over again. Washing hands or performing “Wudu” several times is extremely common among people with OCD in Muslim society. Thus, religion encompasses a great impact on OCD patients. Superstition is also common in Pakistan and the supernatural influence is due to several adverse events. Superstition is a belief in supernatural causality: one event leads to another without any physical mechanism connecting the two events like witchcraft and black magic. The mystic thought prevails in Pakistan as various actions and incidents are either attributed to spiritual and ritualistic events, such as prayer, sacrificing or observance of a taboo are followed or to

conspiracy theories believing that the enemies of the state are causing this to happen. Thus, in our study, a link was found between paranormal beliefs and OCD, since common people might consider it as the result of black magic inflicted on them by their enemies or caused by the presence of supernatural factors. The reasons for these beliefs could be that people in Pakistani culture might not be dedicated towards thinking critically and empirically, people could be more driven to follow cultural practices, therefore, before believing in any paranormal phenomena, they hardly look for convincing facts.

Results of the current study show that fear of COVID-19, religiosity and paranormal beliefs also have relationship with sleep disturbances. However, earlier literature has mostly focused on paranormal beliefs as the cause of sleep disturbances while hardly a few researches attribute disturbance in quality of sleep to religious factors (Ellison et al., 2019). Thus, our research shows that in addition to paranormal beliefs, religious factor might also exuberate OCD related thoughts and symptoms that might affect the quality of sleep due to high frequency of intrusive thoughts.

The third hypothesis of this research is that there will be a significant difference in fear of COVID-19, religiosity, paranormal beliefs and sleep disturbances between moderate and severe OCD patients. Results indicated that there is a significant difference in fear of COVID-19, religiosity and paranormal belief in people suffering from severe and moderate OCD. The results indicate that severe OCD symptom patient has higher fear of COVID-19, superstitious, witchcraft and religious beliefs. This could be because people suffering from severe OCD have higher frequency of intrusive thoughts which might be linked to religious or paranormal beliefs resulting in enhancing the severity of obsessive thoughts and compulsive rituals.

Previous researches also suggest that there is a positive association of magical ideation, religiosity and spirituality with OCD traits using different measures (Buchholz & Abramowitz, 2020; Himle et al., 2011; Yorulmaz et al., 2011).

Conclusion

It is concluded that fear of COVID-19, religiosity, paranormal beliefs and sleep disturbances have a significant relationship in OCD patients. Similarly, it is also concluded that fear of COVID-19, religiosity and paranormal beliefs subscales namely witchcraft and superstitious beliefs predict sleep disturbances in OCD patients. Apart from that, this study also revealed that the patients who had severe OCD had high fear of COVID-19, religiosity, paranormal beliefs and sleep disturbances as compared to patients who had moderate OCD.

Contribution of Authors

Minahil Siddiqui: Conceptualization, Data Curation, Methodology, Investigation, Writing: Original Draft

Syeda Ayesha Noor: Conceptualization, Data Curation, Methodology, Investigation, Writing: Reviewing and Editing

Ayesha Sarfaraz: Formal Analysis and Interpretation, Writing: Reviewing and Editing

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Disclaimer

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Conflict of Interest

The authors declared no conflict of interest.

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