



**NEAR EAST UNIVERSITY
INSTITUTE OF GRADUATE STUDIES
DEPARTMENT OF PSYCHOLOGY**

**THE RELATIONSHIP BETWEEN COVID 19 PANDEMIC, ILLNESS ANXIETY,
AND OBSESSIVE-COMPULSIVE DISORDER AMONG AFRICAN STUDENTS OF
NEAR EAST UNIVERSITY**

MASTER'S THESIS

SHA James Dung

Nicosia

June, 2022

JAMES DUNG SHA

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June, 2022

Approval

We certify that we have read the thesis submitted by SHA James Dung titled “**The relationship between COVID-19 Pandemic, illness anxiety and OCD among African students of Near East University**” and that in our combined opinion it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Social Sciences.

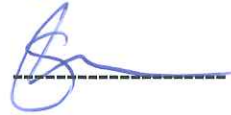
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Declaration

I hereby declare that all information, documents, analysis and results in this thesis have been collected and presented according to the academic rules and ethical guidelines of Institute of Graduate Studies, Near East University. I also declare that as required by these rule and conduct, I have fully cited and referenced information and data that are not original to this study.

SHA James Dung

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Day/Month/Year

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SHA James Dung

Abstract

The relationship between COVID-19 Pandemic, illness anxiety and OCD among African students of Near East University

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The coronavirus outbreak of 2019 brought with it, several life changing and precautionary measures both in personal and public places all for the purpose of survival, and open up more areas of research interest. Specifically, the study sought to investigate if any differences exist in participant demographic variables (age, gender, religion, country of origin, and marital status) affect African students illness anxiety and OCD; and assess the relationship between COVID-19, IAD, and OCD. The study employed the correlative survey research design to collect quantitative data as a measure for finding out whether relationships exist among variables and determining their degree of the relationship. The convenient sampling was used to draw participants that responded to COVID 19 Stress Measure, Illness Attitude Scale and Brief Obsessive/ Compulsive Disorder Scale and after retrieval and careful screening, 331 of the participants responses were found valid and used for analysis. The data collected were analyzed with the descriptive and inferential statistics. The descriptive statistics was used to analysed the participants demographic variables while the student t-test and one-way ANOVA were used to analyse normally distributed data. Correlation analysis was used to find the relationship between the scales, simple linear regression analysis was employed to determine the extent COVID-19 predicts levels of IAD and OCD. The result revealed that no significant difference within the age groups for IAD and that there was no significant difference within age groups for OCD. It also indicated that significant associations were found between both COVID-19 impact measure components and the two subscales of the IAS (i.e., Illness Attitude scale and Brief OCD scale). This shows that the difference between religious groups and IAD was not significant, though its impact on individual student factors such as; creativity, adaptability, and frequency of visit to hospital. While the impact of the Covid-19 virus on students' religion and obsessive compulsion disorder was not significant. The study suggests that clinical and mental Psychologists should help patients suffering from illness anxiety and obsessive -compulsive disorder on how to be certain and tolerance of happenings within and outside their immediate environment.

Key Words: COVID-19 Pandemic, illness anxiety, obsessive-compulsive disorder

Oz

Yakın Doğu Üniversitesi Afrikalı öğrencileri arasında COVID-19 Pandemisi, hastalık kaygısı ve OKB arasındaki ilişki

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2019'un koronavirüs salgını, hayatta kalma amacıyla hem kişisel hem de kamusal alanlarda yaşamı değiştiren ve ihtiyati tedbirleri beraberinde getirdi ve daha fazla araştırma ilgi alanı açtı. Özellikle, çalışma, katılımcı demografik değişkenlerde (yaş, cinsiyet, din, menşe ülke ve medeni durum) Afrikalı öğrencilerin hastalık kaygısını ve OKB'yi etkileyen herhangi bir farklılık olup olmadığını araştırmaya çalışmıştır; ve COVID-19, IAD ve OKB arasındaki ilişkiyi değerlendirmek. Çalışma, değişkenler arasında ilişkilerin var olup olmadığını bulmak ve ilişki derecelerini belirlemek için bir ölçüt olarak nicel verileri toplamak için korelasyonel anket araştırma tasarımını kullandı. Uygun örnekleme, COVID 19 Stres Ölçüsü, Hastalık Tutum Ölçeği ve Kısa Obsesif/Kompulsif Bozukluk Ölçeği'ne yanıt veren katılımcıları çizmek için kullanılmış, geri alma ve dikkatli taramadan sonra katılımcıların 331 yanıtı geçerli bulunmuş ve analiz için kullanılmıştır. Toplanan veriler tanımlayıcı ve çıkarımsal istatistiklerle analiz edilmiştir. Tanımlayıcı istatistikler katılımcıların demografik değişkenlerini analiz ederken, normal olarak dağıtılmış verileri analiz etmek için öğrenci t-testi ve tek yönlü ANOVA kullanılmıştır. Ölçekler arasındaki ilişkiyi bulmak için korelasyon analizi, COVID-19'un İYT ve OKB düzeylerini ne ölçüde öngördüğünü belirlemek için basit doğrusal regresyon analizi kullanılmıştır. Sonuç, İYT için yaş grupları arasında anlamlı bir fark olmadığını ve OKB için yaş grupları arasında anlamlı bir fark olmadığını ortaya koymuştur. Ayrıca, hem COVID-19 etki ölçüsü bileşenleri hem de İYT'nin iki alt ölçeği (yani, Hastalık Tutumu ölçeği ve Kısa OKB ölçeği) arasında anlamlı ilişkiler bulunduğunu göstermiştir. Bu, dini gruplar ve IAD arasındaki farkın anlamlı olmadığını, ancak bireysel öğrenci faktörleri üzerindeki etkisinin aşağıdaki gibi olduğunu göstermektedir; yaratıcılık, uyarlanabilirlik ve hastaneye ziyaret sıklığı. Covid-19 virüsünün öğrencilerin dini ve obsesif kompulsiyon bozukluğu üzerindeki etkisi önemli değildi. Çalışma, klinik ve zihinsel psikologların, hastalık kaygısı ve obsesif-kompulsif bozukluktan muzdarip hastalara, yakın çevrelerindeki ve dışındaki olaylara nasıl emin olacakları ve tolerans gösterecekleri konusunda yardımcı olmaları gerektiğini göstermektedir.

Anahtar Kelimeler: COVID-19 Pandemisi, hastalık kaygısı, obsesif-kompulsif bozukluk

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**The relationship between COVID-19 Pandemic, illness anxiety and OCD among
African students of Near East University**

CHAPTER I

Introduction

A novel coronavirus (nCoV) is a fresh strain that has never before been discovered in humans. The World Health Organization gave this newly discovered virus the codename severe acute respiratory syndrome coronavirus 2 and the virus that causes it the name coronavirus disease 2019 (COVID-19), respectively. As of December 2019, to January 2021, the new coronavirus illness (COVID-19; formerly known as 2019-nCoV) was claimed to have originated in Wuhan, China and spread to 26 other nations in the world (Xu, Z., Shi, Wang, Zhang, Huang, Zhang, & Wang, 2020). After clinical examination, it was diagnosed that the virus has mutated over time emerging as alpha, beta, and delta and as at November 2021, another variant was reported to have emerged was called Omicron (Karim & Karim, 2021). A very severe pneumonia, acute respiratory distress syndrome, septic shock, and multiorgan failure, which can be fatal, are just a few of the clinical manifestations of 2019-nCoV infection.

The World Health Organization gave a number of guidelines to help curb the spread of the disease. They include hand washing, social distancing of two to three inches distance, covering of the mouth and nose with a mask while in public places, among others. As a result, studies show that these measures have raised the levels of anxiety, anger, confusion and post-traumatic symptoms (Ahorsu, Lin, Imani, Saffari, Griffiths, & Pakpour, 2020). Many find these guidelines as strenuous while to others, it interferes with their social life and interactive freedom.

According to the Diagnostic and Statistical Manual for Mental Disorders-5, illness anxiety disorder is a distressing display of high anxiety about one's health, excessive preoccupation with the belief that one has contracted an illness, and other behaviors related to the feared condition (such as repeatedly inspecting oneself for potential signs of illness), but without significant somatic symptoms that would warrant such concern (American Psychological Association, 2013). Students seeking unwanted health assurance instead of focusing on how to bring relief to the distress caused by somatic symptoms are all signs of illness anxiety (Scarella,

Boland, & Barsky, 2019). This might have some significant illness anxiety on the general adult population who are responsible for the care of adolescents and infants.

Diagnostic and Statistical Manual for Mental Disorders-V (DSM-V) postulated that for a person to be diagnosed, there must be symptoms for at least 6 months without a better mental health related explanation. It can be noted in criteria D that such persons engage in health-related activities such as constant medical checkups (Care-seeking type) or does the opposite by avoiding doctor appointments or hospitals (Care-avoidant type). These symptoms correlate with the guidelines set by WHO to better contain the spread of COVID 19 such as avoiding infected persons or constant washing of hands. Rivera and Carballea (2020) claimed that COVID 19 possess the likelihood of increasing the severity of illness anxiety disorder in people who were previously diagnosed. In the study, they suggested that these sanitary measures, set by the WHO, could become “triggers and reinforcers” for health obsessive behaviors

DSM 5 reported that obsessive-compulsive disorder is identified by recurrent and the frequency of thoughts, and urges experienced, and at some point, within the pick of the virus outburst, human response shows that it was invasive and undesired, and that for the majority of people signaled the onset of an anxiety or distress problem. Individuals suffering from obsessive compulsive disorder mostly engage in repetitive behaviors (e.g., praying, counting, and memorizing words silently) that the person feels is pushed to perform in response to an obsession or according to rules that must be applied rigidly (American Psychological Association, 2013). The person may try to neutralize obsessions by performing compulsive behaviors. With the daily increase in number of infected people, it is hard to ignore the fact that one can easily contact the virus at any moment from the faintest of contacts. Therefore, people engage in behaviors geared towards active prevention such as hand washing, bathing, and isolation. Banerjee (2020) claimed that demand on for hand and surface sanitizers soar, soaps, and gloves as hand washing has been emphasized as a preventive measure to curb COVID-19.

Problem statement

Rivera and Carballea (2020) noted that COVID 19 may worsen the level of illness anxiety among other illness related disorder in people who have been diagnosed. Since a link has been established between experiencing a pandemic such as COVID 19 and recurring mental health issues such as GAD, social phobia, and depression (Salari, Hosseinian-Far, Jalali, Vaisi-

Raygani, Rasoulpoor, Mohammadi, & Khaledi-Paveh, 2020), it is obvious that this possesses an imminent threat to global mental health. “Reports of people with hypochondriasis displaying poor physical functioning and impaired work performances” (Noyes et. al. 1993). Taylor, Landry, Paluszek, Fergus, McKay and Asmundson (2020) noted a number of fear-related behaviors that may arise as a result of COVID 19 such as intrusive thoughts and nightmares, constant checking and xenophobia. For example, there are reported cases of xenophobic attacks on Chinese since the inception of COVID 19 in various parts of the world.

The pandemic, according to UN Secretary-General Antonio Guterres, "continues to unleash a tsunami of hate and xenophobia, scapegoating and scare-mongering," and he encouraged states to "act immediately to burst our societies' immunity against the virus of hate. “From the above said, the focus is on how COVID-19 pandemic affected levels of illness anxiety and OCD. Is there any significant relationship between illness anxiety and OCD?

Purpose of the study

This study is mainly aimed at investigating COVID 19 as a possible trigger to mental health disorders such as illness anxiety and obsessive/compulsive disorders among African students studying in Near East University, Cyprus and an in-depth look at demographics such as gender and age differences and how they play key role among said population being far away from home.

The sub-questions of the study are to:

1. Investigate if differences in participant demographic such as age, gender, religion, country of origin, and marital status affect their illness anxiety and OCD?
2. Assess the relationship between COVID-19, IAD, and OCD?
3. Examine the extent to which COVID-19 predicts the levels of IAD and OCD.

Significance of the study

After review of literature, it is clear that a large number of studies have been done and still on-going as regards COVID 19 pandemic and impact on general mental health in various parts of the world (Rivera & Carballea, 2020; Salari et al. 2020; Xu et al., 2020; Taylor et. al, 2020). Much emphasis was laid on the impact of COVID 19 on the educational sector during the lockdown imposed by the government in Cyprus (Senol, Lesinger, & Çağlar, 2021; Volkan, &

Volkan, 2020). However, study carried to examine students of African descent cope with illness anxiety during the pandemic, in Northern Cyprus, are relatively few. This study attempts to look at ways to understand the mental health of the sampled population and to recommend during medical catastrophes like the COVID-19 pandemic, psychological measures that can enhance the mental health of these people that are necessary. The study is also fundamental for academic purposes as studies are ongoing to better understand how COVID-19 impacts mental health therefore making it beneficial to students, lecturers, and application in future psychiatric planning.

Limitations

The study was carried in a short period of time (during the spring semester) therefore making it difficult to make in-depth research. To minimize the effect of this situation on the research quality, concerted effort was made to retrieve all questionnaires. Participants are only students of Near East since it was impossible to conduct a wider range due to financial restrictions.

Definition of variables

Coronavirus disease 2019 (COVID-19): A contagious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Most common symptoms include fever, dry cough and excessive fatigue (World Health Organization, 2019).

Illness Anxiety Disorder (IAD): it refers to a disorder and perceived health distress, excessive preoccupation of thought of having acquired an illness, and behaviors associated with feared condition, still, there is with no significant somatic symptoms that would call for such concern (American Psychological Association, 2013).

Obsessive Compulsive Disorder (OCD): Refers to repeated and persistent thoughts and urges that are experienced by individuals during and the post COVID-19, as intrusive and unwanted, and that in most individuals cause preceded the beginning of illness anxiety or distress and the individual engages in repetitively performed behaviors that are in response to an obsession (American Psychological Association, 2013).

WHO: It is an abbreviation for the World Health Organization, the headquarters is located in Geneva, Switzerland. It is an organ of the United Nations that tackles major health issues around

the globe. This organization sets up standards and procedures to conduct education and research programs for health benefits, publishing scientific reports concerning health care, disease control, and medicines distribution.

CHAPTER II

Literature review

This chapter includes literature related to Coronavirus (COVID-19), illness anxiety and obsessive-compulsive disorder. Coronavirus as a concept and its definitions in the literature will be described first. Studies related to COVID 19 and illness anxiety are discussed.

Conceptual Framework

Corona Virus Disease -2019

Coronavirus disease 2019 (COVID-19) is an infectious illness brought on by coronavirus 2 that causes severe acute respiratory syndrome (SARS-CoV-2). The most typical signs include a fever, a dry cough, and extreme exhaustion (World Health Organization, 2019). The clinical manifestation or signs of 2019-nCoV disease include severe pneumonia, acute respiratory distress syndrome, septic shock and sense-organ failure, which may result in death. Chen et al., (2020) and Huang et al., (2020) all noted that signs such as chills, coryza, sore throat, nausea, vomiting, and diarrhea. The occurrence of SARS-CoV-2 was first noted when cases of unexplained pneumonia were experienced in small market in the city of Wuhan, China. In response to these new developments, the virus was declared a global pandemic by the World Health Organization (WHO) on March 11, 2020 (Cai et al., 2020; Wang et al., 2020) and lockdown measures, quarantine and social distancing measures were sanctioned by the WHO in order to curb further spread of the virus.

Clinical researches conducted in Botswana and South Africa shows that the disease has mutated over time emerging as alpha, beta, and delta and as at November 2021, and an emerging variant was reported, called Omicron, thereby leading people to question the efficacy and adequacy of the vaccination in controlling the virus (Karim & Karim, 2021). As of 20 March 2022, over 468 million confirmed cases and just over 6 million deaths have been reported globally (World Health Organization, 2022). There is increasing concern about coping with the resulting anxiety (Demetriou, 2021) as well as with its long-term individual and collective impacts (Peteet, 2020).

In order to combat the spread of the global pandemic, the World Health Organization (2020) and other public health organizations concentrated on educating the world on the mode of transmission with specific reference to how the virus spread and how the curtail the spread or

transmission of the virus that led to behavioral modification particularly on hygiene related and social life style (Bavel et al., 2020). For the majority of the public, the lack of transitional behavior and lifestyle adaptation created a particularly special issue.

Concerns have been raised about the effect that public health messages may be having on people with obsessive-compulsive disorder and obsessive-compulsive traits. Although the emphasis placed on personal hygiene and restricting social interaction has been critical in limiting the spread of the virus (see, Shafran et al., 2020). WHO outlined some of the symptoms of COVID-19 to include fever, dry cough, and excessive fatigue. Other symptoms at the acute stage may also manifest in other patients such as aches and pains, nasal congestion, headache, conjunctivitis, sore throat, diarrhea, and functional breakdown of the sense organs responsible for taste and smell. These symptoms may not be severe but increase gradually (Singhal, 2020; Qiu, Shen, Zhao, Wang & Xie, 2020). The increasing rate of transmission from human to human made the situation worsen; for which WHO suggested physical distancing, self-isolation, home or hospital quarantine and frequent washing of hands as the possible mitigation measures (Bhachech, 2021). The community's mental health has been compromised by the virus's rapid spread in addition to its physical effects.

Findings from studies of Singhal, 2020; Qiu, Shen, Zhao, Wang & Xie (2020); Brooks, Webster, Smith, Woodland, & Wessely (2020) revealed that COVID-19 pandemic and quarantine have contributed to different psychological problems the human race is experiencing today among which are; panic disorder, anxiety disorder, vicarious traumatization, depression, posttraumatic stress symptoms, confusion, aggression among others. Rajkumar (2020); Simonetti, Iosco, & Taruschio (2020) opined that the psychological effects the disease may have on the patients include depression, stress disorder, illness anxiety, emotional imbalance, and others are symptoms such as the exacerbation of pre-existing symptoms.

Despite this, the pandemic resulted in an unmatched global public health disaster due to its rising transmissibility and a clinical presentation that spans from fear of infection, disease anxiety, and asymptomatic to severe pneumonia and death (Habas, et al., 2020). Hence, the psychological impact of the Corona virus-2019 outbreak transcends its physical implications. For instance, it is now recognized that human anxiety about contracting the pandemic can impact the brain and produce delirium and other perceived severe mental problems as the COVID-19 virus, a variation of SARS-CoV-2, can also harm the brain (see Manolis, et al., 2021). At the present

time, the continuous fear of being infected and the possibility of death of loved ones to the virus has increased the unparalleled levels of illness anxiety in the general population (Holmes et al., 2020; Xiong et al., 2020).

Beyond the perceived threat to the risk of transmissibility, there is accompanying by potential fear and immeasurable stressors arising from the dramatic social isolation and economic life of all. The social isolation include; home confinement, face masking, physical distancing, whereas, economic uncertainty and difficulties accessing mental health services constitute the economic life challenge during the COVID-2019 outbreak. For instance, perceived stressor condition such as obsessive-compulsive disorder, of which it was reported that 60% of patients show stressful life events as a trigger for symptoms (Goldberg, Soriano-Mas, Alonso, Segalàs, Real, & López-Solà, 2015), the current social environment constitutes a period of serious vulnerability. Moreover, there may be other important moderating factors or features of the pandemic.

COVID 19 Lockdown and Mental Health

The lockdown measures imposed by the World Health Organization disrupted people's daily lives such that people could no longer travel, work, or have leisure activities as usual. Such changes came with immense psychological reactions such as post-traumatic symptoms, anger and confusion (Brooks, Webster, Smith, Woodland, Wessely, & Greenberg, 2020). Empirical research has shown that some of the state government's measures to stop the virus' spread disrupted social interaction, which caused people in the countries where the measures were implemented to experience intense emotions that caused sadness, loneliness, fear, sleep issues, panic, depression, and social dysfunction (Pfefferbaum & North, 2020; Wang et al., 2020, Rajkumar, 2020; Cao et al., 2020; Shah et al., 2020; Brooks et al., 2020). Since March 2020, the epidemic has caused emotions like fear, despair, and depression as well as symptoms like panic attacks, somatization, and social dysfunction to predominate (Hadjicharalambous, et, al. 2021). Demetriou (2021), in a study with sample size n=9565 conducted in 78 countries, reported about 10% of the sample had mild levels of mental health concerns while 50% had considerable levels of mental health concerns. Poor social support and dwindling finances were found to be key predictors in the study.

Anxiety

The absence of tensions and insecurity is related with positive sensations of well-being, satisfaction, and enjoyment, whereas anxiety on its own is the negative experience or feelings brought on by tensions and insecurity (Fioravanti, Santos, Maissonette, Cruz, & Landeira - Fernandez, 2006). Anxiety is the fear or common fear exhibited by individual or group of individuals during disease outbreak such as the COVID-19 pandemic. Additionally, the severity of anxiety appears to be a substantial predictor of dysfunctional conduct when sickness is a possibility, including repeated hospital visits for imagined symptoms and panic disorder (Taylor, 2019). According to a study, a high percentage of anxiety during the COVID-19 period is linked to higher levels of depression and suicide thoughts (Lee, Jobe, & Mathis, 2020). It is important to comprehend aspects that may be taken into account in estimating the severity of anxiety disorder in this context, given the significance of anxiety as a determining factor in predicting psychological and behavioral responses to pandemics generally.

Anxiety theories

Illness anxiety during the COVID-19 global lockdown is best explain by the social psychological theory of Terror Management Theory (TMT) propounded by Ernest Becker in 1973. The theory explained how people's worries of dying affect their behavior and how becoming conscious of these concerns can cause paralyzing panic. It also explained how people have evolved two unique defenses against these fears: cultural worldviews and self-esteem.

Another theory that gave account of individual anxiety, self-esteem and self-regulation is the Bandura's Social Cognitive Theory (SCT) which asserts that people are independent actors who control their own behavior (Bandura, 1977). Forethought and self-control, which aid in setting future goals, motivating oneself, and acting in a way that leads to the desired behavior, are also included in the theorists' discussions of agency. Being a subjective evaluation of one's talents, anxiety can have an impact on a person's actions, attitudes, and feelings, as well as how they react to illness outbreaks like the COVID-19 pandemic (Bandura, 1977, 1997). Notably, both good and adverse influences on one's anxiety might result from elements like prior events, observations, emotions, and understanding.

COVID-19 and Illness Anxiety

Illness anxiety disorder (previously called hypochondriasis), in the Diagnostic and Statistical Manual for Mental Disorders–5, is a condition marked by high levels of anxiety about one's health, excessive worry about being sick, and actions that are consistent with the suspected or feared sickness. Sometimes with no or mild significant somatic symptoms that would call for such concern (American Psychiatric Association, 2013), this disorder is classified into somatic symptoms and related disorders. The major characteristic is the cycle of worry, health seeking behavior, instead of focusing on getting relief of distress caused by somatic symptoms (Scarella et. al (2019). According to the Diagnostic and Statistical Manual for Mental Disorders-V (DSM-V), for a person to be diagnosed, there must be symptoms for at least 6 months and cannot be better explained by other mental health issues such as somatic symptom disorder, panic disorder, generalized anxiety disorder, body dysmorphic disorder, obsessive-compulsive disorder, or delusional disorder, somatic type.

Etiology and prevalence

It is noteworthy that that etiology of this disorder is largely unknown although several risk factors have been highlighted as major factors in the development of health anxiety. Onset of the disorder starts at early or middle adulthood (American Psychiatric Association, 2013; Newby, M., Hobbs, J., Mahoney, E., Wong, K., & Andrews, G. (2017). DSM 5 suggested that early childhood trauma or severe health issues may trigger development of illness anxiety disorder. Major life stress may contribute to development of the disorder. Family history of disease may increase the likelihood of developing illness anxiety. Scarella et. al (2019) noted that clinically significant health anxiety is common in 13% of the general adult population. Illness anxiety does not definitely foretell the development of any medical issue (Barsky, Fama, Bailey, & Ahern, 1998) even though one study found a relationship between having health anxiety and possibility of cardiovascular diseases, once presence of illness anxiety and stress disorder symptoms was regulated, there was no specific correlation between illness anxiety and cardiovascular disease (Berge, Skogen, Sulo, Igland, Wilhelmsen, Vollset, & Knudsen, 2016). The fear of death

psychologically known as thanatophobia was also found to be a major trigger of illness anxiety (Fava, & Mangelli, 2001).

Most of the patients who once suffer from illness anxiety belong to either the major categories: A care-avoidant type. These patients avoid going to the doctor. This group's fear that laboratory testing would disclose a fatal condition (such as cancer) causes them great distress (American Psychiatric Association, 2013). The second category is the care-seeking group. These patients often use the healthcare system and frequently switch providers. They might demand numerous tests and therapies (American Psychiatric Association, 2013).

In contrast, most researches carried out to date focused mostly on the psychological trauma and mental health effect of the COVID-19 pandemic (Heidi, Jonathan, Samantha, & Megan, 2021; Xiong, Lipsitz, Nasri, Lui, Gill, Phan, & McIntyre, 2020), little or no attention is given to identifying predictors of COVID-19-related illness anxiety. Previous studies have revealed that people with anxiety-related disorders have greater rates of COVID-related distress and score higher on COVID stress predictors than people with mood disorders and non-clinical people (see Abhijit, & Soumen, 2020). More so than those with social anxiety and particular phobia, those with generalized sickness anxiety disorder, panic disorder, and obsessive-compulsive disorder show more stress and phobic reactivity to COVID-19 (e.g., Khosravani, Asmundson, Taylor, Bastan, & Ardestani, 2021).

Previous research found associations between disease worries and the worry of having or acquiring a major medical condition (Hedman & Axelsson, 2017; Mertens, Gerritsen, Duijndam, Salemink, & Engelhard, 2020). However, excessive worry of COVID-19 contamination may also represent a distinct variation of illness anxiety, as opposed to fear of other communicable diseases or illnesses that can be transmitted. Notably, studies have established that there are some, but not complete reliance on psychological predictors that may lead to illness anxiety and how the disease outbreak could impact on generalized illness anxiety (see, Blakey, Reuman, Jacoby, & Abramowitz, 2015; Blakey & Abramowitz, 2017). This suggests that arousal-related bodily sensations are feared as indicators of excessive COVID-19-related worry.

Illness anxiety disorder is a type of mental health condition that triggered an individual to respond to certain issues and scenario with fear and dread. The person may display symptoms or suffer bodily indicators like sweating and a racing heart, which are all hallmarks of disease

anxiety, and this could be an indication of a significant vulnerability factor fueling increased worries about the COVID-19 catastrophe (Cannito, Di Crosta, Palumbo, Ceccato, Anzani, La Malva, & Di Domenico, 2020). Occasionally, humans exhibit some form of anxiety such as feeling anxious or nervous when trying to handle work related problem, and students preparing to sit for examination or test and making important life decision.

Nonetheless, illness anxiety is far beyond the common feeling of anxiousness, nervous and slight fear and individual feels from time to time. Illness anxiety may occur when the thought of performance interferes with an individual ability to function, when an individual reacted excessively to situations that stimulate emotions and when an individual cannot control his/her responses to situations (Athanasios, Katja, Abeer, Adams, Green, Hassoulas, & Panayiotou, 2021). The placement of illness anxiety disorder in a separate section titled "Somatic Symptom and Related Disorders" in both the DSM-5 (American Psychiatric Association, 2013) and the Psychodynamic Diagnostic Manual (se, Höfling, & Weck, 2017; and Lingardi, & McWilliams, 2017) illustrates how illness anxiety differs from other forms of psychopathological conditions. Patients suffering from illness anxiety disorder have underlying but unrealistic fear about being seriously ill.

Healthy quantities of research have previously examined the impact of disease fear on various compensatory behaviors in pandemic-related outbreaks. One of these studies showed a high level of illness disorder during the 2009–2010 H1N1 pandemic; in this study, health anxiety, contamination fears, disgust sensitivity, and obsessive–compulsive symptoms that had previously been present. Brand, McKay, Wheaton, and Abramowitz (2015) predicted H1N1–related anxiety. Additionally, during the Zika virus outbreak in 2015–2016, voluntary health workers discovered that assessments of the threat of infection greatly predicted anxiety connected to the virus (Blakey & Abramowitz, 2017).

Several studies (Tyrer, 2020; Seçer, & Ulas, 2020; and Tanir, Karayagmurlu, Kaya, Kaynar, Türkmen, Dambasan, Meral, & Cos, Kun, 2020) were conducted to explore the relationship between illness anxiety and the fear of contamination during an epidemic. Since it is often believed that the overall trend toward health-related problems will be connected with increased concern in the setting of pandemic breakouts, there was a surprise constraint (Tyrer, 2020). In 216 people during the 2015–2016 Zika outbreak, Blakey and Abramowitz (2017) looked at the psychological determinants of pandemic-related worry, including disease anxiety.

It was discovered that the only factors indicating anxiety related to Zika were the likelihood of contamination and having more knowledge about the virus.

Obsessive-compulsive disorder

Obsessions are persistent, recurrent thoughts, emotions, urges, or pictures that one feels are unwanted and distracting. Contrarily, compulsions are recurrent behaviors that a person is compelled to exhibit in response to rigid or self-imposed norms (Abdulmajeed, 2021). As a result, obsessive-compulsive disorder (OCD) is thought to be a condition that affects a lot of people and has a detrimental impact on their life. The DSM 5, defined obsessive compulsive disorder (OCD) as repeated and incessant thoughts, and urges that are displayed by individuals at some time and during the disturbance. It could be an intrusive or an unwanted behavior, and that in most individuals marked the beginning of illness anxiety or distress (American Psychiatric Association, 2013). Compulsions, on the other hand, are described as "repetitive behaviors or mental activities that an individual feel driven to execute in response to an obsession or in accordance with rules that must be implemented rigidly (Talib, et al. 2021)."Most individuals with OCD are clearly aware that their compulsions are unnecessary and which they desired they had more control over them. Therefore, they engage in repetitive behaviors that the person feels pushed to perform in reactions to an obsession (American Psychiatric Association, 2013).

Another characteristic of OCD is avoidance, in which sufferers restrict a variety of activities to prevent their obsessions from being sparked (Stein, Costa, Lochner, Miguel, Reddy, Shavitt, & Simpson, 2019). A typical example is someone avoiding public restrooms for fear of contamination from germs. Intrusive thoughts revolving around germs and contamination are blown out of proportion regardless of how well-kept the restroom is. Others with somatic obsessions may actively try to avoid seen in public for fear of being termed as "ugly". They try to hide certain parts of their body they term as being hideous. DSM V specifiers are "with good or fair insight" whereby the person may recognize that obsessive-compulsive disorder beliefs are definitely or probably not true; "with poor insight" whereby the person thinks obsessive-compulsive disorder feelings are probably true; "with absent insight/delusional beliefs" whereby the person is confidence that obsessive-compulsive disorder feelings are true. Also, specifiers include a current or past history of a tic disorder (American Psychiatric Association, 2013) Tic is

a sudden, involuntary vocalization or contraction of a small group of muscles that is recurrent and nonrhythmic (American Psychological Association, 2015).

Etiology and prevalence

Obsessive-compulsive disorder affects 1.1–1.8% of persons worldwide. Obsessive compulsive disorder, according to Cunning and Matthew (2022), is a relapsing remitting illness with a 1-3% prevalence rate in children and adolescents. It is characterized by recurring obsessions and compulsions (Walitza et al., 2011). An obsession with contamination and a drive to clean are two of the most commonly seen symptoms of obsessive-compulsive disorder (Bloch et al., 2008). Abdulmajeed (2021) argued that while the substance of obsession and compulsion varies from person to person, some motifs, such as symmetry, taboo or forbidden thoughts, and harm, are typical of obsessive-compulsive disorder. Around 2% of people globally have obsessive-compulsive disorder, and both men and women are equally susceptible. It is relatively uncommon and may be more likely that an organic etiology is to blame for the bimodal age at onset and the onset after age 50. (Athanasios et al., 2021). Obsessive-compulsive disorder's specific etiology is still unknown, but it is generally believed to be multifactorial with possible interactions between genetic and environmental variables.

COVID-19 and obsessive-compulsive disorder

Since the outbreak of the Corona virus-2019 in December 2019, there have been several numbers of researches have focused on the impact of the COVID-19 pandemic obsessive compulsive disorder. Numerous investigations came to the conclusion that the COVID-19 pandemic has major effects on mental health, including anxiety, sadness, post-traumatic stress disorder, and behavioral issues (Vindegaard & Benros, 2020; Rajkumar, 2020; and Jain, Bodicherla, Bashir, Batchelder, & Jolly, 2021). According to a review of the literature on the effects of COVID-2019, anxiety and obsessive-compulsive disorder are exacerbated by unpredictability, uncertainty, the severity of the disease, fear of the unknown brought on by false information, physical separation, and confinement to one's home (social isolation) (Zandifar & Badrfam, 2020; Jain, Bodicherla, Raza, & Sahu, 2020). The discussion on obsessions and compulsions varies from individual to individual. However, repetitive cleaning, organizing, counting, and checking are common themes in relation to compulsions (Tanir, Karayagmurlu, Kaya, Kaynar, Türkmen, Dambasan, Meral, & Coskun, 2020). The fear of contamination is strongly related the illness anxiety and therefore, of interest to the present study as it has been

reported to be the most common theme in obsessive compulsive disorder (Seçer & Ulas, 2020). Additionally, during and after the COVID-19 pandemic, the necessity to take precautions and the fear of contracting the virus may in particular intensify contamination-related obsessions and compulsions. Nissen, Højgaard and Thomsen (2020) asserted that illness anxiety may be a trigger for obsessive compulsive disorder symptoms starter, or be an exacerbating factor in an increasing of the existing symptoms in the individual. Nissen et al. (2020) admitted that COVID-19 fear could not be entirely identical to well-known childhood traumas but believed that COVID-19 fear would exacerbate pre-existing psychological illnesses. This implies that the COVID-19 pandemic may have resulted in family trauma due to catastrophic illness or possibly mortality among young individuals. Seçer and Ulas (2020) conducted a review of the subject and came to the conclusion that fear of COVID-19 is a strong positive predictor of sickness anxiety symptoms in adolescents and has an aggravating effect on symptoms of obsessive-compulsive disorder. Additionally, the fear of COVID-19 has secondary effects such as loneliness, difficulty sleeping, and increased anger that exacerbates symptoms of OCD (Cunning, & Matthew, 2022). According to a study on the prevalence of OCD during the COVID-19 pandemic in a Canadian province (Abba-Aji, Li, Hrabok, Shalaby, Gusnowski, & Vuong, 2020), OCD prevalence increased during the COVID-19 pandemic at a rate that was much greater than the rate following the pandemic. Additionally, an Egyptian investigation on the general public and healthcare professionals found that the incidence of anxiety and obsessive-compulsive disorder was 29.5% and 28.2%, respectively, during the peak of the COVID-19 pandemic (Ahmed, Ramadan, Refay, Khashbah, 2021). Additionally, a recent systematic study of obsessive-compulsive disorder during the 2019–2020 pandemic period revealed that the symptoms of the disease grew worse in the early phases of the pandemic (Ahmed, Khedr, Hamad, Meshref, Hashem, & Aly, 2021). Obsessive-compulsive disorder has also been linked to infections in certain publications (Gerentes, Pelissolo, Rajagopal, Tamouza, & Hamdani, 2019), however no cases have been linked to the most recent COVID-19 illness.

Related Research

Several studies have been conducted in different part of the world on the effects of COVID-19 pandemic on the psychological wellbeing of children and adults alike.

Studies Related to COVID-19 and Illness Anxiety

In a study conducted in 2020, tested potential depression predictors as well as levels of stress, anxiety, and depression among Ecuadorian undergraduates during a COVID-19 lockdown (Rodríguez-Hidalgo, Pantaleón, Dios, and Falla, 2020). A sample of 640 undergraduates consisting of both male and female were surveyed and the Spanish version (Huarcaya-Victoria et al., 2020) of the FCV-19S (Ahorsu et al., 2020) scales of the Likert type were used to obtain information from students. The findings showed that the average levels of stress, anxiety, and sadness were higher than those regarded as non-pathological. Additionally, compared to their male peers, female students displayed higher degrees of fear of the COVID-19.

Sica, Caudek, Cerea, Colpizzi, Caruso, Giulini, and Bottesi (2021) conducted a study to investigate how health anxiety, in addition to invasive illness-related ideation, contamination symptoms, and state and trait negative effects, influences the perceived threat of COVID-19. The respondents were 742 community individuals from Italy during the country's national lockdown. The most significant component connected to the perception of COVID-19's threat, according to the researchers, is health anxiety. The study also compared scores from pre-pandemic Italian samples and scores from some current samples on various symptom measures and discovered that while levels of health anxiety and negative affect increased by a medium to large amount during the pandemic, other internalizing symptoms increased by a large or very large magnitude. Similar to Jyotik (2021), COVID-19 and sickness anxiety condition were explored. The study included a male patient who presented to the outdoor patient department with symptoms of breathing difficulties, irregular heartbeats, head heaviness, body trembling, anxiety of something bad happening to him, and a high possibility that he may pass away soon. After clinical examination, the researcher concluded that 38-year male patient was suffering from panic disorder and illness disorder was ruled out. Another study by Heidi, Jonathan, Samantha, and B (2021) looked at the psychological variables that predict anxiety associated to the COVID-19 that is more intense. Measures evaluating COVID-19-related anxiety as well as psychological factors thought to predict anxious reactions to COVID-19 danger were completed by 438 community members. The results of the study showed that anxiety sensitivity, the fear of arousal-related bodily sensations, and body vigilance all predicted more acute anxiety in relation to the pandemic. Symptoms of obsessive-compulsive disorder connected to guilt over harming others have also been identified as a predictor.

In an attempt to explain how COVID-19 anxiety and self-efficacy relate to the links between information-seeking and risk perception as predictors of social distancing intention, Graf, Nehrkorn-Bailey, and Knepple (2021) used the Social Cognitive theory. 960 people participated in the online survey that the authors created to gauge behavioral intention, information seeking, risk perception, COVID-19 anxiety, and self-efficacy. The results of the study showed that risk perception and information-seeking had both direct and indirect relationships with the desire to engage in social distance, with COVID-19 anxiety reducing the effect of perceived risk on self-efficacy.

In a related study aimed at finding the effects of the COVID-19 pandemic on the psychological wellbeing of undergraduate students, Farris, Mindy, Erick and DiBello (2021) conducted a study to investigate 62 undergraduate students distress experience in an early US outbreak “hotspot”. An online questionnaire on narrative writing about the impact and distress experienced due to the COVID-19 pandemic was administered. After screening, 50 of the cases were sampled for meeting the set criteria and were used for thematic analysis. Viral outbreak problems, fear of virus contractility, nearness to virus, discontentment with the public response, physical and social distance frustration, academic and school-related frustration, disturbing changes in habits and behaviors related to one's health, economic hardship and unemployment, weakening of pre-existing mental health problems, and social referencing that minimizes distress were the nine themes identified by the researchers as the psychological distress of the pandemic.

Another study looked at anxiety levels by separating undergraduate students' typical levels of anxiety from how people perceive their anxiety during a period of extreme stress like the pandemic. A study on the psychological effects of the COVID-19 outbreak among Italian university students was undertaken by Busetta, Campolo, Fabio, Pagani, Demetrio, and Augello in 2021. From the University of Messina and Marche Polytechnic University, 162 individuals were selected. According to the study, a high level of trait anxiety is present in around 57.5% of the group. Additionally, the students' population experienced unpleasant sentiments as a result of the restrictive measures, such as university closures.

In order to better understand how people who were subject to the COVID-19 lockdown measures reacted to anxiety and perceived stress, Gori, Topino, and Vincenzo (2021) conducted a study. The interaction between coping processes and defense systems was also examined. 1408

people who were randomly selected from an unidentified population and who completed the State-Trait Anxiety Inventory—Form X3, Coping Orientation to Problems Experienced, and Forty-Item Defense Style Questionnaire also completed the State-Trait Anxiety Inventory—Form X3. The outcome demonstrated the strong direct and indirect effects of state anxiety levels on perceived stress.

Studies Related to COVID-19 and obsessive-compulsive disorder

Cross-sectional studies are the only ones that have provided sufficient information on how the COVID-19 pandemic has affected people who suffer from illness-related anxiety disorders. In a small-scale study conducted in the Central Denmark Region, sample of two groups of participants that consists of children and adolescents between the ages of 7–21 years that were newly diagnosed with obsessive compulsive disorder (Nissen, Højgaard, & Thomsen, 2020). The children and adolescents were evaluated using standardized clinical diagnostic instruments titled “Schedule for Affective Disorders and Schizophrenia for School-Aged Children and a semi-structured severity rating, CYBOCS (Children’s Yale-Brown Obsessive-Compulsive Scale)”. Worsening of illness anxiety, depressive symptoms and increased avoidance behavior were found. Additionally, the findings showed a highly substantial positive association between worsening anxiety and depressed symptoms and that the patients experienced increasing condition of obsessive-compulsive disorder in both groups.

In a study to determine the impact of covid-19 on obsessive compulsive disorder by Abhijit and Soumen (2021), interviewed 84 patients through phone calls. It was found that 5 patients representing (6%) had exacerbation of symptoms after the COVID-19 pandemic while most of the other patients did not show any deterioration of symptoms due to the pandemic.

Loosen, Skvortsova, and Tobias (2021) conducted a longitudinal study of obsessive-compulsive symptoms and information seeking during the Covid-19 pandemic using a sample of N=406 of the general UK public in an effort to understand people's information seeking behavior during the pandemic outbreak. The study specifically looked at how anxiety and depressive symptoms varied over the course of the first pandemic and how these symptoms affected public awareness of the pandemic and compliance with governmental directives. According to the study, the first pandemic wave saw depression scores drop, anxiety levels rise, and symptoms of obsessive-compulsive disorder also were more severe than usual. The identified obsessive-

compulsive symptoms had a clear correlation with the Covid-19 information seeking activity, which led to increased adherence to legal requirements. The study's authors came to the conclusion that the rise in obsessive-compulsive symptoms seen in the non-clinical group demonstrates how disproportionately the epidemic has affected this domain.

Longitudinal research of three Dutch case-control cohorts was conducted by Kuan-Yu, Almar, Kok, Eikelenboom, Frederike, Luteijn, Oppen, Erik, and Brenda (2021) to ascertain the effects of the COVID-19 pandemic on individuals with and without depressive, anxiety, or obsessive-compulsive disorders. An online questionnaire was used to elicit information from Older Persons. The COVID-19 pandemic is having a negative effect on the mental health of people with depressive, anxiety, or obsessive-compulsive disorders, according to the study, which calls for vigilant monitoring in professional practice.

To ascertain whether the COVID-19 Pandemic has an effect on the symptoms and disease of anxiety related to obsessive-compulsive disorder. During the COVID-19 pandemic, a study was carried out by Athanasios, Katja, Abeer, Adams, Green, Hassoulas, and Panayiotou (2021) with the explicit goal of examining the association between OCD symptom sub-types and sickness anxiety. Participants with obsessive-compulsive symptoms of British ancestry made up the sample. 332 people were chosen for the cross-sectional study that the researchers employed. Participants who scored over the cut-off on the Obsessive-Compulsive Inventory Revised version (OCI-R) were employed in the study. Responses to a COVID-19 impact measure were associated with the OCI-six R's subscale scores. The study found that contamination and checking obsessive-compulsive disorder subtypes have been linked with increased hand-washing behavior and avoidance of distress-inducing cues.

A study was conducted by Liu, Zhang, and He in 2021 to look at the variations in obsessive-compulsive disorder symptoms, therapies, and COVID-19 side effects. The study examined 15 previously published publications on the development of OCD during the COVID-19 epidemic. The study demonstrates a rise in the prevalence rate of OCD among patients of various age groups and varying symptomologies. The analysis also identified a dearth of research on obsessive compulsive disorder therapy and an inconsistency in studies of its symptoms.

Alyoubi, Halstead, Zambelli, and Dimitriou (2021) investigated the effects of the COVID-19 pandemic on students' mental health and sleep in order to determine the prevalence of mental health problems among Saudi Arabian undergraduate students. A cross-sectional

survey was used to give an online questionnaire to 584 Saudi Arabian undergraduate students between the ages of 18 and 45. In the year 2020, during the COVID-19 lockdown, the questionnaire examined the levels of sadness, anxiety, stress, resilience, and insomnia. The findings showed that among undergraduate students, learning difficulties were substantially correlated with higher levels of sadness and stress, higher levels of insomnia, and pre-existing mental health conditions in students with low resilience.

Moreira-de-Oliveira, De Menezes, Loureiro, Laurito, Albertella, and Leonardo (2022) carried out a one-year follow-up study in which 30 outdoor patients with obsessive compulsive disorder in a specialized obsessive compulsive disorder facility in Rio de Janeiro were examined and after one year in the pick of the pandemic. Their goal was to investigate the effects of COVID-19 on patients with obsessive-compulsive disorder. Socio-demographic and clinical samples were collected using a questionnaire with the aim of quantifying the number of stressful events related to the COVID-19 pandemic. The pre and during the COVID-19 were compared and patients with and those without severity of symptoms were carried out. The study concluded that those with obsessive compulsive disorder, undergoing treatment, did not manifest deteriorating symptom as a result of the COVID-19 pandemic. Individual differences in obsessive compulsive disorder symptom severity seem not to be associated with experiences linked to coronavirus.

To contribute to existing knowledge, previous literature reviewed shed systematic light on the present study variables, impact of COVID-19, Illness anxiety and obsessive compulsion. Several opinions and findings from various related researches provided the logical ground and direction for the conduct of the present study variables and their relationships

Chapter III

Methodology

This chapter explores the design of the study, population and sampling, materials, data collection, and data analysis.

3.1 Design of the study

Survey research was undertaken to collect quantitative (numerical) data. This correlative study which is a statistical measure for finding relationships among variables and determining their strength or degree (American Psychological Association, 2015) was done to show how COVID 19 affects levels of illness anxiety and obsessive/compulsive disorders.

3.2 Population and Sampling

Convenient sampling was used to draw participants (Near East students) and individual responses of the returned questionnaires was studied. The convenient sample is any method for selecting a sample of individuals that is directed regulated by chance or ready availability (American Psychological Association, 2015). It was used because to gain access to the students will not be easy so those that can be easily assessable and used as target population thereby warranting the use of the convenient sampling method.

Participant age, gender, religion, country of origin, marital status and faculties were taken into consideration as demographics. Table 1 shows the distribution of the participants across various demographics.

3.3 Data collection and measurement tools

In this study, 3 scales were used which are- COVID 19 Stress Measure, Illness Attitude Scale and The Brief Obsessive/ Compulsive Disorder Scale. A total of 390 questionnaires were distributed and 345 were returned. Cronbach alphas within the range of 0.6 to 0.7 is acceptable. Cronbach alpha greater than 0.8 is also good (Ursachi et al., 2015). In this study, the scales used have internal consistency as shown in table 2.

The COVID 19 Stress Measure was developed by Ellis, W., Dumas, M., & Forbes, M., (2020). It was designed to measure levels of fear, the probability of infection and concerns about social distancing. It is an 8-item scale where items are rated on a 4-point Likert scale, ranging from 1 (not at all), 2 (a little), 3 (Somewhat), and 4 (very much). It was first used on a Canadian adolescent sample of 1054 participants. This scale showed good internal reliability with Cronbach alpha of .76.

The illness attitude scale was designed by Kellner in 1987. It consists of 29 self-rated items, is designed to measure abnormal illness behavior and hypochondriasis. Twenty-seven items were designed on a five-point scale, while the two other items differently designed. For 24 out of 27 items on the scale were labelled 0 = no, 1 = rarely, 2 = sometimes, 3 = often, and 4 = most of the time. The other three items that made it 27, were adjusted to fit the content of the questions. The IAS contains nine subscales: (I) worry about illness, (II) concerns about pain, (III) health habits, (IV) hypochondriacal beliefs, (V) thanatophobia (fear of death), (VI) disease phobia, (VII) bodily preoccupations, (VIII) treatment experience, and (IX) effects of symptoms. Cronbach alpha for this scale was .96 showing good reliability.

The Brief Obsessive Compulsive Scale (BOCS), derived from the Yale–Brown Obsessive–Compulsive Scale (Y-BOCS) and the children's version (CY-BOCS), was developed by (Bejerot, Edman, Anckarsäter, Berglund, Gillberg, Hofvander, Humble, Mörtberg, Råstam, Ståhlberg, & Frisé, L., 2014). It is a short self-report tool used to aid in the assessment of obsessive–compulsive symptoms and diagnosis of obsessive– compulsive disorder (OCD). The BOCS is a 15-items Symptom Checklist, three of items are on hoarding, dysmorphophobia and self-harm directly related to the DSM-5 category “Obsessive– compulsive related disorders”, accompanied by a single six-item Severity Scale for obsessions and compulsions combined. These items include worry about dirt, germs and virus; special handwashing; fear of harming others; fear of losing control; having unpleasant forbidden sexual thoughts; etc. Scale is rated from “Current”, “Past”, or “Never”. Subdomains includes Contamination/cleanliness, harming obsessions, sexual obsessions, checking, Hoarding and saving, somatic obsessions, among others. This scale has Cronbach alpha of .76.

Table 1.

Socio demographic information of the participants

Variable		n	%
Age	17-20	88	26.6
	21-22	82	24.8
	23-25	85	25.7
	26 and above	68	20.5
	Missing	8	2.4
Gender	Male	179	54.1
	Female	152	45.9
Religion	Christian	250	75.5
	Muslim	66	19.9
	Others	13	3.9
	Missing	2	0.6
Region	North Africa	8	2.4
	West Africa	181	54.7
	East Africa	111	33.5
	Central Africa	23	6.9
	Southern Africa	5	1.5
	Missing	3	0.9
Marital Status	Married	9	2.7
	Single	321	97.0
	Missing	1	0.3

Table 1 shows a distribution of participants according to the various demographics. In this study there were 331 participants whose questionnaires were valid for analysis. Table 1 shows that the ages of the participants were somewhat evenly distributed among categories from 17-20 (26.6%), 21-22 (24.8%), 23-25 (25.7%), and 26 and above (20.5%). There were slightly more male participants (54.1%) than female participants (45.9%) in the study. Furthermore, there were more Christian participants (75%) than other religions. Notably, most of the participants are mostly

from Western Africa (54%) and Eastern Africa (33%). Only 2.7% of the participants were married while 97% are single.

3.4 Data Collection

The ethics committee first granted permission to the researcher to collect information. Through the process of convenient sampling, the researcher was able to distribute questionnaires to participants in African dominated churches (particularly the Near East Christian Fellowship) and the school library as most African students were easy to locate. A total of 390 questionnaires were distributed and 345 were returned. 14 of the questionnaires were screened out due to irregularities. The researcher collected data from March to May. The researcher explained the procedures to the respondents and informed consent was granted by them to participate.

3.5. Data Analysis

Before analyzing the data collected, first, it was screened and cleaned for inconsistencies in imputing the data into SPSS. Next, the descriptive statistics were conducted and represented using tables and graphs. The reliability test of the scales was also determined as shown in table 2. Parametric tests (Student t-test and one-way ANOVA) were used to analyse normally distributed data. Correlation analysis was used to find the relationship between the scales. To assess the extent COVID-19 predicts levels of IAD and OCD, simple linear regression analysis was employed. All the tests were conducted using Statistical Package for Social Science (SPSS) software version 20.0 (IBM Armonk, New York), considering significance at $p \leq 0.05$.

Table 2

Data Properties

	N	Minimum	Maximum	Mean	SD	Skewness		Kurtosis	
						Statistic	Std. Error	Statistic	Std. Error
COVID 19 Stress Scale	303	8	32	19.64	5.179	.088	.140	-.146	.279
Illness Attitude Scale	288	0	96	41.56	20.761	.389	.144	-.337	.286
Brief OCD Scale	235	15	44	29.36	5.940	.161	.145	-.498	.289

Research plan

In the first segment of the research, the scales used in this research which includes the COVID Stress Scale, Illness Attitude Scale and the Brief OCD Scale, was obtained as permission was needed to use the scales.	November 2021
The next step, which was to submit an application to the Ethics Committee in order to get permission to conduct the study; was completed by the Near East University Ethics Permission Committee.	December 2021
In this section, the study group of the research are mostly young students ranging in age from 17 years and above. Pilot test was carried out first to test the instruments. The survey questionnaire was distributed to Near East African Students. Paper questionnaires were distributed. Personal information forms, participant consent forms are	January 2022

available and shown to participants.	
Literature Review and examination of related research	April 2022
For this study, the convenient sample method was used. The survey questionnaires were distributed in churches (with mostly African students) and in the school library.	April 2022 – May 2022
Statistics created using data from the sample group from the results of the study, as well as the literature, were examined, and conclusion and recommendations were offered.	May 2022 – June 2022

CHAPTER IV

Result

This chapter shows results of analysis of data collected. It answers the research questions of the study which includes the relationship of demographics with IAD and OCD; then correlation between COVID 19, IAD and OCD; and then predictor of IAD and OCD.

Are There Differences Related To The Participant Demographic Variables (Age, Gender, Religion, Region, and Marital Status) and Illness Anxiety/ OCD?

Table 3.

Differences between Age groups, IAD, and OCD

Variable		Sum of Squares	df	Mean Square	F	Sig.
IAD	Between Groups	158.699	3	52.900	.121	.948
	Within Groups	122037.574	278	438.984		
	Total	122196.273	281			
OCD	Between Groups	69.612	3	23.204	.647	.585
	Within Groups	9752.156	272	35.854		
	Total	9821.768	275			

In table 3, analysis of data using one-way ANOVA indicated that there was no statistically significant difference within the age groups for IAD ($F(3, 278) = .121, p = .948$). There was no significant difference within age groups for OCD ($F(3, 272) = .585, p = .585$).

Table 4

Differences between Gender, IAD, and OCD

Variable	Gender	N	Mean	SD	Df	t	P
IAD Total Score	Male	154	42.69	22.069	286	.998	.319
	Female	134	40.25	19.147			
OCD Total Score	Male	153	29.81	5.886	281	1.385	.167
	Female	130	28.83	5.983			

In table 4, t-test results show that there was no statistically significant difference between the IAD of males and females ($t(286) = .998, p=.319$) with mean score for male ($M=42.69, SD=22.069$) and female ($M=40.25, SD=19.147$). As for the OCD data, the result also showed that there was no statistically significant OCD difference between genders ($t(281) = 1.385, p=.167$) with mean score for male ($M=29.81, SD=5.886$) and for female ($M=28.83, SD=5.983$).

Table 5

Differences between Religion, IAD and OCD

Variable		Sum of Squares	df	Mean Square	F	Sig.
IAD	Between Groups	4165.576	2	2082.788	4.988	.007
	Within Groups	118169.868	283	417.561		
	Total	122335.444	285			
OCD	Between Groups	65.892	2	32.946	.937	.393
	Within Groups	9778.549	278	35.175		
	Total	9844.441	280			

In table 5, one-way ANOVA results show that there was no statistically significant difference between religious groups and IAD ($F(2, 283) = 4.988, p = .007$). Also, analysis of data

according to the religion using one-way ANOVA suggests that there was no statistically significant difference between religion and OCD ($F(2,278) = .937, p = .393$).

Table 6

Differences between Region, IAD, and OCD

Variable		Sum of Squares	df	Mean Square	F	Sig.
IAD	Between Groups	164.730	4	41.182	.094	.984
	Within Groups	122128.498	280	436.173		
	Total	122293.228	284			
OCD	Between Groups	37.650	4	9.412	.265	.900
	Within Groups	9806.792	276	35.532		
	Total	9844.441	280			

In table 6, analysis of data according to the region using one-way ANOVA suggests that there was no statistically significant difference between regions and IAD ($F(4, 280) = .094, p = .984$). Also, there was no statistically significant difference between the regions and OCD ($F(4, 276) = .265, p = .900$).

Table 7

Differences between Marital Status, IAD, and OCD

Variable	Marital Status	N	Mean	SD	df	t	P
IAD Score	married	6	41.33	19.593	285	-.013	.565
	single	281	41.45	20.770			
OCD Score	married	8	27.38	4.719	280	-.952	.342
	single	274	29.41	5.976			

In table 7, using the t-test, the IAD means of the single and married participants were assessed. The result shows that there was no statistically significant difference between the IAD of single and married participants ($t(285) = 328, p = .565$) with mean score for married ($M = 41.33, SD = 19.593$) and for single ($M = 41.45, SD = 20.77$). T-test results show the OCD differences between the single and married participants was not statistically significant ($t(280) = -.956, p = .342$). Mean score for married ($M = 27.38, SD = 4.719$) and singles ($M = 29.41, SD = 5.976$).

Table 8

Difference between Field of study, IAD, and OCD

Variable		Sum of Squares	df	Mean Square	F	Sig.
IAD	Between Groups	1432.417	2	716.209	1.669	.190
	Within Groups	121890.942	284	429.193		
	Total	123323.359	286			
OCD	Between Groups	171.916	2	85.958	2.476	.086
	Within Groups	9686.070	279	34.717		
	Total	9857.986	281			

In table 8, analysis of data according to the region using one-way ANOVA suggests that there was no statistically significant difference between field of study and IAD ($F(2, 284) = 1.666, p$

=.190). Also, there was no statistically significant difference between the field of study and OCD ($F(2, 279) = 2.476, p = .086$).

IS THERE A RELATIONSHIP BETWEEN COVID-19, IAD, AND OCD?

Table 9

Correlation among COVID 19 Stress Scale, Illness Attitude Scale, Brief Obsessive/ Compulsive Scale

Variables	COVID 19 Stress Scale	Illness Attitude Scale	Brief OCD Scale
COVID 19 Stress Scale	r	0.529	-0.222
	p	0.00**	0.00**
Illness Attitude Scale	r		-0.443
	p		0.00**
Brief OCD Scale	r		
	p		

** . $p < 0.01$

The Pearson correlation test in table 14 indicates that there was a statistically positive meaningful relationship between COVID-19 stress and Illness Attitude scale ($r = 0.529, p < 0.01$). However, COVID-19 stress showed statistically negative meaningful relationship with Brief OCD scale ($r = -0.222, p < 0.01$). There was also a statistically negative meaningful relationship between Illness Attitude scale and Brief OCD scale ($r = -0.443, p < 0.01$).

TO WHAT EXTENT DOES COVID-19 PREDICTS IAD AND OCD?

A. The Extent of COVID-19 Predicting IAD

Table 10

Coefficient of COVID 19 prediction of IAD

Variable	B	Coefficient Standard Error	B	t	P
Constant	2.027	3.668		.553	.581*
IAD Scores	Total 2.070	.183	0.529	11.286	.000

* $p \leq 0.05$

In table 10, The *ANOVA* tables provide a test to show whether COVID-19 is a significant predictor of IAD. Since the *p*-value is less than 0.05, it indicates that COVID-19 is a significant predictor of IAD with the beta coefficient of 0.529 which suggests that for every 1-unit increase in COVID-19, there will be a 0.529 unit increase in IAD and vice versa.

B. The Extent of COVID-19 Predicting OCD?

Table 11

Coefficient values of COVID 19 predicting OCD

Variable	B	Coefficient Standard Error	B	t	P
Constant	33.638	1.278		26.323	.000
OCD Scores	Total -2.63	.064	-2.22	-4.113	.000

Table 11 shows result of *ANOVA* to test what extent COVID 19 predicts OCD. Results indicate that COVID-19 is a significant predictor of OCD since the *p*-value is less than 0.05. Results shows the beta coefficient of -0.222 which suggests that for every 1-unit increase in COVID-19, there will be a 0.222 unit decrease in OCD and vice versa.

CHAPTER V

Discussion

This study systematically evaluated the relationship between the COVID-19 pandemic on IAD and OCD in a large sample of African students in Near East who have once suffered of COVID-19 with experience of IAD or OCD. The finding from the first objective of the study revealed that there was significant difference within the age groups for IAD and that there was no significant difference within age groups for OCD based statistics generated from field work. The finding did not come as a surprise to the researcher based on the literature's existing evidence that a large percentage of anxiety during the COVID-19 period is associated with increased depression and suicidal ideation (Lee, Jobe, & Mathis, 2020), and too much COVID-19-related anxiety may also be a distinct variant of illness anxiety in which the fear is directed towards contamination of COVID-19 rather than other transmittable illnesses or diseases (Bhachech, 2021).

Literature indicated that African students in Near East University of age group 18-30 screen positive for OCD more than other age groups (Abhijit & Soumen, 2020). Similarly, the emergence of OCD symptoms established in the study among the different age groups screened shows no significant difference. Nevertheless, there is a widespread belief that OCD is more common in young people, but the study found that OCD symptoms were present in roughly equal amounts in people of all ages. The impact of the COVID-19 pandemic and related health issues on the entire human population is yet incalculable. Age range results have been inconsistent in recent literature, which is not unusual. The finding of the study is also supported by Liu, Zhang, and He (2021) that established that there was an increase in the prevalence rate of obsessive-compulsive disorder among different age groups and symptoms differential. Athanasios, Katja, Abeer, Adams, Green, Hassoulas and Panayiotou (2021) found that the bimodal age at onset and onset after age 50 is relatively rare and may be more likely to have an organic etiology. The finding did not come as a surprise because the symptoms of the virus displayed by the patients that were infected.

Findings from the study also indicated that there was no statistically significant difference between regions and IAD and a no significant difference between the regions and OCD. The

findings of this study, however, do not support a study by Yan, Deng, Wang, Wang, Fan, Li, Wen, Yu, Wang, Liu, et al. (2022) that examined the prevalence and rates of tic disorders and obsessive-compulsive disorder among Chinese schoolchildren between the ages of 6 and 16. According to the prevalence parameters of their study, which may be influenced by age and sex, there is a substantial comorbidity between OCD and TD patients. This distinction could be made because comorbidity is not contagious and not a worldwide pandemic, whereas COVID-19 is therefore, the fear of contamination or contagious could be responsible for the difference in the finding.

The study also found that there was no statistically significant difference between the IAD of males and females. The result also showed that there was no statistically significant OCD difference between genders. The finding is in agreement with Athanasios, Katja, Abeer, Adams, Green, Hassoulas and Panayiotou (2021) who earlier established that the prevalence of obsessive-compulsive disorder is around 2% worldwide with males and females being affected equally. This increased awareness and fear of the COVID-19 infection among men and women may be related to a greater willingness on the part of both sexes to comply with measures meant to stop the spread, such as closing schools and restricting public gatherings, banning unnecessary travel and gatherings, placing quarantines on visitors, maintaining a physical six-foot distance, donning masks indoors and outdoors, or donning gloves.

Some of the noticeable characteristics of obsessions were miscellaneous, aggressive, and contamination, and of compulsions were miscellaneous, checking, and cleaning/washing/repeating. Students who are not married and indulge in risky sexual behavior were more vulnerable to experience OCD than the married students. Students' behavior dispositions expose them to a higher risk of developing OCD than health care workers. Available evidence from existing literature shows that females students felt significantly sadder, lonelier, more fearful, and more insecure than male students, experienced more sleep disorders, and were more likely to sanitize surfaces compared to males.

The findings are consistent with those of Busetta, Campolo, Fabio, Pagani, Demetrio, and Augello (2021), who found that there were gender differences in awareness of and concerns about the COVID-19 pandemic, which in turn affected people's moods in different ways. Women expressed these concerns and fears at higher rates than men. However, it is contrary to the

finding of the current study and could be as a result of the participant used and the condition under which both studies were conducted differ. Also, another factor that could account for the difference in awareness, concern, and fears found between female and male participants of this study might be the common believe that females are more health and hygienically conscious than male and the psychological emotions of females about care, comfort and support might also contribute to this difference.

Another factor investigated under this study is religion, data on the relationship between students' religion, illness anxiety and obsessive-compulsive disorder during COVID-19 was collected analyzed. The result revealed that there was no statistically significant difference between religious groups and IAD and also showed that there was no statistically significant difference between religion and OCD. The outcome of this objective correlates the impact of COVID-2019 as a global pandemic with immeasurable unpredictability, uncertainty, fear of the unknown as a result of misinformation, physical distancing and home confinement (social isolation) contribute to illness anxiety and obsession disorder (Cunning, & Matthew, 2022). Therefore, no religion was left out and no part of the world that did not experience social isolation and physical distancing that contributed to the uncertainty and anxiety the world over.

The finding also revealed a non-statistical association between African Students' field of study, IAD and OCD. The pandemic was a global emergency that makes it possible to increase the level of stress and also increased the overall severity of OCD symptoms. In addition to the fear of containment of the COVID-19 virus, the increasing rate of OCD symptoms could be directly related to the corresponding emotional reactions. The hypothesis that worries about contracting COVID-19 was indirectly related to the worsening of OCD symptoms may have stemmed from the fact that it foresaw the escalating severity of illness symptoms like anxiety and depression (Abdulmajeed, 2021). In this study, people with previously diagnosed psychiatric illnesses most frequently reported having depression or anxiety disorders. This lends credence to the idea that rising anxiety and depression symptom levels indicate that OCD symptoms will deteriorate.

In furtherance, significant associations were found between both COVID-19 impact measure components and the two subscales of the IAS (i.e., Illness Attitude scale and Brief OCD scale). Once again, a positive correlation was revealed between the COVID-19 impact measure

hand washing component and the two subscales, whilst a negative meaningful relationship between Illness Anxiety scale and Brief OCD scale. Therefore, the higher the level of illness anxiety an individual is experiencing, the worse the perceived negative consequences of the pandemic were, the more frequent the hand washing behavior exhibited and avoidance of cues that may cause distress. Similarly, Alhujaili, Alghamdi, Abo, Muhammad and Waleed (2021) revealed that individuals with self-identified OCD reported difficulty differentiating between excessive and reasonable behavioral responses to the threat posed by the pandemic.

CHAPTER VI

Conclusion and Recommendations

Conclusion

The outcome of the research analysis revealed that Covid-19 outbreak as a global pandemic has negative impact on African students' illness anxiety and obsessive-compulsive disorder (OCD), particularly when taking into consideration, the home confinement (social isolation). On the other hand, the difference within the age groups for illness anxiety disorder (IAD) was not significant. Unexpectedly, there was no significant OCD difference between genders. The critical evaluation of the analysis shows two divergent points of view. On one hand, it shows that the difference between religious groups and IAD was not significant, though its impact on individual student factors such as; creativity, adaptability, and frequency of visit to hospital. While on the other hand, the impact of the Covid-19 virus on students' religion and obsessive compulsion disorder was not significant.

In conclusion, the outbreak of the Covid-19 virus has had a general impact on the single students OCD, at least in the short term, does not appear to be significantly different from the married students' illness anxiety in the sample. The African students in Near East University field of study is not significantly related to their illness anxiety and obsessive-compulsive disorder. But there was a statistically positive meaningful relationship between COVID-19 stress and Illness Anxiety scale and COVID-19 stress showed statistically negative meaningful relationship with Brief OCD scale. However, it is disheartening that IAD and OCD impact have increased in the context of this pandemic.

Recommendations According to Findings

The results from the data analysis suggest that institutions might need to review their routines and processes during this post-pandemic era due to how the Covid-19 virus has affected the students. For example, the strengthening of the e-learning environment is a good alternative to reduce the panic disorder, anxiety disorder, vicarious traumatization, depression, posttraumatic stress symptoms, confusion, aggression among others. Moreover, the data analysis results suggest that organizations simultaneously are adopting the digital platform and virtual practices

which might improve the staff skills and performance which signifies the quality of the staff output.

Recommendations for Practice

First, the study is cross-sectional in nature and data was collected using structured questionnaire. Due to cross-sectional designs, the study revealed non-statistical association that has no demonstrable causal relationships. Therefore, longitudinal studies are required to examine the long- term effects of public-health recommendations related to the COVID-19 pandemic on IAD and OCD symptoms.

Clinical and mental psychologists should help patients suffering from illness anxiety and obsessive-compulsive disorder on how to be certain and tolerance of happenings within and outside their immediate environment. Also, how to perceive feelings and the ability to reduce obsessive questioning and repeated checking of perceived symptoms can be achieved through the outcome of this study.

Since the study revealed a no significant difference between the IAD of single and married participants and the OCD differences between the single and married participants was not statistically significant. The researcher recommended that healthcare professionals could conduct further studies to recognize those at higher risk of developing or worsening illness anxiety and obsessive-compulsive symptoms within the current post-pandemic and other health-related crises.

The study assessed the African students' attitudes or fear of COVID-19 and how this might have impacted their OCD using the Brief OCD scale and so elucidated psychological mechanisms. There is need for a long-term follow-up, so there is need for a follow up to have a clear long-term implication of what the pandemic will be on obsessive-compulsive disorder.

In this study, a non-random data collection method was adopted and the distribution of the participants varied. For this reason, the findings for this study might be limited by the personality of the respondents. Further research works should extend the research not only in the context of the number of responses but about the diversity of the respondents, which will help in

providing a different insight to the subject which will serve as a complement for this research findings.

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APPENDICES

Appendix A



COVID-19 Stress Measure

Note: Test name created by PsycTESTS

PsycTESTS Citation:

Ellis, W. E., Dumas, T. M., & Forbes, L. M. (2020). COVID-19 Stress Measure [Database record]. Retrieved from PsycTESTS. doi: <https://dx.doi.org/10.1037/t77182-000>

Instrument Type:
Rating Scale

Test Format:
Items are rated on a 4-point scale, ranging from 1 (not at all) to 4 (very much).

Source:
Ellis, Wendy E., Dumas, Tara M., & Forbes, Lindsey M. (2020). Physically isolated but socially connected: Psychological adjustment and stress among adolescents during the initial COVID-19 crisis. *Canadian Journal of Behavioural Science / Revue canadienne des sciences du comportement*, Vol 52(3), 177-187. doi: <https://dx.doi.org/10.1037/cbs0000215>

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PsycTESTS™ is a database of the American Psychological Association



doi: <http://dx.doi.org/10.1037/t77182-000>

COVID-19 Stress Measure

Items

1. To what extent are you worried about how COVID-19 will impact your school year?
2. To what extent are you worried about how COVID-19 will impact your own and your family's finances?
3. To what extent are you worried about how COVID-19 will impact your ability to keep up your reputation?
4. To what extent are you worried about how COVID-19 will impact you feeling connected to your friends?
5. To what extent are you concerned about the COVID-19 crisis?
6. How likely is it that you could become infected with the COVID-19 virus?
7. How likely is it that someone you know could become infected with the COVID-19 virus?
8. If you did become infected with COVID-19, to what extent are you concerned that you will be severely ill?

Note . Items are rated on a 4-point scale, ranging from 1 (not at all) to 4 (very much). "A little" and "somewhat" were given as separate options, but combined here.

PsycTESTS™ is a database of the American Psychological Association

Appendix B



Illness Attitude Scale

PsycTESTS Citation:
Kellner, R. (1986). Illness Attitude Scale [Database record]. Retrieved from PsycTESTS. doi:
<https://dx.doi.org/10.1037/t12308-000>

Instrument Type:
Rating Scale

Test Format:
The 27 main items are each scored on a five-point Likert-type scale from 0 through to 4, along with two additional items.

Source:
Ferguson, E., & Daniel, E. (1995). The Illness Attitudes Scale (IAS): A psychometric evaluation on a non-clinical population. *Personality and Individual Differences*, Vol 18(4), 463-489. doi:
[https://dx.doi.org/10.1016/0191-8869\(94\)00186-V](https://dx.doi.org/10.1016/0191-8869(94)00186-V). © 1995 by Elsevier. Reproduced by Permission of Elsevier.

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doi: <http://dx.doi.org/10.1037/t12308-000>

Illness Attitude Scale IAS

Items

General Hypochondriacal Fears and Beliefs (GemHy)

- Are you worried that you may get a serious illness in the future?
- If you have a pain, do you worry that it may be caused by serious illness?
- If a pain lasts a week or more, do you believe that you have a serious illness?
- Are you afraid that you may have cancer?
- Do you believe that you have a physical disease but the doctors have not diagnosed it correctly?
- When you have been told by a doctor what he/she found, do you soon begin to believe that you may have developed a new illness?
- Do you worry about your health?
- When your doctor tells you that you have no physical disease, do you refuse to believe him/her?
- When you feel a sensation in your body, do you worry about it?
- When you read or hear about an illness, do you get symptoms similar to those of the illness?
- If a pain lasts for a week or more, do you see a physician?
- Do you examine your body to find whether there is something wrong?

Symptom Experience and Frequency of Treatment (SE/FT)

- Do your bodily symptoms stop you from concentrating on what you are doing?
- Do your bodily symptoms stop you from working?
- Do your bodily symptoms stop you from enjoying yourself?
- How often have you been treated during the past year? (For example drugs, change of drugs, surgery, etc.)
- How often do you see a doctor?
- How many different doctors/chiropractors, or other healers have you seen in the past year?
- Are you afraid that you may have another serious illness?

Thanaphobia (Than)

- Does the thought of death scare you?
- Are you afraid of news which reminds you of death (such as funerals, obituary notices)?
- Are you afraid that you may die soon?
- Does the thought of serious illness scare you?

Coronary Heart Disease and Associated Health Habits (CHD/HH)

- Do you avoid habits which maybe harmful to you such as smoking?
- Do you avoid food which may not be healthy?
- When you notice a sensation in your body, do you find it difficult to think of something else?
- Are you afraid that you may have heart disease?

Note: The 27 main items are each scored on a five-point Likert-type scale from 0 through to 4, along with two additional items.

Appendix

C



Brief Obsessive Compulsive Scale

PsycTESTS Citation:

Bejerot, S., Edman, G., Anckarsäter, H., Berglund, G., Gillberg, C., Hofvander, B., Humble, M. B., Mörtberg, E., Råstam, M., Ståhlberg, O., & Frisén, L. (2014). Brief Obsessive Compulsive Scale [Database record]. Retrieved from PsycTESTS. doi: <https://dx.doi.org/10.1037/140149-000>

Instrument Type:

Checklist

Test Format:

Checklist item are rated as Current, Past, or Never. Severity scale item are rated on various 4-point scales.

Source:

Supplied by author.

Original Publication:

Bejerot, Susanne, Edman, Gunnar, Anckarsäter, Henrik, Berglund, Gunilla, Gillberg, Christopher, Hofvander, Björn, Humble, Mats B., Mörtberg, Ewa, Råstam, Maria, Ståhlberg, Ola, & Frisén, Louise. (2014). The Brief Obsessive-Compulsive Scale (BOCS): A self-report scale for OCD and obsessive-compulsive related disorders. *Nordic Journal of Psychiatry*, Vol 68(8), 549-559. doi: <https://dx.doi.org/10.3109/08039488.2014.884631>

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BOCS

BOCS

Brief Obsessive Compulsive Scale

By S. Bejerot. Based on Wayne Goodman's YALE-BROWN OBSESSIVE COMPULSIVE SCALE and CHILDREN'S YALE-BROWN OBSESSIVE COMPULSIVE SCALE

Name: Patient ID:

Date: Clinician:

The patient (>15 years) can complete the checklist as a self-rating procedure, while the information from younger children should be obtained by interview. The questions on page 4 are to be completed by the clinician in an interview setting.

The terms "obsessions" and "compulsions" may be described in the following way:

"**Obsessions**" are distressing **thoughts**, ideas, feelings, fantasies, images (pictures) or impulses that keep coming into your mind even though you do not want them to. Since obsessions cause distress, compulsions are readily carried out to reduce it.

"**Compulsions**" on the other hand, are **habits**, rituals or behaviors, you feel you have to do, although you may know that they do not make sense, or are excessive. At times you may try to stop from doing them, but this might not be possible. While most compulsions are observable behaviors, some compulsions may be hidden mental acts that go on in your head, such as silent checking, or repeating certain words to yourself each time you have disturbing thoughts.

Check the obsessions and compulsions that trouble you *right now* (during the past week) in the "current" box. If they have occurred previously but not any longer, check the box marked "Past". There are examples of each symptom to help you decide if you have an obsessive-compulsive symptom. If you never have had the obsession or compulsion, check the box marked "Never".

Contamination/Cleanness

Current Past Never

1. I am worried about dirt, germs, virus.

Ex. Fear of getting germs from touching door handles or shaking hands or sitting in certain chairs or seats or fear of getting AIDS.

2. I wash my hands very often or in a special way to be sure I am not dirty or contaminated.

Ex. Washing one's hands many times a day or for long periods after touching, or shaking one has touched, a contaminated object.

Appendix D

BOCS

Harming obsessions

	Current	Past	Never
3. I fear that my actions might harm others. <i>Ex. Fear of poisoning other's food, fear of hurting babies, fear of pushing someone in front of a train, fear of causing harm by giving bad advice.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I fear I will loose control and do something I don't want to do. <i>Ex. Fear of driving into a tree, fear of running over someone, fear of stabbing someone.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Sexual obsessions

5. I have unpleasant forbidden or perverse sexual thoughts, images or impulses that frighten me. <i>Ex. Unwanted bad sexual thoughts about strangers, family members, children or friends.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
---	--------------------------	--------------------------	--------------------------

Checking

6. I must check the stove or other electrical appliances, that I have locked the door or make sure that things have not disappeared. <i>Ex. Repeated checking of door locks, the stove, the iron or electrical outlets before leaving home; repeated checking that one's cupboard at school is locked, or if one is properly dressed.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--	--------------------------	--------------------------	--------------------------

Religion/Magical thoughts/Superstition

7. My dirty words, thoughts and curses directed towards God bothers me; I have a fear of offending God. <i>Ex. Worries about being punished for such sins and thoughts now, later in life or after death.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. In order to prevent something terrible to happen I must have special thoughts or acts done in a special way. <i>Ex. Touching an object like a telephone insures that someone in the family will not get sick.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Morality & Justice

9. I am occupied with morality issues, justice or what is right or wrong. <i>Ex. worries about always doing "the right thing", having told a lie, or having cheated someone.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
---	--------------------------	--------------------------	--------------------------

Symmetry/Exactness/Ordering

10. How things are placed or how they are positioned is important to me. It needs to feel "just right" (but isn't associated with magical thinking). <i>Ex. Worries about papers and books being neatly placed, worries about calculations or handwriting being perfect or not meeting up.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I get a compelling urge to put my things in a special order. <i>Ex. Straightening paper and pens on a desktop or books in a bookcase, wasting hours arranging or lining up things in the house in "order" and then becoming very upset if this order is disturbed.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

BOCS

Just right/ Repeating rituals/ Counting

	Current	Past	Never
12. I have a compelling urge to repeat certain actions until it feels just right. <i>Ex. Repeating activities like turning the tap or appliances on and off, combing one's hair, going in and out of a doorway.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Hoarding & Saving

14. I must follow strong impulses to collect and hoard things. <i>Ex. Saving old newspapers, notes, cards, paper towels and wrappers for fear that if one throws them away one may some day need them; picking up useless objects from the street.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
---	--------------------------	--------------------------	--------------------------

Somatic obsessions

15. I have worries that I look peculiar; I am concerned that something is wrong with my looks. <i>Ex. Worries that one's face, ears, nose, eyes, or another part of the body is hideously ugly, despite reassurance to the contrary.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
---	--------------------------	--------------------------	--------------------------

Self-damaging behaviors

16. I do things that injure my body. <i>Ex. Scratching and tearing the skin, cut oneself or banging one's head.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--	--------------------------	--------------------------	--------------------------

If you have other obsessive-compulsive problems (obsessions/thoughts, compulsions/habits) that are not included in the checklist, enter them here:

- _____
- _____
- _____

Mark the most troublesome obsessive-compulsive problems, and enter them here:

- _____
- _____
- _____

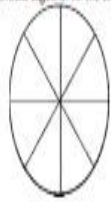
What is worse, your obsessions or your compulsions?
Please respond to **either** question A or B.

A. If you separate your obsessions and your compulsions, what percent are the former and what the latter?

Obsessions: _____ %
Compulsions: _____ %

B. Obsessions and compulsions should together fill the circle.
Please dash the sections that correspond to your compulsions/habits. The empty sections correspond to your obsessions/thoughts.

Obsessions/thoughts
 Compulsions/habits



Appendix E



10.12.2021

Dear James Dung Sha

Your application titled **“The Advent of COVID-19 and its effect on the rise of Illness Anxiety and Obsessive/Compulsive behaviours among African Students of Near East University”** with the application number NEU/SS/2021/1167 has been evaluated by the Scientific Research Ethics Committee and granted approval. You can start your research on the condition that you will abide by the information provided in your application form.

Assoc. Prof. Dr. Direnç Kanol

Rapporteur of the Scientific Research Ethics Committee

A handwritten signature in cursive script, reading 'Direnç Kanol'.

Appendix F

THESIS

ORJİNALLİK RAPORU

% 15	% 12	% 12	% 5
BENZERLİK ENDEKSİ	İNTERNET KAYNAKLARI	YAYINLAR	ÖĞRENCİ ÖDEVLERİ

BİRİNCİL KAYNAKLAR

1	www.researchgate.net İnternet Kaynağı	% 2
2	Heidi J. Ojalehto, Jonathan S. Abramowitz, Samantha N. Hellberg, Megan W. Butcher, Jennifer L. Buchholz. "Predicting COVID-19-related anxiety: The role of obsessive-compulsive symptom dimensions, anxiety sensitivity, and body vigilance", Journal of Anxiety Disorders, 2021 Yayın	% 2
3	www.cureus.com İnternet Kaynağı	% 1
4	www.ncbi.nlm.nih.gov İnternet Kaynağı	% 1
5	www.academypublication.com İnternet Kaynağı	% 1
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