The Effectiveness of Culturally Adapted Cognitive Behavioral Intervention in Reducing Psychological Distress of COVID-19 Survivors

by

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ABSTRACT

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Survivors of the infectious diseases are at an increased risk of mental problems both in the short- and long-term, as observed in the epidemics of the severe acute respiratory syndrome (SARS), the Middle East respiratory syndrome (MERS) as well as the novel coronavirus disease (COVID-19). However, to our knowledge, there is a dearth of high-quality research investigating the effectiveness of mental health interventions targeting psychological problems of COVID-19 survivors. We, therefore, conducted a randomized controlled trial (RCT) to investigate whether the online-delivered, group-based culturally adapted cognitive behavioral intervention (CA-CBI) would be effective in improving the levels of psychological distress in addition to a range of secondary outcomes in COVID-19 survivors at a one-month follow-up assessment. 34 participants with elevated levels of psychological distress were randomly assigned to CA-CBI or enhanced treatment as usual (ETAU). In the intention-to-treat analysis, we found that the CA-CBI significantly improved depressive symptoms (d = 0.8) and environmental quality of life (d = 0.8) over ETAU at the one-month follow-up. While within-group differences were observed in psychological distress, anxiety, post-traumatic stress symptoms, and psychological quality of life in favor of the intervention group, no differences were detected for somatic symptoms, and quality of life related to physical health and social relationships. Considering that the study was not powered to detect significant effects on each outcome measure, these results suggest that CA-CBI seems to be promising in improving the mental health problems of survivors of infectious diseases. In the future, the findings should be tested with fully powered RCTs.

Key Words: COVID-19 survivors, psychological distress, culturally adapted cognitive behavioral intervention, mental health intervention

ÖZETÇE

COVID-19 Geçirmiş ve İyileşmiş Bireylerde Psikolojik Stresi Azaltmaya Yönelik Kültüre Uyarlanmış Bilişsel Davranışçı Müdahale'nin Etkililiği

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Şiddetli akut solunum yolu sendromu (SARS), Orta Doğu solunum sendromu (MERS) ve yeni Koronavirüs hastalığı (COVID-19) salgınlarında da gözlemlendiği gibi, bulaşıcı hastalıklardan kurtulanların hem kısa hem de uzun vadede ruhsal sağlık sorunları geliştirme riski önemli ölçüde artmıştır. Bununla birlikte, bildiğimiz kadarıyla, literatürde COVID-19 enfeksiyonu geçirenleri hedef alan ruh sağlığı müdahalelerinin etkililiğini araştıran kaliteli araştırmalar yetersiz düzeydedir. Bu nedenle, çevrimiçi ve grup tabanlı, kültüre uyarlanmış bilişsel davranışçı müdahalenin (KU-BDM) COVID-19 enfeksiyonundan kurtulanların psikolojik stres seviyelerini ve bir dizi ikincil sonucu bir aylık bir takip sürecinde iyileştirmede etkililiğini araştırmak amacıyla randomize kontrollü bir çalışma yürüttük. Yükselmiş düzeyde psikolojik stres seviyesine sahip 34 katılımcı rastgele olarak KU-BDM'ye veya geliştirilmiş her zamanki tedaviye atandı. Tedavi amacına yönelik analizde, KU-BDM'nin geliştirilmiş her zamanki tedaviye göre depresif semptomları (d = 0.8) ve çevresel yaşam kalitesini (d = 0.8) bir aylık takip sürecinde önemli ölçüde iyileştirdiğini bulduk. Sadece müdahale grubunda psikolojik stres, kaygı, travma sonrası stres belirtileri ve psikolojik yaşam kalitesinde grup içi farklılıklar gözlenirken, somatik belirtilerde ve fiziksel sağlık ve sosyal ilişkilere ilişkin yaşam kalitesinde fark saptanmadı. Bu çalışmanın her bir sonuç üzerinde önemli bir etki saptayabilmek için yeterli istatistiksel güce sahip olmadığı göz önüne alındığında, sonuçlar KU-BDM'nin bulaşıcı hastalıklardan kurtulanların ruh sağlığı sorunlarını iyileştirme konusunda umut verici göründüğünü göstermektedir. Gelecekte, bu bulgular tamamen güçlü randomize kontrollü çalışmalarla test edilmelidir.

Anahtar Kelimeler: COVID-19 enfeksiyonundan kurtulanlar, psikolojik stres, kültüre uyarlanmış bilişsel davranışçı müdahale, ruh sağlığı müdahaleleri

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

Chapter 1:

INTRODUCTION

1.1. The Coronavirus Infection

A novel coronavirus disease (COVID-19) was identified by the World Health Organization (WHO) in January 2020. After the assessment of WHO, COVID-19 started to be portrayed as a pandemic in March 2020 (WHO, 2020). The new coronavirus has rapidly spread worldwide and led to a considerable rise in hospitalizations due to pneumonia accompanied by multiorgan failure (Wiersinga et al., 2020). The common symptoms of COVID-19 were reported as fever, cough, difficulty in breathing, fatigue, aches, loss of taste or smell, congestion, nausea or vomiting, and diarrhea, all of which can vary between mild to severe in different cases (Centers for Disease Control and Prevention [CDC], 2021). As of November 11, 2022, there have been over 630 million confirmed cases of COVID-19 and over 6 million deaths due to the disease worldwide (WHO, 2022).

1.1.1. COVID-19 and Mental Health

The COVID-19 pandemic has resulted in a vast amount of psychological impact worldwide (Luo et al., 2020). While the risk factors associated with mental health problems (i.e., financial insecurity, unemployment, fear) have risen during the COVID-19 pandemic; the protective factors (i.e., social connectedness, engagement to work and education, physical exercise, daily routine, access to health services) were significantly decreased (The Organization for Economic Co-operation and Development [OECD], 2021). Gruber et al. (2020) discussed three unique ways that the COVID-19 pandemic can harm mental health. First, the long and uncertain pandemic process, the interruptions of daily routines, and having struggles with meeting short- and long-term demands due to lack of resources might

have an unfavorable impact on mental health. Second, the COVID-19 pandemic has a multi-faceted characteristic in which it simultaneously influences several layers including individual, family, educational or job-related areas, as well as the healthcare system. On the more wide-ranging side, these effects accompany the changes in the macrosystem such as the aggravation of political problems, socioeconomic inequalities, and belief systems that cultivate discrimination and preconceptions. Third, the fact that the protective factors against stress such as pleasurable activities, social connections, or behavioral activation are restricted due to physical distancing measures plays an essential role in psychological health.

Compared to the times before the COVID-19 pandemic, global incidences of mental health problems have increased during the pandemic (Nochaiwong et al., 2021). The reports included psychological problems such as depression, anxiety, post-traumatic stress, psychological distress, and sleep problems. With the rise of mental health problems, the COVID-19 epidemic has generated a "parallel" epidemic (Yao et al., 2020), which underlines an urgent priority to investigate the mental health outcomes of the COVID-19 pandemic and the possible ways to alleviate these mental health problems under the pandemic conditions (Holmes et al., 2020). Wang et al. (2020) identified several risk factors that are associated with psychological distress within the scope of the pandemic. These factors are sorted as follows: being women, being younger, having lower levels of socioeconomic status, living in rural regions, and being at a high risk of COVID-19 infection (inc. suspected or confirmed infection, history of medical or psychiatric disorders, living in areas with high incidences).

1.1.2. Survivors of the COVID-19 Infection

Individuals who have suspected or confirmed COVID-19 infection tended to be more vulnerable to developing psychological distress (Wang et al., 2020). Liu et al. (2021) revealed that individuals who are infected with COVID-19 had the highest prevalence of mental health problems as compared to the general population and healthcare workers. Not only during the infection but also after recovery, the survivors had a significantly increased risk of developing psychiatric conditions, including mood and anxiety disorders, substance-use disorders, and insomnia during the 6-month period, even when compared with those who had other respiratory tract infections (Taquet et al., 2021). Both in the acute and long-term phases, Amdal et al. (2021) argued that the COVID-19 infection can have major implications for patients and their families as a result of the complexity of symptoms and functional impairments associated with the disease.

According to the CDC, some patients who have recovered from COVID-19 experience post-COVID conditions in which they suffer from new, recurring, or enduring health issues after one month of the first infection (CDC, 2021). Although this situation, named post-COVID syndrome (PCS), still requires further investigation, it is known that there is heterogeneity in terms of symptoms and durations of health problems. These conditions are observed as different combinations of new or ongoing symptoms, multiorgan effects or autoimmune conditions, and the effects of hospitalization and intensive care unit (ICU) such as exhaustion, cognitive problems, and post-traumatic stress disorder (PTSD), (CDC, 2021). Malik et al. (2022) revealed that more than half of the post-COVID-19 patients had poor quality of life in which they experienced health problems such as pain, discomfort, anxiety, depression, problems with mobility and daily activities, and self-care issues. In PCS, the most widespread lasting symptoms were fatigue, dyspnea, anosmia,

cough, sleep problems, arthralgia, headache, and problems with mental health such as PTSD (Malik et al., 2022).

1.2. Previous Epidemics and Mental Health Problems

Mental health outcomes of survivors of infectious diseases have been largely studied in the scope of different outbreaks, including the severe acute respiratory syndrome (SARS) and the Middle East respiratory syndrome (MERS). The prevalence of mental health problems including psychological distress, depression, anxiety, PTSD, and fatigue was high among the survivors of SARS and MERS, in addition to their reports of sleep problems, dramatic mood swings, recalling traumatic memories, fatigue, impaired concentration and memory at a follow-up stage up to 39 months after recovery (Lee et al., 2007; Rogers et al., 2020). In a study conducted with MERS survivors, it has been revealed that PTSD was reported even after 12 months of recovery from the infection (Park et al., 2020). Similarly, somatization and anxiety observed in SARS survivors remained elevated at mild levels after 12 months of discharge (Xie et al., 2021). In line with this burden, a long-term study examining the clinical outcomes in SARS and MERS survivors revealed that health-related quality of life was in significant decline at 6-months after the infection, and improved only slightly after this period, putting the survivors below the average of the normal population and individuals with chronic conditions (Ahmed et al., 2020).

The implications of previous and current epidemics imply that individuals who were infected with COVID-19 should be considered to be in need of urgent intervention (Wang et al., 2020).

1.3. Mental Health Treatment

Mental health interventions have been effectively applied to different groups such as healthcare workers and people with chronic diseases in earlier epidemics (Cole et al., 2020; Ng et al., 2006; Waterman et al., 2018). For the COVID-19 pandemic, even though hospitalized COVID-19 patients were targeted with mental health interventions in hospital settings, a systematic review concluded that due to the high risk of bias and poor reporting, it was difficult to draw reliable conclusions based on the included trials (Tasleem et al., 2022). Thus, researchers highlighted the need to conduct well-designed studies to provide mental health care within the scope of the COVID-19 pandemic. Likewise, another meta-analysis underlined the paucity of high-quality randomized controlled trials (RCTs) aiming to explore psychological interventions during the COVID-19 pandemic (Damiano et al., 2021). Therefore, to the best of our knowledge, there is a need to develop mental health interventions tailored to the psychological problems of COVID-19 survivors.

Nevertheless, Jaywant et al. (2022) proposed that cognitive-behavioral interventions can be implemented for COVID-19 survivors or survivors of other infectious diseases with the purpose of improving their mental health problems.

1.3.1. Telemental Health Interventions

To decrease the prevalence of mental health problems and support well-being, it is important to develop interventions that are appropriate to pandemic conditions (Holmes et al., 2020). Corresponding to this, Yue et al. (2020) suggested that more evidence-based psychosocial interventions should be implemented via online services considering the COVID-19 pandemic and future epidemics of other infectious diseases since digital health interventions can support and broaden the already existing traditional interventions in

consideration of the public health measures such as physical distancing and isolation (Soklaridis et al., 2020).

One of the digital tools is telemental health services, which can be described as delivering mental health services through the utilization of phone calls, texting, or videoconferences (National Institute of Mental Health [NIMH], 2021). One meta-analysis revealed that mental health outcomes were not significantly changed between videoconferencing and in-person mental health services (Batastini et al., 2021). Yet, adopting telemental health services implies some benefits and limitations for the service users (Madigan et al., 2021). In general, providing mental health services through online channels is expected to lower potential inequalities and help reach more individuals in need. This is because telemental health services can outreach the challenges of physical distancing measures while guaranteeing the medical welfare of each party. Additionally, despite the temporary interruption of some mental health services during the pandemic such as university clinics or centers, individuals are ensured that access to help is still possible via different modes of delivery. Moreover, it can reduce the amount of time that has to be waited due to long waitlists in mental health clinics. Further, individuals residing in rural areas also have an opportunity to apply psychological services through telemental health. Lastly, telemental health can shorten the financial cost of mental health services, which is already a heated issue, especially during the pandemic. On the other hand, Madigan et al. (2021) also defined some limitations, such as lack of access or affordability to the Internet or technological devices due to limited economic resources or capacity, confidentiality issues because of not having private spaces in houses, and having difficulty in observing clients' facial or behavioral expressions, particularly if the mode of delivery is lacking a video call.

Nevertheless, the implementation of telemental health services is highly crucial in the scope of disasters and nationwide and worldwide crises (Whaibeh et al., 2020). In fact, reports pointed out a rising trend in the use of telemental health services during the COVID-19 pandemic (Abraham et al., 2021; Zhu et al., 2021). Within the scope of the COVID-19 pandemic, telemental health services have been used with different aims via different formats such as videoconferencing group interventions to decrease the levels of psychological distress through Problem Management Plus (PM+) program (Bryant et al., 2022), to lower psychological distress in older adults by teaching cognitive behavioral techniques and mindfulness skills (Shapira et al., 2021), to reduce depression and anxiety symptoms of university students through a mindfulness program (Simonsson et al., 2021); to improve psychological outcomes in patients with type 2 diabetes via telephone calls (Alessi et al., 2021) and to reduce loneliness, depression, and anxiety in adults via empathy-focused telephone calls (Kahlon et al., 2021).

1.3.2. Group Interventions

In group psychotherapy, therapeutic interventions are implemented in a group of patients (Vinogradov & Yalom, 1989). There are different types of interactions observed in group therapy among the group members including the interaction between members, between members and the group, and between members and the leader (Norcross & Lambert, 2019). Given the multiple relationships and their interactions within the therapy, it has been suggested that the most unique aspect that distinguishes group therapy from individual therapy is the relationship between the group since it can be considered as a mechanism of change by itself (Vinogradov & Yalom, 1989). Group psychotherapy can be practiced differently based on the clinical setting, the goals of the group, and the allocated

time frame. Although the clinical setting in group therapy is mostly separated as inpatient or outpatient groups, the spectrum can actually be more diverse, for example, trauma groups held in trauma care centers or veterans outreach centers, as well as medical support groups carried out in hospitals can be considered as other examples of group settings.

Given that there is ample empirical evidence showing group psychotherapy as an evidence-based treatment form, the American Psychological Association (APA) acknowledged group psychotherapy as a specialty in 2018 (Janis et al., 2021). In a meta-analysis that compares individual and group psychotherapy across several disorders, no differences were observed between the two formats in terms of the level of treatment acceptance, remission, dropout, and improvement in outcomes (Burlingame et al., 2016). In times when adequate psychological care cannot be provided, group therapy is a cost-effective option since therapists' time allocated to each patient significantly reduces in these treatment modalities (Barkowski et al., 2020).

Meta-analytic findings support the use of group treatment in clinical practice by indicating that group treatment is not only cost-effective but also, an effective treatment modality for several clinical conditions, including mood disorders (Janis et al., 2021), anxiety disorders (Barkowski et al., 2020), PTSD (Schwartze et al., 2017), obsessive-compulsive disorder (Schwartze et al., 2016), substance use disorders (Lo Coco et al., 2019), eating disorders (Grenon et al., 2017), borderline personality disorder (McLaughlin et al., 2019), and schizophrenia (Burlingame et al., 2020). Specifically, group treatment for depression yielded significantly better results compared to waitlist control and treatment as usual (TAU) conditions and reached negligible differences with the medication conditions (Janis et al., 2021). For anxiety disorders, Barkowski et al. (2020) revealed large effect sizes in favor of group treatment compared to no-treatment control conditions both for the

primary and secondary outcomes, and equivalent outcomes in comparison to active control groups and other treatment modalities, including individual psychotherapy and medication. Similarly, group treatment for PTSD produced medium to large effect sizes compared to passive control groups and no differences compared to active control groups (Schwartze et al., 2017). Given that group therapy is at least as equivalent as other treatment forms and active control conditions across several disorders, Rosendahl et al. (2021) recommended that its clinical use should be encouraged in mental health settings.

1.3.3. Transdiagnostic Interventions

In line with the notion of the Research Domain Criteria (RDoC) published by the NIMH, the mechanisms that could contribute to the development or maintenance of psychiatric disorders should start to be further emphasized instead of symptom-based classifications (Cuthbert & Insel, 2013). Even though the taxonomic approach depicted in the current diagnostic systems allows us to communicate from a common language, there is a consensus that this approach exceeds the current evidence on the structure of psychopathology (Insel, 2014; Kotov et al., 2017). Since the taxonomies do not clearly depend on structural research or a clear grasp of the etiology of mental disorders, these approaches can sometimes fail to represent psychopathology in an accurate way (Kotov et al., 2017). Therefore, there is a gathering notion that the taxonomy approach continues to be used in the exchange for diagnostic validity, and that there may be inaccurately established boundaries between minor variations of broader underlying syndromes (Barlow et al., 2016). Instead of the diagnostic approach, there is, now, an emerging collaboration for a ‘‘transdiagnostic’’ approach that goes beyond the already existing traditional

diagnostic categories and sheds light on new perspectives for understanding mental health problems (Dalgleish et al., 2020).

Transdiagnostic interventions refer to the unified treatment modalities that utilize the same treatment protocols across different mental health disorders without applying any tailor-made protocol based on a particular diagnosis (McEvoy et al., 2009). A unified approach, in that sense, seems more flexible for individuals to define and dispute their different problematic thoughts and behaviors that may result in the same emotional consequence depending on different signals from the environment, and that cause different emotional consequences. Taking the high rates of comorbidity into account, this approach postulates that emotional disorders have major commonalities in etiology and latent structures, and instead of the differences, the significant overlap among these disorders should be emphasized (Barlow et al., 2016; Wilamowska et al., 2010). As an etiological mechanism, Barlow et al. (2000) proposed the "triple vulnerability theory" for emotional disorders. This model is comprised of three layers: a generalized biological vulnerability regarding the heritable contributions such as temperament, a generalized psychological vulnerability learned through early life experiences associated with the development of a sense of control over the environment, and lastly, a specific psychological vulnerability that can be derived from learning anxiety over specific objects or situations (Barlow, 2000).

Barlow et al. (2013) proposed that there are underlying core processes across mental health problems, and it is possible that treatments utilizing these core processes as mechanisms of change can yield clinically significant improvements. Some mechanisms of change across transdiagnostic treatments have been suggested as emotion regulation (Sloan et al., 2017), psychological flexibility (Levin et al., 2014), perfectionism (Egan et al.,

2011), anxiety sensitivity (Naragon-Gainey, 2010), and attentional bias (Mathews & Macleod, 2005).

Meta-analyses revealed the effectiveness of transdiagnostic cognitive behavioral therapies (CBT) with large effect sizes in decreasing primary or comorbid depressive and anxiety disorders, or subclinical conditions of depression and/or anxiety, as well as with moderate effect sizes in improving quality of life (García-Escalera et al., 2016; Newby et al., 2015). Furthermore, previous research found that transdiagnostic treatments were as effective as disorder-specific treatments for anxiety disorders (Newby et al., 2015; Pearl & Norton, 2017), and outperform disorder-specific treatments on depression with small effects (Newby et al., 2015). García-Escalera et al. (2016), on the other hand, found that transdiagnostic CBT was superior to disorder-specific CBT for depression and anxiety in their meta-analysis. Despite some heterogeneity in results, there is evidence that transdiagnostic treatments are at least as efficacious as disorder-specific treatments in reducing anxiety and depression and improving quality of life.

1.3.4. Culturally Adapted Interventions

Diagnostic and intervention procedures are affected by cultural and contextual factors (Alegría & McGuire, 2003; Canino & Alegría, 2008) since evidence suggests that mental health problems are generally formulated in different ways in non-Western cultures than the biopsychosocial approach depicted in Western cultures (Soklaridis et al., 2020). Consistently, the APA also acknowledged the importance of cultural considerations within the context of evidence-based practice in psychology (Whaley & Davis, 2007). Even though a systematic approach to treating mental health problems is beneficial for providing clinicians and researchers a structured base, as well as for promoting treatment

accountability, such a standardized approach is conflicting with delivering a competent practice and therefore, can escalate the risk of underestimating diverse backgrounds (Bernal et al., 2009). To overcome this imbalance and make effective treatment available for all individuals, the use of cultural adaptation procedures is highly recommended. Cultural adaptation was defined as the modification of an evidence-based treatment to adjust the provided mental health service to the cultural values of the target group (Whaley & Davis, 2007). These modifications can be made in any part of the treatment such as the service delivery format, the nature of the therapeutic alliance, or treatment components.

Sue et al. (2009) classified cultural adaptation into three categories: the qualities of therapists, the content of the intervention, and the intervention process. The former requires therapists to display cultural awareness, knowledge, and necessary skills to provide a culturally competent mental health service. Adaptations to the content include addressing the cultural issues and culture-specific experiences of the target group during the intervention. Lastly, the process mostly emphasizes the interactions among the client, therapist, and intervention during the treatment.

Hinton and Patel (2017) suggested several methods to culturally adapt cognitive behavioral therapies to different cultural groups. These methods rely on explanatory model bridging, which refers to prioritizing patients' understanding of the disorder and modifying the treatment considering their explanatory model. Based on the work done, it is recommended that clinicians should first create positive expectancy by presenting the treatment as it effectively deals with patients' certain concerns such as culture-specific symptoms and syndromes. Also, culturally salient catastrophic cognitions that patients attribute to these symptoms and syndromes should be addressed during the treatment. For example, Hinton and Patel (2017) highlighted that certain features of psychopathology may

be of great importance for different cultural groups and should be addressed in culturally adapted treatments. In fact, Ma-Kellams (2014) reported that individuals from non-Western cultures are more prone to display increased levels of somatic awareness and are less likely to accurately identify interoceptive cues in their inner body. Second, to implement the treatment in a culturally sensitive manner, culturally congruent metaphors, proverbs, stories, and analogies should be used while delivering the CBT interventions (Hinton & Patel, 2017). Third, since cultures have particular explanations for the development of psychopathological symptoms that can be ranged from local psychological customs to religious practices, CBT techniques should be reframed according to these local explanations. Similarly, cultures also have certain ways to alleviate the distress that could have a therapeutic value within the treatment; therefore, these self-help methods and resources should be supported and integrated into the treatment when possible. Fourth, a positive sense of self-esteem and self-efficacy in patients should be promoted by using culturally accepted positive self-images during the treatment. Fifth, it is essential to be aware and knowledgeable of certain stress factors for each culture and to teach specific coping methods for those stressors. Sixth, while adapting treatment to different cultures, tolerability and cultural appropriateness of certain CBT techniques should also be taken into account. For example, Hinton and Patel (2017) proposed to use interoceptive exposure technique with reassociation in which the targeted somatic sensation is tried to be reassociated with a positive culturally appropriate image; and to teach emotion regulation techniques before exposing the patients to the traumatic memory with the aim of enhancing tolerability and acceptability of the intervention. Seventh, self-stigmatization should be addressed and reduced by providing psychoeducation and normalization about psychological disorders. Lastly, the authors suggested terminating the treatment by asking

patients to perform a cultural transitional ritual in order to promote the expectancy of recovery and create a positive self-image.

It has been claimed that psychological interventions developed mostly in Western cultures can restrict the applicability of the interventions in minority groups and other non-Western cultures (Chowdhary et al., 2014; Naeem et al., 2019). Indeed, meta-analytic studies revealed that culturally adapted psychotherapy yields significantly greater results compared to non-adaptive psychotherapy among ethnic and racial minority groups (Arundell et al., 2021; Benish et al., 2011). Not only for ethnic and racial minority groups but also for the Turkish population, some studies pointed out a lack of effectiveness of regular CBT (Renner & Berry, 2011; Sleptsova et al., 2013).

1.3.5. Culturally Adapted CBT

Culturally adapted CBT (CA-CBT) was developed to overcome the difficulties behind administering standard CBT treatments to non-Western cultural groups (Hinton et al., 2004). These difficulties include common somatic symptoms, cultural traditions about conceptualizations of mental health and culture-specific meanings of symptoms, and stigma about mental health problems among non-Western populations (Acarturk et al., 2019). In addition to managing these difficulties, adapting CBT to a specific culture has been known to promote treatment adherence and acceptability among the cultural group (Hinton & Patel, 2017). During the treatment, culturally appropriate metaphors and analogies are frequently used to enhance acceptance and positive expectancy among the target population (Jalal et al., 2018). Also, CA-CBT enables less educated individuals to access mental health services and less specialized psychologists to provide the treatment.

CA-CBT is a transdiagnostic method emphasizing shared psychological factors that influence the maintenance of mental health problems (Kananian et al., 2020). As mechanisms of change, CA-CBT stresses the significance of emotion regulation and psychological flexibility (Hinton et al., 2012) which have been elucidated with the help of the multiplex model of anxious-depressive distress (Acarturk et al., 2019). According to this model, certain triggers of distress produce a range of distress symptoms such as anger, dizziness, and reduced concentration. Experiencing these symptoms facilitates recalling adverse memories and producing catastrophic cognitions about the arousal symptoms, which in turn, leads to more distress symptoms. Within this model, emotion regulation and psychological flexibility affect each process in a way that increased levels of emotion regulation ability and psychological flexibility indicate an improved self-soothing capacity and reduced arousal (Acarturk et al., 2019; Hinton et al., 2012). Throughout the treatment, emotion regulation is promoted by acceptance and mindfulness techniques that are embedded in anxiety, trauma, and anger protocols with the purpose of enhancing the tolerability of negative affect (Hinton et al., 2011). Psychological flexibility is aimed to increase through teaching individuals distancing from emotions, switching between emotions, applied stretching along with self-statements of flexibility, and ways to decrease anxious state which is known to be associated with rigid reactions and restricted attention (Hinton et al., 2012). The manual also addresses comorbid psychological problems including somatic complaints, anger, anxiety-related issues such as worry and panic attacks, as well as sleep problems (Jalal et al., 2018). To address marked somatic sensations, CA-CBT utilizes interoceptive exposure techniques in which somatic sensations are targeted and reassociated with positive imageries or memories.

CA-CBT has been demonstrated to be effective across diverse cultural groups including Vietnamese and Cambodian refugees, Latino women, Turkish adolescents, South African indigenous groups, and Syrian refugee women (Hinton et al., 2004, 2005; Hinton et al., 2011; Acarturk et al., 2019; Jalal et al., 2020; Eskici et al., 2021).

Turkish Adaptation of CA-CBT

Acarturk at al. (2019) have adapted the CA-CBT into a Turkish adolescent population with mood and anxiety disorders displaying resistance to selective serotonin reuptake inhibitor (SSRI). As explained in the section 1.3.4., the Turkish adaptation was conducted considering the following steps: Determining culture-specific symptoms and syndromes (e.g., bodily symptoms, ruminative thinking, sleep paralysis, being afraid of jinn attacks or evil eye, etc.) to create positive expectancy, normalizing the disorder to enhance treatment acceptance and decrease stigma (e.g., naming "soul illness" instead of "brain illness" to mental health problems), teaching distancing from emotions through the metaphor of "inner child", promoting positive self-imagery, emotion regulation, and psychological flexibility through using loving-kindness meditation and culturally appropriate metaphors (e.g., "flexible tree" as a self image, imaging the inner child as a positive character from popular culture), teaching attentional focus and mindfulness exercises (e.g., the use of "channel surfing" metaphor, mindful tea or Turkish coffee drinking, and facial-expression mindfulness practices), applying interoceptive exposure techniques and reassociation of the somatic symptom with positive images, providing psychoeducation about disorders and promoting the use of self-help strategies and resources, and lastly suggesting a cultural transitional ritual (e.g., taking a traditional long bath) at the end of treatment.

1.3.6. Culturally Adapted Cognitive Behavioral Intervention for the Present Study Sessions

Originally, the CA-CBT manual involves 14 sessions with each session continuing for almost an hour (Hinton et al., 2013). Considering the feasibility and risk of drop-out, the number of sessions was reduced to eight while the duration of each session increased to approximately two hours. Also, instead of providing weekly sessions, sessions are planned twice a week to be conducted on the Zoom platform. An introductory session named "Session 0" was added with the purpose of meeting with participants, presenting the intervention process, discussing the group rules, and addressing participants' questions and concerns before starting the intervention. Given that CA-CBT is a manualized treatment, the sessions are structured in a particular way (Hinton et al., 2013). The session structure is as follows: Homework review, elicitation of specific mood states, practicing the related protocol, core lessons, applied stretching, and homework assignment which mostly involves practicing mindfulness and stretching (Acarturk et al., 2019). Each session starts with a homework review in which participants are asked to share their experiences about the homework given in the previous session. Next, participants are asked questions about whether they have felt certain mood states discussed in the previous session during the week, and if they were, how they experienced and coped with those mood states. Depending on the experiences of participants, they practice the related protocol which is discussed in the next section in more detail. Following the practice of the protocols, the core lessons that target the main subjects of each session start. After the core lessons, participants are trained in applied stretching which involves learning how to apply muscle relaxation and stretching to each body part from head to feet. Participants are recommended

to apply the exercises at the end of each session as well as at times before sleeping and when feeling anxious. At the end of each session, participants are assigned homework in which they are instructed to practice the techniques they learned in that session until the next meeting. In addition to the techniques in the original manual, certain components (i.e., "wise mind" ability and "teflon-coated pan" metaphor) were added from an unpublished CA-CBT study conducted with Turkish women suffering from PTSD (Orhan, 2017). Table 1.1 shows the session content of the culturally adapted cognitive behavioral intervention (CA-CBI) for the present study.

To modify the manual according to COVID-19 survivors, certain issues about COVID-19 have been included. For example, participants were educated about the psychological impacts of the COVID-19 infection as well as acute stress reactions after the infection by conveying a sense of normalization (Isikli, 2020). Catastrophic cognitions about various psychological or somatic symptoms associated with the infection were examined and aimed to be changed. Participants' experiences with COVID-19-related stigma were explored and they were provided with psychoeducation about the psychological impact of stigma (Singh et al., 2020). COVID-19-related worry, uncertainty, and lack of control were also addressed by normalizing the experiences of participants (Isikli et al., 2020). Participants were taught how to evaluate the rationality of perceived threats when they feel worried and how to focus on what they can control instead of what they cannot. Further, they were assisted to cope with the COVID-19-related worry in multiple ways such as being aware of unreliable information flow; setting the boundaries between thoughts and facts; distinguishing between the necessary precautions and those that are excessive; maintaining social relationships and practicing mindfulness exercises. Participants were also informed about the tendency to think about pandemic-related

catastrophic scenarios instead of the more possible ones and assisted through thinking about more realistic evaluations of different scenarios. Lastly, the original manual included an interoceptive exposure technique named “hyperventilation” in which participants are asked to breathe rapidly for a period of time until they feel somatic sensations (Hinton & Patel, 2017). However, this exercise was not recommended to COVID-19 survivors elsewhere, due to the risk of aggravation of the already existing symptoms such as shortness of breath or increased pulse (Cassiello-Robbins et al., 2021). Indeed, Jaywant and colleagues (2022) underlined the importance of flexibility while adjusting certain techniques for COVID-19 survivors. Therefore, instead of the hyperventilation exercise, the head rotation exercise was decided to be used with this particular group.

Protocols

As mentioned in the previous section, the beginning of almost every session consists of elicitation of certain mood states including anxiety, traumatic memories, and anger. Based on the elicited dysphoric affect, the anxiety protocol, flashback protocol, or anger protocol is practiced within the session. The anxiety protocol includes applied muscle stretching followed by positive, flexible imagery. The imagery used at the end of the protocol depends on the cultural group (Hinton et al., 2012). For the Turkish culture, we used the imagery of a beach scene where patients are under a beautiful plane tree (Acarturk et al., 2019). Then, participants are asked to imagine their bodies as the body of a tree and their heads as the branches dancing in the breeze while rotating their heads. This imagery is associated with a self-statement of flexibility, “May I flexibly adjust to each situation just as the body and leaves of the dancing tree are able to adjust to each new breeze”.

The flashback protocol involves multisensorial mindfulness practices, acceptance techniques, and loving-kindness meditation (Hinton et al., 2013). Multisensorial mindfulness enables participants to shift their attention from threats and avoidance to more pleasant mindsets, which in turn, helps them learn that the attentional object influences their mood. This also contributes to psychological flexibility. Acceptance techniques start with allowing participants to feel the pain because of what happened and accept that it was difficult. Then, they are asked to switch to a compassionate state where they are asked to feel compassion towards themselves and others, followed by a loving-kindness attitude. Similar to compassion meditation, through loving-kindness meditation, a certain emotion is aimed to be produced and directed towards oneself and others in comparison to other mindfulness meditations.

Lastly, the anger protocol includes multisensorial mindfulness practices, emotion distancing, and applied stretching associated with self-statements of flexibility (Hinton et al., 2013). Here, participants are taught how to label the emotion and observe the effects without attempting to change it. Also, the cloud metaphor is used where the emotions are compared to clouds in order to convey the message that the anger will pass just as clouds pass through the sky. To teach participants anger management, culturally appropriate proverbs are used in the protocol including “Who gets up in anger, sits down with a loss,” and “Sharp vinegar only damages its container.”

Table 1.1: Session Content of the CA-CBI

Name of the session	Introduction to session	Core lessons	Homework assignment
Session 1: Education about COVID-19 Related Symptoms, Education about Anxiety-Depression and Trauma-Related Disorders and The Treatment and an Introduction to Emotion Regulation Techniques	• Discussing the treatment objectives and creating positive expectancy about the treatment	• Education about the psychological component of COVID-19 and changing the catastrophic cognitions about COVID-19-related psychological and somatic symptoms • Education about anxiety-depressive disorders and trauma-related disorders and changing the catastrophic cognitions • Introducing the "inner child" metaphor to explain the limbic system • Teaching the emotion regulation techniques • Providing the rationale of applied stretching, and teaching applied stretching exercises	• Being aware of muscle stretching and practice of applied stretching exercises. • Practice of emotion regulation techniques • Practice of mindfulness with using the five senses • Attentional object: leaf movements

Session 2: Muscle Relaxation and Stretching with Visualization	• Homework review	• Teaching the "wise mind" ability • Teaching the analogy of "teflon-coated pan" • Teaching the impacts of muscle tension, changing the catastrophic cognitions about somatic symptoms associated with muscle tension, explaining the benefits of muscle relaxation and stretching • Applying muscle relaxation and stretching with visualization	• Practice of muscle relaxation and stretching exercises • Introduction to positive attentional objects and mindfulness • Practice of focusing attention on branches and leaves of trees with a self-statement of flexibility: "May I flexibly adjust to each situation just as the body and leaves of the dancing tree are able to adjust to each new breeze".
Session 3: Reviewing the Muscle Relaxation and Stretching with Visualisation, the Introduction of the Dysphoria Protocol, Education About Anxiety-Depression Related Disorders and the Flashback Protocol	• Homework review • Elicitation of anxious or depressive mood states • Introduction of the Dysphoria Protocol	• Education about disturbing memories, changing the catastrophic cognitions about symptoms associated with disturbing memories • Elicitation of disturbing memories • Introduction to the Flashback Protocol • Using the "inner child" metaphor to deal with disturbing memories • Education about COVID-19 related stigma • Muscle relaxation and stretching with visualization	• Practice of applied stretching exercises • Dealing with disturbing memories with the practice of emotions of compassion and peace, practice of being in the present moment with using five senses or practice of behavioral activation.

Session 4: Interoceptive Exposure: Head Rotation	• Homework review • Elicitation of anxious and depressive mood states • Practicing the Dysphoria Protocol if needed	• Changing the catastrophic cognitions about dizziness • Positively reassociating symptoms related to dizziness • Interoceptive exposure: Head rotation • Practice of feeling different emotions and switching between emotions • Education about chest and abdominal breath	• Being aware of muscle tension and practicing applied stretching • Behavioral activation: Doing sports • Practice of smiling exercise
Session 5: Worry and Distress	• Homework review • Elicitation of mood states • Practicing the Dysphoria Protocol and Flashback Protocol if needed	• Education about the worry cycle • Changing the catastrophic cognitions about symptoms related to worry • Changing the attentional focus (Pen example, “TV channel” metaphor, and factory example) • Prevention and treatment of worry episodes • Behavioral activation through exercise (wall push-ups) and pleasurable activities	• Practice of applied stretching exercises • Practice of behavioral activation through wall push-ups and pleasurable activities • Practice of smiling exercises • Practice of walking meditation to explore kinesthetic awareness

Session 6: Uncertainty and Control, and The Treatment of COVID-19 Related Worry	• Homework review • Elicitation of mood states • Practicing the Dysphoria Protocol and the Flashback Protocol if needed	• Teaching positive attentional objects (mindful tea or coffee drinking) • Behavioral activation through pleasurable activities • Mindfulness practices: Living in the moment (using five senses, walking meditation, pleasurable activities, naming emotions) • Teaching positive and negative attentional objects • Tolerance to uncertainty; acceptance and adaptation; and increasing control • Reducing the COVID-19 related worry	• Practice of applied stretching exercises • Practice of behavioral activation through pleasurable activities • Practice of smiling exercises • Practice of mindfulness exercises
Session 7: Anger and Anger Protocol and Education about Breathing Exercise and Its Use for Relaxation	• Homework review • Elicitation of mood states • Practicing the Dysphoria Protocol and Flashback Protocol if needed	• Exploring anger-related processes and education about anger • Changing the catastrophic cognitions about destructive thoughts related to anger • The relationship between anger and traumatic memories (“two fires” metaphor) • Teaching the Anger Protocol • Teaching relaxation through breathing • Reviewing emotion regulation techniques • Practicing compassion and joy • Behavioral activation through exercise and pleasurable activities	• Being aware of muscle tension and practicing applied stretching • Practice of abdominal breath • Practice of smiling exercises • Mindfulness meditation through using five senses • Walking meditation

Session 8: Somatic Complaints and Sleep Disorders and Closure	• Homework review • Elicitation of mood states • Practicing the Dysphoria Protocol, Flashback Protocol, or Anger Protocol if needed	• Exploring somatic symptoms • Changing catastrophic cognitions about somatic symptoms • Prevention and treatment of somatic symptoms • Education about and treatment of nightmares, sleep paralysis and night terror • Increasing sleep quality	• Reviewing the skills and exercises learnt throughout the intervention • Ending the treatment: Cultural rituals

1.4. COVID-19 Pandemic in Turkey

As of November 11, 2022, there have been over 16 million coronavirus cases and over 100 thousand deaths due to COVID-19 in Turkey (Republic of Turkey Ministry of Health, 2022). Although the current situation is promising nowadays, in times where this study first began, there were still more than 170 thousand individuals detected as new coronavirus cases per day. The literature emphasized the adverse mental health outcomes in different groups such as healthcare workers (Sahin et al., 2020), university students (Cam et al., 2021), and children and adolescents (Ma et al., 2021) during the pandemic in Turkey. Also, the need for psychosocial interventions for high-risk groups was highlighted (Hacimusalar et al., 2020). However, to the best of our knowledge, RCTs were only conducted with COVID-19 patients receiving treatment in the hospital to test the effectiveness of progressive muscle relaxation exercises (Ozlu et al., 2021); nurses working with COVID-19 patients to investigate the efficacy of one-session, online group Emotional Freedom Techniques (Dincer & Inangil, 2021); and general population with increased levels of psychological distress to test the effects of a mobile health application (Akin-Sari et al., 2022) in Turkey. Therefore, there is also a gap in the literature pointing out mental

health interventions targeting COVID-19 survivors during the pandemic in Turkey. Nevertheless, there is evidence that CA-CBT was tested within the Turkish population and was found to be effective in decreasing adolescents' anxiety and depression symptoms (Acarturk et al., 2019).

1.5. Present Study

1.5.1. Goal and Importance

In line with the information provided, it can be concluded that psychological problems experienced by COVID-19 survivors have to be targeted with mental health interventions within the COVID-19 pandemic. Therefore, we propose to conduct an RCT to investigate whether the online-delivered, group-based CA-CBI is effective in decreasing the levels of psychological distress of COVID-19 survivors at a one-month follow-up assessment, as compared with ETAU. We primarily aim to reduce the psychological distress of COVID-19 survivors. Additionally, we aim to decrease a range of secondary outcomes, including depression, anxiety, post-traumatic stress, and somatization, and to increase the levels of quality of life.

1.5.2. Hypotheses

We primarily hypothesize that the participants who receive the CA-CBI will have a significantly higher decrease in psychological distress relative to the participants who receive ETAU at a one-month follow-up assessment. We also hypothesize that the former group will have greater symptom reductions across depressive, anxiety, post-traumatic stress, and somatic symptoms, and a greater improvement in quality of life compared to the latter group at a one-month follow-up assessment.

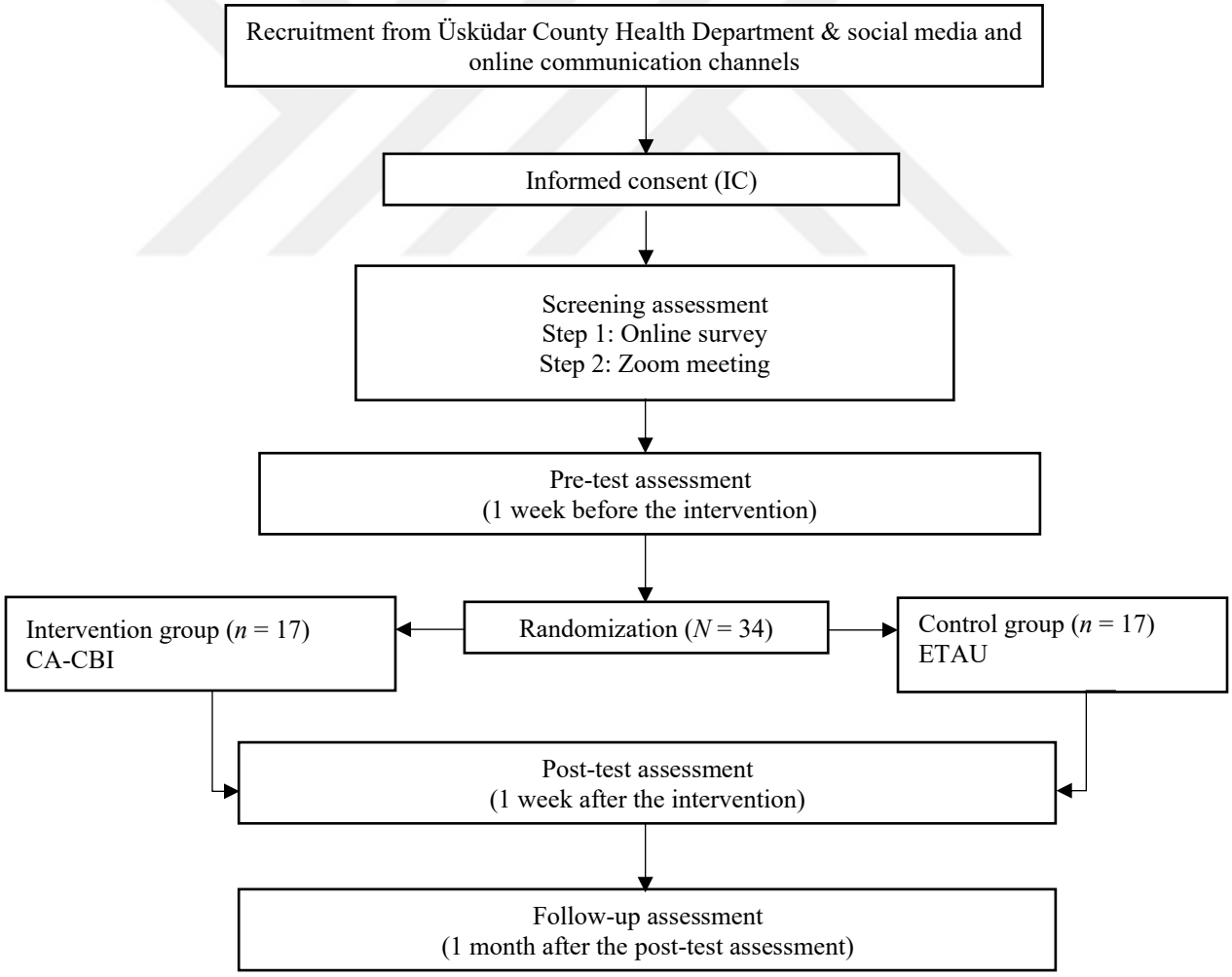
Chapter 2:

METHODS

2.1. Study Design

A parallel-group RCT was conducted between November 2021 and February 2022, comparing the CA-CBI with the ETAU with measures at pre-test (one week before the intervention), post-test (one week after the intervention), and follow-up test (one month after the post-test). Figure 2.1 shows the flowchart of the study design.

Figure 2.1: Flowchart



Note. *CA-CBI – Culturally Adapted Cognitive Behavioral Intervention, ETAU – Enhanced Treatment as Usual*

2.2. Participants

The inclusion criteria were as follows: (1) Individuals who are 18 years old or above, (2) Individuals residing in Turkey, (3) Individuals who were infected with COVID-19 and currently recovered from the disease, (4) Individuals who have elevated levels of psychological distress (scores > 15 on the Kessler-10 Psychological Distress Scale [K-10]). Information about the cut-off score is provided under the screening measures.

Individuals who have a severe psychiatric disorder (i.e., psychotic disorders, acute mania, substance/alcohol addiction), who have cluster B personality disorders (i.e., antisocial personality disorder, borderline personality disorder, histrionic personality disorder, and narcissistic personality disorder), (according to the Structured Clinical Interview for DSM-5 Disorders [SCID-5-CV] and Structured Clinical Interview for DSM-5 Personality Disorders [SCID-5-PD]) and who have imminent suicidal risk (according to the Group Problem Management Plus [PM+] Suicide Interview) were excluded.

2.3. Procedure

The study was approved by the Ethics Committee on Human Research of Koç University (2021.265.IRB1.091) and registered to clinicaltrials.gov (NCT04949061) before the start of the recruitment process. The recruitment process was conducted in collaboration with the Üsküdar County Health Department, which is a governmental organization providing health-related services in Turkey. The participants were recruited from Üsküdar County Health Department as well as from social media and online communication channels.

Before the screening procedure, written informed consent (IC) was obtained from all participants. The screening procedure consisted of two phases. In the first phase, an

online survey was distributed to potential participants via a Qualtrics link. Participants agreeing on the IC were able to fill out the survey where they answered questions about demographics, COVID-19-related data (i.e., infection, recovery, symptoms, etc.), psychological distress, and possible suicidal ideation. Participants who did not meet the inclusion criteria were automatically directed to the end of the survey. For those with suicidal risk, a referral list was generated within the survey containing organizations which can provide free psychological help for imminent suicide risk. In the second phase, eligible participants were invited to a structured clinical interview (SCID-5-CV and SCID-5-PD) conducted through the Zoom platform in order to be assessed for the presence of any severe psychiatric disorders or Cluster B personality disorders. At the end of the screening procedure, participants meeting all the inclusion criteria were invited to the intervention phase. Those who have consent on participating to this phase completed the pre-test assessment one week before the intervention.

Following the pre-test assessment, participants were randomly assigned into two groups: (1) intervention group (CA-CBI) or (2) control group (ETAU), with an allocation ratio of 1:1 via a computer-generated random number list (https://www.randomizer.org/). Participants in the intervention group received group-based, online-delivered CA-CBI for eight sessions carried out by two facilitators. Participants in the control group received ETAU in which they were provided online psychoeducation leaflets about commonly experienced mental health problems during the COVID-19 pandemic and informed about centers where they can receive free psychosocial support. Both groups were asked to fill out the post-test assessment one week after the end of the intervention. One month after the post-test assessment, they were asked to complete the follow-up assessment. After all

measures had been completed, participants in the control group willing to take the CA-CBI received the intervention.

2.4. Measures

2.4.1. Screening Measures

Demographics

The demographic form was developed by the research investigator with the purpose of collecting information about age, gender, socio-economic status, education levels, occupations, and medical and psychiatric history. This form consists of 22 questions.

COVID-19 Related Questions

The form was developed by the research investigator with the purpose of collecting information about the severity of the exposure to COVID-19, the psychosocial impacts of the exposure to COVID-19, the attitudes towards COVID-19, as well as the precautions taken against COVID-19. This form consists of 20 questions.

Group Problem Management Plus (PM+) Suicide Interview

The potential suicidal risk was screened out with the PM+ Suicide Interview developed by WHO (2016) within the context of the PM+ Project. This interview consists of 3 questions: “In the past month, have you had serious thoughts or a plan to end your life?”, “Have you taken any actions to end your life?” and “Do you plan to end your life in the next two weeks?”. Participants who answered “Yes” to any of these questions were considered to be at risk of suicide and were excluded from the study.

Structured Clinical Interview for DSM-5 Disorders (SCID-5-CV) and Structured Clinical Interview for DSM-5 Personality Disorders (SCID-5-PD)

The SCID-5-CV was used to screen out the severe psychiatric disorders (i.e., psychotic disorders, acute mania, substance/alcohol addiction) while the SCID-5-PD was used to screen out the Cluster B personality disorders (i.e., antisocial personality disorder, borderline personality disorder, histrionic personality disorder, and narcissistic personality disorder) among participants. For convenience, we provided the self-reported questionnaire of the Cluster B personality disorders within the online survey in which participants could answer if they either have that criteria or not. During the interwiew, we assessed only the criteria that the participants answered "Yes" in the survey. Both SCID-5-CV and SCID-5-PD are semi-structured clinical interviews to assess major DSM-5 diagnoses. Elbir et al. (2018) adapted the SCID-5-CV and Bayad et al. (2021) adapted the SCID-5-PD to Turkish. They reported that these tools are reliable and valid to use with the Turkish population.

Kessler Psychological Distress Scale (K-10)

K-10 was developed to assess psychological distress (Kessler et al., 2002). It is a 10-item scale in which the items are rated from 1 ''none of the time'' to 5 ''all of the time'' on a 5-point Likert-type scale. Higher scores indicate more severe psychological distress. Turkish adaptation was conducted by Altun et al. (2019) and they reported the Cronbach's alpha as .95.

Sulaiman-Hill and Thompson (2010) proposed that scores between 10 and 15.9 indicate low levels of psychological distress, those between 16 and 21.9 indicate moderate levels of distress, those between 22 and 29.9 indicate high levels of distress, and scores above 30 indicate very high levels of distress. In line with the previous research (Acarturk et al., 2022; de Graaff et al., 2020; Sulaiman-Hill & Thompson, 2010), the cut-off score

was determined as above 15 in the current study in order to include participants who have a moderate to high degree of psychological distress.

2.4.2. Primary Outcome

The primary outcome is the level of psychological distress at a one-month follow-up assessment, as measured by the K-10. In the present study, the Cronbach's alpha was .91.

2.4.3. Secondary Outcomes

Patient Health Questionnaire (PHQ-9)

Symptoms of depression were assessed with the PHQ-9 (Kroenke et al., 2001). The questionnaire is a 9-item scale in which the scores ranged between 0 ‘‘not at all’’ and 3 ‘‘nearly every day’’ for each item. Higher scores indicate more severe depressive symptoms. Sari et al. (2016) adapted the scale to Turkish. The Cronbach's alpha was reported as .84, indicating good reliability for the Turkish version of PHQ-9. In the present study, the Cronbach's alpha was .67.

Generalized Anxiety Questionnaire (GAD-7)

GAD-7 was developed to measure the symptoms of generalized anxiety disorder (Spitzer et al., 2006). It has 7 items in which each item is scored from 0 ‘‘not at all’’ to 3 ‘‘nearly every day’’, with higher scores indicating higher levels of anxiety symptoms. The Turkish adaptation was conducted by Konkan et al. (2013), and the Cronbach's alpha was found as .85. The questionnaire has good construct validity, and confirmatory factor analysis confirmed its one-dimension structure. In the present study, the Cronbach's alpha was .85.

PTSD Checklist for DSM-5 (PCL-5)

PCL-5 was developed to assess the symptoms of post-traumatic stress disorder (Blevins et al., 2013). It is a 20-item questionnaire in which the items are scored from 0 (not at all) to 4 (extremely) on a 5-point Likert-type scale. Higher scores indicate higher levels of PTSD symptoms. Boysan et al. (2017) adapted the scale to Turkish. The internal reliability for total and subscales were found to be good with the Turkish population. Factorial analysis has confirmed the four-factor structure of the PCL-5: "re-experiencing" (Composite reliability coefficients ranging from .79 - .92), "avoidance" (Composite reliability coefficients ranging from .73 - .91), "negative alterations" (Composite reliability coefficients ranging from .85 - .90), and "hyperarousal" (Composite reliability coefficients ranging from .81 - .88). In the present study, the Cronbach's alpha was .90.

Symptom Checklist 90-R (SCL-90-R) Somatization Subscale

SCL-90-R was developed as a multidimensional self-report symptom inventory to assess the severity of psychological symptoms and distress (Derogatis et al., 1977). The scale consists of nine symptom domains: somatization, obsessive–compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. Kilic (1991) adapted the scale to Turkish and revealed that the scale has adequate reliability and validity. The results demonstrated that the correlation coefficients were between the range of .63 and .84 for the subscales of the SCL-90-R. In the current study, only the somatization subscale was used. The 12-item somatization subscale measures somatic complaints based on self-report. Each item is scored from 0 (not at all) to 4 (extremely), providing a range between 0 and 48. Higher scores indicate higher levels of somatic complaints. In the present study, the Cronbach's alpha was .90.

WHO Quality of Life Scale - Brief Version (WHOQOL - Bref)

WHOQOL Bref was developed to assess the quality of general health and life (WHO, 1993). The 27-item questionnaire consists of four domains: "physical health" (e.g., "To what extent do you feel that physical pain prevents you from doing what you need to do?", "psychological health" (e.g., "How often do you have negative feelings such as blue mood, despair, anxiety, depression?"), "social relationships" (e.g., "How satisfied are you with the support you get from your friends?"), and "environment (e.g., "To what extent do you have the opportunity for leisure activities?"). It also has questions about overall perceptions of life quality and general health. Each item is scored from 1 to 5 on a 5-point Likert scale. For each domain, the mean score is calculated, providing a range between 4 and 20. Each mean domain score is multiplied by 4 to transform the domain score into a scaled score. In each domain, higher scores indicate higher levels of quality of life. Eser et al. (1999) adapted the scale to Turkish and revealed that the questionnaire has adequate psychometric qualities. The reliability coefficient was estimated between the range of .53 and .83. In the present study, the Cronbach's alpha was .85 for physical health, .79 for psychological health, .73 for social relationships, and .90 for environmental health.

2.5. Statistical Analysis

To ensure sufficient statistical power, G*Power 3.1 software was used to determine the sample size (Erdfelder et al., 1996). Under the F-test family, mixed-design ANOVA was chosen. Although CA-CBT has not been conducted with the specified group before, the efficacy of CBT has been examined in different groups. Meta-analyses demonstrated that CBT has moderate treatment effect size for depression and anxiety (Cuijpers et al., 2013; Zhang et al., 2019). Therefore, the calculation was made based on a moderate effect

size (f = .20). The outcome yielded a sample size of at least 66 participants with 95% power at the significance level of .05. An average drop-out rate of 30% was added, and thus, reached a required sample size of 86 participants.

The data was analyzed by using a statistical package called IBM SPSS 26.0. To determine the demographic characteristics of subjects, descriptive analyses were used. An independent sample t-test for continuous variables and a chi-square significance test for categorical variables were conducted for comparing the baseline characteristics of the groups. The distribution of lost-to-follow-up between the two groups was calculated with an independent sample t-test. The effectiveness of the intervention was primarily tested based on the intention-to-treat principle. To confirm the results, the analysis was also conducted according to the per-protocol analysis. Linear-mixed effects model was conducted with the fixed effects of the group (CA-CBI vs. ETAU), time (post-test vs. follow-up assessment) and time by group and random effect of the subject. Baseline values were included as covariates. The mean difference between the intervention and control group at follow-up assessment will be analyzed with a 95% confidence interval. Cohen's d with the pooled standard deviation was calculated in order to estimate the effect sizes for the between-group differences (Cohen, 1988).

Chapter 3:

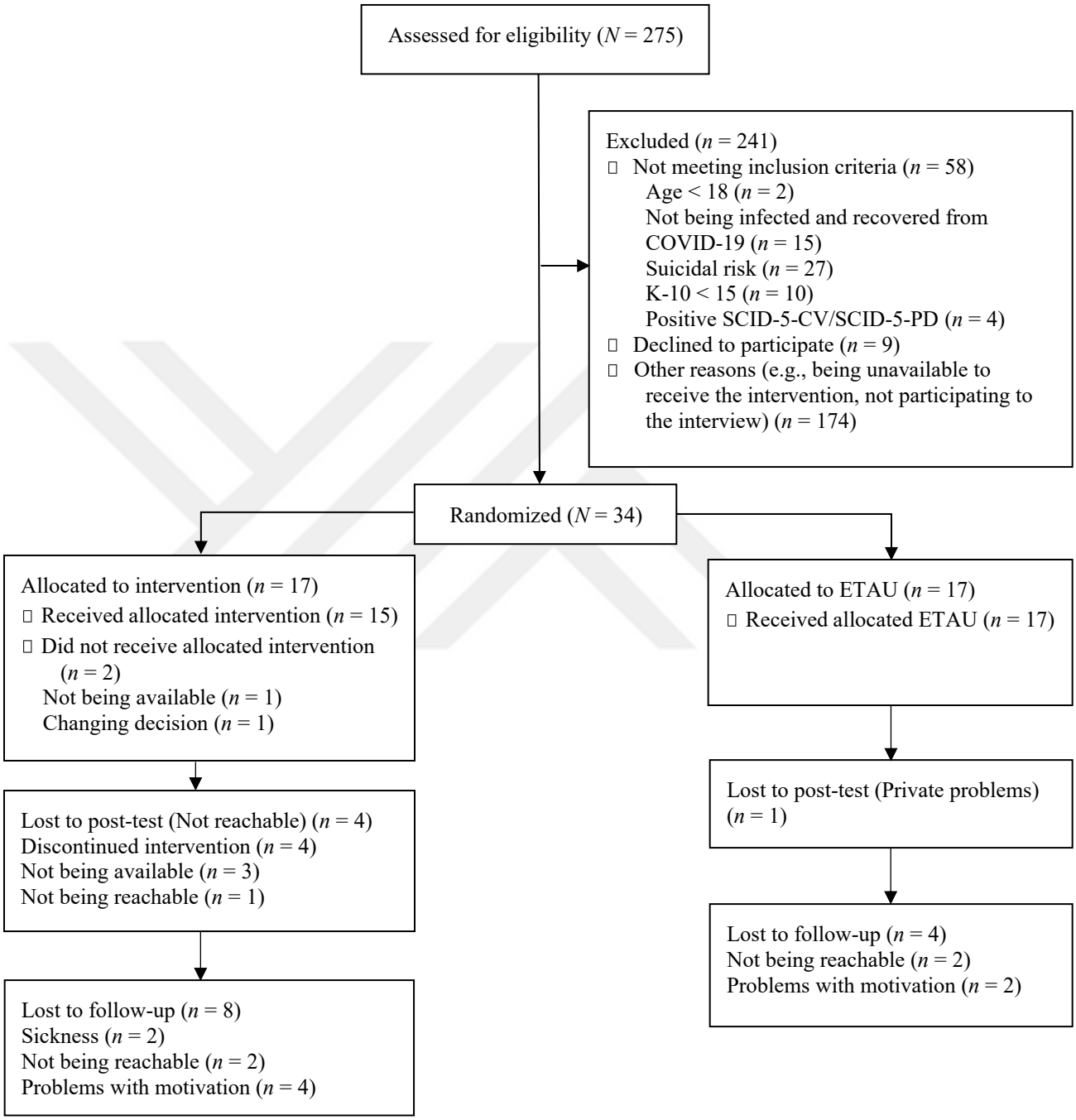
RESULTS

3.1. Participants

275 participants were assessed for eligibility criteria. A total of 241 participants were excluded: 58 were excluded due to not meeting the inclusion criteria, 9 were excluded due to not accepting to participate in the study, and 174 were excluded due to other reasons (e.g., they were not available to receive the intervention, or they did not participate in the interview phase), (See Figure 3.1). 34 participants met the inclusion criteria, gave consent to participate to the study, and were randomly assigned to either CA-CBI (n = 17) or ETAU (n = 17). While 2 participants did not receive the allocated intervention due to unavailability (n = 1) and changing decision (n = 1), 4 participants withdrew from the intervention because of unavailability (n = 3), and not being reachable (n = 1). The drop-out rate was 35%. No adverse events related to the participation were reported.

12 participants (35.3%) were lost to follow-up because they were not reachable (n = 4), they were unmotivated to participate (n = 6), or they were sick at that time (n = 2). The distribution of participants lost to follow-up did not reveal any significant differences on K-10, $t(10) = .36$, $p = .362$; PHQ-9, $t(10) = -.42$, $p = .344$; GAD-7, $t(10) = .51$, $p = .312$; PCL-5, $t(10) = .83$, $p = .213$; SCL-90-R somatization subscale, $t(10) = .87$, $p = .202$; and on any domains of WHOQOL – Bref including the physical health, $t(10) = -.10$, $p = .461$; psychological health, $t(10) = -1.47$, $p = .086$; social relationships, $t(10) = -1.36$, $p = .102$; and environmental health, $t(10) = -.11$, $p = .457$, between the two groups.

Figure 3.1: CONSORT Flow Diagram



Note. ETAU – Enhanced Treatment as Usual, K-10 – Kessler Psychological Distress Scale, SCID-5-CV – Structured Clinical Interview for DSM-5 Disorders

Table 3.1 demonstrates the demographic characteristics of the participants. The mean age of the participants was 35.5; 85.3% of them were women. While 52.9% were

never married, 35.3% of the participants were married. Most of the participants had an undergraduate degree (61.8%). The distribution of participants working at the office were 44.1% while 23.5% of them were unemployed. 76.5% of the participants isolated themselves at home during the COVID-19 infection, however, 17.6% of them were hospitalized and 5.9% required ICU. During the infection, 52.9% of participants reported moderate symptoms and 29.4% reported severe symptoms. Most of the participants did not have a chronic disease (82.4%) and previous psychiatric diagnosis (73.5%). 88.2% of them were not under any medication treatment. Majority of the participants experienced loss due to COVID-19 (70.6%). Overall, no significant differences were detected between the intervention and the control group on any baseline characteristics.

Table 3.1: Sociodemographic Characteristics of Participants

		Group			
		CA-CBI		ETAU	
		Mean	Count ($N = 17$)	Mean	Count ($N = 17$)
Age		35		36	
Gender	male		2 (11.8%)		3 (17.6%)
	female		15 (88.2%)		14 (82.4%)
Marital Status	single, never married		8 (47.1%)		10 (58.8%)
	divorced		2 (11.8%)		0 (0.0%)
	widow		1 (5.9%)		0 (0.0%)
	married		5 (29.4%)		7 (41.2%)
	living with partner		1 (5.9%)		0 (0.0%)
Education	primary school		1 (5.9%)		0 (0.0%)
	secondary school		0 (0.0%)		0 (0.0%)
	high school		4 (23.5%)		5 (29.4%)
	university		9 (52.9%)		12 (70.6%)
	graduate degree		3 (17.6%)		0 (0.0%)
Work status	unemployed		5 (29.4%)		3 (17.6%)
	working at the office		8 (47.1%)		7 (41.2%)
	home-office		2 (11.8%)		0 (0.0%)

	other	2 (11.8%)	7 (41.2%)
Hospitalization	isolation at home	14 (82.4%)	12 (70.6%)
	hospitalized	2 (11.8%)	4 (23.5%)
	ICU	1 (5.9%)	1 (5.9%)
Symptom Severity	mild	3 (17.6%)	3 (17.6%)
	moderate	10 (58.8%)	8 (47.1%)
	severe	4 (23.5%)	6 (35.3%)
Chronic disease	No	16 (94.1%)	12 (70.6%)
	Yes	1 (5.9%)	5 (29.4%)
Psychiatric Diagnosis	No	13 (76.5%)	12 (70.6%)
	Yes, I did but then, I totally recovered	3 (17.6%)	2 (11.8%)
	Yes, I did, and I am still under treatment	1 (5.9%)	3 (17.6%)
Medication Use	No	16 (94.1%)	14 (82.4%)
	Yes	1 (5.9%)	3 (17.6%)
Loss Due to COVID-19	No	3 (17.6%)	7 (41.2%)
	Yes	14 (82.4%)	10 (58.8%)

Note. CA-CBI: Culturally Adapted Cognitive Behavioral Intervention, ETAU: Enhanced Treatment as Usual

Table 3.2 provides the information related to the group differences based on the results of the linear-mixed model analysis of primary and secondary outcome measures.

3.2. Primary Outcome

To test whether the intervention group would have significantly lower levels of psychological distress compared to the control group at the one-month follow-up, linear-mixed model analysis was conducted. When controlling the baseline scores, the analysis revealed no significant differences between the intervention and the control group on K-10 at the one-month follow-up, $F(1, 26.24) = 3.69$, $p = .066$. However, there was a significant within group difference, indicating an improvement in psychological distress symptoms between the post-test assessment ($M = 24.32$, $SE = 2.64$) and follow-up assessment ($M =$

19.08, *SE* = 1.85) for the intervention group, but not for the control group, $F(1, 26.41) = 7.41$, $p = .011$.

3.3. Secondary Outcomes

Secondary hypotheses stated that the intervention group would have greater improvements on depression, anxiety, post-traumatic stress, somatization, and the levels of quality of life compared to the control group at the one-month follow-up. Consistent with our hypotheses, there was a significant difference between the intervention and the control group on depressive symptoms (PHQ-9), $F(1, 23.6) = 4.32$, $p = .049$, with a large effect size ($d = 0.8$). Only for the intervention group, the depressive symptoms decreased at one-month ($M = 5.93$, $SE = 1.02$) as compared to the post-test ($M = 9.03$, $SE = 1.51$). In addition, the between group comparison was significant for the WHOQOL-Bref in specific to the environmental health domain, $F(1, 24.01) = 4.34$, $p = .048$, in which a large effect size was found ($d = 0.8$). For those in the intervention group, the levels of quality of life related to environmental health improved at one-month ($M = 15.26$, $SE = .56$) compared to the post-test ($M = 14.77$, $SE = .49$).

Although the results of the other secondary outcome measures did not support the hypotheses, there were significant within group differences for anxiety and post-traumatic stress symptoms, as well as for the levels of quality of life specifically for the psychological domain. For anxiety symptoms (GAD-7), there was a significant improvement from the post-test ($M = 6.10$, $SE = 1.23$) to follow-up ($M = 2.93$, $SE = .82$) in the intervention group, $F(1, 27.8) = 11.0$, $p = .003$. Similarly, the post-traumatic stress symptoms (PCL-5) improved from the post-test ($M = 25.56$, $SE = 3.74$) to follow-up ($M = 17.72$, $SE = 3.15$) only within the intervention group, $F(1, 24.05) = 7.79$, $p = .01$. Lastly, for the psychological

domain of WHOQOL-Bref, there was a significant within group difference in favor of the intervention group, $F(1, 25.45) = 7.32$, $p = .012$. For the intervention group, the levels of quality of life related to psychological health improved at one-month ($M = 13.09$, $SE = .44$) in comparison to the post-test ($M = 11.89$, $SE = .61$).

No significant within or between group differences were detected on SCL-90-R somatization subscale, and the physical health and social relationships domain of WHOQOL Bref at one-month, $F(1, 25.92) = .56$, $p = .460$; $F(1, 21.18) = .52$, $p = .481$; $F(1, 25.21) = .14$, $p = .715$, respectively.

Table 3.2: Results from Mixed-Model Analysis of Primary and Secondary Outcomes

Outcomes	Time point	Descriptive statistics, M (SD)		Mixed-model analysis Mean differences	*p*-value
		CA-CBI (*n* = 17)	ETAU (*n* = 17)		
K-10	Post-test	24.32 (10.90)	23.31 (10.04)	1.01	.782
	Follow-up	19.08 (7.61)	23.81 (6.72)	-4.73	.066
PHQ-9	Post-test	9.03 (6.24)	8.19 (5.72)	.846	.684
	Follow-up	5.93 (4.21)	8.74 (3.65)	-2.81	.049*
GAD-7	Post-test	6.10 (5.06)	4.63 (4.65)	1.48	.384
	Follow-up	2.93 (3.39)	4.62 (2.97)	-1.69	.133
PCL-5	Post-test	25.56 (15.42)	21.19 (14.20)	4.37	.398
	Follow-up	17.72 (13.00)	22.16 (11.48)	-4.43	.302
SCL90R Somatization subscale	Post-test	18.22 (10.82)	13.06 (9.99)	5.16	.160
	Follow-up	16.11 (9.54)	13.78 (8.49)	2.33	.460
WHOQOL-Bref Physical health	Post-test	13.60 (3.14)	13.86 (2.87)	-.26	.806
	Follow-up	14.40 (3.24)	13.66 (2.79)	.74	.481
WHOQOL-Bref	Post-test	11.29 (3.68)	12.50 (3.38)	-1.21	.326
	Follow-up	13.26 (2.72)	12.92 (2.37)	.34	.703

Psychological health					
WHOQOL-Bref Social relationships	Post-test	13.18 (3.83)	13.67 (3.51)	-.49	.699
	Follow-up	13.94 (3.89)	13.48 (3.88)	.46	.715
WHOQOL-Bref Environmental health	Post-test	14.77 (2.00)	13.91 (1.83)	.868	.199
	Follow-up	15.26 (2.30)	13.72 (2.01)	1.54	.048*

Note. CA-CBI: Culturally Adapted Cognitive Behavioral Intervention, ETAU: Enhanced Treatment as Usual, K-10: Kessler Psychological Distress Scale, PHQ-9: Patient Health Questionnaire-9, GAD-7: Generalized Anxiety Questionnaire-7, PCL-5, PTSD Checklist for DSM-5, SCL-90-R Somatization Subscale: Symptom Checklist 90-R, Somatization Subscale, WHOQOL-Bref: WHO Quality of Life Scale – Brief Version. * $p \leq .05$

3.4. Exploratory Analyses

To confirm the intention-to-treat analysis, the analysis was conducted based on the per-protocol analysis. The result was compatible with our main analysis for the primary outcome measure, indicating significant reductions on the levels of K-10 over time for the intervention group $F(1, 19.14) = 5.54$, $p = .029$. However, the per-protocol analysis did not yield significant between group differences on PHQ-9 and the environmental health domain of WHOQOL-Bref at the one-month follow-up, $F(1, 20.00) = 3.81$, $p = .065$; $F(1, 20.00) = 3.53$, $p = .075$, respectively. Among the secondary outcome measures, the per-protocol analysis produced significant within group differences for PHQ-9, $F(1, 19.00) = 4.42$, $p = .049$ and WHOQOL-Bref related to psychological health, $F(1, 19.01) = 6.96$, $p = .016$, for the intervention group only. On GAD-7, the effect of time was significant, $F(1, 19.23) = 5.03$, $p = .037$.

The results of covariate adjusted analysis were consistent with those in the primary linear mixed model analysis. The results did not change when age, gender, symptom severity, and hospitalization status were taken as covariates.

Chapter 4:

DISCUSSION

4.1. Major Findings

The aim of the present study was to investigate the effectiveness of the CA-CBI on psychological distress of COVID-19 survivors. To the best of our knowledge, this is the first study to demonstrate the effectiveness of CA-CBT in improving the mental health problems of survivors of infectious diseases. In addition to our primary outcome, psychological distress, we also hypothesized that participants in the intervention group would have a significantly higher improvement in several outcomes including depression, anxiety, post-traumatic stress, and somatic symptoms and the levels of quality of life compared to the participants in the ETAU group at the one-month follow-up assessment.

Despite various efforts such as extending the recruitment process to a second wave and collaborating with a public health organization in Turkey to reach the required sample size, the study was underpowered to test the specific hypotheses on each outcome measure. According to the results, the primary outcome measure (i.e., psychological distress) did not yield a significant difference between the two groups. However, there were significant between-group differences among the secondary outcome measures. Depression and environmental quality of life were significantly improved among the intervention group compared to the control group at one-month follow-up assessment. Further, there were significant within-group differences on psychological distress, anxiety, post-traumatic stress, and quality of life related to psychological health from post-test to follow-up assessment, only for the participants in the intervention group. However, no significant

within- or between-group differences were detected on somatization, and quality of life related to physical health and social relationships.

The results that are in line with our hypotheses pointed out that the CA-CBI was effective in reducing depressive symptoms and improving the environmental quality of life compared to the ETAU at a one-month follow-up. For both outcomes, the study yielded large effect sizes ($d = 0.8$) according to the Cohen's guideline (Cohen, 1988). These results are consistent with the previous literature given that large effect sizes for depressive symptoms and environmental quality of life were reached in other studies of CA-CBT conducted with different cultural groups including Turkish adolescents, indigenous South Africans, and Farsi-speaking refugees (Acarturk et al., 2019; Jalal et al., 2020; Kananian et al., 2017).

As mentioned, the present results also indicated significant within-group differences in the intervention group. While the scores of psychological distress, anxiety, post-traumatic stress, and quality of life related to psychological health significantly improved among the intervention group, the control group did not exhibit such a pattern. These results suggested a trend for a significant improvement on these outcome measures only for the intervention group. In a larger sample size, this trend might become significant between the two groups. Indeed, as stated before, the effectiveness of the CA-CBT was proven with different cultural groups on anxiety symptoms (Acarturk et al., 2019; Jalal et al., 2020; Hinton et al., 2011), anxious-depressive distress symptoms (Eskici et al., 2021), PTSD symptoms (Eskici et al., 2021; Hinton et al., 2004, 2005, 2011), and somatic symptoms (Jalal et al., 2020). Most of these studies offered large effect sizes in favor of the CA-CBT. Moreover, a pilot study conducted with Farsi-speaking refugees also reached remarkable improvements on general psychopathological distress symptoms with large effect sizes,

indicating the promise of CA-CBT on non-specific psychological distress (Kananian et al., 2017). Taking the literature into account, the reason why similar significant differences were not observed in each outcome measure might be the insufficient sample size and therefore, the lack of power, which is not uncommon in psychological intervention studies (de Vries et al., 2022). The recent meta-regression analysis found that statistical power was generally below the accepted levels (< 80%) regardless of different interventions and disorders, suggesting the need to increase sample size and avoid reporting bias. Certainly, it is well-known that there is a positive correlation between sample size and statistical power, implying that it is difficult to detect significant group differences with inadequate sample sizes (Cohen, 1988). In light of these, it is possible to claim that these results are promising for the use of the CA-CBI and that they could be further tested with fully-powered RCT studies.

Within the intervention, there might be certain components that might potentially be beneficial for alleviating depressive symptoms among participants. First, the ABC model of CBT (Ellis, 1991) was introduced to participants during the first session for them to realize how irrational beliefs yield unwanted emotional, physical, and behavioral consequences. According to the model, emotional disorders are the result of the way the person cognitively processes the activating event rather than the event itself (Prochaska & Norcross, 2013). It has been proposed that, in depression, there is a tendency to misinterpret the meaning of events in a negative and self-destructing manner through cognitive distortions (Lefebvre, 1981). Therefore, awareness and modification of these dysfunctional beliefs throughout the sessions might significantly improve depressive symptoms among participants.

Second, the manual included behavioral activation, which is known as an effective adjunctive method for depression (Mazzucchelli et al., 2009). Participants were introduced to behavioral activation through encouraging them to engage in pleasurable activities throughout the intervention. Such a similar technique was also used by Jaywant and colleagues (2022) to increase the sense of reward among hospitalized COVID-19 survivors. It is assumed that lower levels of positive reinforcement precipitate depressive symptoms (Lewinsohn, 1974), and individuals with depressive symptoms are generally inclined to perform low levels of pleasurable activities and thus, perceive a lack of reinforcement (MacPhillamy & Lewinsohn, 1974). During the intervention, participants might, in fact, feel rewarded as they engaged in positively reinforced activities, which could potentially improve their depressive symptoms. Furthermore, from the beginning of the intervention, participants were provided with the rationalization of muscle stretching, followed by the practice of stretching exercises during the sessions and homework assignments focusing on those exercises. Research shows that physical activity can also improve depressive symptoms as an adjunctive method through certain mechanisms such as physiological changes in the brain (Duclos, 2003; Mead et al., 2008). In light of this evidence, participants who could adapt muscle stretching exercises to daily life might experience a significant decrease in their depressive symptoms as well.

Third, as discussed earlier, CA-CBT targets to promote emotion regulation abilities and psychological flexibility across the intervention in order to reduce psychopathological symptoms and promote well-being (Hinton et al., 2012). The multiplex model of the generation of anxious-depressive distress suggested that individuals encountering triggers of distress start to experience negative emotions such as depression (Acarturk et al., 2019). After the emerged distress symptoms stimulate negative memory and catastrophic

cognitions related to arousal symptoms, individuals experience more distress. According to the model, a lack of emotion regulation abilities and psychological inflexibility are responsible for this cycle to be continued. In consideration of the literature, the relationship between depression and each of these constructs was studied elsewhere (See Fonseca et al., 2020; Joormann & Stanton, 2016). For the current study, an increase in the levels of emotion regulation and psychological flexibility as potential mediators might be associated with a decrease in depressive symptoms.

Last emphasis should be given to group therapy processes. As mentioned earlier, Yalom proposed that being a part of the group can be the actual mechanism of change in group psychotherapies (Vinogradov & Yalom, 1989). Even though group and individual psychotherapies are equally effective (Burlingame et al., 2016), group psychotherapy includes more relational components and therefore, there is more room for creating interaction and building relationships (Holmes & Kivlighan, 2000). This means that each group member becomes familiar with the progression of other members and learns from each other in a group setting. Since interpersonal support can significantly predict the course of depression in a positive direction (Nasser & Overholser, 2005), in the current study, the group intervention itself might have a positive impact on depressive symptoms.

In addition to depression, the environmental quality of life also improved in the intervention group. It should first be underlined that the answers given to the WHOQOL-Bref scale reflect the perceived quality of life rooted in physical, psychological, social, and environmental context rather than an objective representation of those elements (WHO, 1998). The environmental domain is composed of facets including “physical safety and security, home environment, financial resources, availability and quality of health and social care, opportunities for acquiring new information and skills, participation in and

opportunities for recreation and leisure, physical environment (i.e., pollution, noise, traffic, or climate), and transport." The facet of physical safety and security is particularly important for survivors of disasters since it reflects one's sense of being safe and secure with the already existing resources (WHO, 1998). In the first place, having access to a psychological intervention tailored to their timely problems during the COVID-19 pandemic might increase the feelings of safety and security among participants. Having access to mental health care and referrals to the right sources in case of need after the intervention might also influence their perception of the availability and quality of health and social care, at least for mental health services. Moreover, participants in the CA-CBI group had more opportunities for obtaining new information and skills because they were provided with psychoeducation about mental health problems and reliable COVID-19-related information during the intervention. They were also informed about where and how they should follow the information flow related to the pandemic in order to reduce COVID-19-related anxiety. Likewise, Jaywant et al. (2022) stressed the significance of providing psychoeducation to COVID-19 survivors in the face of a novel disease that brought great ambiguity and unpredictability about the future. Lastly, as mentioned for depression, participants in the intervention group were often recommended to perform pleasurable activities in order to promote behavioral activation and acquire healthy coping mechanisms, which might improve their ability and desire to participate in recreational and leisure activities.

The provided intervention also aimed to alleviate somatic symptoms through certain methods such as interoceptive exposure techniques. Cassiello-Robbins et al. (2021) proposed that interoceptive exposure techniques can especially have positive outcomes in improving awareness and tolerance of somatic sensations during the COVID-19 pandemic,

where individuals might develop an increased focus and fear against those physical sensations. However, there were no reductions in the somatization scale and the physical domain of quality of life at the one-month follow-up assessment. The SCL-90-R somatization subscale asks about bodily dysfunctions such as headaches, pain, and cardiovascular difficulties (Derogatis, 1977) whilst the physical domain of WHOQOL-Bref is comprised of facets including "pain and discomfort, energy and fatigue, as well as sleep and rest" (WHO, 1998). The reason there was no significant decrease in such bodily symptoms might be explained by residual physical symptoms of COVID-19 survivors that could be observed up to six months after the beginning of the infection (Malik et al., 2022; Pinzon et al., 2022). For instance, the common residual symptoms that the participants in the intervention group reported were shortness of breath, high blood pressure, tachycardia, headache, difficulty concentrating, and fatigue. The situation that the persisting physical complaints aggravate the improvement of somatic symptoms was also observed in another CA-CBT study conducted with Farsi-speaking refugees where some of the participants were in fact individuals who had a torture history (Kananian et al., 2017). Since they used scales that measure general physical health, Kananian and colleagues (2017) similarly explained the nonsignificant results on somatic symptoms with the enduring physical complaints of torture survivors.

Likewise, the intervention did not produce significant improvement on levels of quality of life related to social relationships. The social relationships domain on WHOQOL-Bref is comprised of facets including "personal relationships, social support, and sexual activity." (WHO, 1998). In fact, previous studies of CA-CBT yielded significant improvement on the social relationships domain of WHOQOL-Bref with large effect sizes (Kananian et al., 2017; 2020). Kananian and colleagues explained these improvements as a

result of the social support received from the group as well as fostering participants to share their emotional problems with others both from the group and the outside. In our study, these processes might be adversely affected by the pandemic conditions. With the purpose of minimizing the risk of infection during the pandemic, we conducted our sessions in an online setting where participants did not have the opportunity to interact with other group members outside the sessions. Besides, it has already been mentioned that the public health and social measures enforced by governments restrain social interactions during the COVID-19 pandemic (Gruber et al., 2020). Even though the time we conducted the groups was relatively more secure thanks to the existing administration of vaccines in Turkey (Karaaslan, 2021), most of the participants in the intervention group reported that they were still following the physical measures entirely at that time including avoiding going out from home or inviting guests and protecting physical distance. These might have an impact on the aforementioned nonsignificant result on quality of life related to social relationships.

4.2. Clinical Implications

The findings of this study are encouraging for the implementation of the CA-CBI to survivors of infectious diseases. The intervention appears to be effective for depression and environmental quality of life and holds promises for several mental health outcomes including psychological distress, anxiety, post-traumatic stress, and psychological quality of life. Although there are other treatment alternatives effectively used during the outbreaks of infectious diseases (Cole et al., 2020; Ng et al., 2006; Waterman et al., 2018; Wei et al., 2020), there are possible advantages of using the CA-CBI in alleviating mental health problems commonly experienced by COVID-19 survivors or survivors of other infectious diseases along with the alternative methods.

First, it is well known that access to efficient and equally distributed mental health services is highly restricted, particularly in low-and middle-income countries (Saxena et al., 2007). This treatment gap in mental health services might potentially broaden during difficult times such as the pandemic (The Lancet Regional Health-Western Pacific, 2021). CA-CBI, in this regard, emerges as an economic treatment option because it can be conducted within a group setting with less specialized therapists (Jalal et al., 2018). Also, since more individuals started to prefer online mental health services from the beginning of the pandemic (Abraham et al., 2021; Zhu et al., 2021), it is promising that the CA-CBI can easily be applied to remote platforms as in the current study. These qualities suggest that the intervention might be disseminated based on the need and might have a positive contribution to the existing mental health treatment gap in low- and middle-income countries.

Second, as explained clearly in section 1.1.2. and 1.2., survivors of infectious diseases suffer from a variety of psychological problems that could be better handled from a holistic perspective to foster recovery instead of symptomatic relief (Jaywant et al., 2022). CA-CBI, in this regard, offers a transdiagnostic approach in which the primary focus is the shared mechanisms that could potentially be responsible for the onset and/or maintenance of various psychological problems (Kananian et al., 2020). Also, thanks to the manual embracing diverse mental health problems that could be experienced in different cases, this intervention could be expanded to other groups in need with the help of a modification process. One last advantage of using transdiagnostic manuals might be the substantial reduction in the load of therapist training for each newly developed mental health intervention targeting differential constructs (Sauer-Zavala et al., 2017).

Thirdly, it has already been demonstrated that culturally adapted interventions offer greater benefits compared to non-adaptive interventions (Arundell et al., 2021; Benish et al., 2011). As Arundell and colleagues (2021) discussed about culturally adapted treatments, the CA-CBI is likely to contribute to the accessibility and acceptance of evidence-based treatment for different cultural groups including non-Western populations. Besides, cultural adaptation can potentially improve the outcomes and adherence to treatment since it can consolidate therapeutic alliance during the intervention (Jaywant et al., 2022). Lastly, pandemic-wise, Victor and Ahmed (2019) claimed that understanding and complying public health measures that are conflicting with the conceptualizations of epidemics and certain traditions could be very challenging across cultures. Therefore, cultural and contextual influences should be well understood in managing epidemic circumstances. For instance, they argued that traditional and religious methods should be recognized and if necessary, implemented into treatment strategies, at least to a certain degree. As the CA-CBI provides such methods including the recommendation of transitional cultural rituals, using proverbs and analogies from the Turkish culture, and containing spiritual and cultural practices for behavioral activation (Acarturk et al., 2019), other interventions targeting mental health problems during health disasters should acknowledge and embrace the diversity across cultures.

Recent research investigating 11 longitudinal population studies across the UK revealed that mental health outcomes associated with the COVID-19 infection persisted across time regardless of whether the illness was self-reported, or it was suspected and confirmed COVID-19 (Thompson et al., 2022). In fact, it has been found that individuals who self-reported the illness were inclined to suffer from more adverse psychological outcomes compared to those who did not have self-reported complaints, indicating that

psychological features of the COVID-19 infection predict mental health problems more than the neurological impacts of the infection (Thompson et al., 2022). These findings did not change when the timing effects across the first year of the COVID-19 pandemic were controlled. This evidence emphasized the importance of psychological support to COVID-19 survivors following the infection. Taking into consideration, the results of the current study might pave the way for the adaptation and implementation of the CA-CBI to survivors of other infectious diseases in future epidemics.

4.3. Limitations and Future Recommendations

This study has some limitations that should be mentioned. First, the aimed sample size could not be reached and the study was underpowered to test the specific hypotheses. Therefore, the results of this study should be interpreted cautiously. In future research, the effectiveness of the CA-CBI on survivors of infectious diseases should be investigated in larger samples.

Second, the treatment fidelity and the feasibility of implementation of the CA-CBI could not be assessed. Although there were no adverse events reported related to the intervention, conducting a process evaluation could provide plentiful information about the possible facilitators and barriers to attending/delivering the online CA-CBI sessions in a group format. Future research could use process evaluation to understand how and why this intervention is effective or not (Ellard & Parsons, 2010).

Third, even though we preferred to use an active control group, we did not use a specific treatment control that could be controlled against the group effect of the CA-CBI. According to the model that Norcross and Lambert (2019) proposed, one of the therapeutic factors that affect psychotherapy outcome is therapeutic alliance which is responsible for

15% of the total variance whilst the specific treatment method used accounts for 10%. This indicates that the therapeutic relationship is most probably at least as crucial as the intervention. Hence, as discussed earlier, whether participants in the intervention group showed improvement because of the intervention techniques or relationships built within the group cannot be exactly known. Therefore, future studies that compare two interventions where participants belong to different groups could be highly insightful.

Lastly, further studies could shed light on potential mechanisms of change in CA-CBI. Previously, in a study with Cambodian refugees with PTSD, Hinton et al. (2009) revealed that emotion regulation abilities change throughout the treatment and therefore, are considered as a fundamental mediator of improvement. Similarly, psychological flexibility is promoted as a default mode of processing emotions instead of the threat mode in CA-CBT (Hinton et al., 2012). The multiplex model already underlines the significance of emotion regulation abilities and psychological flexibility within the scope of psychological well-being. Therefore, both constructs can be investigated as mediators in the future.

4.4. Conclusion

The current study investigated the effectiveness of the CA-CBI in alleviating the mental health problems of COVID-19 survivors. The results suggested that the CA-CBI can be effective in reducing depressive symptoms and improving the environmental quality of life among the survivors. Although we did not find similar significant differences between the intervention and the control group on other outcome measures, we did reach significant improvements on psychological distress, anxiety, post-traumatic stress, and psychological quality of life over time among the participants who received the intervention. In light of

these evidence, the CA-CBI seems to be promising on mental health problems of survivors of infectious diseases although further research taking the current limitations into consideration is highly recommended. Considering the encouraging results, we also expect that this study contributes to reducing the existing mental health treatment gap, specifically in low-and middle-income countries.

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Appendices

Appendix A: Informed Consent – Screening

Proje Hakkında Bilgi:

Koç Üniversitesi Sosyal Bilimler Fakültesi, Psikoloji Bölümü öğretim üyesi Doç. Dr. Ceren Acartürk tarafından yürütülen, Koç Üniversitesi Etik Kurulları'nın [2021.265.IRB1.091] sayılı onayı ile izin verilen, "COVID-19 Geçirmiş ve İyileşmiş Bireylerde Psikolojik Stresi Azaltmaya Yönelik Kültüre Uyarlanmış Bilişsel Davranışçı Müdahalenin (KU-BDM) Etkililiği" başlıklı araştırmaya katılımınız rica olunmaktadır. Bu çalışma ile birlikte COVID-19 geçirmiş ve yoğun stres yaşayan bireylere online grup formatında kültüre uyarlanmış bilişsel davranışçı müdahale sunarak stres seviyelerini azaltmak ve yaşam kalitelerini arttırmak amaçlanmıştır. Bu araştırmaya tamamen kendi iradenizle, herhangi bir zorlama veya mecburiyet olmadan gönüllü olarak katılımınız esastır. Lütfen aşağıdaki bilgileri okuyunuz ve katılmaya karar vermeden önce anlamadığınız herhangi bir husus varsa çekinmeden sorunuz.

Anket Hakkında Bilgi:

Bilgilendirilmiş onam formunu kabul ettiğiniz takdirde çevrimiçi bir ankete yönlendirileceksiniz ve birtakım sorulara yanıt vermeniz istenecektir. Bu çevrimiçi anket, COVID-19 geçirmiş bireylere sunacağımız müdahaleye davet edilmek için uygunluğunuzu anlamak amacıyla yapılmaktadır. Katılmaya onay vermeniz durumunda, sizden yaklaşık 15 dakika süren çevrimiçi anketi doldurmanız istenecektir. Bu müdahale için uygun bulunmanız durumunda, araştırmada görevli psikologlar sizinle iletişime geçeceklerdir. Bu çalışmayla bağlantılı olarak verdiğiniz bilgiler kişisel bilgilerinizle eşleştirilmeyecektir. Bu durumun nadir istisnaları olabilir. Bu istisnaları öğrenmek için araştırma ekibine

danışabilirsiniz. Verdiğiniz bilgiler, sadece araştırma ekibinin erişiminin olduğu şifreli bir veri tabanında saklanacaktır ve üçüncü kişilerle paylaşılmayacaktır. Çalışma tamamlandıktan sonra bilgileriniz takip edilemeyecek bir şekilde geri dönüştürülecektir. Bu çalışmanın içinde olmak isteyip istemediğinize tamamen kendi iradenizle ve etki altında kalmadan karar vermeniz önemlidir. Katılmaya karar verdikten sonra, herhangi bir anda sahip olduğunuz herhangi bir hakkı kaybetmeden veya herhangi bir yaptırıma maruz kalmadan istediğiniz zaman ayrılabilirsiniz.

Bu araştırma ile ilgili herhangi bir sorunuz veya endişeniz varsa, lütfen iletişime geçiniz:

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Appendix B: Informed Consent – Intervention

Proje Hakkında Bilgi:

Koç Üniversitesi Sosyal Bilimler Fakültesi, Psikoloji Bölümü öğretim üyesi Doç. Dr. Ceren Acartürk tarafından yürütülen, Koç Üniversitesi Etik Kurulları'nın [2021.265.IRB1.091] sayılı onayı ile izin verilen, "COVID-19 Geçirmiş ve İyileşmiş Bireylerde Psikolojik Stresi Azaltmaya Yönelik Kültüre Uyarlanmış Bilişsel Davranışçı Müdahalenin (KU-BDM) Etkililiği" başlıklı araştırmaya katılımınız rica olunmaktadır. Bu çalışma ile birlikte COVID-19 geçirmiş ve yoğun stres yaşayan bireylere online grup formatında kültüre uyarlanmış bilişsel davranışçı müdahale sunarak stres seviyelerini azaltmak amaçlanmıştır. Bu araştırmaya tamamen kendi iradenizle, herhangi bir zorlama veya mecburiyet olmadan gönüllü olarak katılımınız esastır. Lütfen aşağıdaki bilgileri okuyunuz ve katılmaya karar vermeden önce anlamadığınız herhangi bir husus varsa çekinmeden sorunuz.

Müdahale Hakkında Bilgi:

Bu müdahale, COVID-19 geçirmiş ve iyileşmiş olan bireylerin yaşadığı psikolojik problemleri azaltmak ve yaşam kalitelerini yükseltmek amacıyla yapılmaktadır. Aşağıda bu müdahale çalışmasıyla ilgili çeşitli bilgiler yer almaktadır.

Bu çalışmaya katılmaya onay vermeniz ve müdahale grubuna atanmanız durumunda, sizden toplamda 8 seans olan ve haftada iki seans şeklinde yürütülecek olan bu programa katılmanız beklenmektedir. Bu müdahale herhangi olumsuz bir risk taşımamaktadır. Müdahale boyunca çeşitli duyguları konuşmak sizi zaman zaman geçici bir süreliğine de olsa rahatsız hissettirebilir. Ancak, müdahale esnasında size rahatsızlık veren duygular üzerinde çalışarak bu duygularla baş etmenize yardımcı olacağız. Bu çalışmanın içinde olmak isteyip istemediğinize tamamen kendi iradenizle ve etki altında kalmadan

karar vermeniz önemlidir. Katılmaya karar verdikten sonra, herhangi bir anda sahip olduğunuz herhangi bir hakkı kaybetmeden veya herhangi bir yaptırıma maruz kalmadan istediğiniz zaman ayrılabilirsiniz.

Bu çalışmaya katılmaya onay vermeniz ve kontrol grubuna atanmanız durumunda, COVID-19 pandemisinde sık yaşanan psikolojik rahatsızlıklar ile ilgili eğitim materyallerine ulaşabilecek ve ücretsiz olarak psikolojik destek alabileceğiniz kurumlar hakkında bilgilendirileceksiniz. Tüm ölçümlerimiz tamamlandığında siz de 8 seanslık grup müdahalesinden yararlanma hakkına sahip olacaksınız.

Gizlilik ile İlgili Bilgiler ve Gizlilik Sözleşmesi:

6698 Sayılı Kişisel Verilerin Korunması Kanunu (KVKK) kişilerin verilerinin işlenmesi ve toplanmasında anayasal temel hak ve özgürlüklerini korur.

Kişisel verilerin resmi istatistik ile anonim hale getirilmek suretiyle araştırma, planlama ve istatistik gibi amaçlarla işlenmesi KVKK kapsamı dışında tutulan hallerdendir. Bu bağlamda yapılması gerekenler KVKK Kişisel Verilerin Silinmesi, Yok Edilmesi veya Anonim Hale Getirilmesi Rehberi'nce açıklanmıştır. Müdahale programı kapsamında 1/4 görüntü ya da ses içeren herhangi bir kayıt alınmayacaktır. Ayrıca çalışmadan elde edilen diğer tüm verilerin (anket formlarındaki yanıtlarınız gibi), bahsi geçen rehbere uygun bir şekilde anonim hale getirileceğini, kimlik tanımlayıcılardan arındırılmış bir şekilde sizinle ilişkilendirilemeyecek halde saklanacağını taahhüt ederiz.

Bununla birlikte kullandığımız çevrimiçi görüşme platformu olan Zoom, HIPAA (Health Insurance Portability and Accountability Act) standartlarında güvenlik ve gizlilik sağlamaktadır. Bu yasa, servis sağlayıcıların kullanıcılarının gizlilik ve güvenliklerini sağlama zorunluluklarını tanımlamaktadır. Özetlemek gerekirse, toplanan tüm verileri

kimliksizleştireceğiz ve yasalar çerçevesinde güvenliğinizi-gizliliğinizi sağlamak için var olan en iyi yöntemleri kullanacağız.

Alınan tüm önlemlere rağmen, grup üyeleri tarafından alınacak herhangi bir kaydın sizin için öngöremediğimiz olumsuz sonuçlar oluşturma ihtimalinin olduğunun farkındayız ve bu risk konusunda sizi bilgilendirmek istiyoruz. Görüşmeler ve haftalık seanslar sırasında herhangi bir şekilde kayıt alınması, 5237 sayılı Türk Ceza Kanunu'nun "Kişiler arasındaki konuşmanın dinlenmesi ve kayda alınması" (Madde 133) kapsamında suç teşkil edecektir.

Bu gibi durumlarda kaydı alan ve/veya yayan kişiler hakkında suç duyurusunda bulunabilirsiniz. Grup üyelerinin güvenliği ve grup uyumunun sürdürülebilirliği için, seanslar sırasında konuşulanların seans dışında paylaşılması (sözlü olarak dahi olsa) müdahale programının kurallarına aykırıdır. Bu durumun tespiti halinde araştırma ekibi yasal haklarını saklı tutar.

Hem sizin hem de grubun diğer üyelerinin uyum içinde ve gizliliği ihlal edilmeden bir süreç yürütebilmek için, araştırma ekibinin aldığı üst düzey güvenlik önlemlerine ek olarak sizin de iş birliğinizi bekliyoruz.

Bu araştırma ile ilgili herhangi bir sorunuz veya endişeniz varsa, lütfen iletişime geçiniz:

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Yukarıda yapılan açıklamaları anladım. Sorularım tatmin olacağım şekilde yanıtlandı. Seanslarda herhangi bir şekilde kayıt almayacağımı, tüm katılımcıların gizlilik ve güvenliğini sağlamak için yukarıda bahsi geçen uyarıların gereğini yerine getireceğimi

taahhüt ediyorum. Dilediğim zaman ayrılma hakkım saklı kalmak koşulu ile bu çalışmaya katılmayı onaylıyorum.

Appendix C: Informed Consent – Pre-, Post-, and Follow-up Tests

Proje Hakkında Bilgi:

Koç Üniversitesi Sosyal Bilimler Fakültesi, Psikoloji Bölümü öğretim üyesi Doc. Dr. Ceren Acartürk tarafından yürütülen, Koç Üniversitesi Etik Kurulları'nın [2021.265.IRB1.091] sayılı onayı ile izin verilen, "COVID-19 Geçirmiş ve İyileşmiş Bireylerde Psikolojik Stresi Azaltmaya Yönelik Kültüre Uyarlanmış Bilişsel Davranışçı Müdahalenin (KU-BDM) Etkililiği" başlıklı araştırmaya katılımınız rica olunmaktadır. Bu araştırmaya tamamen kendi iradenizle, herhangi bir zorlama veya mecburiyet olmadan gönüllü olarak katılımınız esastır. Lütfen aşağıdaki bilgileri okuyunuz ve katılmaya karar vermeden önce anlamadığınız herhangi bir husus varsa çekinmeden sorunuz.

Anket Hakkında Bilgi:

Bu çevrimiçi anket, çalışma dahilinde COVID-19 geçirmiş bireylere sunacağımız müdahalenin etkililiğini ölçmek amacıyla yapılmaktadır. Bu aşamada sizden birtakım soruları cevaplandırmanızı isteyeceğiz. Katılmaya onay vermeniz durumunda, sizden yaklaşık 20 dakika süren çevrimiçi anketi doldurmanız istenecektir.

Çalışma sırasında verdiğiniz bilgiler, kişisel bilgilerinizle hiçbir koşulda eşleştirilmeyecektir. Sadece araştırma ekibi tarafından akademik amaçla kullanılacaktır. Verdiğiniz bilgiler, sadece araştırma ekibinin erişiminin olduğu şifreli bir veri tabanında saklanacaktır. Çalışma tamamlandıktan sonra bilgileriniz takip edilemeyecek bir şekilde geri dönüştürülecektir.

Bu çalışmanın içinde olmak isteyip istemediğinize tamamen kendi iradenizle ve etki altında kalmadan karar vermeniz önemlidir.

Katılmaya karar verdikten sonra, herhangi bir anda sahip olduğunuz herhangi bir hakkı kaybetmeden veya herhangi bir yaptırıma maruz kalmadan istediğiniz zaman ayrılabilirsiniz.

Bu araştırma ile ilgili herhangi bir sorunuz veya endişeniz varsa, lütfen iletişime geçiniz:

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Talya Öztürk: tozturk20@ku.edu.tr

Yukarıda yapılan açıklamaları anladım. Sorularım tatmin olacağım şekilde yanıtlandı. Dilediğim zaman ayrılma hakkım saklı kalmak koşulu ile bu çalışmaya katılmayı onaylıyorum.

Appendix D: Screening Questions

1. Yaşınız
    a. 18 yaşından küçüğüm.
    b. 18 yaşından büyüğüm.
2. COVID-19 enfeksiyonu geçirdiniz mi? (Testiniz pozitif çıktı mı?)
    a. Evet
    b. Hayır
3. COVID-19 enfeksiyonu geçirdikten sonra tedaviniz tamamlandı mı? (Testiniz negatif çıktı mı?)
    a. Evet
    b. Hayır

Kessler Psikolojik Sıkıntı Ölçeği

Yönerge: Aşağıdaki sorular son 30 gün içinde kendinizi nasıl hissettiğiniz hakkındadır. Lütfen her soruda söz konusu duyguyu hangi sıklıkta hissettiğinizi en iyi açıklayan sayıyı işaretleyiniz.

Hiç olmadı	Seyrek olarak	Arada sırada	Çoğu zaman	Sürekli olarak
1	**2**	**3**	**4**	**5**

Bu ay içinde kendinizle ilgili olarak aşağıdakileri ne sıklıkla hissettiniz?

	1. ... herhangi bir sebep olmadan aşırı yorgunluk
	2. ... sinirli

	3. ... hiçbir şekilde sakinleşemeyecek kadar sinirli
	4. ... umutsuz
	5. ... huzursuz veya tedirgin
	6. ... yerinde duramayacak kadar huzursuz
	7. ... çökkün
	8. ... hiçbir şekilde neşelenemeyecek kadar çökkün
	9. ... her şeyin çok zor gelmesi
	10. ... değersiz

İntihar Düşüncelerinin Taranması

Bazen insanlar üzgün ve hayatları hakkında umutsuz hissettiklerinde, kendi ölümleri hakkında veya hayatlarını sonlandırmak hakkında düşünceler geliştirebilirler. Bu düşünceler olağandışı değildir. Bu nedenle böyle düşünceleriniz olmasından utanmamanız gerekir. Takip eden sorular bu tür düşüncelerle ilgilidir. Bu sizin için uygunsa çevrimiçi ankete devam edebilir misiniz?

a. Evet

b. Hayır

1. **Geçtiğimiz ay** hayatınızı sonlandırmak için ciddi düşünceleriniz, planınız ya da girişiminiz oldu mu?

   a. Evet

b. Hayır

2. Hayatınıza son vermek için herhangi bir aksiyon aldınız mı?
    a. Evet
    b. Hayır
3. **Önümüzdeki iki hafta içinde** hayatınıza son verme planınız var mı?
    a. Evet
    b. Hayır

SCID-5-PD B Kümesi Kişilik Bozuklukları Soruları

Bu sorular, genelde nasıl bir insan olduğunuzla ilgilidir; diğer bir deyişle, son birkaç yılda genellikle kendinizi nasıl hissettiğiniz ya da nasıl davrandığınızla ilişkilidir. Soru tam olarak ya da büyük ölçüde size uygun düşüyorsa "EVET"i, size uygun düşmüyorsa "HAYIR"ı seçin. Soruyu anlamazsanız boş bırakın.

1. Çok insanla uğraşmanızı gerektirecek işlerden ya da görevlerden kaçınıyor musunuz?
2. Sizi seveceklerinden emin olmadıkça insanlarla arkadaşlık kurmaktan kaçınır mısınız?
3. Yakın olduğunuz insanlara bile "açık" olmakta güçlük çeker misiniz?
4. Toplumsal durumlarda eleştirileceğinizden ya da dışlanacağınızdan sık sık kaygılandığınız olur mu?
5. Yeni insanlarla karşılaştığınızda genellikle sessiz mi kalırsınız?
6. Çoğu başka insan denli iyi, akıllı ya da çekici olmadığınızı mı düşünüyorsunuz?
7. Güçlükle yapılabilecek ya da yeni bir şeyin denenmesini gerektirebilecek işleri yapmaktan korkar mısınız?

8. Başkalarından öğüt ya da güvence almadıkça ne giyeceğiniz ya da restoranda ne ısmarlayacağınız gibi konularda, gündelik kararlarınızı vermekte güçlük çeker misiniz?
9. Parasal durum, çocuk bakımı ya da yaşam düzenlemeleri gibi, yaşamınızın önemli alanlarını yönetirken başkalarına bağımlı mısınız?
10. Düşüncelerinin yanlış olduğunu bilmenize karşın insanlara katılmamakta güçlük çeker misiniz?
11. Bir tasarıyı başlatmakta ya da kendi başınıza bir iş yapmakta güçlük çeker misiniz?
12. Başkalarının sizinle ilgilenmesinin, sizin için önemli olmasından ötürü, onlar için, hoşa gitmeyecek ya da mantıksız işler yapmaya istekli olur musunuz?
13. Kendi başınıza kaldığınızda genellikle rahatsızlık duyar mısınız?
14. Yakın bir ilişkiniz sonlandığında, sizinle ilgilensin diye, hemen bir başkasını bulma arayışına girme gereği duyar mısınız?
15. Kendinize bakmak için yalnız bırakılmaktan ötürü çok kaygı duyar mısınız?
16. Ayrıntılara, düzene ya da düzenlemeye ya da sıraya koymaya ve tasarlamaya odaklanmakla çok zaman harcayan biri misiniz?
17. Tam doğru olmasından çabalamanızdan ötürü çok zaman harcadığınız için işleri bitirmekte güçlük çeker misiniz?
18. İşinize ya da üretken olmaya çok düşkün biri misiniz?
19. Neyin doğru, neyin yanlış olduğuna ilişkin çok yüksek değerleriniz var mı?
20. Bir gün işe yarayacağını düşündüğünüzden ötürü elinizdekileri elden çıkarmakta güçlük çeker misiniz?

21. Başka insanlarla birlikte çalışmakta ya da tam sizin istediğiniz gibi yapmaları konusunda aranızda bir uzlaşma olmadıkça, başkalarından bir iş istemekte güçlük çeker misiniz?
22. Kendiniz ya da başkaları için para harcamakta güçlük çeker misiniz?
23. Bir kez tasarlamışsanız, yaptığınız tasarıda değişiklik yapmakta güçlük çeker misiniz?
24. İnsanlar, sizin direngen (inatçı) olduğunuzu söylediler mi?
25. İnsanların, sizi kullandığı, sizi kırdığı ya da size yalan söylediği izlenimine sık sık kapıldığınız olur mu?
26. Başkalarına çok az güvenen, çok kendine dönük bir insan mısınız?
27. Size karşı kullanabilecekleri için, insanların sizinle ilgili olarak çok bilgi sahibi olmamalarının en iyisi olduğunu mu düşünüyorsunuz?
28. İnsanların söylediklerileyle ya da yaptıklarıyla sizin gözünüzü korkuttukları ya da sizi aşağıladıkları izlenimine sık sık kapıldığınız olur mu?
29. Aşağılayan ya da küçümseyen insanları bağışlaması çok zaman alan ya da öç alma duygusunu sürdüren biri misiniz?
30. Çok zaman önce, size yaptıkları ya da söyledikleri bir şey için bağışlayamadığınız çok sayıda insan var mı?
31. Biri sizi eleştirdiğinde ya da aşağıladığında, sık sık, öfkelendiğiniz ya da karşı saldırıda bulunduğunuz olur mu?
32. Zaman zaman, eşinizin ya da sevgilinizin sizi aldattığından kuşkulandığınız oldu mu?
33. Toplum içinde insanları konuşurken gördüğünüzde, sanki sizi konuşuyorlarmış gibi bir izlenime sık sık kapıldığınız olur mu?

34. Çevrenizde insan varken, size bakıldığı ya da gözlerin sizin üzerinizde olduğu izlenimine sık sık kapıldığınız olur mu?
35. Şarkı sözlerinin, bir filmde ya da televizyonda geçen bir olayın size özel bir anlamının olduğu izlenimine sık sık kapıldığınız olur mu?
36. Batıl (gerçeğe uymayan) inançları olan biri misiniz?
37. Yalnızca dileyerek ya da üzerinde düşünerek birtakım olayların olmasını sağlayabildiğinizi düşündüğünüz hiç oldu mu?
38. Doğaüstü kişisel yaşantılarınız oldu mu?
39. Olayları bilebilmenizi ya da öngörebilmenizi sağlayan bir "altıncı his"siniz (önsezileriniz) olduğuna inanıyor musunuz?
40. Çevrenizdeki her şeyin gerçekdışı olduğu, vücudunuzdan ya da zihninizden koptuğunuz ya da kendi düşüncelerinize ya da davranışlarınıza dışarıdan bir gözlemci gibi baktığınız izlenimine sık sık kapıldığınız olur mu?
41. Başka insanların göremediği şeyleri sık sık gördüğünüz olur mu?
42. Yumuşakça adınızı söyleyen bir sesi sık sık duyduğunuz olur mu?
43. Hiç kimseyi görmemenize karşın, çevrenizde bir kişi ya da bir güç olduğu hissine kapıldığınız oldu mu?
44. Yakın aile bireyleri dışında, gerçekten yakın olduğunuz insan sayısı çok az mı?
45. Çok iyi tanımadığınız insanların yanındayken genellikle kendinizi gergin mi hissedersiniz?
46. Arkadaşlarınız, sevgiliniz ya da ailenizle bir arada olmak sizin için önemli DEĞİL mi?
47. İşleri, başka insanlarla birlikte yapmaktansa tek başınıza yapmayı, neredeyse her zaman yeğler misiniz?

48. Bir başkasıyla cinsel yaşantınız olmasıyla ilgilenmiyor ya da çok az ilgileniyor musunuz?
49. Size zevk veren gerçekten çok az şey mi var?
50. İnsanların sizinle ilgili olarak ne düşündüklerinin bir önemi var mı?
51. Çok kızgın ya da sevinçli olmak gibi güçlü duyguları çok seyrek mi yaşarsınız?
52. İlgi odağı olmayı sever misiniz?
53. Flört etmeye çok eğilimli misiniz?
54. Sık sık başkalarına asıldığınız olur mu?
55. Giyiminizle ya da görüntünüzle ilgiyi üzerinize çekmeyi sever misiniz?
56. Davranışlarınız ve konuşmalarınız çok çarpıcı (duyguları kamçılayıcı) mıdır?
57. Çoğu başka insanlardan daha duygusal mısınız, sözgelimi üzücü bir öykü duyduğunuzda hıçkırarak ağlar mısınız?
58. Birlikte olduğunuz insanlara, televizyonda gördüklerinize ya da yeni okuduklarınıza göre, olaylara karşı görüşünüzü sık sık değiştirir misiniz?
59. Evin su donanımını onaran, arabanızın bakımını yapan ya da doktorunuz gibi size hizmet veren kişileri bile iyi birer arkadaşınız olarak görür müsünüz?
60. Çoğu başka insandan daha önemli, daha yetenekli ya da daha başarılı mısınız?
61. İnsanlar, size, kendinizi beğenmiş biri olduğunuzu söylediler mi?
62. Bir gün çok güçlü, başarılı ya da tanınmış biri olacağınızı çok düşünüyor musunuz?
63. Bir gün çok büyük bir aşk yaşayacağınızı çok düşünüyor musunuz?
64. Bir sorununuz olduğu her zaman, en tepedeki kişiyi görmek için diretir misiniz?
65. Önemli ya da etkili insanlarla zaman geçirmeye çalışır mısınız?
66. İnsanların size ilgi göstermesi ya da sizi çok beğenmesi, sizin için önemli midir?

67. Özel davranılmayı gerektiren ya da her ne istiyorsanız, başkalarının onu hiç düşünmeden yapması gerektiğini düşünen biri misiniz?
68. Sık sık, kendi gereksinmelerinizi başkalarının gereksinmelerinin önüne çeker misiniz?
69. İnsanları kullandığınızdan yakınanlar oldu mu?
70. Genelde, başka insanların gereksinmelerinin ya da duygularının gerçekten sizin bir sorununuz olmadığını mı düşünürsünüz?
71. Başkalarının sorunlarını sıkıcı mı bulursunuz?
72. İnsanların, sizin kendilerini dinlemediğinizden ya da onların duygularına aldırmadığınızdan yakındıkları oldu mu
73. Başarılı birilerini gördüğünüzde, bunu o kişilerden çok sizin hak ettiğinizi düşündüğünüz olur mu?
74. Sık sık, başkalarının sizi kıskandığını düşünür müsünüz?
75. Sizin zaman harcamanıza ya da ilgi göstermenize değer çok az sayıda insan olduğu düşüncesinde misiniz?
76. İnsanların, çok büyüklendiğinizden ve kasıldığınızdan ya da bilgiçlik tasladığınızdan yakındıkları oldu mu?
77. Değer verdiğiniz birinin sizden uzaklaşacak gibi olduğunu düşündüğünüzde çılgına döndüğünüz oldu mu?
78. Önemsediğiniz insanlarla olan ilişkilerinizde çok iniş çıkışlar yaşar mısınız?
79. Nasıl biri olduğunuzla ilgili düşünceleriniz, sık sık, çok değişir mi?
80. Değişik insanlarla ya da değişik durumlarda değişik biri olup, kimi zaman gerçekten kim olduğunuzu bilemediğiniz zamanlar olur mu?

81. Amaçlarınızda, işle ilgili tasarılarınızıda, dinsel görüşlerinizde ve diğer alanlarda, birden, keskin birtakım değişiklikler yaptığınız çok oldu mu?
82. Arkadaşlarınızın türünde ya da cinsel kimliğinizde, birden, keskin birtakım değişiklikler yaptığınız oldu mu?
83. Sık sık dürtüsel (sonuçlarını düşünmeden) davrandığınız olur mu?
84. Kendinizi yaralamaya veya öldürmeye kalkıştığınız ya da kalkışmakla baskalarının gözünü korkuttuğuz oldu mu?
85. Tasarlayarak kendinizi kestiğiniz, yaktığınız ya da tırmaladığınız hiç oldu mu?
86. Duygusal durumunuz, sık sık, yaşamınızda ne olup bittiğine bağlı olarak, bir gün içinde çok değişir mi?
87. Sıklıkla içinizde bir boşluk hisseder misiniz?
88. Sık sık öfke patlamalarınız ya da özdenetiminizi yitirecek denli öfkelendiğiniz olur mu?
89. Kızdığınızda insanlara vurur musunuz ya da üzerlerine bir şey atar mısınız?
90. Ufak şeyler sizi çok kızdırır mı?
91. Altüst olduğunuzda insanlardan kuşkulanır mısınız ya da kendinizi bedeninizden kopmuş olarak ya da çevrenizdeki nesneleri gerçek dışı olarak hisseder misiniz?

Aşağıdaki sorular 15 yaşınızdan önce yaptıklarınızla ilgilidir.

92. 15 yaşınızdan önce, diğer çocuklara kabadayılık taslar mıydınız, onlara gözdağı verir miydiniz ya da onları korkutur muydunuz?
93. 15 yaşınızdan önce, kavga dövüş başlatır mıydınız?
94. 15 yaşınızdan önce, birini, sopa, taş, kırık şişe, bıçak ya da tabanca gibi bir nesneyle yaraladınız mı ya da yaralamakla gözünü korkuttuğunuz oldu mu?

95. 15 yaşınızdan önce, birine acı çektirecek acımasız birtakım davranışlarınız oldu mu?
96. 15 yaşınızdan önce, tasarlayarak hayvanlara acı çektirdiğiniz oldu mu?
97. 15 yaşınızdan önce, birinin gözünü korkutarak elinden zorla bir şey aldınız mı, birine saldırıp soydunuz mu ya da hırsızlık yaptınız mı?
98. 15 yaşınızdan önce, birini, cinsel bir eylemde bulunmak için zorladığınız oldu mu?
99. 15 yaşınızdan önce, yangın çıkardınız mı?
100. 15 yaşınızdan önce, sizin olmayan nesnelere bilerek zarar verdiğiniz oldu mu?
101. 15 yaşınızdan önce, evlere, diğer yapılara ya da arabalara zorla girdiğiniz oldu mu?
102. 15 yaşınızdan önce, istediğiniz bir şeyi elde etmek ya da bir şeyi yapmaktan kurtulmak için başkalarına çok yalan söylediğiniz mi ya da onları kandırdınız mı?
103. 15 yaşınızdan önce, zaman zaman mağazalardan hırsızlık yaptınız mı, bir şey çaldınız mı ya da para için başkasının imzasını attınız mı?
104. 15 yaşınızdan önce, evden kaçtınız mı ve geceyi dışarıda geçirdiniz mi?

Aşağıdaki sorular 13 yaşınızdan önce yaptıklarınızla ilgilidir

105. 13 yaşınızdan önce, sıklıkla, evde olmanızın beklendiği saatlerden çok sonrasına, çok geç saatlere dek dışarıda kaldığınız oldu mu?
106. 13 yaşınızdan önce, sık sık okuldan kaçar mıydınız?

Appendix E: Demographic and COVID-19 Related Questions

1. Lütfen yaşınızı yazınız. _____
2. Cinsiyet:
    a. Kadın
    b. Erkek

c. Diğer: ____

3. Türkiye'de hangi şehirde yaşıyorsunuz? _____

4. Medeni durumunuz nedir?

   a. Bekar, hiç evlenmemiş

   b. Evli

   c. Boşanmış

   d. Dul

   e. Partneri ile yaşıyor

   f. Diğer ____

5. Konaklama biçiminiz nedir?

   a. Kira

   b. Başka aile üyeleri veya başkaları ile paylaşılan ev

   c. Kendi evi

   d. Yurt

   e. Otel

   f. Diğer ___

6. Siz dahil olmak üzere evde kaç kişi yaşıyor?

   a. 1

   b. 2

   c. 3

   d. 4

   e. 5

   f. 6

   g. 6'dan fazla

7. 65 yaşından büyük kişi/kişiler ile yaşıyor musunuz?
    a. Evet ise, kaç kişi? ____
    b. Hayır
8. Yaşlı, hasta, engelli veya hastalığı olan birinin bakımı ile ilgileniyor musunuz?
    a. Evet
    b. Hayır
9. Eviniz kaç metrekare? ____
10. Evinizde açık alanlar (balkon gibi) mevcut mu?
    a. Evet
    b. Hayır
11. Eğitim seviyeniz nedir?
    a. Resmi bir eğitim almadım.
    b. İlkokul
    c. Ortaokul
    d. Lise
    e. Üniversite
    f. Yüksek lisans ve üzeri
12. Mevcut çalışma durumunuz nedir?
    a. İşsiz
    b. İş yerinden çalışıyor
    c. Evden çalışıyor
    d. Ücretsiz tatilde
    e. Ücretli tatilde
    f. Diğer ____

13. Mesleğiniz/işiniz nedir? ____

14. Son üç ayı dikkate aldığınızda, hangi seçeneğin hane halkınızın aylık gelirine uyduğunu (tüm hane halkı üyelerinin maaşları ve diğer gelirleri dahil) - (Hane halkı, bir evi ve gelirleri paylaştığınız ve aynı zamanda doğum, evlilik veya evlat edinme ile bağlı olduğunuz kişileri kapsar)?

    a. 500 TL ve altı
    b. 501 TL ve 1.000 TL arasında
    c. 1.001 TL ve 1.500 TL arasında
    d. 1.501 TL ve 2.000 TL arasında
    e. 2.001 TL ve 3.000 TL arasında
    f. 3.001 TL ve 5.000 TL arasında
    g. 5.001 TL ve 7.000 TL arasında
    h. 7.001 TL ve 9.000 TL arasında
    i. 9.001 TL ve 11.000 TL arasında
    j. 11.001 TL ve 15.000 TL arasında
    k. 15.001 TL üstü

15. COVID-19 sebebiyle maddi, mal ya da hizmet desteği aldınız mı?

    a. Evet
    b. Hayır

16. Eğer 16. sorunun cevabı evet ise, aşağıdaki kurum veya kuruluşlardan hangilerinden maddi, mal ya da hizmet desteği aldınız?

    a. Aile, Çalışma ve Sosyal Politika Bakanlığı
    b. Kızılay (Kızılay Kart dahil)
    c. Belediye

d. Sivil toplum örgütleri

e. Vakıf

f. Destek almadım

g. Diğer: _____

17. COVID-19 testinizin pozitif çıktığı tarih nedir? _____

18. COVID-19 testinizin negatif çıktığı tarih nedir? _____

19. COVID-19 enfeksiyonunu nerde geçirdiniz?

a. COVID-19 enfeksiyonunu evde izole bir şekilde geçirdim.

b. COVID-19 enfeksiyonu sırasında hastaneye kaldırıldım.

c. COVID-19 enfeksiyonu sırasında yoğun bakıma kaldırıldım.

d. COVID-19 enfeksiyonu sırasında entübe edildim.

20. COVID-19 enfeksiyonu sırasındaki belirtilerinizi nasıl tarif edersiniz?

a. Hafif

b. Orta

c. Şiddetli

21. COVID-19 enfeksiyonu sonrası aşağıdaki semptomlardan herhangi birini/birilerini deneyimlediniz mi?

a. Nefes almada zorluk veya nefes darlığı

b. Yorgunluk veya halsizlik

c. Fiziksel veya zihinsel aktivitelerden sonra kötüleşen semptomlar (Egzersiz sonrası halsizlik olarak da bilinir.)

d. Düşünme veya konsantre olmada zorluk

e. Öksürük

f. Göğüs ya da karın ağrısı

g. Baş ağrısı

h. Kalbin hızlı atması (Kalp çarpıntısı olarak da bilinir.)

i. Eklem veya kas ağrısı

j. İğne batma hissi

k. İshal

l. Uyku problemleri

m. Ateş

n. Ayakta dururken baş dönmesi (Sersemlemek)

o. Döküntü

p. Ruh hali değişimleri

q. Koku veya tat duyularında değişim

r. Adet dönemi döngüsünde değişim

s. Diğer____

22. Kronik bir rahatsızlığınız var mı?

a. Evet

b. Hayır

23. Eğer 18. sorunun cevabı evet ise, hangi kronik rahatsızlığa sahipsiniz?

a. Yüksek tansiyon

b. Kardiyovasküler (Kalp-Damar) hastalıklar

c. Solunum sistemi hastalıkları

d. Diyabet

e. Bağışıklık sistemi zayıflatan hastalıklar

f. Kanser

g. Diğer _____

24. Aşağıda belirtilen olaylardan herhangi birini COVID-19 pandemisinden önce tecrübe ettiniz mi veya şahit oldunuz mu?
    a. Doğal afetler
    b. Şiddetli kaza, yangın, patlama
    c. Şiddet (fiziksel, duygusal, cinsel)
    d. İhmal (çocukluk döneminde)
    e. Şiddetli hastalık
    f. Diğer: _____
    g. Hiçbirini deneyimlemedim
25. Aşağıda belirtilen olaylardan herhangi birini COVID-19 pandemisinin başlangıcından sonra tecrübe ettiniz mi veya şahit oldunuz mu?
    a. Doğal afetler
    b. Şiddetli kaza, yangın, patlama
    c. Şiddet (fiziksel, duygusal, cinsel)
    d. Şiddetli hastalık
    e. Diğer: _____
    f. Hiçbirini deneyimlemedim
26. Daha önce hiç psikiyatrik hastalık geçirdiniz mi?
    a. Evet, geçirdim ve hala tedavi görüyorum.
    b. Evet, daha önce geçirdim ama sonra tamamen iyileştim.
    c. Hayır
27. Eğer 25. sorunun cevabı evet ise, teşhisiniz neydi? _____
28. Psikolojik/psikiyatrik tedavi gördünüz mü?
    a. Evet, hala tedavi görüyorum.

b. Evet, daha önce tedavi gördüm ama şimdi görmüyorum.

c. Hayır.

29. Şu anda psikolojik rahatsızlıklar için herhangi bir ilaç kullanıyor musunuz?

a. Evet

b. Hayır

30. Eğer 28. sorunun cevabı evet ise ne zamandır kullanıyorsunuz? _____

31. Lütfen kullandığınız ilacın adını ve dozunu belirtiniz. _____

32. Hükümet tarafından uygulanan prosedürleri (alışveriş yaparken maske kullanma, fiziksel mesafe bırakma vb.) takip ediyor musunuz?

a. Her zaman

b. Çoğu zaman

c. Ara sıra

d. Hiçbir zaman

33. Lütfen aldığınız COVID-19 önlemlerini işaretleyin.

a. Mümkün olduğu kadar evden çıkmayı sınırlandırırım.

b. Dışarıdayken maske kullanırım.

c. Aldığım şeyleri kullanmadan önce bir süre dışarıda (balkon, araba, evin önünde vb.) bırakırım.

d. Eve geldiğimde dışarıdan aldığım şeyleri durularım.

e. Fiziksel mesafeyi korurum

f. Dışarıdayken gözlerime, ağzıma ve burnuma dokunmaktan kaçınırım.

g. Ellerimi sık sık yıkarım.

h. Misafir davet etmem ve başkalarını ziyaret etmem.

34. COVID-19 ile ilgili haberleri takip ediyor musunuz (sosyal medya, televizyon, gazete vb.)?
    a. Evet, haberleri günde en az iki kez takip ediyorum.
    b. Evet, haberleri günde bir kez takip ediyorum.
    c. Evet, haberleri haftada birkaç kez takip ediyorum.
    d. Hayır, haberleri hiç takip etmiyorum.
35. COVID-19'un başlangıcından bu yana psikolojik desteğe ihtiyaç duydunuz mu?
    a. Evet
    b. Hayır
36. COVID-19'un başlangıcından bu yana psikolojik destek aldınız mı?
    a. Evet
    b. Hayır
37. Tanıdığınız biri COVID-19 nedeniyle hayatını kaybetti mi?
    a. Evet
    b. Hayır
38. Eğer 35. sorunun cevabı evet ise, soruya evet ise vefat eden kişiyi tanımlamak için hangi seçenek uygundur?
    a. Birinci derece akraba (anne, baba, erkek kardeş, kız kardeş vb.)
    b. İkinci derece akraba (kuzen vb.)
    c. Arkadaş
    d. Komşu
    e. Hastam
    f. Diğer: ____
39. COVID-19 nedeniyle finansal zorluklarla karşılaştınız mı?

a. Hiç

b. Biraz

c. Orta seviyede

d. Oldukça

e. Çok fazla

40. Finansal zorluklar konusunda ne kadar endişelisiniz?

a. Hiç

b. Biraz

c. Orta seviyede

d. Oldukça

e. Çok fazla

41. Sizce COVID-19 sebebiyle evdeki sorumluluklarınız arttı mı?

a. Evet

b. Hayır

42. Eğer 35. sorunun cevabı evet ise, artan sorumluluklarınız konusunda ne kadar endişeleniyorsunuz?

a. Hiç

b. Biraz

c. Orta seviyede

d. Oldukça

e. Çok fazla

Appendix F: Kessler Psychological Distress Scale (K-10)

Yönerge: Aşağıdaki sorular son 30 gün içinde kendinizi nasıl hissettiğiniz hakkındadır. Lütfen her soruda söz konusu duyguyu hangi sıklıkta hissettiğinizi en iyi açıklayan sayıyı işaretleyiniz.

Hiç olmadı	Seyrek olarak	Arada sırada	Çoğu zaman	Sürekli olarak
1	**2**	**3**	**4**	**5**

Bu ay içinde kendinizle ilgili olarak aşağıdakileri ne sıklıkla hissettiniz?

	1. ... herhangi bir sebep olmadan aşırı yorgunluk
	2. ... sinirli

	3. ... hiçbir şekilde sakinleşemeyecek kadar sinirli
	4. ... umutsuz
	5. ... huzursuz veya tedirgin
	6. ... yerinde duramayacak kadar huzursuz
	7. ... çökkün
	8. ... hiçbir şekilde neşelenemeyecek kadar çökkün
	9. ... her şeyin çok zor gelmesi
	10. ... değersiz

Appendix G: Patient Health Questionnaire-9 (PHQ-9)

Yönerge: Son 2 hafta içerisinde, aşağıdaki sorunlardan herhangi biri sizi ne sıklıkla rahatsız etti?

Hiçbir zaman	**Bazı günler**	**Günlerin yarısından fazla**	**Hemen hemen her gün**
0	**1**	**2**	**3**

	1. Bir şeyleri yapmaya az ilgi veya zevk duymak
	2. Üzgün, depresif veya umutsuz hissetmek
	3. Uykuya dalmada veya uyumaya devam etmekte zorluk veya çok fazla uyumak
	4. Yorgun hissetmek veya enerjinizin az olması
	5. İştahsızlık veya çok fazla yemek
	6. Kendinizi kötü hissetmeniz- veya kendinizi başarısız ya da kendinizi veya ailenizi hayal kırıklığına uğrattığınızı düşünmeniz

	7. Gazete okumak veya televizyon seyretmek gibi faaliyetlerde dikkatinizi toplamakta güçlük çekmeniz
	8. Başkalarının fark edebileceği kadar yavaş hareket etmeniz veya konuşmanız? Veya tam aksine-normalden çok daha fazla hareket edecek kadar kıpır kıpır veya huzursuz olmanız
	9. Ölmüş olsanız daha iyi olacağınız veya bir şekilde kendinize zarar verme düşünceleri

Appendix H: Generalized Anxiety Disorder-7 (GAD-7)

Yönerge: Lütfen geçirmiş olduğunuz son 15 gününüzü dikkatlice düşününüz. Aşağıdaki testte sıralanan sorunlar bu 15 gün içerisinde ne kadar rahatsız etti, belirlemeye çalışınız. Seçeneklerden hangisi size daha uygun geliyorsa işaretleyiniz.

Hiç	**Sadece birkaç gün**	**Günlerin yarısından fazla**	**Hemen hemen her gün**
0	**1**	**2**	**3**

	1. Sinirli, kaygılı, uçurumun kenarındaymış gibi hissetme
	2. Endişelenmeyi kontrol edememe ya da durduramama
	3. Farklı farklı konularda çok fazla endişelenme
	4. Gevşeyip rahatlayamama

	5. Yerinizde duramayacak kadar kıpır kıpır ve huzursuz olma
	6. Kolayca kızma ya da rahatsız olma
	7. Her an çok kötü bir şey olabileceği korkusu yaşama

Appendix I: PTSD Checklist for DSM-5 (PCL-5)

Yönerge: Aşağıda çok stresli bir olay karşısında insanların yaşayabildikleri problemlerin bir listesi yer almaktadır. *Zihninizi meşgul etmeye DEVAM EDEN yaşadığınız en kötü olayı* düşünerek aşağıda listelenen her bir problemi dikkatlice okuyun. SON BİR AY İÇİNDE bu olayın size ne kadar sıkıntı verdiğini, sağdaki kutuların içindeki size en uygun rakamı yuvarlak içine alarak gösteriniz.

Hiç	**Çok az**	**Orta derecede**	**Oldukça fazla**	**Aşırı derecede**
0	**1**	**2**	**3**	**4**

	1. Stresli olayın tekrarlayan, rahatsız eden ve istenmeyen anıları sizi ne kadar bunalttı?
	2. Stresli olaya ilişkin tekrarlayan, rahatsız eden rüyalar sizi ne kadar bunalttı?

	3. Aniden stresli olayı sanki gerçekten bir daha yaşıyormuş gibi hissetmek veya davranmak (sanki gerçekten olayın yaşandığı ana geri dönmüş yeniden yaşıyormuş gibi) sizi ne kadar bunalttı?
	4. Bir şeyler size stresli olayı anımsattığı zaman yaşadığınız üzüntü hissi sizi ne kadar bunalttı?
	5. Bir şeyler size stresli olayı anımsattığı zaman güçlü fiziksel tepkiler vermek (örneğin, kalp çarpıntısı, nefes almada güçlük, terleme gibi) sizi ne kadar bunalttı?
	6. Stresli olayla ilişkili anılardan, düşüncelerden ve duygulardan kaçınmaya çalışmak sizi ne kadar bunalttı?
	7. Stresli olayı anımsatan etraftaki hatırlatıcı şeylerden (örneğin, insanlardan, yerlerden, konuşmalardan, etkinliklerden, nesnelerden veya durumlardan) kaçınmaya çalışmak sizi ne kadar bunalttı?
	8. Stresli olaya ilişkin önemli kısımları hatırlamada yaşanan güçlükler sizi ne kadar bunalttı?
	9. Kendiniz, diğer insanlar veya dünya hakkında güçlü olumsuz düşüncelere sahip olmak (örneğin, kötü biriyim, bende ciddi şekilde yanlış olan bir şeyler var, kimseye güvenilmez, dünya tümüyle tehlikeli bir yerdir gibi düşünceler) sizi ne kadar bunalttı?
	10. Stresli olay veya bu olayın sonrasında ortaya çıkan durumlar için kendinizi veya bir başkasını suçlamak sizi ne kadar bunalttı?
	11. Korku, dehşete kapılma, öfke, suçluluk veya utanç gibi güçlü olumsuz duygular sizi ne kadar bunalttı?
	12. Daha önce yapmaktan keyif aldığınız etkinliklere olan ilginizi kaybetmek sizi ne kadar bunalttı?
	13. Başka insanlardan uzak veya kopmuş hissetmek sizi ne kadar bunalttı?
	14. Olumlu duyguları yaşayamamak (örneğin, mutluluğu hissedememek veya size yakın insanlara sevgi dolu hisler duyamamak) sizi ne kadar bunalttı?
	15. Asabi davranışlar, öfke patlamaları veya öfkeli hareketler sizi ne kadar bunalttı?
	16. Çok fazla risk almak veya size zarar verebilecek şeyler yapmak sizi ne kadar bunalttı?
	17. Aşırı tetikte olmak veya temkinli davranmak veya hazırda beklemek sizi ne kadar bunalttı?
	18. Yerinden sıçramak veya kolayca irkilmek sizi ne kadar bunalttı?
	19. Dikkati toplamada güçlükler sizi ne kadar bunalttı?
	20. Uykuya dalma veya uykuyu devam ettirme güçlükleri sizi ne kadar bunalttı?

Appendix J: Symptom Checklist 90-R (SCL-90-R) Somatization Subscale

Yönerge: Aşağıda zaman zaman herkeste olabilecek yakınmaların ve sorunların bir listesi vardır. Lütfen her birini dikkatle okuyunuz. Sonra bu durumun bugün de dahil olmak üzere son üç ay içerisinde sizi ne ölçüde huzursuz ve tedirgin ettiğini gösterilen şekilde numaralandırarak işaretleyiniz.

Hiç	**Çok az**	**Orta derecede**	**Oldukça fazla**	**İleri derecede**
0	**1**	**2**	**3**	**4**

	1. Başağrısı
	2. Baygınlık ya da baş dönmesi
	3. Göğüs ya da kalp bölgesinde ağrılar

	4. Belin alt kısmında ağrılar
	5. Bulantı ve midede rahatsızlık hissi
	6. Adale (kas) ağrıları
	7. Nefes almada güçlük
	8. Soğuk veya sıcak basması
	9. Bedeninizin bazı kısımlarında uyuşma, karıncalanma olması
	10. Boğazınıza bir yumru takınmış hissi
	11. Bedeninizin çeşitli kısımlarında zayıflık hissi
	12. Kol ve bacaklarda ağırlık hissi

Appendix K: WHO Quality of Life Scale – Brief Form (WHOQOL-Bref)

Yönerge: Bu anket sizin yaşamınızın kalitesi, sağlığınız ve yaşamınızın öteki yönleri hakkında neler düşündüğünüzü sorgulamaktadır. Lütfen bütün soruları son 2 haftayı göz önünde bulundurarak ve size en uygun olanı seçerek cevaplayınız.

Çok kötü	**Biraz kötü**	**Ne iyi, ne kötü**	**Oldukça iyi**	**Çok iyi**
1	**2**	**3**	**4**	**5**

	1. Yaşam kalitenizi nasıl buluyorsunuz?

Hiç hoşnut değil	**Çok az hoşnut**	**Ne hoşnut ne de değil**	**Epeyce hoşnut**	**Çok hoşnut**

1	2	3	4	5

	2. Sağlığınızdan ne kadar hoşnutsunuz?

Hiç	Çok az	Orta derecede	Çokça	Aşırı derecede
5	4	3	2	1

	3. Ağrılarınızın yapmanız gerekenleri ne kadar engellediğini düşünüyorsunuz?
	4. Günlük uğraşlarınızı yürütebilmek için herhangi bir tıbbi tedaviye ne kadar ihtiyaç duyuyorsunuz?
	5. Yaşamaktan ne kadar keyif alırsınız?
	6. Yaşamınızı ne ölçüde anlamlı buluyorsunuz?

Hiç	Çok az	Orta derecede	Çokça	Son derecede
1	2	3	4	5

	7. Dikkatinizi toplamada ne kadar başarılısınız?
	8. Günlük yaşamınızda kendinizi ne kadar güvende hissediyorsunuz?
	9. Fiziksel çevreniz ne ölçüde sağlıklıdır?

Hiç	Çok az	Orta derecede	Çokça	Tamamen
1	2	3	4	5

	10. Günlük yaşamı sürdürmek için yeterli gücünüz kuvvetiniz var mı?
	11. Bedensel görünüşünüzü kabullenir misiniz?

	12. İhtiyaçlarınızı karşılamaya yeterli paranız var mı?
	13. Günlük yaşantınızda size gerekli bilgi ve haberlere ne ölçüde ulaşabiliyorsunuz?
	14. Boş zamanları değerlendirme uğraşları için ne ölçüde fırsatınız olur?

Çok kötü	Biraz kötü	Ne iyi ne kötü	Oldukça iyi	Çok iyi
1	2	3	4	5

	15. Bedensel hareketlilik (etrafta dolaşabilme, bir yerlere gidebilme) beceriniz nasıldır?

Hiç hoşnut değil	Çok az hoşnut	Ne hoşnut ne de değil	Epeyce hoşnut	Çok hoşnut
1	2	3	4	5

	16. Uykunuzdan ne kadar hoşnutsunuz?
	17. Günlük uğraşlarınızı yürütebilme becerinizden ne kadar hoşnutsunuz?
	18. İş görme kapasitenizden ne kadar hoşnutsunuz?
	19. Kendinizden ne kadar hoşnutsunuz?
	20. Aile dışı kişilerle ilişkilerinizden ne kadar hoşnutsunuz?
	21. Cinsel yaşamınızdan ne kadar hoşnutsunuz?
	22. Arkadaşlarınızın desteğinden ne kadar hoşnutsunuz?
	23. Yaşadığınız evin koşullarından ne kadar hoşnutsunuz?

	24. Sağlık hizmetlerine ulaşma koşullarınızdan ne kadar hoşnutsunuz
	25. Ulaşım olanaklarınızdan ne kadar hoşnutsunuz?

Hiçbir zaman	Nadiren	Ara sıra	Çoğunlukla	Her zaman
5	4	3	2	1

	26. Ne sıklıkta hüzün, ümitsizlik, bunaltı, çökkünlük gibi duygulara kapılırsınız?

Hiç	Çok az	Orta derecede	Çokça	Aşırı derecede
1	2	3	4	5

	27. Yaşamınızda size yakın kişilerle (eş, iş arkadaşı, akraba) ilişkilerinizde baskı ve kontrolle ilgili zorluklarınız ne ölçüdedir?