

ONLINE MINDFULNESS-BASED COGNITIVE THERAPY: INTERVENTIONS TO INCREASE RESILIENCE OF THE COVID-19 PATIENTS THROUGH CYBERPSYCHOLOGY APPROACH**Zainul Anwar*, Hida Yanti, Nadila Apriola Susanto, Aulia Rachma, Shella, Vania Damayanti****Faculty of Psychology, University of Muhammadiyah Malang, Malang, Indonesia****Abstract**

The study aims to test the effectiveness of the online Mindfulness-Based Cognitive Therapy in increasing the resilience of the Covid-19 patients through a *cyberpsychology* approach in the form of a website as a digitalization medium in providing Mindfulness-Based Cognitive Therapy interventions to the Covid-19 patients. The Mindfulness-Based Cognitive Therapy online program consists of six sessions and is carried out in four meetings of 30-120 minutes per meeting. The study is pre-experimental research using one group pretest-posttest experimental design. The study participants were 5 Covid-19 patients with mild and asymptomatic symptoms, males and females aged 20-27 years. The scale used as a measuring tool is the Connor Davidson Resilience Scale (CD-RISC). The hypothesis test results using analysis Wilcoxon signed-rank test showed a value of $Z = -2.023$ ($p < 0.05$), positive ranks with a mean rank of 3.00, and the sum of ranks 15.00. Thus, it indicates that online Mindfulness-Based Cognitive Therapy can increase the resilience of the Covid-19 patients significantly.

Keywords: Online mindfulness-based cognitive therapy. Resilience. Covid-19 patients. Cyberpsychology

Introduction

The World Health Organization (WHO) (2020) has identified psychological health as an integral component in dealing with Covid-19. It is in line with data from the Research Center for the Indonesian House of Representatives Expertise Board (2020) that 80% of the Covid-19 problems are psychological problems, while the rest are physical health issues. Furthermore, the public health emergency status established by WHO in the form of applying social restrictions, self-isolation, and human movement limitations will undoubtedly affect the community's psychological condition. In addition, based on the survey results of the Indonesian Mental Medicine Specialist Association (PDSKJI) (2020) regarding psychological problems during the Covid-19 pandemic, it was found that 68% of respondents experienced anxiety, 67% experienced depression, 77% experienced psychological trauma, and 15-20% respondents think it is better for them to die almost in every day.

The rapid spread of Covid-19 around the globe has brought many impacts on society, specifically the Covid-19 patients. The impacts include the loss of life, economic decline, or educational and social activities constraints, while the most worrying one is the psychological impact and people's behavioral changes. Additionally, coronavirus not only affects the patients' physical condition but also their mental health and quality of life. According to Nurjanah (2020), stress, anxiety, and depression are also felt by Covid-19 patients, leading to complications in patients. It is strengthened by Hayanti's (2020) research, claiming that the psychological conditions could cause insomnia which then slows down the drug absorption among the Covid-19 patients. Furthermore, stress can also increase the adrenaline hormone, causing changes in glycogen reserves in the

Manuscrito recibido: 16/03/2022
Manuscrito aceptado: 15/04/2022

*Corresponding Author: Zainul Anwar, Faculty of Psychology, Universitas Muhammadiyah Malang, Indonesia
Correo-e: zainulanwar@umm.ac.id

liver; thus, it could trigger heart and lung problems among the Covid-19 patients.

In some countries, the isolation of the Covid-19 patients may also contribute to suicide. For example, a student in Saudi Arabia committed suicide because he was infected by the Covid-19 (Thakur and Jain, 2020). While in Indonesia, a Covid-19 patient jumped from the 6th floor of a hospital due to depression because, although the patient had done a swab seven times in July 2020, the results were always positive. Other studies have also stated that death cases due to Covid-19 and isolation can affect the community's mental health. For example, it was found that the high mortality rates and prolonged isolation in an area trigger depression, anxiety, excessive fear, and changes in society's sleep patterns. As a result, it worsens the mental health condition and the physical condition of the Covid-19 patients.

The pressure caused by the spread of Covid-19 and its related policies affecting all levels of society makes it essential to adapt to changes currently happening. Individuals need adaptation or adjustment to get through the existing pressure so that they can reduce and prevent the negative psychological effects that may occur. According to Block (in Praghlapati, 2020), the individuals' high ability and flexibility to adapt when facing internal and external pressures is known as resilience. Resilience is essential for Covid-19 patients because by having good resilience, individuals can strengthen and change bad and disappointing situations into a normal state to live their lives.

The current Covid-19 pandemic has prompted a more serious discussion about the massification of mental health services as one of the most critical issues in the world. One intervention technique that plays a role in overcoming depression, stress, and anxiety disorders is *Mindfulness-Based Cognitive Therapy* (MBCT). MBCT has been proven to help people manage their reactions to stress and improve their coping skills in challenging situations (Alsubaie et al., 2017). Research by Solati (2017) also explains the effect of Mindfulness-Based Cognitive Theory procedures in increasing resilience and preventing disorders in wives of people with schizophrenia.

Based on the findings of earlier studies, Mindfulness-Based Cognitive Therapy can be an alternative to improve the psychological condition of the Covid-19 patients. Nevertheless, in most developing countries, mental health issues have not been prioritized compared to infectious diseases. In Indonesia, for

instance, mental health policy regulations and their implementation are still followed by gaps related to adequacy and access to services (Ayuningtyas et al., 2018). The limited access to Covid-19 patients makes the technology use an option in providing assistance during the Covid-19 pandemic. One of the methods is by using the *cyberpsychology* approach, which states that technology can provide its transformation performance to become one of the solutions in developing therapeutic practice (Caponnetto and Milazzo, 2019).

Referring to the previous descriptions, the researchers conducted a study on "Online Mindfulness-Based Cognitive Therapy: Interventions to increase the resilience of Covid-19 patients through cyberpsychology approach" to help to maximize the efforts to assist the Covid-19 patients. The novelty of the current research is the effort to develop the psychological interventions, namely Mindfulness-Based Cognitive Therapy, which has never been given directly to Covid-19 patients, especially in an effort to grow resilience in patients infected by Covid-19. Furthermore, the use of technology such as websites using the principle of a cyberpsychology approach in an effort to provide psychological intervention to the Covid-19 patients is also another point of novelty in this study, thus it can also be used as a solution in providing intervention in the midst of social distancing policies and the implementation of health protocols in the society.

The specific purpose of the current study is to determine and analyze the relationship between the Online Mindfulness-Based Cognitive Therapy intervention and the cyberpsychology approach in its effect on the resilience of patients infected by Covid-19. In addition, the study also aims to determine the effectiveness of using the website as a form of cyberpsychology approach in the application of Online Mindfulness-Based Cognitive Therapy in influencing the resilience of Covid-19 patients.

The benefit of the study is that it can be used as a theoretical basis to increase scientific knowledge as well as to develop research on the efforts to overcome the psychological impact of Covid-19, which can affect the level of individual resilience, especially the Covid-19 patients. Furthermore, the study can also be used as a consideration for health workers/therapists/government in creating a new alternative to increase the resilience of patients infected by Covid-19, especially through the application of the Online Mindfulness-Based Cognitive Therapy interventions with a cyberpsychology approach through the use of

websites.

The virtue of the current study is that the Covid-19 pandemic has prompted a more serious discussion about the massification of mental health services as one of the critical issues in today's world. Besides, the study needs to be carried out as an alternative to new psychological interventions in helping and improving the psychological condition of the Covid-19 patients. Furthermore, this study will also have an impact on the utilization, development, and deeper exploration of the Mindfulness-Based Cognitive Therapy intervention method.

The researchers of the current study target that in carrying out research on the effect of Online Mindfulness-Based Cognitive Therapy with a cyberpsychology approach, it can become a new technology-based intervention method in overcoming the psychological problems among Covid-19 patients, especially to help them rise from adversity due to an event that causes stress. Additionally, it is targeted that researchers can create an intervention instrument (tool) using cyberpsychology principles in the form of a website as an online medium to apply the Mindfulness-Based Cognitive Therapy to Covid-19 patients.

The study contribution regarding the Online Mindfulness-Based Cognitive Therapy with a cyberpsychology approach to the social sciences of the humanities is to provide knowledge about new intervention methods as innovations, especially in improving and developing the quality of individual's psychological conditions, one of which is the resilience of the Covid-19 patients.

Method

The current study includes two variables, namely online mindfulness-based cognitive therapy as the independent variable (X) and resilience as the dependent variable (Y). Participants taking part in the online mindfulness-based cognitive therapy program in this study were five Covid-19 patients who were selected based on the following criteria, namely (1) Covid-19 patients with mild and asymptomatic symptoms; (2) males and females; (3) aged between 20-27 years; (4) have a low-medium level of resilience after being measured using the Connor Davidson Resilience Scale (CD-RISC) developed by Connor and Davidson (2003); (5) able to read and write; and (6) willing to join or participate in the online mindfulness-based cognitive therapy programs. The instruments used in the study were informed consent, online mindfulness-based cognitive therapy program modules, assignments, emotional checklists, participants' non-formal daily journals, resilience scales, and interviews.

The research method is pre-experimental with the One Group Pre-test-Post Test Design model. Measurements were taken before the intervention (pre-test) and after the intervention (post-test). After that, the measurements were repeated two days after the intervention (follow-up). The intervention provided was in the form of an online mindfulness-based cognitive therapy program conducted in four meetings with a duration of 30-120 minutes. The data of this study were then analyzed using Wilcoxon signed-rank difference test to determine the difference in results before and after being given treatment.

Research Scale

The resilience scale used in the study is the Connor Davidson Resilience Scale (CD-RISC) developed by Connor and Davidson (2003). The Connor Davidson Resilience Scale (CD-RISC) reliability has an alpha value of 0.89 with a total item correlation range of 0.30-0.70. The CD-RISC consists of 25 items scored by: 1 strongly disagree, 2 disagree, 3 less disagree, 4 agree, and 5 strongly agree. Categorization on the CD-RISC scale is that the total score of 1-25 is classified as very low resilience, 26-50 is classified as low resilience, 51-75 is classified as moderate resilience, and 76-100 is classified as high resilience.

On the other hand, the emotion scale used in the study is a self-report scale designed by the researchers to measure the negative emotions of the Covid-19 patients; the emotion scale consists of 20 items with measurements of 1-4 (1 = never, 2 = rarely, 3 = often experienced 4 = always experienced), and then categorized with 1-20 classified as very low, 21-40 as low, 41-60 as moderate, and 61-80 classified as high. The aspects on the emotional scale include observing, describing, doing with awareness, and receiving without judging.

Module Validation

The online mindfulness-based cognitive therapy module consists of a guide on the steps of the intervention process. It is equipped with videos of materials and practices given to the participants. The online mindfulness-based cognitive therapy module was compiled based on the Mindfulness-Based cognitive therapy for depression book by Seagel, Williams, and Theasdale in 2013. The module made by the researchers then went through a module validation stage by three psychologists as a module of professional judgment and it was analyzed in two stages, namely Aiken V and interclass correlation (ICC). The results of Aiken V's calculation show a score of 0.89, which can be interpreted that the online mindfulness-based cognitive therapy module meets the content validity satisfactorily. In addition, the ICC was conducted to determine the consistency among raters concerning the assessment given. In the end, the ICC results show a score of 0.837. Thus, the results indicate that the agreement among the raters is quite satisfactory. The next stage is conducting a module trial on 5 Covid-19 patients, which was held from August 1 to 6, 2021. The results of the trial process evaluation are taken into consideration for the implementation of the intervention.

Results

Table 1 shows the description of the research participants. Most of the research participants were female and only one participant was male; most of the participants were students and only one participant was a teacher. The participants' age ranges from 20 to 27 years old. As shown in Table 1, the participants were positively exposed to the coronavirus with different symptoms, the positive time they were exposed to the coronavirus and the feelings they felt were also different, and all participants were self-isolated patients (Table 1).

Based on the CD-RISC scale measurement results in Figure 1, there is a change in the average resilience score. Before being given the online mindfulness-based cognitive therapy intervention, the resilience score average (pre-test) was 50.2. After being given online mindfulness-based cognitive therapy (post-test), the resilience score average increased by 45.2 points to 95.5 (Figure 1).

Next, based on the results of the emotional scale measurement in Figure 2, there was a change in the emotional score average of the participants in each session. In session 1, after being treated with the online mindfulness-based cognitive therapy, the participants' emotional score average was 50.2; then in session 2, after the online mindfulness-based cognitive therapy, the participants' emotional score average was 37.6; next in session 3, after being given the online mindfulness-based cognitive therapy, the participants' emotional score average was 33.6; in session 4, after online mindfulness-based cognitive therapy, the participants' emotional score average was 30.2; in session 5, after being given the online mindfulness-based cognitive therapy, the participants' emotional score average was 28.6; and finally in session 6, after the online mindfulness-based cognitive therapy, the participants' emotional score average was 26.8. From the data, it can be concluded that there was a decrease in the level of the participants' negative emotions in each online mindfulness-based cognitive therapy session (Figure 2).

Hypothesis

The statistical analysis used the Wilcoxon signed-rank to test the research hypothesis "Online Mindfulness-Based Cognitive Therapy Through a CyberPsychology Approach can increase the resilience of the Covid-19 patients". The test was carried out by comparing the CD-RISC scores of the groups at the pretest and posttest. The result is p-value = 0.043 (p < 0.05). It means that there is a significant difference in the level of participants' resilience between the pretest (before the intervention) and the posttest (after the intervention). Finally, statistical testing was carried out using the same method on the participants' pretest and posttest resilience scores. The result shows that Z = -2.023 (p < 0.05); positive ranks with a mean rank of 3.00 and sum of ranks of 15.00. It means there is a significant increase in the level of participants' resilience.

Table 1: Participants' Identity.

Initials	Sex	Profession	Age	Length exposed to the virus	Participants' feelings lately	Symptoms of Covid-19	Treatment Place
MNF	F	College Student	20	7 days	Sad	cough, diarrhea, muscle pain, and flu	Self Isolation
EH	F	College Student	24	13 days	Worried	asphyxia and muscle pain	Self Isolation
YY	M	College Student	20	8 days	Fine	cough, anosmia, and muscle pain	Self Isolation
SBR	F	Teacher	27	5 days	Fine	cough and anosmia	Self Isolation
RR	F	College Student	20	7 days	Anxious and Nervous	cough, anosmia, and muscle pain	Self Isolation

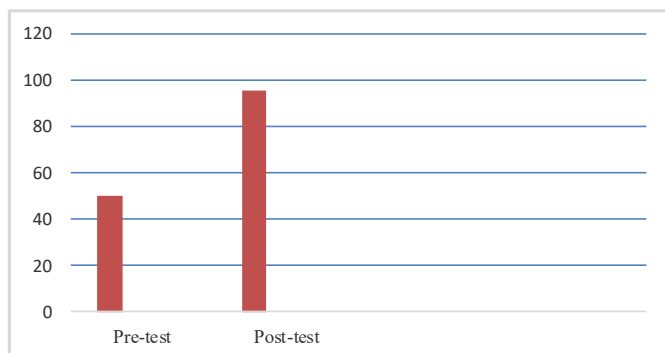


Figure 1: Differences in resilience score of participants before and after intervention.

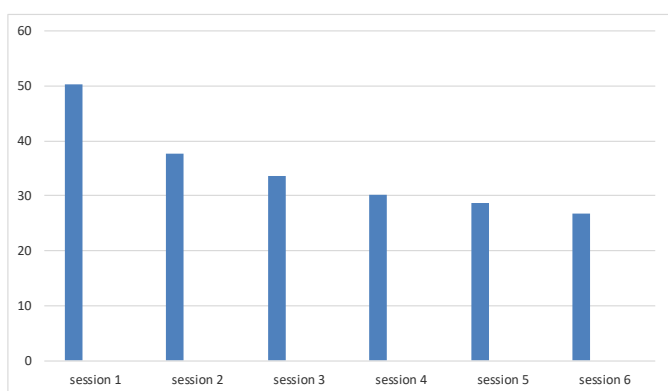


Figure 2: The decreasing of participants' negative emotion score in every session.

Further, the researchers also conducted the same statistical test on the participants' emotional scale scores as a manipulation check. The first test was conducted by comparing the score of the emotional scale at the pretest and posttest. The results obtained p -value = 0.043 ($p < 0.05$). It means that there is a significant difference in the level of negative emotions among the participants between the pretest (before the intervention) and the posttest (after the intervention). In the end, statistical testing was carried out with the same method on the participants' pretest and posttest emotional scores. The result shows that $z = -2.023$. Negative rank with a mean rank of 3.00 and sum of ranks of 15.00. It means there is a significant decrease in the level of participants' negative emotions.

Discussion

As stated in the initial discussion, the research aims to increase the resilience of the Covid-19 patients through an online mindfulness-based cognitive therapy program using the cyberpsychology approach. The data analysis results showed a significant difference in resilience scores between the pretest and posttest. The score difference is in the form of an increase in the level of participants' resilience after being given an online mindfulness-based cognitive therapy intervention.

The measurement of the participants' resilience level was carried out three times, during the initial screening, when the initial pretest was carried out two weeks after the screening, and before giving therapy to the experimental group to see the current condition of the participants. The measurement of the participants' resilience level was carried out again after the online mindfulness-based cognitive therapy was given. Based on the results of the quantitative analysis using the Wilcoxon signed-rank nonparametric test, it was found that there was a significant difference between the pretest and posttest of the experimental group. The difference in the level of resilience in the experimental group can also be seen from the individual graphs and the participants' qualitative data results after receiving therapy. Based on the explanation above, it can be concluded that online mindfulness-based cognitive therapy has an influence on increasing the resilience of the Covid-19 patients.

Based on the screening and pretest results, it appears that the participants in the study are categorized into low to moderate resilience. It is evidenced by the resilience scale and participants' stories while joining therapy and from their diaries. The feelings, thoughts, and behaviors that emerge from the participants

are that they often feel sad, anxious, nervous, easily tired, pessimistic about their recovery, losing interest and pleasure, blaming the situation, experiencing asphyxia, sleep disturbances, and so forth. The behaviors are among the symptoms of people who have low levels of resilience.

Resilience is a personal quality that develops when facing difficulties in life. The basic concepts of resilience in individuals are acceptance and the ability to face and transform the difficulties in the past, future, and current life. Resilience is also related to various multidimensional processes among the interactions of various factors such as biological, cognitive, interpersonal, and contextual (Surzykiewicz et al., 2019). The Covid-19 patients experiencing low resilience will look sad, unhappy, complain a lot, get irritated and angry easily. The Covid-19 patients with low resilience often feel that no one cares and loves them. The patients sometimes feel empty, numb, and complain of pain that actually does not exist (Nurjannah, 2020).

The online mindfulness-based cognitive therapy consists of six sessions with four online meetings, in which each meeting provides participants with specific knowledge and skills. The **first** session in the online mindfulness-based cognitive therapy program is a mindful eating session, in which participants are taught to raise awareness when touching and enjoying food. In the **second** session, there is a mindful breathing practice, in which participants are taught to be aware and observe every breath that goes in and out by understanding and realizing reactions from thoughts that arise from pleasant or unpleasant experiences as well as giving more attention to the body. In session **three**, there is a mindful walking practice and 3-minutes breathing; in this session, participants are taught to have awareness in connecting themselves to the moment they are currently experiencing. In session **four**, there is a mindful breathing practice, in which participants are taught to be aware of and observe every breath that goes in and out by understanding and realizing the reactions of thoughts that arise from pleasant or unpleasant experiences and giving more attention to the body. In session **five**, there is a sitting practice (hearing and seeing), in which participants are taught to build skills to overcome problems patterns that arise through the MBCT technique. In the last session, which is session six, there is a body scan practice, in which participants are taught to strengthen their skills and knowledge of MBCT.

Through the online provision of MBCT as a psychological intervention, participants are taught to raise awareness of various body sensations, thoughts, and emotions and respond more adaptively to the emergence of negative emotional symptoms that trigger resilience levels in participants. Online MBCT also helps to reduce negative automatic thoughts and various dysfunctional behaviors (Kaviani et al., 2011). The five fundamental aspects of mindfulness, namely acting with awareness of the ability to observe, the ability to describe, non-reactive attitude and attitude without judgment that is taught and applied in MBCT, help the Covid-19 patients who have many cognitive distortions to be able to have more apparent awareness, so they can think non-reactive and non-judgmental on the overall experiences they have. Changes in a more adaptive mindset will affect emotional changes that become more positive, followed by more appropriate or adaptive behavioral responses.

The researchers' findings in the current study are that the online mindfulness-based cognitive therapy can also reduce the level of negative emotions of the participants, as can be seen from the significant pretest and posttest results. Furthermore, the online mindfulness-based cognitive therapy also seems to increase the participants' positive thoughts. It is based on the results of interviews with participants and diaries, which show that the subjects are more grateful, enjoy every activity they are doing, are not in a hurry, and feel inner peace when facing problems.

Conclusion

The study's result indicates a significant increase in resilience scores after being given the intervention. It means that the hypothesis proposed in the research "*Online Mindfulness-based cognitive therapy through a cyberpsychology approach can increase resilience in COVID-19*" is accepted. Additionally, a significant increase in mindfulness conditions significantly affects resilience scores and decreasing negative emotional scores in the Covid-19 patients.

Suggestion

Participants of the current study are expected to continue practicing the online MBCT exercises independently and consistently. In addition, participants' families and closest relatives are expected to help and psychologically assist the Covid-19 patients by providing a special room for the Covid-19 patients to practice the online MBCT. Lastly, further researchers are advised to include more sharing sessions, choosing facilitators who are experienced in the field of mindfulness-based cognitive therapy, have good micro-skills, and can arrange pre-sessions before starting the intervention program or process.

Acknowledgments

The researchers express their gratitude to the Directorate General of Higher

Education, Ministry of Research, Technology, Education, and Culture of the Republic of Indonesia through the Student Creativity Program (PKM) so that they can produce this original article. In addition, the researchers also thank the University of Muhammadiyah Malang boards who have provided insightful suggestions and direction regarding the preparation of this original article so that the researchers can complete this original article properly.

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