

Efficacy of video-based psychotherapy in reducing psychological distress of COVID-19 patients treated in isolation ward

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ABSTRACT

BACKGROUND Hospitalized patients with COVID-19 experience isolation during treatment, which may cause psychological distress. Thus, alternative ways to deliver psychological support are needed when face-to-face therapy is not possible. This study aimed to investigate the efficacy of video-based psychotherapy in reducing distress in COVID-19 patients treated in an isolation ward.

METHODS This quasi-experimental trial without a control group included 42 COVID-19 patients aged 20–59 years. Participants were recruited conveniently in the COVID-19 isolation ward in Cipto Mangunkusumo Hospital, Jakarta, Indonesia. They watched three brief psychotherapy videos including relaxation, managing thoughts and emotions, and mindfulness for approximately 30 min. The videos were created by the Department of Psychiatry, Faculty of Medicine, Universitas Indonesia. Subjective units of distress scale (SUDS) was measured before and after watching all videos. Data were analyzed using the Wilcoxon-signed rank test.

RESULTS All 42 subjects finished watching the videos. 31 subjects experienced a significant median decrease in SUDS score after the intervention. The effect size of the psychotherapy videos for the SUDS score was 0.485 (95% CI 0.302 to 0.634).

CONCLUSIONS Watching psychotherapy videos is effective in reducing the SUDS score for COVID-19 patients in an isolation ward. Our brief video-based psychotherapy intervention has reduced psychological distress in hospitalized COVID-19 patients with limited access to face-to-face consultations due to the risk of disease transmission.

KEYWORDS COVID-19, instructional film and audio, patient isolation, psychological distress, psychotherapy

The coronavirus disease 2019 (COVID-19) pandemic has impacted the public in several ways, including mental health. Anxiety, depression, psychological trauma, and psychological problems are among the mental health problems reported in the general population during the pandemic, including in Indonesia.¹ Medical management of COVID-19 patients requires an isolation ward.² Treatment in isolation wards on hospitalized patients demonstrates detrimental effects

on the patients' psychological condition and associated behavioral disturbance, compounding complex medical disorders and psychiatric diagnoses of delirium, mood, anxiety, adjustment, and stressor-related disorders. Patients with psychological distress need psychological intervention, such as psychotherapy. However, the implementation of conventional face-to-face psychotherapy in an isolation ward is currently facing limitations due to the risk of disease transmission.³

Various psychotherapy interventions such as relaxation techniques, managing thoughts and feelings, and mindfulness could help reduce psychological distress in patients affected by the pandemic.⁴ Psychotherapy using video is an alternative method, which has been done through teleconsultation to various patient groups. There was no study on the efficacy of video psychotherapy to reduce psychological distress. This psychotherapy might be an applicable treatment for COVID-19 patients in an isolation ward where face-to-face therapy is difficult to perform. This study aimed to observe the efficacy of a video-based psychotherapy in reducing psychological distress for hospitalized COVID-19 patients in a medical isolation ward.

METHODS

Basic procedure

This study used a pretest-posttest quasi-experimental design without a control group. Patients with COVID-19 were recruited in the Kiara Ultimate isolation ward, Cipto Mangunkusumo Hospital, Jakarta from June to August 2020. The inclusion criteria were patients diagnosed with mild and moderate COVID-19, aged 18 years and above, able to give informed consent, and watched the full psychotherapy videos independently. Subjects were excluded if they were in unstable conditions such as being on a ventilator, having breathing difficulties or experiencing fluctuating levels of consciousness, and having physical and intellectual disabilities that might hinder their ability to understand the instructions in the video-based psychotherapy intervention. The sample size was 42 subjects using the formula for testing the hypothesis on the mean of two paired populations by assuming $\alpha = 0.05$, $\beta = 0.9$, and mean difference of 2.

All participants were informed of the study protocol and filled out the written informed consent. All data were kept confidential. The protocol was approved by the Ethics Committee of the Faculty of Medicine, Universitas Indonesia (No: KET-505/UN2.F1/ETIK/PPM.00.02/2020).

Video-based psychotherapy

Participants were given a video-based psychotherapy comprised a series of three different videos in Indonesian created by the Department of Psychiatry, Faculty of Medicine, Universitas

Indonesia, Cipto Mangunkusumo Hospital. No validation study for the video was available. The video creators were psychiatrists with a minimum of 15 years of clinical experience in psychotherapy. Therapeutic elements in the three consecutive short videos included relaxation therapy, managing thoughts and feelings, and mindfulness. These videos included an explanation on the approach, technique guidance, and examples to practice the therapy independently. Each video had over 10 min length. The patients watched the videos through Google Drive (Google LLC, USA). As for now, the videos have not been made for the public.

The first video introduced the purpose and benefits of relaxation techniques and demonstrated simple techniques for the participants to follow, including rhythmic breathing, progressive muscle relaxation, imagining a comforting and quiet place, and positive self-talk. In the second video, the participants were introduced to the concept of acceptance of their condition and invited to recognize the emergence of negative feelings and thoughts related to acceptance, illustrated through a conversation in the video that demonstrated thoughts and feelings management training. The last video introduced the three basic mindfulness skills: observation, elaboration, and participation.

Data collection

During the recruitment period, health care workers looked for patients who met the inclusion criteria. Suitable patients were contacted by the research team via voice or video call to explain the research protocol. Participants were asked to fill out two forms: a written informed consent and an online research form. Health care workers then gave the links for the videos, online research form, and written informed consent form. Participants could choose to watch the videos using an electronic device provided by the research team or their own devices. The intervention was given to each participant directly after the recruitment by providing a device to watch the videos and fill out the online research form. The intervention approximately took 45 min; the first 36 min was used to watch the video, and the remaining time was used to collect data aside from the subjective units of distress scale (SUDS), such as demographic information. Follow-up was immediately done after the intervention by filling

out a SUDS questionnaire. Participants were given toiletry kits such as a towel and soaps as incentives for going through the research protocol.

Data on demographic information, length of stay in the isolation ward, and psychological distress score before and after watching the videos measured using the SUDS developed by Joseph Wolpe in 1969⁵ were collected. SUDS is a self-rating instrument for measuring psychological distress in individuals. Psychological distress is defined as the feeling of discomfort when facing stressors. We did not specify the distress as a specific emotion, such as sadness, anxiety, anger, etc; thus, any discomfort feeling could be reported as distress. The instrument is widely used around the world but has yet to be validated into an Indonesian version. Participants gave their score based on their subjective experience of distress, measured on a scale of 0 (no distress) to 10 (very severe or extreme distress).

Statistical analysis

Participants' demographic data included age, sex, education level, occupation, and marital status. Normality test was done using Shapiro-Wilk test in all numeric variables. Changes in SUDS scores were analyzed using Wilcoxon-signed rank test. The relationship between age, sex, education level, and occupation and the changes in SUDS scores was analyzed using Pearson correlation, Mann-Whitney, and Kruskal-Wallis tests. A p -value of <0.05 was considered statistically significant. Effect size and confidence interval (CI) were also calculated. Statistical analyses were performed using SPSS software version 20.0 (IBM Corp., USA).

RESULTS

There were 42 COVID-19 patients included in this study (Figure 1). All patients finished watching all psychotherapy videos. Subjects' characteristics are shown in Table 1.

Subjective units of distress scale (SUDS)

The median SUDS score was shifted from 5 (0–9) to 3 (0–9), before and after watching the psychotherapy. Of 42 subjects, 31 (74%) subjects had a decrease in SUDS scores, 4 (10%) subjects had an increase, and 7 (17%) subjects had no change. A subsequent phone call interview was done to explore why the subjects

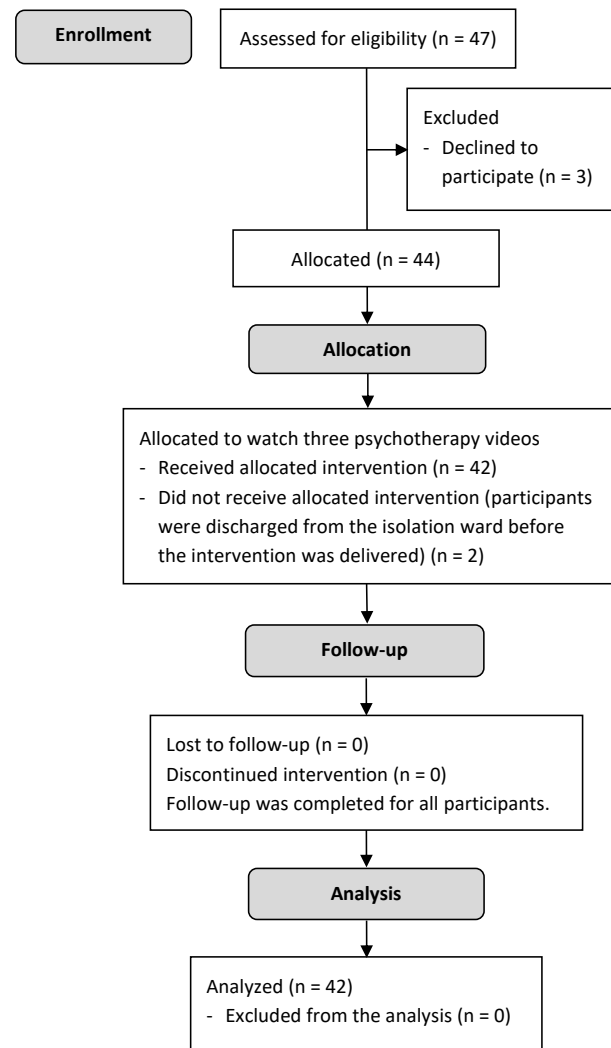


Figure 1. Flowchart of the subject recruitment process

had increased SUDS scores. All four subjects reported misinterpretation of the written instructions when filling out the SUDS questionnaires. However, they experienced the benefits of the psychotherapy by confirming with open questions. There was a significant decrease in SUDS score after the intervention ($p < 0.001$). The effect size was 0.485 (95% CI 0.302 to 0.634), inferring a medium effect size. Sub-analysis of SUDS score changes among age, sex, education level, and occupation is presented in Table 2.

DISCUSSION

Although necessary, isolation in hospitals has negative impacts on patients' mental well-being and behavior, including depression, anxiety, and anger.^{3,6} We found that video psychotherapy is significantly effective in reducing the psychological distress of

Table 1. Subjects' characteristics

Characteristics	n (%) (N = 42)
Age (years), mean (SD)	37.7 (8.6)
20–29	9 (21)
30–39	16 (38)
40–49	13 (31)
50–59	4 (10)
Sex	
Male	14 (33)
Female	28 (67)
Education level	
Elementary School graduate/equivalent	1 (2)
Junior High School graduate/equivalent	3 (7)
Senior High School graduate/equivalent	12 (29)
Higher Education graduate	26 (62)
Occupation	
Civil servant	18 (43)
Private employee	13 (31)
Unemployed	10 (24)
Entrepreneur	1 (2)
Marital status	
Single	7 (17)
Married	34 (81)
Divorced	1 (2)
Finished watching all videos	
Yes	42 (100)
No	0 (0)
Length of stay in the isolation ward (days), median (min–max)	4.5 (1–35)
1–7	34 (81)
8–14	6 (14)
29–35	2 (5)

SD=standard deviation

COVID-19 patients in an isolation ward. Numerous stressors contributing to negative psychological effects have been identified, including longer quarantine duration, infection fears, frustration, boredom, inadequate supplies, inadequate information, financial loss, and stigma.⁷ Various studies have employed telecommunication, such as video psychotherapy and online group chat, to mitigate the effects.^{8,9} Internet-based intervention programs for mental health are effective in reducing depression, stress, and anxiety.¹⁰ There have been numerous studies on the efficacy of psychotherapy via telecommunication technologies such as

Table 2. Sub-analysis of SUDS score changes

Characteristics	SUDS score changes, median (min–max)	p
Age		0.011*
Sex		0.248 [†]
Male (n = 14)	1 (0–6)	
Female (n = 28)	2 (0–6)	
Education level		0.201 [‡]
Elementary School graduate/equivalent (n = 1)	1	
Junior High School graduate/equivalent (n = 3)	2 (1–4)	
Senior High School graduate/equivalent (n = 12)	1 (0–5)	
Higher Education graduate (n = 26)	3 (0–6)	
Occupation		0.345 [‡]
Civil servant (n = 18)	2.5 (0–6)	
Private employee (n = 13)	2 (0–6)	
Unemployed (n = 10)	1 (0–5)	
Entrepreneur (n = 1)	4	

SUDS=subjective units of distress scale

*Pearson correlation test ($r = 0.388$); [†]Mann-Whitney test; [‡]Kruskal-Wallis test

telepsychiatry and internet-based intervention. One of the studies had applied an internet-based integrated intervention using audio recordings of breath relaxation training, mindfulness, “refuge” skills, and butterfly hug method for COVID-19 patients in an isolation ward.¹¹ Consistent with our findings, the intervention significantly reduced depression level and anxiety symptoms in hospitalized COVID-19 patients. However, no studies utilized pre-recorded video-based psychotherapy for hospitalized COVID-19 patients.

The intervention in our study included educational videos about relaxation, managing thoughts and feelings, and mindfulness. Teaching relaxation techniques to COVID-19 patients has reduced anxiety and improve sleep quality.¹² Several physical and psychological benefits achieved through means of relaxation may include: 1) promoting feelings of well-being and tranquility to support sleep hygiene, thus alleviating insomnia; 2) providing fortification of the immune system, helping to reduce anxiety, and strengthening coping mechanisms for dealing

with adverse events which may cause distress; 3) improving physiological symptoms which may appear due to anxiety; 4) providing an increase in energy and positive thoughts and inducing a positive self-image.¹³ Managing thoughts and feelings as the basic principles of cognitive therapy was used in a study among hospitalized patients with other conditions. It has been proven to improve depressive symptoms and health-related quality of life.¹⁴ Besides the instructions and examples of thoughts and feelings management, the video also included the explanation of five stages of grief by Kübler-Ross, which was modified based on the patient's situation when admitted to an isolation ward. This approach may address the patient's losses such as separation from loved ones, unemployment, financial problems, and decline of support system, which may be related to the patients' condition.¹⁵ There have been numerous studies focusing on mindfulness during this COVID-19 pandemic era. Mindfulness may represent a protective factor against anxiety, dysphoric mood, lack of motivation, loss of vital energy, feelings of hopelessness, and cognitive and other somatic correlates of depression.¹⁶ Several studies have also discussed the benefits and various applications of mindfulness during the pandemic and its possible integration with technology.¹⁷⁻¹⁹

Our study found a statistically significant correlation between age and SUDS score changes in the sub-analysis. This finding may be caused by the higher fluctuation of distress for being subjected to decreased productivity and the concern related to the financial state during hospitalization that were experienced by the younger subjects. Studies have also shown that age is a factor related to distress, and younger individuals are more susceptible to distress during this pandemic.^{20,21} Regardless, more studies are needed to confirm the relationship between age and distress in our setting.

Video psychotherapy is a potential alternative approach of psychological support besides the traditional face-to-face practice that cannot be delivered to COVID-19 patients. Several limitations of our study should be noted. First, we used a small sample size with no control group. Moreover, the same intervention was given considering the patients' various psychosocial and educational backgrounds, which potentially influenced the beneficial effects of the intervention. The wording of the instructions

and videos should be easily comprehensible to cover different educational levels. Furthermore, the measurement was self-reported, which is susceptible to possible bias. Finally, the measurement was done before and after delivering all videos, so the individual effects of each video were not discernible. Further studies with a more rigorous design are suggested, which include data of patients with medical comorbidity to further confirm the finding among populations of COVID-19 patients with comorbidities.

Several recommended for mental health services for COVID-19 patients in an isolation ward include providing psychotherapy videos on the hospital's website or other media sites, providing the gadgets to the patients, and allocating medical staff responsible for giving instructions on video access. SUDS evaluation should also be performed regularly on patients in the COVID-19 isolation ward to monitor their mental health state as expressed in psychological distress. The medical staff in the isolation ward should have basic knowledge of the videos before delivering the intervention to provide further information on the contents.

In conclusion, a brief video-based psychotherapy intervention has a positive effect in reducing distress in COVID-19 patients hospitalized in isolation wards. This novel study could be used for further research on the delivery of video psychotherapy to COVID-19 patients in an isolation ward.

Conflict of Interest

The authors affirm no conflict of interest in this study.

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