

The Role of Online Psychotherapy in COVID-19: An Evidence Based Clinical Review

Hamzah Shatri^{1,4}, Oryza Gryagus Prabu², Erpryta Nurdia Tetrasiwi², Edward Faisal¹, Rudi Putranto¹, Raden Irawati Ismail³

¹ Division of Psychosomatic and Palliative, Department of Internal Medicine, Faculty of Medicine Universitas Indonesia, Cipto Mangunkusumo National Hospital Jakarta, Indonesia

² Resident of Internal Medicine, Department of Internal Medicine, Faculty of Medicine Universitas Indonesia, Cipto Mangunkusumo National Hospital, Jakarta, Indonesia.

³ Department of Psychiatry, Faculty of Medicine, Universitas Indonesia dr. Cipto Mangunkusumo National Referral Hospital, Jakarta, Indonesia.

⁴ Clinical Epidemiology Unit, Department of Internal Medicine, Faculty of Medicine Universitas Indonesia-RSUPN Cipto Mangunkusumo, Jakarta, Indonesia.

Corresponding Author:

Hamzah Shatri, MD. Division of Psychosomatic and Palliative, Department of Internal Medicine, Faculty of Medicine Universitas Indonesia - Cipto Mangunkusumo Hospital. Jl. Diponegoro no. 71, Jakarta 10430, Indonesia. E-mail: hshatri@yahoo.com; psikosomatik@yahoo.com.

ABSTRAK

Latar belakang: COVID-19 merupakan penyakit infeksi yang mudah menyebar dan memiliki manifestasi klinis penyakit ringan, sedang, atau berat. Pasien COVID-19 harus diisolasi selama perawatan untuk mengurangi penularan. Hal ini dapat menyebabkan kecemasan dan depresi, yang selanjutnya memperburuk penyakit pasien. Pemberian psikoterapi suportif dapat membantu memberikan rasa aman, nyaman dan tenang bagi pasien. Pemilihan metode dalam pemberian psikoterapi suportif dapat dilakukan secara telekonsultasi atau berbasis internet. Kajian klinis ini bertujuan untuk mengetahui pengaruh telekonsultasi atau telepsikoterapi berbasis internet terhadap pasien COVID-19. **Metode:** Pencarian literatur dilakukan dengan menggunakan database penelitian, seperti PubMed, Cochrane, EBSCO/CINAHL dan ProQuest. Artikel yang diidentifikasi disaring menggunakan kriteria kelayakan. Ada 2 penelitian (Zhou dkk. dan Wei dkk.) yang dianalisis secara kritis menggunakan Newcastle Ottawa Scale. **Hasil:** Kedua penelitian tersebut menunjukkan bahwa penatalaksanaan psikoterapi melalui telekonsultasi maupun berbasis internet pada pasien COVID-19 dapat membantu meringankan gejala psikologis pasien. Zhou dkk. mempelajari 63 suspek COVID-19 dengan 23,8% (n = 15) memiliki skor Hospital Anxiety Depression Scale (HADS) 8 atau lebih. Terdapat penurunan yang signifikan pada skor HADS-Anxiety (HADS-A) (p <0,01) dan skor HADS-Depresi (HADS-D) (p <0,01) pada 15 pasien, dan dari skor HADS keseluruhan (p <0,01). Wei dkk. Menunjukkan skor 17-HAMD dan HAMA pada kelompok intervensi psikologis online juga menunjukkan penurunan yang signifikan dalam gejala depresi dan kecemasan dibandingkan dengan kontrol. **Kesimpulan:** Psikoterapi melalui telekonsultasi daring atau berbasis internet pada pasien COVID-19 dapat membantu meringankan gejala kecemasan dan depresi serta efektif dalam menangani komplikasi psikologis pada pasien COVID-19.

Kata kunci: ansietas, depresi, COVID-19, telekonsultasi, telepsikoterapi.

ABSTRACT

Background: COVID-19 is an infectious disease that is easily widespread and has clinical manifestations as mild, moderate, or severe disease. COVID-19 patients are required to be isolated during treatment to reduce transmission. This can cause anxiety and depression, which in turn worsens the patient's illness. Providing supportive psychotherapy can help provide a feeling of safety, comfort and calm for patients. The choice of method in providing supportive psychotherapy can be done online/teleconsultation or internet-based. This clinical review aims to determine the effect of online teleconsultation or internet-based psychotherapy on COVID-19 patients. **Methods:** A systematic search was performed using online databases, such as PubMed, Cochrane, EBSCO/CINAHL and ProQuest. The identified articles were screened using eligibility criteria. There were 2 studies (Zhou et al, and Wei et al) which were analyzed critically using the Newcastle Ottawa Scale. **Results:** Both studies showed that management of psychotherapy through teleconsultation or internet-based on COVID-19 patients can help relieve the patient's psychological symptoms. Zhou et al studied 63 suspected COVID-19 with 23.8% ($n = 15$) having a Hospital Anxiety Depression Scale (HADS) score of 8 or more. There was a significant decrease in HADS-Anxiety (HADS-A) scores ($p < 0.01$) and HADS-Depression (HADS-D) scores ($p < 0.01$) in 15 patients, and from the overall HADS scores ($p < 0.01$). Wei et al. Showed 17-HAMD and HAMA scores in the online psychological intervention group also showed a significant reduction in symptoms of depression and anxiety compared to controls. **Conclusion:** Psychotherapy through online teleconsultation or internet-based on COVID-19 patients can help relieve symptoms of anxiety and depression and teleconsultation and also effective in dealing with psychological complications in patients with COVID-19.

Keywords: anxiety, depression, COVID-19, teleconsultation, telepsychoteraphy.

INTRODUCTION

SARS-CoV2 or Severe Acute Respiratory Syndrome Coronavirus-2 was at the end of 2019 causing a pneumonia epidemic in the city of Wuhan, the capital of Hubei province spreading throughout China. After infecting and causing death to thousands of people in China, the virus spread to European countries, the United States, Asia, including Indonesia.¹ The World Health Organization (WHO) declared COVID-19 a global pandemic of SARS-CoV2, in the month of March 2020. As of December 29, 2020, COVID-19 had infected 81 million people, with a death rate of 2.18%. In Indonesia, the first cases were reported in March 2020, until the end of December 2020 there were 719,219 cases with 21,452 fatalities (2.98%).² Symptoms of COVID-19 include fever, chills, cough, sore throat, myalgia, nausea and vomiting, and diarrhea. However, there are some severe symptoms which can lead to respiratory failure, heart failure, and even death, especially in patients with comorbidities.³

Apart from the physical abnormalities that occur, COVID-19 can have serious effects on the psychological health of patients. The

psychological outcomes observed in the COVID-19 pandemic can occur in individuals, communities, nationally and internationally. In individuals, it creates fear around getting infected, which may lead to debilitating disease resulting in helplessness and even death. Pandemics have serious effects on psychological health that can lead to psychosomatic crises conditions. In addition, patients who are in isolation or quarantine can also experience anxiety, anger, stress, irritability, insomnia that develop into fatigue and depression. The pandemic may also give rise to other symptoms of psychological trauma such as post-traumatic stress reactions, hyperactivity and attention disorders, and mood disorders.⁴

As COVID-19 is spread through direct transmission and the key in breaking the chain of infection is to keep distance and use protective equipment, this may cause problems with dispensing person-to-person care such as psychotherapy. One alternative is to use online technology to allow psychotherapy for patients with confirmed COVID-19 who have psychological problems.⁵ This paper will conduct a clinical review of the role of online

psychotherapy (telepsychotherapy) in patients with COVID-19.

METHODS

Protocol

This review follows established evidence-based clinical review guidelines to ensure clarity and transparency. The topic should be currently relevant and of common clinical interest. The literature search is conducted, using the following databases: PubMed, Cochrane, EBSCO/CINAHL, and ProQuest and also included are additional hand-picked sources of information related to the study.^{6,7}

Eligibility Criteria

The inclusion criteria for this clinical review includes experimental studies, longitudinal, and descriptive cohorts of teleconsultative management of COVID-19 patients. The exclusion criteria are studies of COVID-19 patients without teleconsultation management or teleconsultation in non-COVID-19 context.

Search Strategy

A systematic literature search was carried out on 25 December 2020, using the following databases: PubMed, Cochrane, EBSCO/CINAHL, and ProQuest; using the keywords attached to **Table 1**. The selection of literature is limited to English or Indonesian literature.

Data Collection

From each study, study citations, basic characteristics of the included subjects, the interventions performed, and the study results were collected. Characteristics of each study are also collected, such as: study design, study location, and patient characteristics (age, sex,

sample size, other comorbidities).

Quality Assessment and Data Synthesis

Two independent reviewers conducted independent quality assessments of the collected studies (ENT and OGP). Inclusion studies were critically reviewed using the Newcastle Ottawa Quality Assessment Scale (NOS). If there are differences, the NOS value will be discussed between the two reviewers until they reach a conclusion. A high-quality study is defined as one that meets a minimum NOS score of 7.

Data was synthesized based on 2 distinct, high-quality studies with consistent findings. The collected data were analysed by considering the variable analysis method used, number of studies, study results, odds/hazard ratios, and confidence intervals.

RESULTS

The literature search was carried out using the keywords attached to **Table 1** which resulted in 190 studies. Of the 190 studies identified, 90 articles were obtained after duplication screening. After filtering through the title and abstract, four articles were obtained. After screening with eligibility criteria, there were two articles that met the inclusion and exclusion criteria, namely Zhou, et al.⁸ and Wei, et al.⁹ for a qualitative clinical review. Two other studies were excluded because PICO was not as determined by the authors. The flow of our study selection is showed in **Figure 1**.

All studies were level 2 for evidence-based research according to Oxford 2011 and could be classified as high quality based on each NOS score. The results of the critical analysis are attached in **Table 2**. A summary of the basic

Table 1. Search queries.

Database	Queries	Hits
PubMed	"psychotherapy" AND ("teleconsultation" OR "telemedicine" OR "E-therapy" OR "internet-based") AND ("COVID-19" OR "SARS-CoV-2" OR "Severe Acute Respiratory Syndrome Corona Virus 2")	52
ProQuest	"psychotherapy" AND ("teleconsultation" OR "telemedicine" OR "E-therapy" OR "internet-based") AND ("COVID-19" OR "SARS-CoV-2" OR "Severe Acute Respiratory Syndrome Corona Virus 2")	138
Cochrane	("COVID-19" OR "2019nCoV" OR "coronavirus" OR "SARS-CoV2") AND "psychotherapy" AND "online"	15
EBSCO/CINAHL	AB "COVID-19" AND AB ("psychotherapy" OR "therapy" OR "counseling") AND AB "online"	267

characteristics of each study is attached in **Table 3**.

Research from Zhou et al.⁸ is a quasi-experimental study with pre-post design. This study aimed to determine the effectiveness and to evaluate the effectiveness of the intervention on the psychological condition of patients suspected with COVID-19. Patients included in this study satisfied the following criteria: 1) aged at least 18 years, 2) suspected cases of COVID-19, 3) can use a smartphone with the WeChat application and 4) have no previous mental health problems. This study excluded patients with 1) cognitive

impairment which resulted in inability to complete informed consent or questionnaires, 2) psychosis, dementia, or communication difficulties.

Zhou et al.⁸ provided psychological care and assessed the results through pretest-posttest design using Hospital Anxiety and Depression Scale (HADS). HADS has 2 parts, namely HADS-A to assess anxiety, and HADS-D to assess depression, with a score above 8 indicating significant depression or anxiety. Patients with HADS 8 and above will undergo two individual

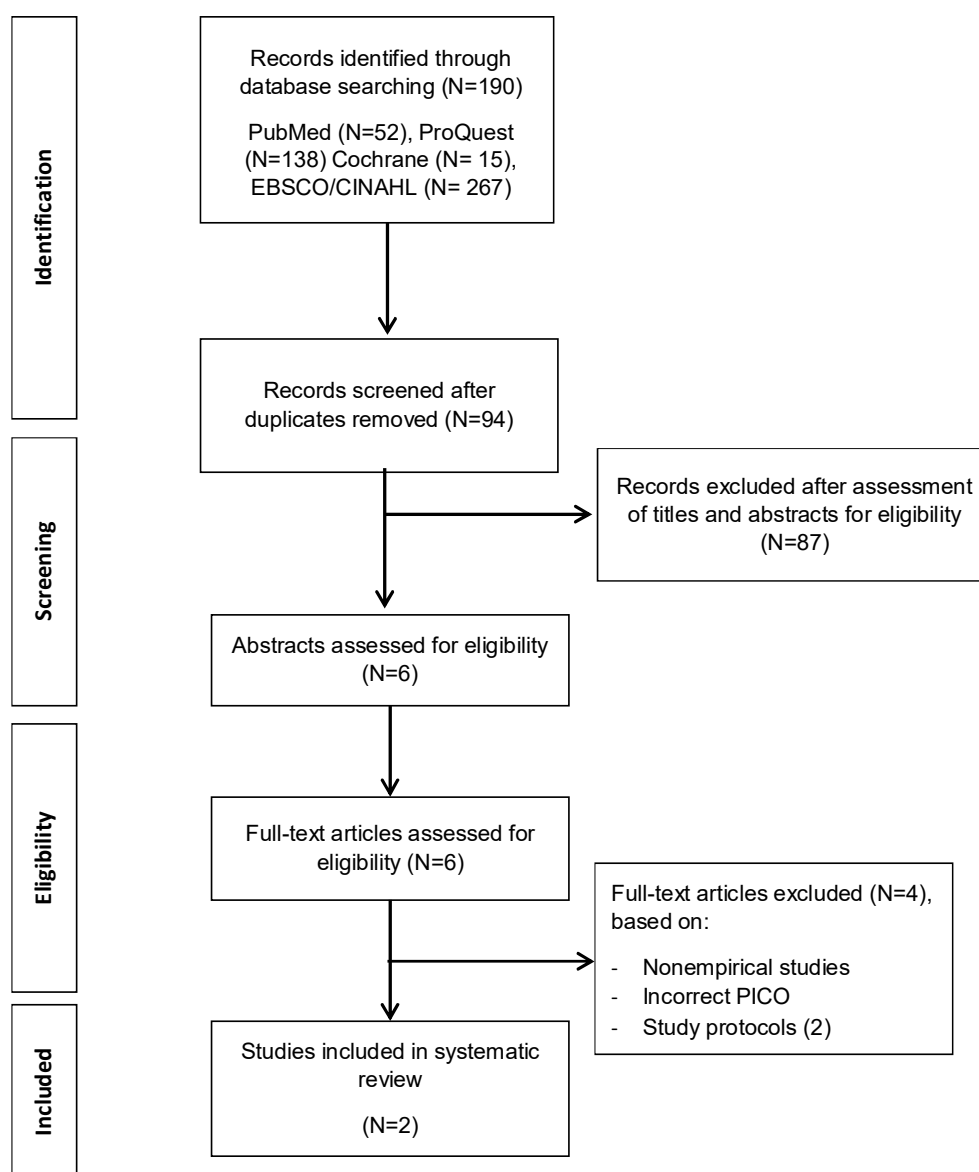


Figure 1. The Process Diagrammatically Study Selection.

Table 2. Quality of the studies based on Newcastle Ottawa Scale.

Study	Selection	Comparability	Outcome	Total
Zhou et al ⁸	***	*	**	6
Wei et al ⁹	***	**	***	8

Table 3. Descriptions of the studies found.

Authors	Published	Study Location	Age (years)	Total sample Total	Total sample M/F	Instrument	Results
Zhou et al. ⁸	Februari/2020	China	Median 33.9	63	30/33	HADS	Individual counseling intervention with WeChat could significantly reduce the HADS score ($p < 0.01$) in suspected COVID-19 patients with anxiety and depression.
Wei et al. ⁹	Februari/2020	China	Median 40.8	26	16/10	PHQ-9 and GAD-7; 17-HAMD and HAMA for assessing the degree of anxiety and depression	Intervention with 4 components: breath relaxation exercises, mindfulness, refuge, and butterfly hug method via smartphone. The results showed a significant decrease in the 17-HAMD value in the intervention group in the first week ($t = -2.381$; $p = 0.026$) and second ($t = -3.089$; $p = 0.005$), as well as a decrease in the value of HAMA at the end of the first week ($t = -2,263$; $p = 0.033$) and second week ($t = -3.746$; $p = 0.001$)

consultations via WeChat for 10 minutes each. A total of 63 patients with suspected COVID-19, with 23.8% ($n = 15$) having a HADS score of 8 or higher. There was a significant decrease in the HADS-A ($p < 0.01$) and HADS-D scores ($p < 0.01$) in 15 patients, and from the overall HADS score ($p < 0.01$).⁸

Research by Wei et al.⁹ conducted a prospective study in Hangzhou, China. All patients with confirmed COVID-19 in the isolation treatment room were screened using the Patient Health Questionnaire-9 (PHQ-9) and Generalized Anxiety Disorder-7 (GAD-7) for psychological disorders. Twenty-six COVID-19 patients were included in the study. After recruitment, the 26 patients were randomized into 2 groups, namely the intervention group which received intervention via the internet or was only supportive (control group). The 17-item Hamilton Depression Scale (17-HAMD) and Hamilton Anxiety Scale (HAMA) scoring were used to assess the severity of depression and anxiety

symptoms and assess the efficacy of weekly internet interventions. The intervention given consisted of 4 components, namely breathing relaxation exercises, mindfulness, "refuge" skills, and the butterfly hug method. Instructions are recorded and uploaded online. Subjects in the intervention group listened to the audio via cell phones and followed instructions for the intervention exercise every day for 2 weeks.⁹

Based on this study, there was a significant decrease in the 17-HAMD score in the patients in the intervention group compared to the control group both in the first week ($t = -2.381$; $p = 0.026$) and the second week ($t = -3.089$; $p = 0.005$). The HAMA score also showed a statistically significant decrease in the intervention group compared to the control at the end of the first week ($t = -2,263$; $p = 0.033$) and week two ($t = -3,746$; $p = 0.001$). There was no difference in age, sex, severity of disease, PHQ-9 score, GAD-7, 17-HAMD, or HAMA at baseline.⁹

DISCUSSION

COVID-19 is an infectious disease with severe impact worldwide. Its rapid transmission and high mortality can cause psychological distress.¹⁰ As the COVID-19 pandemic progresses, the use of teleconsultation or online psychotherapy has a place in the management of the psychological complications of the disease in patients, medical staff and the general population undergoing quarantine.¹¹

The results of Zhou et al.⁹ study showed that most COVID-19 suspects experienced symptoms of anxiety and depression during their quarantine at the hospital. Individual counselling using WeChat was found to significantly reduce anxiety and depression in these patients.⁶ The findings in this study suggest that the use of teleconsultation is effective in managing psychological complications in patients with COVID-19. Similar to Zhou et al.⁸ study, Wei et al.⁹ study conducted interventions using the internet and it was found that the 2-week intervention could significantly reduce the degree of depression and anxiety based on the 17-HAMD and HAMA scores. This shows that interventions via the internet or online have a role in improving the psychological outcome of patients with COVID-19.

In terms of analysis, the study of Zhou et al.⁸ included a simple analysis, without describing the characteristics of the study population in detail in order to objectively quantify the stressors that play a role in causing anxiety and depression in patients such as severity of illness or presence of comorbidities. However, with a sample size of 63 people, this study has been able to demonstrate the impact of teleconsultation, as evidenced by a significant reduction in measured anxiety and depression. The study of Zhou et al.⁸ also did not use a control group because it used a quasi-experimental study design.

In contrast to Zhou et al.⁸ study, Wei et al.⁹ study divided the subjects into two groups, namely the group that was given intervention via the internet and the control group who received only supportive therapy. However, the total amount of subjects who participated in this study were only a small number of 26 subjects, with each group consisting of 13

subjects. However, statistically there was a significant outcome after treatment, so it can be concluded that this study had also demonstrated the ability of internet consultation in reducing symptoms of depression and anxiety in patients with COVID-19, assessed in the first and second week. There was no significant difference between the basic characteristics of the two groups. Based on these results, interventions that integrate the internet have potential in creating rapid improvement in mood disorders and can be utilized in psychological management of patients with COVID-19. However in this study, as patients only exhibit mild to moderate symptoms of depression and anxiety, it was considered appropriate to dispense therapy through online-based platforms. Patients with more severe symptoms were not included in the analysis.⁹

The popularity of internet services creates an alternative for health workers to provide services including mental health services. In a meta-analysis, it was found that online-based psychotherapy was as effective as face-to-face behavioural therapy interventions in improving symptoms of depression, anxiety, and other psychological symptoms.¹² In addition, the use of online interventions has several advantages over face-to-face therapy, namely ease of access, time and location flexibility, increased privacy and autonomy, and also more cost efficient.¹³ Said factors are relevant to COVID-19 patients who are required to carry out quarantine, preventing further transmission of SARS-CoV2. Online interventions also reduce the risk of infection being transmitted to health workers.⁹

The psychological impact of the COVID-19 pandemic must be recognized along with the physical symptoms for all those affected. Telehealth, or more specifically tele-consulted health services, is a practical and feasible approach in supporting patients, family members and health care providers during this pandemic.¹⁴ As of this writing, there have been 713,000 cases of COVID-19 in Indonesia, with 21,237 deaths. Psychological symptoms associated with COVID-19 have been observed at the population level including anxiety about availability of food and other supplies as well as attendance at community events. Students, workers and tourists

who are prohibited from accessing academic institutions, workplaces, homes, respectively, are expected to experience psychological symptoms due to stress and reduced autonomy and worries about income, employment, security, and so on.¹⁵

In the absence of a medical cure for COVID-19, the global public health response is to isolate or create distance from those who are infected or at risk, reducing social contact to slow the spread of the virus, whilst maintaining good hygiene through hand washing practices to further reduce the risk of transmission. Although major isolation interventions may work in curbing transmission rates, they also lead to reduced access to their respective social support systems, leading to loneliness, and worsening of anxiety and depressive symptoms.¹⁶ If left untreated, these psychological symptoms may have long-term health effects on patients and require additional treatment adding to the burden of disease management costs. Clinical and nonclinical staff are also at risk of psychological distress because they are expected to work longer hours with a higher risk of exposure to the virus. This may also lead to stress, anxiety, fatigue, depressive symptoms, and the need for sick or stressful leave, which will negatively impact the health system's capacity to provide services during a crisis.¹⁷

Treatment protocols for people with COVID-19 must meet the physiological and psychological needs of patients and healthcare providers. Providing psychological care and support can reduce the burden of comorbid mental health conditions and ensure the well-being of those affected. Our challenge is to provide mental health services in the context of patient isolation, highlighting the role of telehealth (via video conferencing, email, telephone or smartphone applications). Providing mental health support, especially via telehealth, is likely to help patients maintain psychological well-being and better cope with acute and post-acute health requirements.

The examples and evidence supporting tele-mental health effectiveness are mixed, particularly in the context of depression, anxiety, and PTSD. Videoconferencing, online forums, smartphone applications, SMS, and e-mail have

proven to be useful communication methods for the delivery of mental health services.¹⁸⁻²² Several studies have also demonstrated the implementation of teleconsultation during the COVID-19 pandemic.²³⁻²⁷ This clinical review shows that there is evidence to apply teleconsulting with various media to reduce the psychological impact of COVID-19.

A limitation in this clinical review is the exclusion of articles written in languages other than English and Indonesian. This study also cannot proceed to quantitative analysis because of the use of heterogeneous sample and variable.

CONCLUSION

This evidence-based clinical review reports studies on the effectiveness of teleconsultation and psychotherapy in patients with COVID-19. As a preventive and curative effort, teleconsultation or online intervention can be applied more broadly and in the long term.

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