

## Supplement: Sustainable Collaboration in Healthcare

# The Effectiveness of Digital-Based Psychotherapy in Overcoming Psychological Problems in College Students During the COVID-19 Pandemic: A Scoping Review

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**Purpose:** This review aims to determine the effectiveness of the application of digital-based psychotherapy in overcoming the psychological problems of college students during the COVID-19 pandemic. **Methods:** Several databases consisting of EBSCO-Host CINAHL, PubMed, Scopus, Sage Journal, and Taylor and Francis were used in the search process and resulted in experimental studies focusing on the effectiveness of the application of digital-based psychotherapy during the COVID-19 pandemic timeline (2019–2022). Descriptive and exploratory analyses were performed based on the data set from the study. **Results:** A total of 12 articles were included in the review. The digital psychotherapy interventions found are diverse including websites, smartphone applications, and video conferencing with the types of therapies provided in the form of, Cognitive Therapy, Cognitive-Behavioral Therapy, Psychodynamic Therapy, and Mindfulness Therapy. Each intervention has a diverse duration and frequency adjusting to the type of therapy given. Digital psychotherapeutic interventions are effective in reducing mental health problems among college students during the COVID-19 pandemic. **Conclusions:** The use of digital psychotherapy can be used as a prevention and support service for students who experience psychological problems during the COVID-19 pandemic. The combination of the use of digital media with video conferencing can be considered to increase the effectiveness of this service. Nurses need to understand how the procedure for implementing digital-based psychotherapy is to improve the quality of mental care services as an effort to prevent and support students. More research is needed to find out the effectiveness of the use of digital psychotherapy services and how they impact the psychological well-being of students holistically.

**Keywords:** *college student; digital psychotherapy; online psychotherapy; COVID-19*

## Introduction

During the COVID-19 pandemic, the government implemented various policies to suppress the transmission of SARS-CoV-2 such as *physical*

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*distancing*, large-scale social restrictions, working from home, and distance learning. The role of the Indonesian government in academic settings during the COVID-19 pandemic is to implement an online learning or distance learning policy for schools in the COVID-19 red zone. Based on the Instruction of the Minister of Home Affairs Number 14 of 2021, the implementation of teaching and learning activities (Schools, Universities, Academies, Places of Education/Training) for Districts/Cities within the Red Zone is held online (Mendagri, 2021). Another role carried out by the Government of Indonesia in academic arrangements during the COVID-19 pandemic is to issue Circular Letter Number 15 of 2020 concerning Guidelines for Implementing Learning from Home in the Emergency Period of the Spread of Covid-19. In addition to the positive impact of online learning can reduce the transmission of SARS-CoV-2, online learning also has a negative impact on students, including students. Limited communication, reduced interaction, and lack of socialization with friends, lecturers, and the environment are negative impacts of online learning which can affect the psychological condition of students (Rahmawati, 2021). In addition, the demands to adapt to changes that occur in the learning process, difficulty understanding the lecture material, a higher workload, and the existence of additional roles and responsibilities at home are new problems that students must face during online learning or distance learning. People with low social support perceptions were 4.84 to 5.98 times more likely to have symptoms of anxiety and depression than those with high social support perceptions (Ma et al., 2020).

Seeing that various phenomena of increasing psychological problems due to the COVID-19 pandemic occur in the community, especially among students, it is necessary to take measures to reduce and prevent further negative impacts on mental health. One of the treatments that can be done to overcome psychological problems is the provision of interventions in the form of psychotherapy (Harrer et al., 2021). Psychotherapeutic theory provides a framework for therapists and counselors to interpret the client's behavior, thoughts, and feelings, understand the client and their problems, develop solutions, and guide the client's direction of travel from diagnosis to post-treatment (American Psychological Association, 2009; The Family Institute Northwestern University, 2015). Psychotherapeutic approaches fall into five broad categories (American Psychological Association,

2009), namely (1) Psychoanalysis and psychodynamic therapy (focusing on changing problematic behaviors, feelings, and thoughts by finding meaning and subconscious motivations); (2) Cognitive therapy (focuses on dysfunctional thought changes that lead to dysfunctional emotions or behaviors. By changing thoughts, a person can change his feelings and behavior); (3) Humanistic therapy (focusing on free will, human potential, and self-discovery to help develop a strong and healthy sense of self, explore feelings, find meaning, and strength); (4) Behavioral therapy (focusing on the role of learning in developing normal and abnormal behaviors); and (5) Integrative or holistic therapy (a fusion of several different psychotherapeutic approaches).

One type of psychotherapy that is suitable for use in the conditions of the COVID-19 pandemic is the digital psychotherapy approach. Digital psychotherapy is the transformation of psychotherapeutic intervention from manual to electronic-based (web or smartphone application) (Andrews et al., 2018; Weightman, 2020). Digital/internet-based psychological interventions are effective in addressing mental health issues (Harrer et al., 2021). Digital psychotherapy has a large reach, is easily accessible, and the online format allows compliance to keep a distance (Brog et al., 2022). In addition, digital psychotherapy can be a nonstigmatizing approach to improve the utilization of treatment among students with depressive symptoms (Harrer et al., 2021).

Each individual has different characteristics, so a holistic approach is needed that views the individual as a whole in the application of psychotherapy even using digital media. According to AHNA (2007) holistic nursing emphasizes the healing of the human being as a whole which includes aspects of the body, soul (*spirit*), and mind (*mind*). Holistic nursing is the provision of nursing care for the bio-psychosocial and spiritual well-being of individuals, families, and communities. Holistic is one of the concepts underlying nursing actions that include physiological, psychological, sociocultural, and spiritual dimensions. The dimension is a complete whole, if one dimension is disturbed it will affect the other dimension. A holistic approach to nursing includes interventions that focus on the patient's response that heal people thoroughly and help with balance. In this case, nurses help patients to take responsibility for personal health by acting as a role model of health that integrates self-care in life and is carried out in everyday life.

Based on the literature review, there have been many primary studies that discuss the effectiveness

of digital-based psychotherapy that can be applied to students who experience psychological problems. However, researchers have not found any studies that comprehensively review the topic. Therefore, a review of research is needed to illustrate the effectiveness of digital-based psychotherapy in overcoming students' psychological problems during the COVID-19 pandemic. The novelty of this study is to summarize the results of recent studies on the effectiveness of digital-based psychotherapy in overcoming psychological problems in students during the COVID-19 pandemic. The reason why the researchers conducted this study was that they wanted to complement the research deficiencies that reviewed the latest evidence on the effectiveness of digital-based psychotherapy in overcoming psychological problems in students during the COVID-19 pandemic. The results of this study are expected to be used as a basis for the application of digital-based psychotherapy practices to overcome psychological problems in students during the COVID-19 pandemic.

## Methods

### Study Design

*Scoping review* as a methodological technique used in this review is considered flexible enough to explore new topics that are growing rapidly (Peterson et al., 2017). This design has a wider conceptual range so that it is able to explain a variety of relevant study results (Tricco et al., 2018). The framework used in this *scoping review* consists of five core stages, namely, identification of research questions, identification of relevant study results, selection of studies, mapping data, compiling,

summarizing, and reporting results (Bradbury-Jones et al., 2021).

### Search Strategy

Systematic searches have been carried out on several major databases consisting of CINAHL, PubMed, and Scopus. We also did a search from an online search namely Sage Journal and Taylor and Francis. The initial search was carried out by identifying the results of the study based on three terms, namely, "college student," "digital psychotherapy," and "COVID-19." Synonyms for each search term are used to get the entire likelihood of a relevant article. In the process, the author uses the Boolean operators "AND" and "OR" to truncate or expand the search for various forms of words. Terms used in searches include College student, Undergraduate student, Bachelor student, and Online, Virtual, Digital, Internet, "Online system," "virtual system," Psychotherap\* (Psychotherapy, Psychotherapies), Therapy, Counselling, Intervention, Treatment, "Psychosocial intervention," "COVID-19," Pandemic, Coronavirus OR 2019-ncov, SARS-CoV-2, and cov-19. This search includes all primary research studies with experimental designs that have been published in English between 2019 and 2022. The selection of studies in that time span is based on the timing of the COVID-19 pandemic.

### Inclusion Criteria

We identified students as a population (P), the COVID-19 pandemic as context (C), and digital psychotherapy as a concept (C). Through the PCC framework, all major studies discussing the effectiveness of implementing digital psychotherapy for students during the COVID-19 pandemic were included (Table 1). Nonexperimental studies, opinion pieces, and editorials that do not report on the implementation procedures of digital psychotherapy are issued in this review.

### Selection of Studies

A total of 4,818 articles were obtained through the search process. The reference manager tool was used to check the duplication of articles so that 1,888 identical articles were subsequently excluded from the list. A total of 2,930 articles subsequently went through a process of filtering titles and abstracts by each author independently. A total of 2,851 articles were deleted following the application of the

Table 1. PCC's Search Strategy.

PCC's Framework	Keywords
<b>Populations:</b> College students	College student OR Undergraduate student OR Bachelor student
<b>Content:</b> Digital psychotherapy	Online OR Virtual OR Digital OR Internet OR online system OR virtual system Psychotherapy OR Psychotherapies OR Therapy OR Counselling OR Intervention OR Treatment OR Psychosocial intervention
<b>Context:</b> COVID-19 Pandemic	COVID-19 OR Pandemic OR Coronavirus OR 2019-ncov OR SARS-CoV-2 OR cov-19

**Table 2.** Study Included with JBI Critical Appraisal Tool.

Author, published year	JBI critical appraisal score	Overall appraisal
Harrer et al., 2021	84.6% (11/13)	Include
Bruhns et al., 2021	77.7% (10/13)	Include
Dumarkaite et al., 2021	77.7% (10/13)	Include
Raevuori et al., 2021	84.6% (11/13)	Include
Bantjes et al.	46.1% (6/13)	Exclude
Young et al., 2022	77.7% (10/13)	Include
Krifa et al., 2021	77.7% (10/13)	Include
Celia et al., 2021	92.3% (12/13)	Include
Lerardi et al., 2022	88.8% (8/9)	Include
Ritvo et al., 2021	100.0% (13/13)	Include
Sun et al., 2021	92.3% (12/13)	Include
Rackoff et al., 2022	100.0% (13/13)	Include
Lahtinen et al., 2021	77.7% (10/13)	Include

JBI: Joanna Briggs Institute.

inclusion criteria and eventually obtained 79 articles that were considered relevant for full-text review. Each of the authors conducted an independent review of the full text and discussed when it found disagreements over the decision on the selection of the article. Important extraction data included in this review include methods, regional settings, objectives, interventions, and findings. The examination of the quality of the study using the Joanna Briggs Institute Critical Appraisal Tools became the basis for reaching a consensus on the selection of articles among the authors so that 12 articles were obtained that were included in the review (Table 2). Preferred Reporting Items for Systematic Reviews and Meta-Analyses flowchart is used to show the study selection process (see figure 1).

## Data Analysis

All research selected is a study with an experimental design with a quantitative approach. Therefore, the analysis method used is exploratory descriptive. This method allows the author to collect various important information regarding the effectiveness of the application of digital psychotherapy.

## Results

### Summary of Study Characteristic

From the 12 articles identified, two studies were conducted in Germany (Bruhns et al., 2021; Harrer

et al., 2021) Italy (Celia et al., 2021; Cellia et al., 2021), and Finland (Dumarkaite et al., 2021; Rackoff et al., 2022) as well as one study each from Lithuania (De Fabritiis et al., 2022), Hong Kong (Raevuori et al., 2021), Tunisia (Young et al., 2022), Canada (Lerardi et al., 2022), China (Ritvo et al., 2021), and the United States (Sun et al., 2021). All study results explore the effectiveness of various digital-based psychological interventions by focusing on psychological disorders in the form of stress, depression, and anxiety during the COVID-19 pandemic. All of the subjects of his research were students with sample sizes ranging up to 670 participants. Students who are research samples are given interventions in the form of digital-based psychological therapy in the modules that have been provided and also a predetermined time limit.

The key findings show that: (i) Websites (Cellia et al., 2021), *smartphone* applications (Bruhns et al., 2021; Harrer et al., 2021; Raevuori et al., 2021), audio (Dumarkaite et al., 2021; Sun et al., 2021), and *video conferencing* (Krifa et al., 2022; Lerardi et al., 2022; Ritvo et al., 2021) used as a medium in the application of digital-based psychotherapy to students during the COVID-19 pandemic; (ii) Digital psychotherapy is provided in the form of *e-modules* and synchronous online classes accessible through the aforementioned media. *The e-module* contains psychoeducational material (in the form of texts, illustrations, infographics, digital audio, videos, and journal links), In addition, there are mental health screenings, diaries, emergency contacts, as well as weekly exercises and tasks to encourage the application of interventions already studied in everyday life. The presentation of psychoeducation and interactive practice of psychotherapy *online* is carried out with guidance by mental health experts; (iii) The types of digital psychotherapy provided include *Cognitive Therapy*, *Cognitive-Behavioral Therapy* (CBT), *psychodynamic therapy*, and *Mindfulness Therapy*; (iv) Each intervention has a varying duration of intervention with a range of 5–90 min in each session. The intervention can be carried out once a day, once a week, or two times a week adjusting to the type of therapy given; (v) The internet-based digital psychotherapy interventions provided have been shown to be effective in reducing mental health problems among college students during the COVID-19 pandemic such as symptoms of depression, stress, anxiety, worry, and emotional fatigue. In addition, digital psychotherapeutic interventions can also increase resilience, emotional regulation competence, relaxation, *self-compassion*, *self-esteem*, self-efficacy, and *mindfulness*.

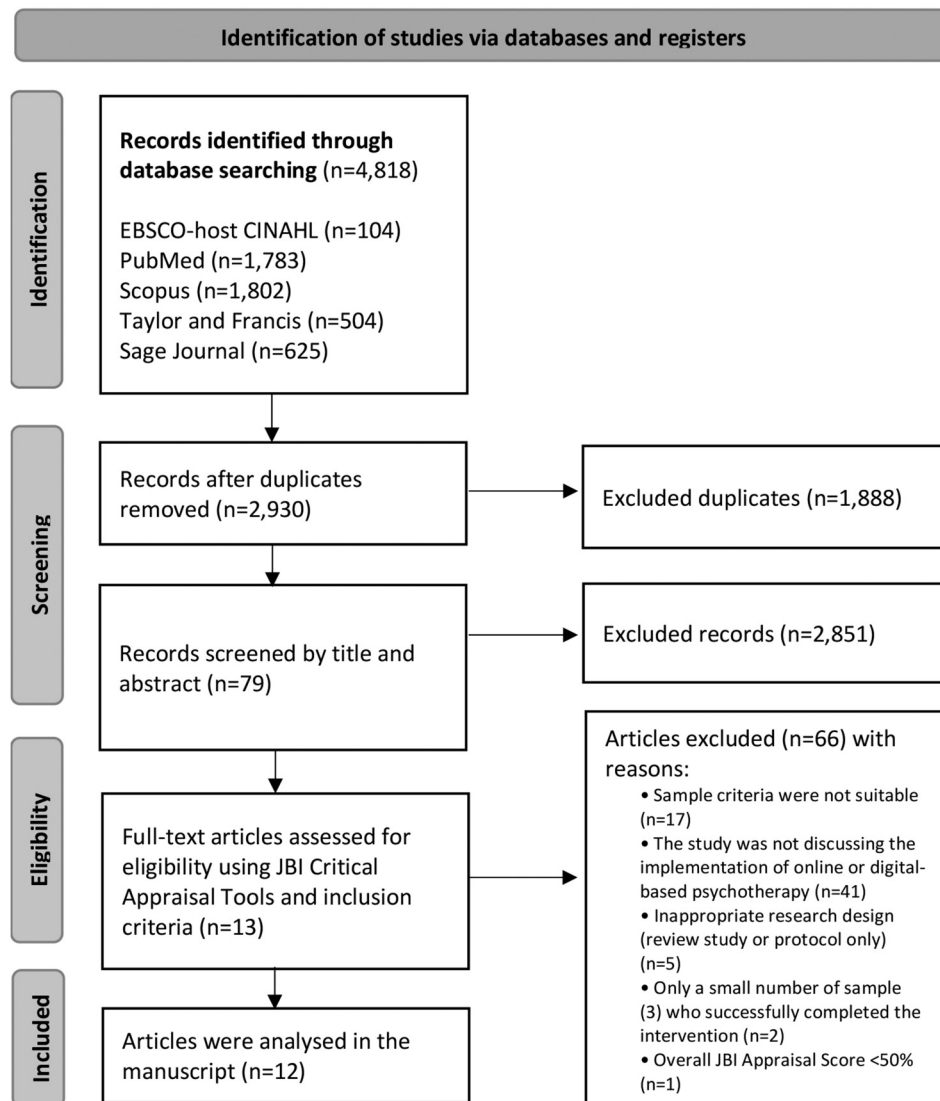


Figure 1. PRISMA Flow Diagram.

## Discussion

Based on the results of the literature review, psychological problems that occur in students during the Covid-19 pandemic include Depression, Anxiety, Stress, Worry, Emotional Fatigue, PTSD, and CPTSD. The psychotherapeutic interventions used to overcome the problem consist of *Metacognitive Therapy (MCT)*, *Cognitive Behavioral Therapy*, *Third-Wave Therapies*, *Mindfulness Therapy*, *Psychoeducation*, *Brain Wave Modulation Technique (BWM-T)*, and *Psychodynamic Therapy* (Table 3). The provision of psychotherapy is packaged using digital media as a form of adjustment to the Covid-19 pandemic situation so that it is referred to as Digital Psychotherapy. Digital media used for the

provision of digital psychotherapy include: websites, *smartphone* applications, and *video conferencing* sites/applications. Digital psychotherapeutic interventions are provided in the form of E-modules that can be accessed through websites or *smartphone* applications (containing text, images, videos, and psychotherapy audios) as well as online meetings with psychotherapy experts through video conferencing sites/applications. Digital psychotherapy has been shown to reduce symptoms of depression, anxiety, stress, worry, emotional fatigue, PTSD, and CPTSD, and can improve students' resilience, emotional regulation competence, *self-compassion*, and *self-esteem* (Bruhns et al., 2021; Celia et al., 2021; Dumarkaite et al., 2021; Harrer et al., 2021; Krifa et al., 2021; Lahtinen et al., 2021; Lerardi

et al., 2022; Rackoff et al., 2020; Raevuori et al., 2021; Ritvo et al., 2021; Sun et al., 2021; Young et al., 2022). Therefore, the use of digital-based psychotherapy is worth considering with various evidence that the intervention is effective in overcoming psychological problems in students. Digital psychotherapy can be a means for students to achieve holistic well-being, including aspects of the mind *and* soul.

The psychological well-being of students is important in supporting the learning process in the midst of a situation of university academic arrangements full of stressors (Mikolajczyk et al., 2009; Rehman et al., 2020). Negative consequences such as mental health problems are often experienced by students as a result of demand in achieving academic goals (Eisenberg et al., 2007; Klainin-Yobas et al., 2014). This condition can ultimately affect the well-being and academic success of students (Savarese et al., 2020). The implementation of the policy of limiting physical interaction during COVID-19 has also worsened the condition by inhibiting face-to-face psychological intervention (Salimi et al., 2021). In a related study, 60% of students stated that the pandemic has made it difficult for them to access mental health services (The Healthy Minds Network & American College Health Association, 2020). Meanwhile, most students who rely on the university for mental health services cannot be served due to COVID-19 (Salimi et al., 2021). Universities, especially mental health support service providers, may consider implementing digital-based psychotherapeutic interventions to provide adequate psychological support for students. In addition to considering accessibility aspects, the COVID-19 pandemic also increases the chances of mental health problems that require more attention (Torales et al., 2020). Providing optimal psychological support can be an important step in promoting holistic well-being and supporting students' learning outcomes.

The advantages of digital psychotherapy include having a large reach, being easily accessible anywhere and anytime, and the online format allows compliance with health protocols during the Covid-19 pandemic. In addition, digital psychotherapy offers easily accessible and convenient therapies for those who may not be able to access therapy, for example, due to geographical location, time constraints, or due to fear of stigma. The provision of digital psychotherapy services today can be a nonstigmatizing approach to improve the utilization of mental health treatment

in students with psychological problems. Even so, there are challenges in the use of digital psychotherapy as well as unstable internet connectivity that can interfere with the smooth process of intervention (Celia et al., 2021). In addition, psychotherapy carried out through the application also limits the monitoring of compliance with the use of the application according to the recommended duration (Bruhns et al., 2021; Young et al., 2022). The results of the Lippke et al. study show that there is a relevance between the expected treatment results and participants' adherence to the use of application (Lippke et al., 2021). However, other researchers concluded that using moderate-frequency applications produces only a small additional benefit when compared to the use of lower frequencies (Donkin et al., 2013). Therefore, further evaluation is still needed to understand the linear relationship between frequency of use and symptom reduction.

The provision of digital-based psychotherapy services in fact still requires various considerations, especially in terms of risks and benefits. Aspects of confidentiality, security, competence of therapists, communication problems related to technology, research gaps, and emergency conditions are of particular concern in the implementation of digital psychotherapy (Stoll et al., 2020). In addition, it is important to ensure therapists have clinical competence in accordance with digital settings because skills in the form of direct contact cannot be translated automatically in a digital or online context (Johnson, 2014). The use of technology in remote psychotherapy has the potential to open up greater opportunities for miscommunication and is incompatible with therapeutic approaches (Gore Jr & Leuwerke, 2008). Given the many differences that exist between remote and face-to-face psychotherapy, for example, in the technical aspect, it is important to ensure the patient has given his consent to follow the therapy sessions consciously. Therefore, the provision of digital-based psychotherapy services really requires ethical considerations both from the patient and therapist sides.

This research is limited to discussing the application of digital psychotherapy in overcoming common psychological problems experienced by students during the COVID-19 pandemic. The number of clinical study articles listed is still counted as small with the subject of student research. In addition, it is possible that some other more promising research results are overlooked or do not appear during the

**Table 3.** Summary of Findings: Implementation of Digital-Based Psychotherapy on College Students in the COVID-19 Pandemic Era.

No	Author	Method	Setting	Objective	Intervention	Finding
1	Harrer et al., 2021	RCT	Germany	To measure the effectiveness of internet-based stress intervention on depression levels.	<ol style="list-style-type: none"> <li>1. Participants access the application.</li> <li>2. Interventions focused on problem-oriented and emotion-oriented coping.</li> <li>3. Participants read 7 modules of 30–90 min for 5–7 weeks.</li> </ol>	<p>The intervention proved to be effective in reducing symptoms of depression, stress, anxiety, worry, and emotional exhaustion (<math>d = 0.36</math>; 95% CI: 0.08–0.64), stress (<math>d = 0.45</math>; 95% CI: 0.18–0.73), dan kecemasan (<math>d = 0.35</math>; 95% CI: 0.03–0.67).</p>
2	Bruhns et al., 2021	RCT	Germany	To measure the effectiveness of metacognitive training (MCT) and more self-help smartphone application on depression levels.	<ol style="list-style-type: none"> <li>1. Intervention period 4 weeks.</li> <li>2. The intervention group had free access to the MCT and More self-help smartphone app which was primarily aimed at individuals with depressive symptoms.</li> <li>3. Content and exercises based on group MCT, cognitive behavioral therapy (CBT), and third-wave techniques (e.g. acceptance and attention).</li> </ol>	<p>The intervention proved to be effective in reducing depressive symptoms (<math>p = .047</math>; <math>d = 0.26</math>) and increasing self-esteem which was higher (<math>p = .003</math>; <math>d = 0.40</math>) in the intervention group than in the control group.</p>
3	Dumarkaitė et al., 2021	RCT	Lithuania	To measure the activity effect of internet-based mindfulness interventions on PTSD and CPTSD symptoms.	<ol style="list-style-type: none"> <li>1. Intervention based on the principle of mindfulness with a focus on psychoeducation (which explicitly addresses traumatic experiences as well as the symptoms of PTSD and CPTSD followed by the benefits of mindfulness) and training mindfulness techniques.</li> <li>2. The intervention period was 8 weeks.</li> <li>3. The intervention consisted of 8 modules.</li> <li>4. Mindfulness exercises were provided in the form of audio recordings with a duration of 2–7 min.</li> </ol>	<p>Intervention of internet-based mindfulness reduces CPTSD disorders especially symptoms of negative self-concept (<math>ES = -0.72</math>; <math>[-1.21; -0.24]</math>) and disorders in relationships (<math>ES = -0.55</math>; <math>[-1.03; -0.07]</math>). In addition, the intervention reduces the symptoms of a sense of PTSD threat (<math>ES = -0.48</math>; <math>[-0.96; -0.01]</math>) and promotes positive mental health (<math>ES = 0.51</math>; <math>[0.03; 0.99]</math>).</p>
4	Raevuori et al., 2021	RCT	Finlandia	To measure the effectiveness of <i>the Meru Health Program</i> (MHP) in	<ol style="list-style-type: none"> <li>1. MHP interventions guided by comprehensive therapists were delivered through a smartphone</li> </ol>	<p>There is a significant increase in resilience (<math>d = 0.32</math>, <math>p = .03</math>), mindfulness (<math>d = 0.57</math>, <math>p = .002</math>),</p>

(continued)

Table 3. (continued)

No	Author	Method	Setting	Objective	Intervention	Finding
				patients with clinical depression in student health care.	<p>application consisting of 8 modules of 10–45 min duration for 8 weeks.</p> <p>2. Modules include text, videos, audio-guided awareness exercises, infographics describing CBT principles, and journal instructions.</p> <p>3. MHP included anonymous peer support through group discussion boards and asynchronous support by remote therapists.</p>	and reduction of stress experienced ( $d = -0.52, p = .008$ ) so it is very relevant to recovery from depression.
5	Young et al., 2022	RCT	Hongkong	Feasibility testing and effectiveness of self-paced online cognitive behavioral therapy (iCBT) in students in Hong Kong during COVID-19.	<p>1. The intervention was carried out with 8 self-study modules for participants to read and learn through the Internet and/or smartphone applications.</p> <p>2. Each module and related online tasks must be completed weekly over an 8-week period.</p>	The interventions proved feasible and acceptable to many students during the COVID-19 outbreak as well as effective in reducing symptoms of anxiety ( $d = 0.45; 95\% \text{ CI: } [0.22, 0.67]$ ), depression ( $d = 1.50; 95\% \text{ CI: } [1.00, 2.00]$ ) and stress ( $F = 8.60, p < .01$ ) in students in Hong Kong during COVID-19.
6	Krifa et al., 2021	RCT	Tunisia	To measure the effectiveness of online positive psychology programs on the mental health of students in Tunisia during the Covid pandemic-19.	<p>1. A positive psychology program called Coherence, Attention, Relationship, and Engagement consisted of 8 online psychoeducational video sessions from experts on core psychological processes and how they are applied.</p> <p>2. Each online session consisted of: lectures, expert videos, psychoeducation, positive psychological practices, and one or two weekly activities that must be completed by the student.</p> <p>3. Participants took about 45 min to complete each session.</p>	Intervention has been shown to be effective for reducing stress ( $d = 0.32; 95\% \text{ CI: } [0.11; 0.32]$ ), anxiety ( $d = 0.21; 95\% \text{ CI: } [0.04; 0.30]$ ), and depressive symptoms ( $d = 0.29; 95\% \text{ CI: } [0.11; 0.36]$ ) in college students during the Covid-19 pandemic.
7	Celia et al., 2021	RCT	Italy	To measure the effectiveness of Brain Wave Modulation Technique (BWM-T) on student anxiety levels.	<p>1. Participants joined an online meeting on how to maintain their psychological well-being for 15 min supervised by a psychologist.</p>	BWM-T online counseling sessions were proven to lower anxiety in students ( $F = 1.859; p = .17$ ).

(continued)



**Table 3. (continued)**

No	Author	Method	Setting	Objective	Intervention	Finding
8	Lerardi et al., 2022	Quasi experimental	Italy	Comparative test of effectiveness between face-to-face psychodynamic counseling before the COVID-19 pandemic and online psychodynamic counseling in students during the COVID-19 pandemic.	<ol style="list-style-type: none"> <li>The BWMT session consisted of a 4-step procedure that involved the simultaneous movement of fingers on both hands.</li> <li>The position begins with sitting in a comfortable chair with two hands on the thighs and while closing the eyes.</li> <li>Each position is maintained for at least 3 min and the psychologist will tell when the participant should change to the next position.</li> </ol> <p>The intervention was carried out online through video sessions using an approach focused on identifying key problems that hinder the student's development process.</p>	The online psychodynamic counseling intervention proved to be effective in reducing psychopathological stresses such as depression ( $p = .008$ ), obsessive-compulsive disorder ( $p = .008$ ), interpersonal sensitivity ( $p = .005$ ), and anxiety ( $p = .011$ ), and on a scale total SCL-90 R ( $p = .017$ ) and almost as effective as face-to-face counseling intervention.
9	Ritvo et al., 2021	RCT	Canada	Evaluation of the efficacy of the Mind-fulness Virtual Community (MVC) program against depression, stress, and student anxiety.	<ol style="list-style-type: none"> <li>Providing interventions in the form of mental health modules in the form of online videos with three main topics (anxiety, stress, and depression) could be accessed throughout the day.</li> <li>Participants were facilitated by moderators to discuss topics according to the module through a 20-min live videoconference.</li> </ol>	1. MVC programs have a significant effect on reducing stress, but not significantly on aspects of depression and anxiety ( $p = .03$ , $d = 0.40$ ).
10	Sun et al., 2021	RCT	China	To evaluate of the effects of mindfulness-based mobile health (mHealth) interventions on students with symptoms of depression and anxiety during quarantine due to COVID-19	<ol style="list-style-type: none"> <li>Interventions in the form of mini programs had been given in the form of 20 3-min videos that can only be viewed in order.</li> <li>Audio recordings for mindfulness practice were given 2 times per week of varying duration (5–40 min)</li> </ol>	The m-health approach in the application of mindfulness-based interventions and social support can reduce psychological pressure on students ( $p = .024$ ; $d = 0.72$ ).

(continued)

Table 3. (continued)

No	Author	Method	Setting	Objective	Intervention	Finding
11	Rackoff et al., 2022	RCT	USA	Evaluation of the efficacy of the self-help online program against stress in students during the COVID-19 pandemic.	<p>depending on the journaling of each participant.</p> <ol style="list-style-type: none"> <li>Group-based messages via WeChat that allow the sending of text, image, and audio messages were used to discuss with the group asynchronously.</li> <li>Two mental health support programs consisting of several individual modules of 30 min each could be accessed through Silver Cloud Health.</li> <li>The program “Space for Resilience” consisted of seven modules that end with practical steps to practice content and mindfulness.</li> <li>The “Space from COVID-19” program was based on the principle of mass trauma intervention.</li> </ol>	<p>Online self-help programs that target resilience and coping can reduce long-term stress (<math>d = -0.18</math>, <math>p = .035</math>) and reduce short-term depression (<math>d = -0.20</math>, <math>p = .018</math>) in college students.</p>
12	Lahtinen et al., 2021	RCT	Finland	Measure the effectiveness of mindfulness-based applications against stress, depression, and anxiety in university students and staff	<ol style="list-style-type: none"> <li>The 7-day mindfulness program consisted of guided meditation which was repeated 4 times (28 days in total) with a frequency of one exercise per day.</li> <li>The 10-min guided meditation trains participants to recognize the symptoms of stress, focus attention, and improve patience and balance.</li> </ol>	<p>There was a small reduction in stress (<math>p = .097</math>, <math>d = 0.16</math>) and depression (<math>p = .11</math>, <math>d = 0.16</math>) experienced by university students and staff after using the application.</p>

search through the database. Expanding the scope of searches such as by increasing the number of databases and manual searches can help researchers find more potential study results. Further studies are needed to determine the effectiveness of both online and digital-based psychotherapy on a broader subject by considering holistic aspects in order to promote human well-being and quality of life.

## Conclusion and Implication

Online and digital-based psychotherapy has the potential to be an effective intervention in overcoming psychological problems experienced by students during the COVID-19 pandemic. Through digital media, the continuity of the provision of mental health services during the COVID-19 pandemic can be well facilitated given the limitations of face-to-face meetings. Therefore, the use of online and digital psychotherapy can be used as a preventive and support service for students who experience changes in psychological status during the pandemic. The combination of the use of digital media with video conferencing can be considered to increase the effectiveness of this service. More research is needed to find out the effectiveness of the use of digital psychotherapy services and how they impact the psychological well-being of students holistically. It is important for mental health nurses to understand how the procedure for implementing digital-based psychotherapy to improve the quality of mental care services as an effort to prevent and support mental health for students.

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