

Mindfulness Intervention for Improving Psychological Wellbeing Among Students During COVID-19 Pandemic: A Scoping Review

Iyus Yosep ¹, Ai Mardhiyah ², Aat Sriati¹

¹Department of Mental Health, Faculty of Nursing, Universitas Padjadjaran, Sumedang, Jawa Barat, Indonesia; ²Department of Pediatric Nursing, Faculty of Nursing, Universitas Padjadjaran, Sumedang, Jawa Barat, Indonesia

Correspondence: Iyus Yosep, Department of Mental Health, Faculty of Nursing, Universitas Padjadjaran, Jl. Raya Ir. Soekarno KM. 21, Hegarmanah, Jatinangor, Sumedang, West Java, 45363, Indonesia, Tel +6281394665577, Fax +6202287793411, Email iyus.yosep@unpad.ac.id

Abstract: The COVID-19 pandemic can cause mental health problems such as stress, social anxiety, depression, and decrease social life on students. Mental health problems need to be taken seriously to develop the stage of development and improve the psychological well-being of students on learning in the school. The aim of this study was to explore mindfulness interventions to improve psychological well-being among students. This study used the Scoping Review method. Literature from CINAHL, PubMed, and Scopus databases. The keywords used in English are psychological wellbeing, students, and mindfulness. The inclusion criteria were full text, study design randomized control trial or quasi-experimental, English language, population and sample were students, and the publication period is the last 10 years (2013–2022). From 2194 articles based on initial research, we found 10 articles were analyzed related to mindfulness interventions consisting of several methods, namely internet-based mindfulness, mindfulness-based intervention, and mindfulness-based stress reduction. Most of samples the study from the United States with the range samples were 20–166 students. Mindfulness interventions can be carried out improve the psychological well-being of students. Mindfulness therapy is done by fully concentrating the mind in meditation so that it can improve psychological health. Providing mindfulness therapy involves health workers such as nurses and psychologists to provide comprehensive therapy covering both physical and psychological aspects.

Keywords: mindfulness therapy, psychological wellbeing, students

Introduction

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), also known as the corona virus or COVID-19, is a contagious virus that spreads rapidly throughout the world. SARS-CoV-2 is a new type of coronavirus that has never been previously identified in humans. The number of positive cases of COVID-19 in the world in general is still increasing every day. Reporting from the Ministry of Health of the Republic of Indonesia [Ministry of Health of the Republic of Indonesia], on March 20, 2022, the total number of confirmed global COVID-19 cases was 464,809,377 cases with 6,062,536 deaths in 229 affected countries.¹

The COVID-19 pandemic can cause psychological problems, namely stress in dealing with changes due to the COVID-19 pandemic.² Post Traumatic Syndrome Disorder (PTSD) is a psychological impact that can affect the psychological well-being of individuals, resulting in suicidal ideation and domestic violence.³ Other psychological pressures that arise can include mental health problems, sadness, helplessness, hopelessness, PTSD, panic, stress, anxiety, depression, loneliness, fear, anger, stigma, and fear of economic conditions.^{4,5} For students, the COVID-19 pandemic has caused students to experience separation from friends, decreased performance in learning, and increased pressure due to lockdown.⁶ In the elderly group, there was a decrease in economic growth and life goals.^{6,7} Furthermore, teenagers are known to experience other similar problems.

The psychological condition of students as individuals who are active and in the process of finding their identity is affected during the COVID-19 pandemic. Students during the COVID-19 pandemic experience stress which results in the emergence of anxiety disorders, changes in eating patterns, decreased learning performance, experiencing fear and uncertainty in life, and failure to solve problems.⁸⁻¹¹ The mental well-being of students has also worsened since the COVID-19 pandemic.¹² During the pandemic, students tend to not do much physical activity, resulting in changes in behavior and daily activities.⁶ Lockdown also causes teens to do social isolation and loneliness can increase the potential for depression and anxiety.¹³ This shows that there were psychological disorders in students during the COVID-19 pandemic.

The COVID-19 pandemic has an impact on the psychological aspect so that it affects the psychology of students, due to changes in the learning system from offline to online system. This self-unpreparedness forces students to inevitably follow it. This causes students to adapt to new habits that can cause stress.¹⁴ In addition, online learning has constraints on the internet/slow network, requires costs to buy an internet package, looks for references in doing assignments, is not time bound so it must always be on standby, is inefficient in terms of manpower, time and costs.⁶ The COVID-19 pandemic has caused students' social skills, such as preferring to be alone and finding it difficult to adapt to the surrounding environment. Previous studies have shown that there is a decrease in adaptive coping in students during the COVID-19 pandemic.^{15,16} This causes students to have difficulty adapting in participating in learning.^{17,18} In addition, the psychological condition of students is disrupted and causes learning difficulties.

Psychological well-being is a condition where individuals can accept themselves either positively or negatively, have good relationships with others, are able to direct themselves, are able to control the environment, and have a purpose in life.¹⁹ Psychological well-being is influenced by many factors including religiosity, economic circumstances, and social support obtained.²⁰ With good psychological well-being, individuals can independently solve their problems, have good self-acceptance, and increase happiness.²¹ Other studies have also stated that self-disclosure on social media can affect individual well-being.²² Furthermore, Joshanloo (2021) adds that self-control, impulsive behavior, bullying and intellectuality have a strong relationship with eudemonic well being, especially for psychological well-being.²³ Conditions of fear, anxiety, and psychological stress can reduce immune function. On the other hand, positive emotions can have a good effect on immunity.²⁴

Previous review on mindfulness therapy showed that there is an increase in resilience in adolescents who take mindfulness therapy.²⁵ In that study it was found that mindfulness therapy can effectively increase resilience in adolescents. Most of the respondents are students. The study also found that adolescents experienced decreased psychological well-being due to the COVID-19 pandemic. So that the study recommends further research on the impact of mindfulness therapy for improving psychological wellbeing given to students. COVID-19 Another study showed that mindfulness therapy can reduce symptoms of anxiety in adolescents during the COVID-19 pandemic.²⁶ The study found that adolescents experienced a decrease in psychological well-being which resulted in a decrease in learning motivation. So this study recommends a review of mindfulness interventions to improve psychological well-being. Another scoping review conducted on COVID-19 survivors showed that mindfulness therapy can improve psychological well-being.²⁷ The respondents in this study were all ages, while the study also found that many respondents were students who experienced psychological problems during the COVID-19 pandemic. Some of the previous studies have not focused on student respondents. So this study focuses on making a review of mindfulness therapy to improve psychological wellbeing in students during the COVID-19 pandemic. This study is the first scoping review that discusses nursing interventions to improve psychological well-being as an effort to improve learning adaptation during COVID-19 in students.

Psychological well-being is a major concern that should receive more scientific attention, especially in the current learning method during COVID-19 pandemic situation.²⁸ The results of previous studies stated that Mindfulness is a key factor to increase individual emotional flexibility. High emotional flexibility can minimize the possibility of stress, anxiety, and other psychological disorders.²⁹ Therefore, authors are interested in exploring about mindfulness interventions to improve adaptive learning on students by psychological well-being during the COVID-19 pandemic.

Materials and Methods

Design

This study used Arksey and O'Malley's draft scoping review framework. Scoping review methodological techniques to explore new topics that are currently developing.³⁰ This research framework has a wide conceptual range so that it is able to explain

various relevant studies.³¹ While the framework has 5 core stages, namely identification of research questions, identification of relevant study results, study selection, mapping data, compiling, summarizing and reporting results.³² This literature review used the PRISMA Extension for Scoping Reviews (PRISMA-ScR) to identify various topics that discuss interventions to improve adolescent psychological well-being through mindfulness interventions (Figure 1). The research questions to initiate the search process was: How the mindfulness interventions for improving psychological well-being among students during the COVID-19 pandemic?

Search Strategy

For publication searches, three databases were used: PubMed, CINAHL, and Scopus. The keywords and Boolean operators used are: “psychological wellbeing” AND “students” AND “mindfulness OR mindfulness intervention OR mindfulness therapy”. Then the authors performed a duplication check using the Mendeley application. After that, the authors examined the inclusion criteria according to what had been determined.

Eligibility Criteria

The criteria in this study based on the PICO criteria framework are:

Patient: adolescence

Intervention: mindfulness

Comparison: no comparison

Outcome: psychological wellbeing

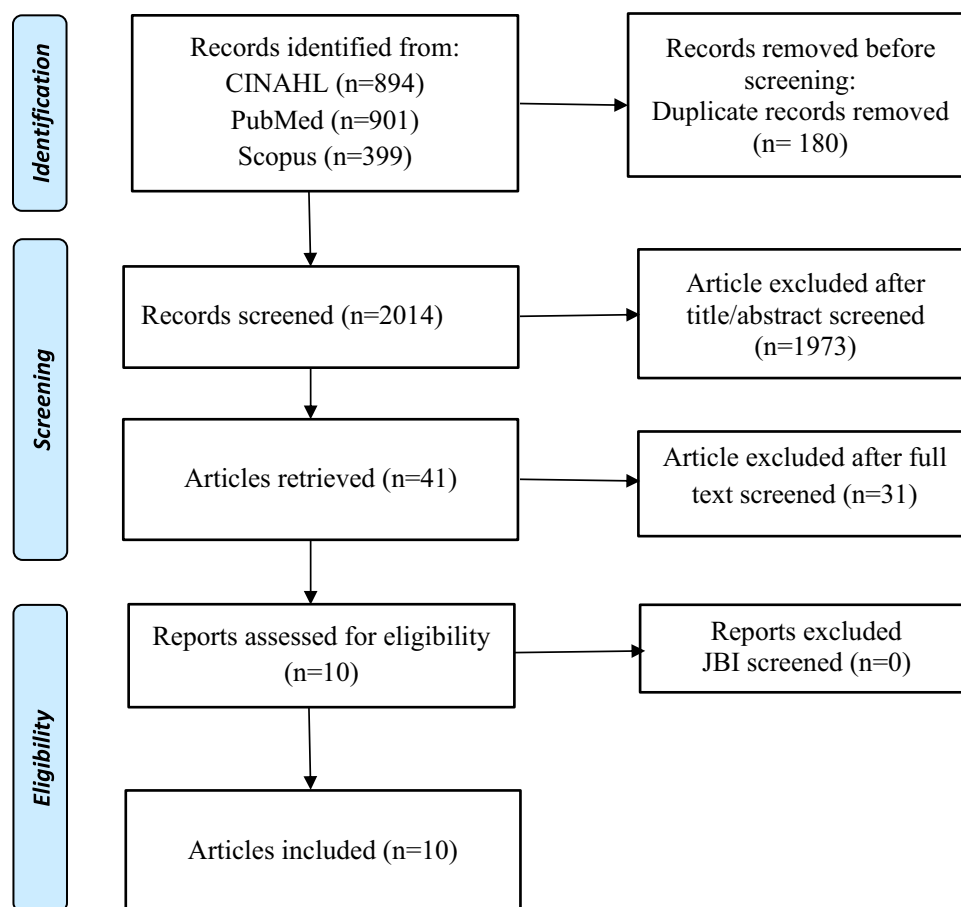


Figure 1 PRISMA Flow Diagram.

Notes: Adapted from Page MJ. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*. Published online 2021. Creative Commons.⁷⁶

In addition to the eligibility conditions specified above. We consider the inclusion criteria chosen by the authors used the primary research results, there were Randomized Control Trial and Quasy Experiment to describe the mindfulness intervention. The articles used are English articles and period of publication during COVID-19 pandemic (2019–2022).

Data Collection and Analysis

Data analysis in this study used a descriptive approach. The authors described the findings regarding mindfulness therapy. All authors completed the study selection process and included studies followed the PRISMA flowchart: (1) identifying duplicates; (2) filtering of titles and abstracts; and (3) availability of full text. Tabulation method is used to extract data from research results manually. The table was created by the authors to make it easier for the writer to classify similar data. So that the authors can compare the results of studies from the articles obtained. Among the data items searched for were authors, country, study design, objectives, interventions, and outcomes.

Data Extraction

Articles read by the authors are then entered into the table manually. Articles were extracted using a noisy table of authors, year, country, study design, sample, intervention, and results of the study. After that, the authors describe mindfulness therapy according to similar interventions.

Quality Appraisal

Quality appraisal is carried out to get articles with high quality in the scoping of this review. Quality appraisal in this study uses the Joanna Briggs Institute (JBI) instrument. The JBI assessment method uses a questionnaire containing statements assessed by the authors. The JBI instrument for the randomized control trial design consisted of 13 statements and the quasi-experiment design consisted of 9 statements. Each statement has answer options of yes, no, unclear, and not applicable. For instrument interpretation, the answer yes is given a score of 1 and the other answers are given a score of 0. Then the authors added up the scores of all statements. Articles were analyzed using the JBI critical assessment method with good article standards to be used if above 75% based on criteria and topic relevance (Table 1).

Results

The authors found 2194 articles based on search results from the initial research of three databases, namely CINAHL, PubMed, and Scopus. Then the authors used the Mendeley application to eliminate duplicate articles, found in 2014 articles. After that, the authors checked the articles with inclusion criteria and read the titles and abstracts, obtaining 41

Table 1 JBI Critical Appraisal Tool

Author, Published Year	JBI Critical Appraisal Tool	Study Design
[33]	88.9% (8/9)	Quasi experiment
[34]	84.6% (11/13)	RCT
[35]	84.6% (11/13)	RCT
[36]	76.9% (10/13)	RCT
[37]	84.6% (11/13)	RCT
[38]	84.6% (11/13)	RCT
[39]	84.6% (11/13)	RCT
[40]	88.9% (8/9)	Quasi experiment
[41]	76.9% (10/13)	RCT
[42]	100% (13/13)	RCT

articles to be read in full by all authors. Then the authors read the article in full text, obtained 10 articles that are relevant to the research objectives. The authors double-checked to ensure that the articles obtained were in accordance with the research objectives. Articles were analyzed using the JBI Critical Appraisal Tool assessment method with standard score for good article is above 75% based on criteria and topic relevance.

There are 10 articles that describe mindfulness interventions in improving adolescent psychological well-being to adaptive with learning method during COVID-19 pandemic. In addition, there are other impacts, namely reduce anxiety, stress, and depression. As for the research subjects of the articles analyzed were teenagers. Of the 10 articles analyzed, there are several mindfulness methods that can be used, namely internet-based mindfulness, mindfulness-based intervention, and mindfulness-based stress reduction. Researchers identified the 3 methods by providing an explanation of the activities carried out. The results of the analysis of the article are presented in tabular form as follows (Table 2):

Table 2 Extraction Data

No	Author & Year	Outcome	Country	Design	Sample	Intervention	Result
1.	[33]	Reduce psychological distress, depression, and anxiety, increase self-efficacy and mindfulness.	Germany	Quasi experiment	110 participants	E-Mental Health Mindfulness-Based and Skills-Based "CoPE It" Intervention	The e-mental health intervention "CoPE It" can reduce psychological stress, anxiety, and depressive symptoms and significantly increase self-efficacy and mindfulness
2.	[34]	Depressive symptoms and problematic alcohol	Australia	RCT	104 participants	Automated Web-based self-help intervention (DEAL Project)	The intervention results showed a significant reduction in depressive symptoms and the amount and frequency of short-term alcohol use.
3.	[35]	Reduce the level anxiety	United States of America	RCT	166 participants	Eight-week online mindfulness program	After being given the intervention there is a significant decrease in anxiety
4.	[36]	Psychosocial	United States of America	RCT	74 participants	App-based mindfulness intervention	After being given the intervention, there was an increase in the psychosocial abilities of the participants
5.	[37]	Increasing cognitive function and psychological well-being	Chile	RCT	48 participants	Mindfulness-based intervention	The intervention is proven to reduce cognitive impairments in attention, working memory, and social cognition. In addition, the intervention can improve psychological well-being
6.	[38]	Reduce anxiety stress, and depression, and increase psychological well-being	Switzerland	RCT	40 participants	Mindfulness-based stress reduction (MBSR)	After being given the intervention, there was an increase in psychological well-being and a decrease in symptoms of stress, anxiety, and depression
7.	[39]	Psychological state	China	RCT	56 participants	Modified Mindfulness-Based Stress Reduction (MBSR)	MBSR interventions can improve psychological health such as reducing levels of depression and rumination, as well as raising awareness

(Continued)

Table 2 (Continued).

No	Author & Year	Outcome	Country	Design	Sample	Intervention	Result
8.	[40]	Psychological Wellbeing	Italia	Quasi experiment	20 participants	Mindfulness Meditation	After the participants were given the mindfulness-oriented meditation training, there was an increase in awareness and awareness and a decrease in trait anxiety was observed in the participants after the training.
9.	[41]	Subjective wellbeing, emotional intelligence, mental health, and resilience.	Dominican Republic	RCT	104 participants	Mindfulness-Based Intervention	The results of the intervention showed there was a significant increase in life satisfaction, positive influence, mental health, and resilience
10.	[42]	Psychological wellbeing	Iran	RCT	60 participants	Mindfulness-based cognitive infertility stress therapy (MBCIST)	After being given the MBCIST intervention, there was an increase in psychological well-being such as self-acceptance, positive relationships with others, life goals, and personal growth.

Based on the country of origin of the articles found, 2 article from United States of America, 1 article from Germany, 1 article from Australia, 1 article from Chile, 1 article from Switzerland, 1 article from China, 1 article from Italy, 1 article from Dominican-Republic, and 1 article from Iran. The study design in this scoping review found that 2 articles had a quasi-experimental design and 8 articles had a randomized control trial design. The findings in this study are that mindfulness interventions can be carried out as an effort to improve the psychological well-being of students during the COVID-19 pandemic. The author classifies three types of mindfulness interventions, namely internet-based mindfulness, mindfulness-based intervention, and mindfulness-based stress reduction.

Mindfulness Based Internet

Mindfulness is also one of the interventions that can be done through digital psychotherapy. The online intervention that can be done is “CoPE It” which consists of four modules.³³ Each activity in the module lasts 30 minutes. Each module features media such as psychoeducational videos, audio mindfulness exercises, and other interactive skills (planning daily routines, stress management and emotional emergencies). The intervention in the form of a mindfulness program was carried out for eight weeks.³⁵ Mindfulness is done online through a 90-minute zoom meeting. The activities carried out were mindfulness meditation practices, periods of inquiry and reflection, and interactive exercises based on cognitive behavioral therapy. Apart from zooming, participants were asked to do it independently at home within 20–30 minutes. Module-based therapy can combine several interventions presented through the module. such as interventions to reduce stress after psychoeducation are Problem-solving, Muscle and breath relaxation, Mindfulness, Acceptance and tolerance, Self-compassion, and my master plan for planning ahead in reducing mental health problems.⁴³ Then another module-based intervention is the MHP intervention guided by a comprehensive therapist.⁴⁴ Modules delivered via mobile include text, videos, audio-guided mindfulness exercises, infographics illustrating CBT principles, and journal guides. Implementation of daily content and intervention for 10–45 minutes. MHP includes anonymous peer support via moderated group discussion boards, and asynchronous support by remote therapists.

Other internet-based interventions are carried out by instructing participants to complete an introductory application program consisting of three levels, named “Foundations 1–3”, with each level consisting of 10 sessions (30 in total).³⁶

This program aims to introduce the principles of the key behind mindfulness, and how one can apply mindfulness in their daily life, using techniques such as breath awareness, body scanning, and note-taking. The program starts with the first 10 minute session. Participants are asked to listen to audio content which is complemented by educational videos and animations. This research has been shown to increase compassion, self-reported well-being, and self-reported mindfulness, and to reduce mind wandering, self-reported stress, and self-reported irritation.

Mindfulness Based Intervention (MBI)

One of the mindfulness based interventions that can be done is Mindfulness Based Cognitive function and psychological wellbeing. Participants will be directed to attend 8 awareness workshop sessions.³⁷ The duration for this program is 1 hour 30 minutes every week. The intervention will take place at the central facility of each participating clinical and be led by a mindfulness trainer with specific training according to the participants. Participants will take part in a workshop that explains about this workshop including take-away exercises. In addition, each participant will receive a pen drive or CD with guided mindfulness practice audio and a booklet with the contents of each session. This intervention can reduce cognitive impairments in attention, working memory, and social cognition, as well as improve psychological well-being.

Mindfulness based intervention based on psychological wellbeing is a form of MBI conducted with training consisting of eight weekly meetings of 2 hours.⁴⁰ Each meditation meeting involves three successive phases, namely: 1) active teaching on topics related to meditation during 30 minutes, 2) mindfulness-oriented meditation practice for 30 minutes, and 3) the last phase is discussion related to activities for 1 hour. Each meeting will discuss efforts to reduce stress by increasing awareness. The activities carried out are, introducing mindfulness, the power of presence, learning about our patterns of reactivity to stress and difficult emotions/sensations, coping with stress, using mindfulness to respond instead of reacting, attention and communication, and accepting and not judging experiences. At the moment). The meditation practice consists of 3 parts with a duration of 10 minutes each: 1) mindfulness of breathing, 2) body scanning, and 3) Vipassana meditation in which participants are asked to observe the moment they have done. At the end of the meeting, participants in the meditation group were given a CD containing the instructor's voice recording for 30 minutes. After this intervention, the psychological well-being of participants increased marked by increased awareness and decreased anxiety.

MBI interventions can also be carried out with training that includes 3 content namely: (1) mindfulness meditation techniques, (2) exhibitions and debates about the exercises used in formal practice sessions, and (3) Vipassana meditation, which promotes values such as impermanence, compassion, acceptance, forgiveness, and release with reference to the work done.⁴¹ Each week in each session carried out: (1) reflection on practical exercises performed for 10 minutes during the previous week, (2) body scan for 10 minutes, (3) presentation of the exercises to be done for 20 minutes, and (4) meditation practice for 20 minutes. The results of this intervention are able to increase life satisfaction, positive influence, mental health, and resilience.

Mindfulness-based cognitive infertility stress therapy is one of the MBI interventions carried out in eight sessions (120 minutes each) for 8 weeks.⁴² This intervention is based on a combination of well-established mindfulness elements from mindfulness-based stress reduction methods. The program uses traditional mindfulness meditation techniques as well as guided meditation (daily activities related to infertility stress) to address each participant's particular concerns. Each session is structured in a dynamic way to consider the cognitive therapy-based domain of infertility stress during a baseline awareness check. The results of the intervention showed an increase in self-acceptance, positive relationships with others, autonomy, environmental mastery, life goals, and personal growth.

Mindfulness Based Stress Reduction (MBSR)

MBSR intervention for 90 minutes with meetings twice a week as group therapy for eight consecutive weeks (16 sessions in total).³⁸ Each session includes specific exercises and topics in the context of mindfulness exercises and training. The activities carried out are translating challenges and meditative contexts into vocabulary, methods, and forms, which are relevant and interesting in the lives of the participants. Participants were also taught meditation techniques to enjoy daily activities. In addition, participants were asked to repeat the exercise once a week at home by playing a recording of the

MBSR exercise. This intervention can improve psychological well-being and reduce symptoms of stress, anxiety, and depression.

The MBSR intervention can also be carried out during 8 weeks of training with the modified MBSR.³⁹ The intervention is tailored to the characteristics of adolescents and emphasizes teaching namely body scanning, sitting meditation, and yoga mindfulness to all aspects of practitioners' lives, including experiencing happy/sad moments in their life. live, walk, sleep, eat, breathe and exercise to maintain a "mindful" attitude. Then continued with practice sessions, namely 10 minutes of free talk (feelings about homework), 15 minutes of demonstration and explanation about meditation, 20 minutes of meditation practice and guidance, and 15 minutes of group training. Each session is combined with daily activities involving "eyes", "ears", "nose", "tongue", "body" and "thinking". This intervention improves psychological well-being characterized by a decrease in the level of depression and depression, as well as increasing awareness.

Discussion

This study shows that mindfulness therapy is an effort to improve the psychological well-being of students during the COVID-19 pandemic. This scoping review discusses mindfulness interventions to improve psychological well-being in students. In general, findings from research related to mindfulness interventions consist of three methods, namely internet-based mindfulness, mindfulness-based intervention, and mindfulness-based stress reduction. These three types of methods can be elaborated to achieve maximum output for the psychological well-being of students.

This study shows that 8 articles are from developed countries and 2 articles are from developing countries. The problem of the COVID-19 pandemic occurs throughout the world, including developed and developing countries. Previous studies have shown that students have psychological problems such as anxiety and depression in developed countries.^{8,45} Meanwhile, other studies show that psychological problems in adolescents often occur in developing countries because learning was done offline before the co-19 pandemic.^{46,47} This shows that psychological problems in students during the COVID-19 pandemic can occur anywhere.

Mindfulness is an intervention to increase awareness, by paying attention specifically and continuously without judging what is being done.⁴⁸ Mindfulness is a review of individuals in seeing, feeling, knowing, and loving what they do and focus on. This intervention focuses on a greater focus of awareness.⁴⁹ The approach in this intervention is to focus on paying attention and not judging.

The COVID-19 pandemic has affected the physical and psychological conditions of students. One of the mental health problems is psychological well-being. Psychological well-being is a condition that allows individuals to satisfy their efforts in achieving success in conditions that are felt good and positive, so that a good relationship will also be established between the individual and the environment in the process of achieving the individual's own desires/needs.⁵⁰ Previous studies have shown that during the COVID-19 pandemic students had low psychological well-being, especially in terms of autonomy and positive relationships with others.^{51,52} Other study also showed that the COVID-19 pandemic causes unpleasant life events that can cause stress and affect psychological well-being.¹⁴ Psychological well-being includes active involvement in the world of how individuals understand the meaning and purpose of life, as well as the environment and individual relationships with others.⁵³

Mindfulness therapy assumes many positive things that individuals have compared to negative things. Meditation is an effort to raise awareness and deal with problems by creating a supportive environment.⁵⁴ Awareness can be achieved by observing bodily sensations, thoughts, and emotions.³⁶ Interventions need to pay attention to patience and time to achieve maximum results.

Based on the results of the study, interventions can be carried out with internet-based mindfulness, mindfulness-based intervention, and mindfulness-based stress reduction. Meanwhile, based on the results of the study, it shows that there are four techniques in mindfulness therapy, namely visual imagery, deep breathing, progressive muscle relaxation training, and self talk.⁵⁵ The intervention techniques carried out based on research are direct intervention, intervention via the internet, mediation, and therapy. Meanwhile, therapeutic intervention techniques based on other research are visual imagery, deep breathing, and self talk.⁵⁶ These three techniques a person is assumed to be able to deal with the effects of chronic disease and improve mental health.

Mindfulness-based interventions are designed to focus one's attention on current experiences in a non-judgmental way.⁵⁷ Mindfulness can create perceptual shifts in how individuals respond to and relate to thoughts, feelings, and sensory stimuli (eg sounds, sights, smells, and pain). This greater change in perception can reduce the tendency to get angry and help individuals perceive psychological and sensory processes as "passed experiences".⁵⁸ Based on the results of previous studies, mindfulness interventions consist of ten mechanisms that affect the psychological and physical health of individuals.^{59,60} These mechanisms include: changes in brain structure, decreased autonomic arousal, shifts in perception, increased spirituality, greater situational awareness, value clarification, increased self-awareness and addiction replacement, urge surfing, and finally letting go.^{61,62} Mindfulness can reduce psychological symptoms, full awareness helps clarify life goals which leads to increased mental health output.³⁹

The results of the review showed that there was a significant improvement in mental health such as improving well-being, mental health, reducing anxiety, depression, and stress. Previous research has shown that mindfulness interventions can improve the ability to regulate emotions.^{50,63,64} In line with the research results, the results of previous research interventions show that mindfulness can contribute positively to individual emotions, namely reducing stress and anxiety.⁶⁵ Other study also shows that through good psychological well-being, students become more adaptive in the learning process and can improve learning performance at school.⁶⁶

Mindfulness can increase self-awareness, to increase the ability to identify negative moods and thought patterns. Mindfulness can be implemented in populations at risk for depression. Through providing mindfulness interventions promoting stress regulation, increasing the positive effects of therapy due to increased self-regulation, self-exploration or self-liberation.⁶⁷ In addition, mindfulness can also significantly reduce anxiety in the group that has been given mindfulness interventions.⁶⁸ Mindfulness can increase the ability to disconnect positively, correlate with acceptance, not overreact, self-compassion and subjective well-being.⁶⁹

Mindfulness practices that are carried out can make individuals more aware of the experiences that have been carried out. Through awareness in mindfulness therapy can increase participants' positive emotions and emotional intelligence.^{70,71} This is in accordance with previous research which showed life satisfaction and effective emotion regulation after being given a mindfulness intervention.^{72,73} Positive emotional conditions can increase the ability to process new information, and create thought patterns so that individuals become more positive and creative.^{74,75}

Changes in learning methods during the COVID-19 pandemic caused psychological problems to arise in students. This results in a decrease in psychological well-being because they have not been able to adapt to changes in learning methods. Mindfulness therapy is an effort to improve the psychological well-being of students during the COVID-19 pandemic. Through mindfulness therapy, students can adapt to changes in learning methods that occur and have adaptive coping.

The authors recommends that nurses conduct training on mindfulness therapy in improving the psychological well-being of students. Several methods that can be carried out based on the findings of this study are internet-based mindfulness, mindfulness-based intervention, and mindfulness-based stress reduction. So that nurses can provide comprehensive nursing care to students who experience psychological problems by providing mindfulness therapy. Nurses also need to be given training in the use of technology to perform mindfulness therapy to make it more effective and efficient. Mindfulness therapy that is carried out includes mind concentration therapy to fully integrate the mind in achieving a goal. The several stages carried out in mindfulness therapy are body sensation and movement, breathing experiences, and body scanning to bring individuals to integrative mind (meditative experiences). This can have a positive impact on individuals who are more aware of themselves in doing something.

Limitations

The limitations of the research are the limited articles available on mindfulness in improving mental health. This study was also limited in the year of publication at the time of the co-19 pandemic, so the authors could not comprehensively discuss mindfulness therapy before the co-19 pandemic. In addition, some article titles do not match the contents of the article so they cannot be used as references in the review conducted.

Conclusions

Based on the results of this scoping review, there were 10 articles that were analyzed related to mindfulness interventions, namely internet-based mindfulness, mindfulness-based intervention, and mindfulness-based stress reduction. Mindfulness interventions can be carried out to improve the psychological well-being of students, and can also improve mental health and reduce stress, depression, and anxiety levels. So that it can help students in dealing with the impact of psychological problems during the COVID-19 pandemic and adaptive with learning method.

The implication of this study is that there is a foundation for health workers to provide mindfulness therapy to adolescents who have psychological problems. In addition, the results of this study are also a reference for education providers to pay attention to students' mental health conditions when there is a change in learning methods. Recommendations for further research in this study are the need for further studies using a systematic review design and meta-analysis to assess the effectiveness of mindfulness interventions in improving psychological well-being in students.

Acknowledgments

All authors thank to Universitas Padjadjaran, Bandung, West Java, Indonesia, who has facilitated the database for us in this study.

Funding

There was no external funding in this research.

Disclosure

The authors had no conflicts of interest in this research.

References

1. WHO. WHO coronavirus (COVID-19) dashboard. 2022. Available from: <https://www.who.int>. Accessed May 19, 2023.
2. Horesh D, Brown AD. Traumatic stress in the age of COVID-19: a call to close critical gaps and adapt to new realities. *Psychol Trauma Theory*. 2020;12(4):331–335. doi:10.1037/tra0000592
3. Alfawaz HA, Wani K, Aljumah AA, et al. Psychological well-being during COVID-19 lockdown: insights from a Saudi State University's Academic Community. *J King Saud Univ*. 2021;33(1):101262. doi:10.1016/j.jksus.2020.101262
4. Mukhtar S. Mental health and psychosocial aspects of coronavirus outbreak in Pakistan: psychological intervention for public mental health crisis. *Asian J Psychiatr*. 2020;51102069. doi:10.1016/j.ajp.2020.102069
5. Yosep I, Hikmat R, Mardhiyah A. Types of digital-based nursing interventions for reducing stress and depression symptoms on adolescents during COVID-19 pandemic: a scoping review. *J Multidiscip Healthc*. 2023;16:785–795. doi:10.2147/JMDH.S406688
6. Meo SA, Abukhalaf AA, Alomar AA, Sattar K, Klonoff DC. COVID-19 pandemic: impact of quarantine on medical students' mental wellbeing and learning behaviors. *Pak J Med Sci*. 2020;36(COVID19–S4):S43–S48. doi:10.12669/pjms.36.COVID19-S4.2809
7. López J, Perez-Rojo G, Noriega C, et al. Psychological well-being among older adults during the COVID-19 outbreak: a comparative study of the young-old and the old-old adults. *Int Psychogeriatrics*. 2020;32(11):1365–1370. doi:10.1017/S1041610220000964
8. de Figueiredo CS, Sandre PC, Portugal LCL, et al. COVID-19 pandemic impact on children and adolescents' mental health: biological, environmental, and social factors. *Prog Neuro*. 2021;106:110171. doi:10.1016/j.pnpbp.2020.110171
9. Disabato Goodman F, Kashdan T, Short J, et al. Have lifestyle habits and psychological well-being changed among adolescents and medical students due to COVID-19 lockdown in Croatia? *Nutr*. 2021;13(1):1–16. doi:10.3390/nu13010097
10. Imran N, Zeshan M, Pervaiz Z. Mental health considerations for children & adolescents in covid-19 pandemic. *Pak J Med Sci*. 2020;36(COVID19–S4):S67–S72. doi:10.12669/pjms.36.COVID19-S4.2759
11. Saurabh K, Ranjan S. Compliance and psychological impact of quarantine in children and adolescents due to covid-19 pandemic. *Indian J Pediatr*. 2020;87(7):532–536. doi:10.1007/s12098-020-03347-3
12. Wiguna T, Anindyajati G, Kaligis F, et al. Brief research report on adolescent mental well-being and school closures during the COVID-19 pandemic in Indonesia. *Front Psychiatry*. 2020;11:1–9. doi:10.3389/fpsy.2020.598756
13. Loades ME, Chatburn E, Higson-Sweeney N, et al. Rapid systematic review: the impact of social isolation and loneliness on the mental health of children and adolescents in the context of COVID-19. *J Am Acad Child Adolesc Psychiatry*. 2020;59(11):1218–1239.e3. doi:10.1016/j.jaac.2020.05.009
14. Zhang Q, Zhou L, Xia J. Impact of COVID-19 on emotional resilience and learning management of middle school students. *Med Sci Monit*. 2020;26:e924994. doi:10.12659/MSM.924994
15. Panzeri A, Bertamini M, Butter S, et al. Factors impacting resilience as a result of exposure to COVID-19: the ecological resilience model. *PLoS One*. 2021;16(8):1–23. doi:10.1371/journal.pone.0256041
16. Nienhuis CP, Lesser IA. The impact of COVID-19 on women's physical activity behavior and mental well-being. *Int J Env Res Public Heal*. 2020;17. doi:10.3390/ijerph17239036

17. Driessen E, Beatty A, Stokes A, Wood S, Ballen C. Learning principles of evolution during a crisis: an exploratory analysis of student barriers one week and one month into the COVID-19 pandemic. *Ecol Evol.* 2020;10:12431–12436. doi:10.1002/ece3.6741
18. Yosep I, Hikmat R, Mardhiyah A, Kurniawan K, Amira I. A scoping review of the online interventions by nurses for reducing negative impact of bullying on students. *J Multidiscip Healthc.* 2023;16:773–783. doi:10.2147/JMDH.S406050
19. Matud MP, López-Curbelo M, Fortes D. Gender and psychological well-being. *Int J Environ Res Public Heal.* 2020;16(19):1–11. doi:10.3390/ijerph16193531
20. Lao J, McLellan R, Lovstad M, Schanke A-K. Using Ryff's scales of psychological well-being in adolescents in mainland China. *BMC Psychol.* 2018;6(1):1–8. doi:10.1186/s40359-018-0231-6
21. Gavin B, Hayden J, Adamis D, McNicholas F. Caring for the psychological well-being of healthcare professionals in the COVID-19 pandemic crisis. *Irish Med J.* 2020;113(4):5–7.
22. Luo M, Hancock JT. Self-disclosure and social media: motivations, mechanisms and psychological well-being. *Curr Opin Psychol.* 2020;31:110–115. doi:10.1016/j.copsyc.2019.08.019
23. Joshanloo M, Jovanović V, Park J. Differential relationships of hedonic and eudaimonic well-being with self-control and long-term orientation. *Japan Psychol Res.* 2021;63(1):47–57. doi:10.1111/jpr.12276
24. Koenig HG. Maintaining health and well-being by putting faith into action during the COVID-19 pandemic. *J Relig Heal.* 2020;59(5):2205–2214. doi:10.1007/s10943-020-01035-2
25. Tan LBG. A critical review of adolescent mindfulness-based programmes. *Clin Child Psychol Psychiatry.* 2015;21:193–207. doi:10.1177/1359104515577486
26. Akeman E, Kirlic N, Clausen AN, et al. A pragmatic clinical trial examining the impact of a resilience program on college student mental health. *Depress Anxiety.* 2020;37(3):202–213. doi:10.1002/da.22969
27. Parsons D, Gardner P, Parry S, Smart S. Mindfulness-based approaches for managing stress, anxiety and depression for health students in tertiary education: a scoping review. *Mindfulness.* 2022;13(1):1–16. doi:10.1007/s12671-021-01740-3
28. Godinic D, Obrenovic B, Khudaykulov A. A effects of economic uncertainty on mental health in the COVID-19 pandemic context: social identity disturbance, job uncertainty and psychological well-being model. *Int J Innov Econ Dev.* 2020;6(1):61–74. doi:10.18775/ijied.1849-7551-7020.2015.61.2005
29. Beshai S, Prentice JL, Huang V. Building blocks of emotional flexibility: trait mindfulness and self-compassion are associated with positive and negative mood shifts. *Mindfulness.* 2018;9(3):939–948. doi:10.1007/s12671-017-0833-8
30. Peterson J, Pearce P, Ferguson L, Langford C. Understanding scoping reviews: definition, purpose, and process. *J Am Assoc Nurse Pr.* 2017;29:12–16. doi:10.1002/2327-6924.12380
31. Tricco AC, Lillie E, Zarin W, et al. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Ann Intern Med.* 2018;169(7):467–473. doi:10.7326/M18-0850
32. Bradbury-Jones C, Aveyard H, Isham L, Taylor J. Scoping reviews: the PAGER framework for improving the quality of reporting. *Int J Soc Res Methodol.* 2021;1–14. doi:10.1080/13645579.2021.1899596
33. Bäuerle A, Jahre L, Teufel M, et al. Evaluation of the E-mental health mindfulness-based and skills-based “CoPE It” intervention to reduce psychological distress in times of COVID-19: results of a bicentre longitudinal study. *Front Psychiatry.* 2021;12:1–10. doi:10.3389/fpsy.2021.768132
34. Deady M, Mills KL, Teesson M, Kay-Lambkin F. An online intervention for co-occurring depression and problematic alcohol use in young people: primary outcomes from a randomized controlled trial. *J Med Internet Res.* 2016;18(3):1–12. doi:10.2196/jmir.5178
35. Simonsson O, Bazin O, Fisher SD, Goldberg SB. Effects of an eight-week, online mindfulness program on anxiety and depression in university students during COVID-19: a randomized controlled trial. *Psychiatry Res.* 2021;305:114222. doi:10.1016/j.psychres.2021.114222
36. Champion L, Economides M, Chandler C. The efficacy of a brief app-based mindfulness intervention on psychosocial outcomes in healthy adults: a pilot randomised controlled trial. *PLoS One.* 2018;13(12):1–20. doi:10.1371/journal.pone.0209482
37. Langer AI, Schmidt C, Mayol R, et al. The effect of a mindfulness-based intervention in cognitive functions and psychological well-being applied as an early intervention in schizophrenia and high-risk mental state in a Chilean sample: study protocol for a randomized controlled trial. *Trials.* 2017;18(1):1–9. doi:10.1186/s13063-017-1967-7
38. Norouzi E, Gerber M, Masrour FF, Vaezmosavi M, Pühse U, Brand S. Implementation of a mindfulness-based stress reduction (MBSR) program to reduce stress, anxiety, and depression and to improve psychological well-being among retired Iranian football players. *Psychol Sport Exerc.* 2020;47:101636. doi:10.1016/j.psychsport.2019.101636
39. Zhang JY, Ji XZ, Meng LN, Cai YJ. Effects of modified mindfulness-based stress reduction (MBSR) on the psychological health of adolescents with subthreshold depression: a randomized controlled trial. *Neuropsychiatr Dis Treat.* 2019;15:2695–2704. doi:10.2147/NDT.S216401
40. Crescentini C, Matiz A, Cimenti M, Pascoli E, Eleopra R, Fabbro F. Effect of mindfulness meditation on personality and psychological well-being in patients with multiple sclerosis. *Int J MS Care.* 2018;20(3):101–108. doi:10.7224/1537-2073.2016-093
41. Cejudo J, Garcia-Castillo FJ, Luna P, Rodrigo-Ruiz D, Feltrero R, Moreno-Gómez A. Using a mindfulness-based intervention to promote subjective well-being, trait emotional intelligence, mental health, and resilience in women with fibromyalgia. *Front Psychol.* 2019;10:1–11. doi:10.3389/fpsyg.2019.02541
42. Fard TR, Kalantarkousheh M, Faramarzi M. Effect of mindfulness-based cognitive infertility stress therapy on psychological well-being of women with infertility. *Middle East Fertil Soc J.* 2018;23(4):476–481. doi:10.1016/j.mefs.2018.06.001
43. Harrer M, Apolinário-Hagen J, Fritsche L, et al. Effect of an internet- and app-based stress intervention compared to online psychoeducation in university students with depressive symptoms: results of a randomized controlled trial. *Internet Interv.* 2021;24:100374. doi:10.1016/j.invent.2021.100374
44. Raevuori A, Vahlberg T, Korhonen T, Hilgert O, Aittakumpu-Hyden R, Forman-Hoffman V. A therapist-guided smartphone app for major depression in young adults: a randomized clinical trial. *J Affect Disord.* 2021;286:228–238. doi:10.1016/j.jad.2021.02.007
45. Maftai A, Holman AC, Merlici IA. Using fake news as means of cyber-bullying: the link with compulsive internet use and online moral disengagement. *Comput Human Behav.* 2022;127:107032. doi:10.1016/j.chb.2021.107032
46. Dedoncker J, Vanderhasselt MA, Ottaviani C, Slavich GM. Mental health during the COVID-19 pandemic and beyond: the importance of the vagus nerve for biopsychosocial resilience. *Neurosci Biobehav Rev.* 2021;125:1–10. doi:10.1016/j.neubiorev.2021.02.010

47. Sediri S, Zgueb Y, Ouanes S, et al. Women's mental health: acute impact of COVID-19 pandemic on domestic violence. *Arch Womens Ment Health*. 2020;23(6):749–756. doi:10.1007/s00737-020-01082-4
48. de Vibe M, Solhaug I, Rosenvinge JH, Tyssen R, Hanley A, Garland E. Six-year positive effects of a mindfulness-based intervention on mindfulness, coping and well-being in medical and psychology students; Results from a randomized controlled trial. *PLoS One*. 2018;13(4):e0196053. doi:10.1371/journal.pone.0196053
49. Keane A. The influence of therapist mindfulness practice on psychotherapeutic work: a mixed-methods study. *Mindfulness*. 2014;5. doi:10.1007/s12671-013-0223-9
50. Kearney DJ, McManus C, Malte CA, Martinez ME, Felleman B, Simpson TL. Loving-kindness meditation and the broaden-and-build theory of positive emotions among veterans with posttraumatic stress disorder. *Med Care*. 2014;52(12 Suppl 5):S32–8. doi:10.1097/MLR.0000000000000221
51. Stark AM, White AE, Rotter NS, Basu A. Shifting from survival to supporting resilience in children and families in the COVID-19 pandemic: lessons for informing U.S. mental health priorities. *Psychol Trauma Theory*. 2020;12:S133–S135. doi:10.1037/tra0000781
52. Yosep I, Hikmat R, Mardhiyah A. School-based nursing interventions for preventing bullying and reducing its incidence on students: a scoping review. *Int J Environ Res Public Health*. 2023;20(2). doi:10.3390/ijerph20021577
53. Wang CW, Chow AYM, Chan CLW. The effects of life review interventions on spiritual wellbeing, psychological distress, and quality of life in patients with terminal or advanced cancer: a systematic review and meta-analysis of randomized controlled trials. *Palliat Med*. 2017;31:883–894. doi:10.1177/0269216317705101
54. Ribeiro L, Colgan DD, Hoke CK, et al. Differential impact of mindfulness practices on aggression among law enforcement officers. *Mindfulness*. 2020;11(3):734–745. doi:10.1007/s12671-019-01289-2
55. Williams JMG, Kuyken W. Mindfulness-based cognitive therapy: a promising new approach to preventing depressive relapse. *Br J Psychiatry*. 2012;200(5):359–360. doi:10.1192/bjp.bp.111.104745
56. Demarzo MMP, Cebolla A, Garcia-Campayo J. The implementation of mindfulness in healthcare systems: a theoretical analysis. *Gen Hosp Psychiatry*. 2015;37(2):166–171. doi:10.1016/j.genhosppsych.2014.11.013
57. Fortuna LR, Porche MV, Padilla A. A treatment development study of a cognitive and mindfulness-based therapy for adolescents with co-occurring post-traumatic stress and substance use disorder. *Psychol Psychother Theory*. 2018;91:42–62. doi:10.1111/papt.12143
58. Wild J, El-Salahi S, Esposti MD, Thew GR. Evaluating the effectiveness of a group-based resilience intervention versus psychoeducation for emergency responders in England: a randomised controlled trial. *PLoS One*. 2020;15(11):1–16. doi:10.1371/journal.pone.0241704
59. Park JY, Lengacher CA, Reich RR, et al. Translational genomic research: the role of genetic polymorphisms in MBSR program among breast cancer survivors (MBSR[BC]). *Transl Behav Med*. 2019;9(4):693–702. doi:10.1093/tbm/iby061
60. Zhang JY, Li SS, Meng LN, Zhou YQ. Effectiveness of a nurse-led mindfulness-based Tai Chi Chuan (MTCC) program on posttraumatic growth and perceived stress and anxiety of breast cancer survivors. *Eur J Psychotraumatol*. 2022;13(1):2023314. doi:10.1080/20008198.2021.2023314
61. Cox CE, Olsen MK, Gallis JA, et al. Optimizing a self-directed mobile mindfulness intervention for improving cardiorespiratory failure survivors' psychological distress (LIFT2): design and rationale of a randomized factorial experimental clinical trial. *Contemp Clin Trials*. 2020;96:106119. doi:10.1016/j.cct.2020.106119
62. Carlson LE, Tamagawa R, Stephen J, Drysdale E, Zhong L, Specia M. Randomized-controlled trial of mindfulness-based cancer recovery versus supportive expressive group therapy among distressed breast cancer survivors (MINDSET): long-term follow-up results. *Psychooncology*. 2016;25(7):750–759. doi:10.1002/pon.4150
63. Allen JG, Romate J, Rajkumar E. Mindfulness-based positive psychology interventions: a systematic review. *BMC Psychol*. 2021;9(1):116. doi:10.1186/s40359-021-00618-2
64. Farb NAS, Anderson AK, Segal ZV. The mindful brain and emotion regulation in mood disorders. *Can J Psychiatry*. 2012;57(2):70–77. doi:10.1177/070674371205700203
65. Menezes CB, de Paula Couto MC, Buratto LG, Erthal F, Pereira MG, Bizarro L. The improvement of emotion and attention regulation after a 6-week training of focused meditation: a randomized controlled trial. *Evid Based Complement Alternat Med*. 2013;2013:984678. doi:10.1155/2013/984678
66. Griggs S, Walker RK. The role of hope for adolescents with a chronic illness: an integrative review. *J Pediatr Nurs*. 2016;31(4):404–421. doi:10.1016/j.pedn.2016.02.011
67. Cheung DSK, Kor PPK, Jones C. The use of modified mindfulness-based stress reduction and mindfulness-based cognitive therapy program for family caregivers of people living with dementia: a feasibility study. *Asian Nurs Res*. 2020;14:221–230. doi:10.1016/j.anr.2020.08.009
68. Sun S, Lin D, Goldberg S, et al. A mindfulness-based mobile health (mHealth) intervention among psychologically distressed university students in quarantine during the COVID-19 pandemic: a randomized controlled trial. *J Couns Psychol*. 2022;69(2):157–171. doi:10.1037/cou0000568
69. Saphiang S, Van Gordon W, Shonin E. Mindfulness in schools: a health promotion approach to improving adolescent mental health. *Int J Ment Health Addict*. 2019;17(1):112–119. doi:10.1007/s11469-018-0001-y
70. Duncan LG, Cohn MA, Chao MT, Cook JG, Riccobono J, Bardacke N. Benefits of preparing for childbirth with mindfulness training: a randomized controlled trial with active comparison. *BMC Pregnancy Childbirth*. 2017;17(1):140. doi:10.1186/s12884-017-1319-3
71. Fu R, Gartlehner G, Grant M, et al. Conducting quantitative synthesis when comparing medical interventions: AHRQ and the effective health care program. 2008.
72. Int'Hout J, Ioannidis JPA, Rovers MM, Goeman JJ. Plea for routinely presenting prediction intervals in meta-analysis. *BMJ Open*. 2016;6(7):e010247. doi:10.1136/bmjopen-2015-010247
73. Yosep I, Hikmat R, Mardhiyah A. Preventing cyberbullying and reducing its negative impact on students using E-parenting: a scoping review. *Sustainability*. 2023;15(3):1752. doi:10.3390/su15031752
74. Aranda Auserón G, Elcuaz Viscarret MR, Fuertes Goñi C, Güeto Rubio V, Pascual Pascual P, Sainz de Murieta García de Galdeano E. Evaluación de la efectividad de un programa de mindfulness y autocompasión para reducir el estrés y prevenir el burnout en profesionales sanitarios de atención primaria [Evaluation of the effectiveness of a Mindfulness and Self-Compassion program to reduce stress and prevent burnout in Primary Care health professionals]. *Aten primaria*. 2018;50(3):141–150. Spanish. doi:10.1016/j.aprim.2017.03.009
75. Amutio A, Martínez-Taboada C, Hermosilla D, Delgado LC. Enhancing relaxation states and positive emotions in physicians through a mindfulness training program: a one-year study. *Psychol Health Med*. 2015;20(6):720–731. doi:10.1080/13548506.2014.986143
76. Page MJ. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*. 2021. doi:10.1136/bmj.n71

Journal of Multidisciplinary Healthcare

Dovepress

Publish your work in this journal

The Journal of Multidisciplinary Healthcare is an international, peer-reviewed open-access journal that aims to represent and publish research in healthcare areas delivered by practitioners of different disciplines. This includes studies and reviews conducted by multidisciplinary teams as well as research which evaluates the results or conduct of such teams or healthcare processes in general. The journal covers a very wide range of areas and welcomes submissions from practitioners at all levels, from all over the world. The manuscript management system is completely online and includes a very quick and fair peer-review system. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Submit your manuscript here: <https://www.dovepress.com/journal-of-inflammation-research-journal>