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The Implementation of Mindfulness-Based Intervention to Overcome Anxiety in Adolescents: A Narrative Review

Kinar Serenity, Maria Komariah & Aat Sriati



**UNIVERSITAS
FORT DE KOCK
BUKITTINGGI**

Program Studi Keperawatan dan Pendidikan Ners
Universitas Fort de Kock Bukittinggi, Indonesia

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ABSTRACT

Background: The most common mental health problem experienced by adolescents is anxiety. Therefore, therapeutic interventions are needed, one of which is mindfulness-based interventions. This study aims to identify the types and describe the implementation of mindfulness-based interventions in overcoming anxiety in adolescents. **Methods:** A narrative review study design was used. The study selection process used the PRISMA Flow Diagram 2020 guide. The literature search was conducted through PubMed, Sage Journal, and Springer Link databases. Articles published from 2012 to 2021 with Randomized Controlled Trial, Quasi-Experimental, Qualitative Study, and Mixed methods study in English. According to the inclusion and exclusion criteria, there were ten articles based on the election results. **Results:** Mindfulness-based interventions to overcome anxiety in adolescents are Learning to BREATHE, Sleep Sense, Mindfulness-Based Stress Reduction, Mindfulness-based Stress Reduction for Teens, Mindfulness-based programs, Mindfulness Martial Arts, and Making Friends with Yourself. **Conclusion:** Nurses can use mindfulness-based intervention to help adolescents cope with anxiety, including high anxiety levels, Generalized Anxiety Disorder, and Trait Anxiety.

Keywords:

adolescents, anxiety, anxiety disorders, mindfulness

Korespondensi:

Kinar Serenity

kinar18001@mail.unpad.ac.id

Faculty of Nursing,
Universitas Padjadjaran

Abstrak

Masalah kesehatan mental yang umum dialami oleh remaja adalah kecemasan. Oleh karena itu, dibutuhkan intervensi yang terapeutik salah satunya adalah intervensi berbasis *mindfulness*. Tujuan dari *narrative review* ini adalah mengidentifikasi dan mendeskripsikan penggunaan jenis-jenis intervensi berbasis *mindfulness* dalam mengatasi kecemasan pada remaja. Desain studi menggunakan *narrative review* serta menggunakan pedoman PRISMA. Pencarian literatur dilakukan melalui database *PubMed*, *Sage Journal*, dan *Springer Link*. Artikel diterbitkan dari 2012 hingga 2021 dengan *Randomized Controlled Trial*, *Quasi-Experimental*, *Qualitative Study*, dan *Mixed methods study* dalam bahasa Inggris. Berdasarkan hasil seleksi, terdapat 10 artikel sesuai kriteria inklusi dan eksklusi. Jenis-jenis intervensi berbasis *mindfulness* untuk mengatasi kecemasan pada remaja adalah *Learning to BREATHE*, *Sleep Sense*, *Mindfulness-Based Stress Reduction*, *Mindfulness-based Stress Reduction for Teens*, *Mindfulness-based programs*, *Mindfulness Martial Arts*, dan *Making Friends with Yourself*. Perawat dapat menggunakan intervensi berbasis *mindfulness* untuk membantu remaja mengatasi kecemasan, termasuk tingkat kecemasan yang tinggi, *Generalized Anxiety Disorder*, dan *Trait Anxiety*.

Kata kunci: Remaja, cemas, *mindfulness*

INTRODUCTION

Adolescence (10-19 years) is a vulnerable period for developing mental health problems (Kroska et al., 2018; WHO, 2020) because various physical, emotional, and social changes can occur in adolescents (WHO, 2020). The most common mental health problem experienced by adolescents is anxiety or anxiety disorder (Kroska et al., 2018; WHO, 2020). Anxiety disorders are usually comorbid and can predict the development of other psychological disorders such as depression, suicide risk, to drug or substance abuse (Hill, Waite, & Creswell, 2016).

According to the World Health Organization (WHO), the prevalence of anxiety disorders in adolescents is 10 to 19 percent (Bandelow & Michaelis, 2015). In 2018, the prevalence of mental-emotional disorders with anxiety symptoms for ages > 15 years in Indonesia was 9.8%. This figure increased by 3.8% compared to 2013 (Oktari, 2021). Based on a survey through the official website conducted by the Indonesian Psychiatric Association (Puspitasari et al., 2021), out of 2,606 people, 67.4% of them experienced anxiety, and the majority (75.9%) occurred in the adolescent category, namely under the age of 20 years. According to the National Institutes of Health, nearly 1 in 3 teens aged 13 to 18 will experience an anxiety disorder (McCarthy, 2019). In addition, the median age of onset anxiety disorders is 11 years (Garcia & O'Neil, 2021). According to (Stuart, 2014), Anxiety is a feeling or emotion without a specific source or object. Usually, there is no apparent cause and it occurs when the individual faces new experiences (Stuart, 2014). Anxiety can make a person tense, restless, afraid, nervous, and sweaty (Hayat, 2017).

Risk factors for anxiety disorders in adolescents include female gender, depressed and anxious parents (Narmandakh et al., 2020), experience of being a victim of bullying (physical, verbal, or psychological) (Acquah et al., 2016; Khan, 2020), as well as excessive use of digital and social

media, including Facebook, Twitter, Etc. (Hoge, Bickham, & Cantor, 2017; Khan, 2020).

Anxiety that can still be controlled or has not become a nuisance can make individuals more alert (Vibriyanti, 2020). However, when this anxiety becomes uncontrollable, the individual will experience various physical, psychological, and environmental disorders. Anxiety in adolescents usually interferes with peer relationships, school, and family life. This anxiety can last into adulthood if left untreated (Hill, Waite, & Creswell, 2016). Therefore, intervention is needed to overcome this anxiety.

Interventions that are currently widely used to treat anxiety in adolescents is Mindfulness-Based Interventions (MBI). There is growing evidence regarding the appropriateness, acceptability, and positive outcomes of using mindfulness-based interventions to treat various adolescent mental health problems, including anxiety (Carlton et al., 2020).

Mindfulness refers to a particular way of consciously paying attention to recent experiences with a sense of openness and acceptance but without judging those experiences (Kabat-Zinn, 2003; Odgers et al., 2020). Mindfulness Based-Intervention is becoming increasingly popular for dealing with mental health problems (Odgers et al., 2020). The mechanism is related to the de-automatic process generated through mindfulness practice so that it can help individuals develop adaptive self-regulation strategies that improve psychological well-being (Kang et al., 2013).

Mindfulness teaches individuals to increase awareness about the thoughts and feelings they feel so that individuals do not act only instinctively (Daitch, 2018). Meanwhile, when individuals practice mindfulness, there will be changes in neural anatomy in various parts of the brain, including areas related to meta-awareness (frontopolar cortex), exteroceptive and

interoceptive body awareness (sensory cortex and insula), memory consolidation and reconsolidation (hippocampus), and self-regulation and emotion (anterior and mid-cingulate; orbitofrontal cortex) (Fox, 2015; Laukkonen et al., 2020).

Mindfulness therapy has been adapted to different types of MBI, targeting multiple therapeutic benefits (Odgers et al., 2020). Mindfulness therapy is considered effective and flexible. This is because all ages can do mindfulness therapy without contraindications. In addition, this therapy is also considered flexible because it can be done anywhere and anytime when needed by the individual (Hidayati et al., 2018). Mindfulness-based therapy can also be adapted to various cultures and does not reduce its therapeutic effect (Lam, 2016). This therapy is also relatively cost-effective (Dunning et al., 2019). (Hofmann, & Gómez, 2017), stated that MBI effectively deals with mental health problems in various populations, including adolescents. MBI can be used for various levels of anxiety, either mild, moderate, or high (Fumero et al., 2020; Malboeuf-Hurtubise et al., 2017; Querstret et al., 2018).

Several studies that have been conducted have shown that MBI, both individually and in groups, can be used to treat anxiety in adolescents (Crowley et al., 2018; Díaz-González et al., 2018). A literature study also shows that mindfulness-based interventions can be used at ages 5-18 (Borquist-Conlon et al., 2019). However, this study has limitations. The inclusion criteria for the year of publication of the journal, which is quite far (between 1980 and 2015), does not focus on the adolescent age range and does not explain each type of mindfulness-based intervention in detail. Therefore, based on the description of the phenomena described above and the limitations of previous research results related to MBI, it is essential to conduct a literature study that discusses the types of mindfulness-based interventions to overcome

anxiety in adolescents and a description of these interventions. This narrative review aims to identify and describe the implementation of mindfulness-based intervention types in overcoming anxiety in adolescents.

RESEARCH METHODE

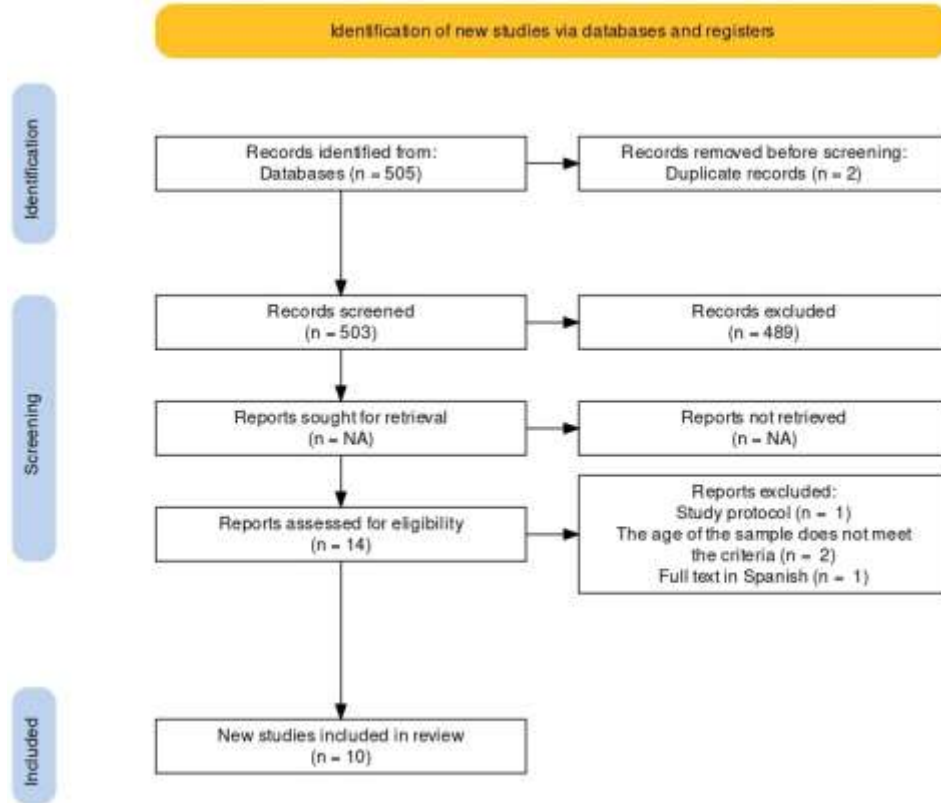
The study design used in this study is a narrative review, a "traditional" way of reviewing the existing literature, and a qualitative interpretation of prior knowledge (Blake et al., 2016, 2017). The literature search was carried out by collecting secondary data from several databases, namely PubMed, Sage Journal, and Springer Link. The keywords used were "Adolescent" OR "Adolescence" AND "Mindfulness Therapy" OR "Mindfulness" OR "Mindfulness based Intervention" AND "Anxiety Disorders" OR "Anxiety" OR "Generalized Anxiety Disorder." The inclusion criteria for this study were full-text articles in English, a sample age range of 10-19 years, publications in the last ten years (2012-2021), RCTs, Clinical Trials, Research articles, Quasi-Experimental, mixed method studies, and qualitative studies. All types of anxiety or levels of anxiety were included in this review. However, anxiety with coexisting physical illness was excluded. Other exclusion criteria were books, review articles and the number of samples < 30 for RCT and Quasi-Experimental studies. The study selection process uses the PRISMA Flow Diagram 2020 guide (Haddaway et al., 2022).

The authors conducted a search based on the specified keywords and obtained as many as 16 articles from the PubMed database, 110 articles from the Sage Journal, and 379 articles from Springer Link, so the total articles were 505 articles. Then, a duplication check was carried out through the Mendeley application, and two duplicate articles were obtained so that the following selected articles were 503. Next, the authors looked at the article title's suitability with the research topic and the abstract so that 14 articles were obtained. The exclusion was carried

out on four articles because it was in the form of a study protocol (n = 1), sample age < 10 years or > 19 years (n = 2), and full text in Spanish (n =

1), so that ten articles were obtained according to the criteria. PRISMA diagram on **[Figure 1]** describes the article selection process.

Figure 1. PRISMA Diagram



RESEARCH RESULTS

Data obtained from each article is presented in a tabular format containing information about the

author, year, country of study, study design, population, sample, intervention alongside with the study's results. **[Table 1]**.

Table 1. Study's Result

<u>Author (Year)</u>	<u>Country</u>	<u>Study Design</u>	<u>Population and Sample</u>	<u>Intervention</u>	<u>Result</u>
Dvořáková et al., (2017)	USA	Randomized Controlled Trial (RCT)	The first-year undergraduate student from a public university in Pennsylvania, United States. Total sample used in this study are 109 students.	Mindfulness based program called L2B (Learning to BREATHE) which is held in the fall semester. Study participants attended eight sessions over six weeks (2 sessions per week for the first two weeks and one session for each of the remaining four weeks). Sessions in the freshman dormitory are held in the evenings, with each session	The three most effective practices were Mindful breaths (82%), breath awareness (50%), and mindfulness of emotions (27%). The results showed a significant increase in students' life satisfaction and a

<u>Author (Year)</u>	<u>Country</u>	<u>Study Design</u>	<u>Population and Sample</u>	<u>Intervention</u>	<u>Result</u>
				lasting approximately 80 minutes. Each group consists of 20-25 students, with one leader and one assistant facilitator.	significant decrease in depression and anxiety.
Blake et al., (2017)	Victoria	Parallel RCT design	Adolescents who have sleep problems and high levels of anxiety with total sample 123 students.	The intervention used is cognitive behavioral and mindfulness-based sleep intervention, namely Sleep SENSE program. The intervention was carried out for seven weeks with a duration of 90 minutes, each session supported by various psycho-educational materials. The seven sessions consist of education about sleep, overcoming challenges to sleep, establishing a regular sleep schedule, techniques for managing stress, focusing on the positive, managing worries, and reviewing sleep goals and perceived progress.	Participants who completed the Sleep SENSE intervention showed less anxiety than those who completed the SENSE Study intervention.
Blake et al., (2016)	Victoria	Randomized Controlled Trial (RCT)	Adolescents with high anxiety levels and difficulty sleeping without past or current depressive disorder and total sample used are 123 students.	Sleep SENSE program was carried out for seven weeks with a duration of 90 minutes, each session supported by various psycho-educational materials. Seven sessions consisted of sleep education, sleep hygiene, circadian rhythms, Mindfulness, Cognitive-behavioral model, managing worries during day and night, mindfulness practices, and reviews.	Compared with participants in the control group, participants who completed the Sleep SENSE program reported less anxiety level. In addition, the intervention group also reported better sleep quality.
Khoshkerda r & Raeisi, (2020)	Iran	Pre-test, post-test, control group, and follow-up design	Adolescent girls are high school students with diagnosis of dysfunctional eating attitudes by school psychologist and parents, score higher than 20 on the Eating	The intervention group underwent eight MBSR sessions (90 minutes per session). One week after the intervention, both groups were post-tested using the same scale, and the follow-up phase was carried out 40 days after the intervention.	The intervention group showed significant differences between the pre-test, post-test, and follow-up measurements on depressed mood, anxiety control, and positive affect control.

<u>Author (Year)</u>	<u>Country</u>	<u>Study Design</u>	<u>Population and Sample</u>	<u>Intervention</u>	<u>Result</u>
			Attitude Test (EAT-26). Total sample in this study are 30 students.		
Cohen et al., (2021)	USA	Parallel randomized controlled trial	Adolescents with an Adverse Childhood Experiences (ACE) score of 3, who do not have a psychotic diagnosis or are not currently on psychotic medication, are interested in research and can participate. That criteria resulting on 40 students used as sample in this study.	The MBSR-T intervention was administered in a group format. There is an adaptation session in the form of formal mindfulness practice (10–20 minutes). Sessions were conducted twice a week for four weeks. The research focus topics are intention (direction of effort towards mindfulness practice), attention (feeling what is happening at the moment), and attitude (non-judgmental).	The results of the analysis revealed a large significant effect on self-reported anxious arousal on stress using the Trier Social Stress Test for Children (TSST-C) instrument. Follow-up analysis also revealed a moderate reduction in anxiety effect size in self-reported anxiety.
Roux & Philippot, (2020)	Belgium	Quasi-Experimental Study	Adolescent boys who meet the DSM-5 criteria: ADHD, ODD, CD. The sample are 48 students that suited the criteria.	<i>Mindfulness-Based Programs</i> (MBP) begin with six sessions introducing emotional competence and dynamic groups. The following ten sessions focus on mindfulness practices, namely raisin exercise, mirror game, body scan, meditation of sounds, is it a fact or a judgment?, mindful walk, film extracts (inside-out, peaceful warrior), thoughts meditation, let it go meditation, review of the program. Sessions last 50 minutes per week.	MANOVA analysis revealed improvements from pre-experimental and post-experimental on the Depressive symptomatology questionnaire (anxiety, self-esteem, sad mood, low energy, pessimism, defiance) in both group.
Lam & Seiden, (2020)	China	Quasi-experimental control group pretest-posttest design	Seventh -grader student in Hong Kong government-subsidized secondary school. There are total 115 students as sample in this	L2B (Learning to BREATHE) program was carried out during religious/social studies subjects because the intervention content was theoretically consistent with several learning topics, such as contemplative practice (e.g., prayer or meditation), spirituality, morality, and relationships. Six	Overall, MANOVA test results on the three YSR subscales (anxiety, attention, somatic aspects) were quite significant. There was a significant intervention effect on rumination (RRS).

<u>Author (Year)</u>	<u>Country</u>	<u>Study Design</u>	<u>Population and Sample</u>	<u>Intervention</u>	<u>Result</u>
			study.	intervention sessions were scheduled once a month for five months (70 minutes). Each session includes a presentation of the intervention theme, activities that facilitate understanding of the intervention theme, and mindfulness practices in the classroom. At the end of the session, students receive handouts so they can practice at home and download audio files for guided practice via the school intranet.	
Milligan, Badali, & Spiroiu, (2015)	Canada	Qualitative Exploration Study	Adolescents with a diagnosis of Learning Disabilities and currently undergoing treatment for self-regulation challenges (e.g., anxiety, behavior problems, ADHD). Total sample in this study are 7 students.	MMA consists of 20 weekly sessions (1.5 hours), and each group consists of 8-10 teenagers. There are two levels of the MMA program. Entry-level MMA is for teens who are taking MMA for the first time. Advanced MMA is for teens who have completed beginner MMA and provides opportunities for further practice and deepening skills. Youth are provided with CDs that guide and support them in practicing meditation at home (for example, loving kindness meditation and body scanning). Home workouts are checked during each session. Teens receive additional points to earn their martial arts yellow belt when completing home workouts.	<i>Mindfulness</i> is thought to produce four main results: (1) increased calmness; (2) thinking before acting; (3) increasing self-understanding and communication; and (4) tolerance and accept discomfort. In addition, the goal of participating in MMA for adolescents who experience anxiety and have been victims of peer bullying is to improve emotional well-being which has been achieved through this program.
Haydicky et al., (2012)	Canada	Pre-test, Post-Test; Waitlist Control Group (WL)	Boys at the child and adolescent mental health center Toronto, Canada, with LD. There are total 49 students as sample.	<i>Mindfulness Martial Arts</i> (MMA) program is designed to reduce problem behavior and increase adolescent self-awareness, self-control, adaptability, social skills, and self-defense skills. The 20-week program consists of weekly 1.5-hour sessions that combine elements of mindfulness, cognitive behavioral therapy (CBT), and mixed martial arts.	Adolescents with a diagnosis of ADHD who received MMA showed a significant reduction in oppositional defiant problems compared to the WL group. In addition, the pre-test high-anxiety adolescent subgroup

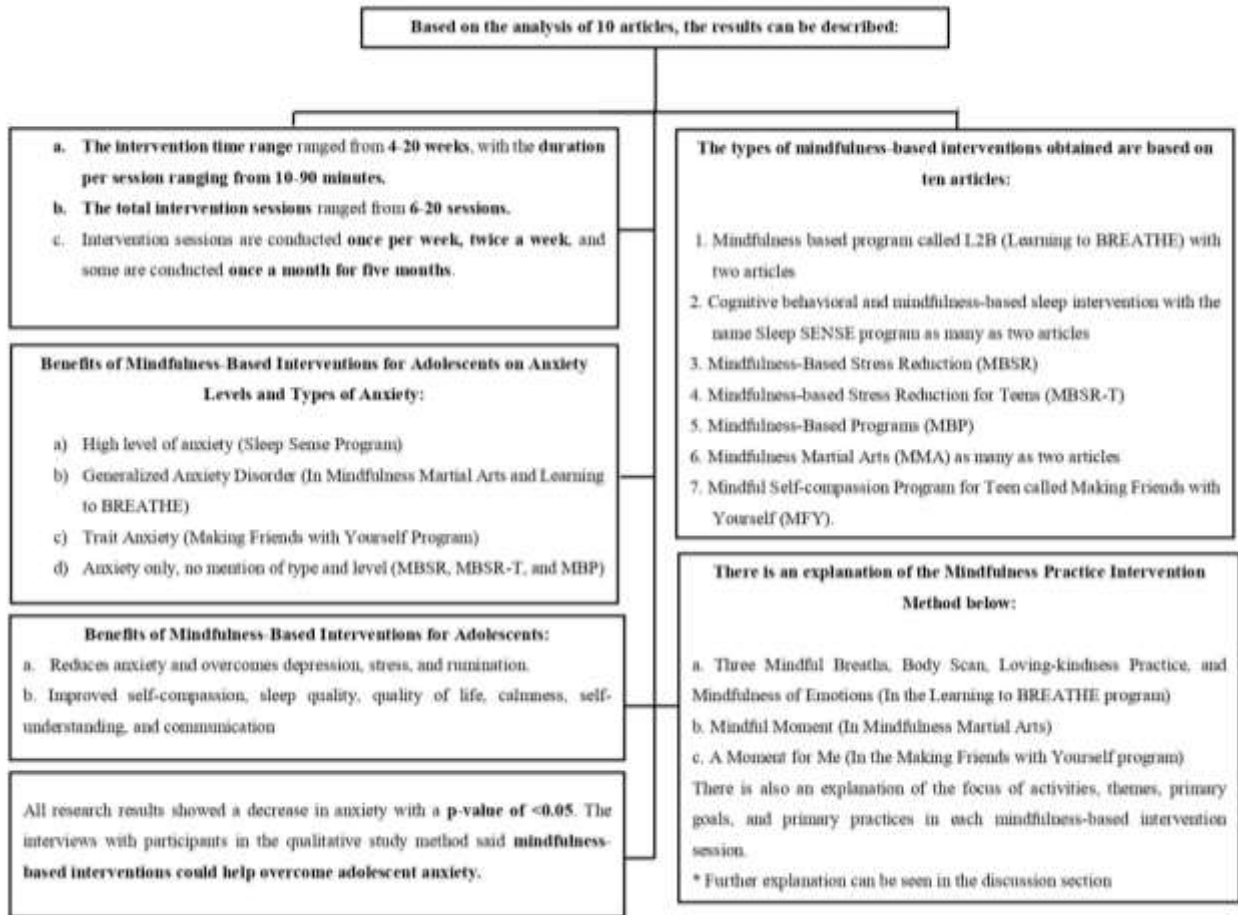
<u>Author (Year)</u>	<u>Country</u>	<u>Study Design</u>	<u>Population and Sample</u>	<u>Intervention</u>	<u>Result</u>
				MMA participants are trained to explore their inner world, accepting their thoughts and feelings without judgment. Participants were guided to do body scans, sitting meditation, walking meditation, and mindfulness activities. The duration of formal meditation gradually increases each week.	reported decreased post-test anxiety compared to WL.
Bluth et al., (2016)	USA	Mixed methods embedded design, waitlist-controlled crossover study	Adolescents who score <13 on the modified Kutcher Adolescent Depression Scale (KADS) with total sample 34 students.	<i>Making Friends with Yourself: a Mindful Self-compassion Program for Teens</i> (MFY) is a six-week program for 90 minutes per week. There are five sessions in MFY. Each weekly session of MFY has a unique theme. To support practice at home, students can access a website with audio and video recordings of adult-guided meditation classes because there is no website with a youth version of guided meditation available. These audio and video recordings are consistent with the practices introduced in the classroom.	The results showed that MFY is a feasible and acceptable program for adolescents. Compared to the waitlist-control, the intervention group had significantly greater self-compassion and life satisfaction. Outcome depression was also significantly lower than the waitlist-control, with a greater trend of mindfulness, better social connectedness, and lower anxiety. In addition, based on interviews, the intervention group felt significantly less anxiety, depression, stress, and negative effects after the intervention.

[attention-deficit/hyperactivity disorder (ADHD), oppositional defiant disorder (ODD), conduct disorder (CD), Learning Disabilities (LD)]

In addition, information about the types of MBI, the intervention period, the total intervention sessions, benefits, and the study's overall results

are summarized in the analysis results diagram **[Figure 2]**.

Figure 2. Analysis Result Diagram



Thematic discussions according to the article review results were carried out by describing each article according to the research objectives and grouped according to the mindfulness-based intervention types found (Nicholson et al., 2016; Thomas & Harden, 2008).

DISCUSSION

This literature study analyzes ten articles that discuss the implementation of mindfulness-based intervention types to deal with anxiety in adolescents.

1. Mindfulness-based program called L2B (Learning to BREATHE)

Four interventions are mentioned in the

study of Dvořáková et al., (2017): three mindful breaths, body scan or body scan, loving-kindness practice, and mindfulness of emotions. The following is a further explanation of the four interventions.

a. Three Mindful Breaths(Broderick, 2021)

This technique can be done while lying down or sitting. One breath cycle consists of inhaling and exhaling. The way to do three mindful breaths is to inhale through the nose and exhale through the mouth. This practice is carried out for three breath cycles in one exercise. Three mindful breaths can be done three times a day, for example, when uncomfortable feeling (feeling anxious), waking up, when

you are going to do schoolwork, and when you are going to sleep.

b. Body Scan(Broderick, 2021)

Body scans can be done anywhere and anytime. The way to do this is to focus on the body and mind while breathing, feel the breath moving from head to toe, feel the tension in all parts of the body, and inhale and exhale while releasing all tension felt in the body.

c. Loving-kindness Practice(Broderick, 2021)

The loving-kindness technique aims to increase self-acceptance and self-compassion in individuals. This technique focuses on aspects of peace, happiness, and well-being. The position when doing this technique is sitting or lying down. The way to do this is to inhale and exhale while thinking about the feeling of love (from a parent, sibling, friend, teacher, or pet). Remember it without judging, feel the feeling of being loved, feel that feeling spread to the heart and other parts of the body, apply that love to ourselves and others, and try to feel the peace it brings.

d. Mindful Emotion(Broderick, 2021)

Individuals should relax the neck, shoulders, and hands while performing this technique. The breath cycle in this technique consists of inhaling and exhaling. How to do this is to sit comfortably, close our eyes slowly, and focus on the breath cycle (if you feel tension in the body area, try to focus on the breath cycle again). Feel the breath going in and out of the body, the chest expands, and stomach movement while breathing. Exhaling, feel every breath that goes in and out of the body. When a

thought or feeling arises, let the thought and feeling flow and try to refocus on the cycle of breathing flowing into the chest, abdomen, and other parts of the body.

The mindfulness-based program L2B (Learning to BREATHE) was conducted offline. The youth were given a link to access audio recordings of guided meditations (for example, body scans or body scans and loving-kindness practices) to practice mindfulness at home. This can help teenagers to practice their mindfulness practice skills so they can apply them in everyday life. The type of anxiety that can be overcome by Learning to BREATHE is Generalized Anxiety Disorder (GAD). Learning to BREATHE conducted by Dvořáková et al., (2017) had eight sessions with a duration of 80 minutes per session, and the intervention time was six weeks. Meanwhile, learning to BREATHE conducted by Kanei Lam & Seiden (2020), had six sessions with a duration of 70 minutes, and the intervention was carried out once a month for five months. This difference is due to Kanei Lam & Seiden (2020) research using minor modified learning to BREATHE. Modifications were made due to the study's classroom space and time limitations. Both studies show the benefits of Learning to BREATHE in adolescents: decreasing anxiety, decreasing depression levels, decreasing rumination, and increasing life satisfaction.

2. Cognitive Behavioral and Mindfulness-based Sleep Intervention with the program name Sleep SENSE

Sleep SENSE was developed by Dahl, Bootzin, and Harvey (Waloszek et al., 2015).

Sleep SENSE is a multi-component group program designed to improve sleep quality by addressing sleep barriers (e.g., anxiety) throughout the sleep-wake cycle (Blake et al., 2016, 2017; Waloszek et al., 2015). This intervention was carried out offline based on an analysis of two articles. Sleep SENSE program can treat high or severe anxiety. Sleep SENSE has seven sessions with a duration of 90 minutes per session and an intervention time of 7 weeks. The benefits of using the Sleep SENSE program in adolescents are a decrease in anxiety and an increase in sleep quality.

3. Mindfulness-Based Stress Reduction (MBSR)

MBSR was developed by Kabat-Zinn and Hanh (Khoshkerdar & Raeisi, 2020). This intervention was conducted offline based on an analysis of articles using Mindfulness-Based Stress Reduction (MBSR). Khoshkerdar & Raeisi research (2020), does not specify what types of anxiety or anxiety levels can be treated with Mindfulness-Based Stress Reduction (MBSR). The total intervention sessions on MBSR were eight sessions with a duration of 90 minutes per session. There was a follow-up action in the intervention group 40 days after the intervention ended to see the effectiveness of MBSR and to find out whether the adolescents were still actively using MBSR. In addition, each session has a specific theme and practices tailored to the theme. There is also a combination of discussion on practice and implementation. The discussion at the beginning of the session can help the youth understand more about the practice they will be doing and build a good relationship between the youth and the

coach. The benefits of using the MBSR program for adolescents, namely reducing depressed mood, improving anxiety control, and improving positive affect control.

4. Mindfulness-based Stress Reduction for Teens (MBSR-T)

MBSR-T is a program for teenagers given in a group format (Cohen et al., 2021). This intervention was carried out offline based on an analysis of articles. The research of Zsofia Cohen et al., (2021), does not specify what anxiety or anxiety levels can treat by Mindfulness-based Stress Reduction for Teens (MBSR-T). The total intervention sessions on MBSR-T were eight and were conducted twice a week for four weeks. The duration of formal mindfulness practice is 10–20 minutes. There was a follow-up action in the intervention group after the intervention ended to see the effectiveness of MBSR-T and to determine whether adolescents are still actively using MBSR-T. In addition, each session has an activity focus and specific mindfulness practices tailored to the focus of the activity.

5. Mindfulness-Based Programs (MBP)

MBP on Roux and Philippot's research (2020), inspired by two other programs for adolescents: the adolescent mindfulness-based intervention for enhancing emotional regulation (Deplus et al., 2016) and the Taming the Adolescent Mind program (TAM program) (Tan & Martin, 2013). This intervention was conducted offline based on an analysis of articles using Mindfulness-Based Programs (MBP). Roux and Philippot's (2020) research does not specify what types of anxiety or anxiety levels can be managed with Mindfulness-Based

Programs (MBP). The total intervention sessions in MBP were ten sessions with a duration of 50 minutes per session and were carried out once a week. Each session has specific themes, main objectives, and critical practices. This can help teens explore the practice of mindfulness further and avoid boredom in mindfulness practice because the practice is very varied. The benefits of using MBP in adolescents are helping to overcome anxiety, sad moods, low energy, pessimism, defiance, and increasing self-esteem.

6. Mindfulness Martial Arts (MMA)

MMA is a program developed by Badali in 2007 (Haydicky et al., 2012). This program aims to reduce problematic behavior and increase adolescent self-awareness, self-control, adaptation, social skills, and self-defense skills (Haydicky et al., 2012). MMA uses two formal mindfulness approaches: mindfulness meditation and the mindful moment (Milligan et al., 2015). Mindfulness meditation practices include sitting meditation (for example, loving-kindness meditation), body scans, and Kinhin/walking meditation, which involves being aware of breath and body sensations (Milligan et al., 2015). Meanwhile, the mindful moment is a technique adapted from 3 minutes breathing space which Segal developed in 2002 (Milligan et al., 2015). The way to do the mindful moment technique is (1) close your eyes, focus on your breath (say the word "BI"), and relax your arms, legs, and other body parts (2) slowly open your eyes and (3) try to record your day's experiences this (Milligan et al., 2015).

This intervention was conducted offline based on an analysis of two articles using

Mindfulness Martial Arts (MMA). Types of anxiety and levels of anxiety that can be overcome with MMA are Generalized Anxiety Disorder (GAD) and high or severe levels of anxiety. The two studies have no difference in total intervention sessions, duration per session, and intervention time (Haydicky et al., 2012; Milligan et al., 2015). MMA has 20 sessions with a duration of 90 minutes per session and is carried out for 20 weeks. Each session is held once a week. This program is unique because teenagers are also taught martial arts. Of course, this can help teenagers to protect themselves in threatening situations (e.g., bullying). The benefits of using the MMA program in adolescents are overcoming anxiety, increasing calm, increasing self-understanding and communication. In addition, based on the results of interviews in the research of Milligan, Badali, and Spiroiu (2015), teenagers who experience anxiety and have been victims of peer bullying feel that there is an increase in emotional well-being (including overcoming anxiety) and better relationships with peers after participating in MMA.

7. Mindful Self-compassion Program for Teen called Making Friends with Yourself (MFY)

Making Friends with Yourself: a Mindful Self-compassion Program for Teens (MFY) developed by Karen Bluth (Bluth et al., 2016). Formal and informal mindfulness and self-compassion practices are provided to youth through the MFY program (Bluth et al., 2016). For example, in formal practice, adolescents are trained to perform self-compassion body scans (Bluth et al., 2016). The benefit of practicing a self-compassion

body scan is to bring warmth and affection to every part of the body while paying attention to sensations in that area (Bluth et al., 2016). In addition, there is an informal exercise called "A Moment for Me" (Bluth et al., 2016). How to do the informal "A Moment for Me" exercise is to apply a soothing touch (e.g., stroking someone's arm, holding hands) while recalling to do three things: (1) acknowledge emotional discomfort when it occurs, (2) acknowledge that Emotional discomfort is universal and part of the human life cycle, and (3) actively self-soothing by repeating a variety of good phrases to yourself (Bluth et al., 2016).

This intervention was conducted offline based on an analysis of articles using the Mindful Self-compassion Program for Teen called Making Friends with Yourself (MFY). However, teenagers can access audio and video recordings via the website to practice mindfulness at home (Bluth et al., 2016). This is undoubtedly useful so teenagers can practice mindfulness more regularly, especially at home. The type of anxiety that can be overcome with MFY is Trait Anxiety. The total intervention sessions at MFY were six sessions with a duration of 90 minutes per session and were carried out once a week. The benefits of using MFY in adolescents are reducing anxiety, depression, and stress. In addition, there was an increase in self-compassion and life satisfaction in adolescents who participated in MFY. The interviews with teenagers also show that MFY can overcome anxiety, depression, and stress.

All health workers (including nurses) can consider using the mindfulness-based

interventions mentioned above to deal with adolescent anxiety because they are proven effective and flexible to do anywhere, anytime. The seven types of Mindfulness-Based Interventions mentioned can be guided by various health workers (including nurses) who have attended previous training. The researcher realizes this literature study still has various limitations. The limitation is that this study does not cover all the ways of intervention applied to adolescents because not all of the articles analyzed include or describe the method of intervention applied to adolescents in detail. Then, there are no articles whose research locations are in Indonesia, so they cannot determine what kind of mindfulness-based interventions can be used in Indonesia. In addition, this literature study did not compare each type of mindfulness-based intervention and did not conclude what kind of mindfulness-based intervention was most effective in dealing with anxiety in adolescents.

CONCLUSION

Mindfulness-based interventions can be a therapeutic option for dealing with anxiety in adolescents. Nurses can become practitioners as well as coaches of mindfulness-based interventions. In addition, nurses can also conduct research with experimental methods related to mindfulness-based interventions in overcoming anxiety in adolescents. Three types of mindfulness-based interventions are most widely used, namely L2B (Learning to BREATHE), Sleep SENSE, and Mindfulness Martial Arts (MMA). The results of the analysis also show that mindfulness-based interventions are beneficial for dealing with

high or severe anxiety levels (in Sleep Sense program), Generalized Anxiety Disorder (in Mindfulness Martial Arts and Learning to BREATHE), Trait Anxiety (in Making Friends with Yourself program), and Anxiety (in MBSR, MBSR-T, and MBP). Besides reducing adolescent anxiety, mindfulness-based interventions are also helpful for dealing with depression, stress, and rumination. Also, improved self-compassion, sleep quality, quality of life, and calmness. This literature study can be developed into research with experimental methods to determine what types of mindfulness-based interventions are most effective for reducing anxiety in adolescents, including in Indonesia. Regarding mindfulness practices, health workers (including nurses) may consider shortening the duration or doing formal meditation through online platforms (such as zoom meetings or google meetings).

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