

Intervention programme to improve emotional regulation among adolescent with mental disorders: a systematic review

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ABSTRACT

Adolescence is an important period for developing social and emotional habits that are important for mental well-being. This research aimed to know the effectiveness of intervention programs to improve emotional regulation in adolescents with mental disorders. Preparation using the PICO approach, determination of inclusion and exclusion criteria, and a literature review of scientific English articles published between 2016 and 2023 were conducted. Data were obtained from the SCOPUS, Science Direct, SpringerLink, ProQuest, and SAGE databases. Assessment of the title, abstract, and full text of the article with the keywords "Adolescent," "Child," "Teenager," "Emotion regulation," "Emotion exposure," "Intervention," "Mental Disorders," "Randomised Control Trial." The systematic review report was reviewed critically to ensure that all PRISMA steps and items were included. Nine articles met the inclusion criteria. The choice of programs and methods of intervention may vary depending on the specific mental disorders and individual needs of adolescents. Nursing interventions, including cognitive behavioral therapy, mindfulness-based interventions, group therapy, support groups, and school-based programs, are widely used to manage and treat mental health disorders with the aim of improving well-being and recovery. The effectiveness of intervention programs varies, and selection should consider adolescent needs, resources, and cultural contexts. Consulting mental health professionals or organizations is recommended.

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1. INTRODUCTION

Concern over the high and rising prevalence of mental illness and poor mental health among the younger generation is spreading around the world [1], [2]. Young people's future lives are significantly affected by poor mental health, with long-term effects on social, educational, occupational, and health outcomes. The prevalence of anxiety and depression increases significantly between middle adolescence and early adulthood [3]–[5]. Adolescence is an important period for developing social and emotional habits that are important for mental well-being [6]. Adolescents are at greater risk of mental health problems because of their living conditions, stigma, discrimination or exclusion, and lack of access to quality support and services [7]. Anxiety is most common in this age group and is more common in older teens than in younger teens [8]. Anxiety disorders and depression can greatly affect school attendance and work. Withdrawal from this association can exacerbate isolation and loneliness. Depression can also lead to suicide [9].

Emotional well-being in adolescents refers to their overall mental and emotional states, including their ability to understand and manage emotions, cope with stress, build positive relationships, and experience a sense of well-being [10]. Emotional well-being includes a positive balance between pleasant and unpleasant feelings and cognitive assessments of general life satisfaction [11]. Emotional wellbeing is a component of positive mental health [12]. Promoting positive mental health and well-being during adolescence can contribute to development, resilience, and the overall quality of life [13].

Emotion regulation involves controlling emotional states and behaviors to express emotions that fit into the surrounding environment [14]. As part of the formation of psychological aspects in adolescents, emotional regulation is influenced by family factors that determine the next stage of life [15]. Teens with emotion regulation skills can choose their emotions and when and how to experience and express them [16]. Adolescents who can control their emotions and efforts according to their goals and situations are said to have adaptive emotional regulation. Conversely, teens who experience emotional dysregulation often face challenges in controlling anger, frustration, or stress, and may tend to react impulsively [17].

Emotion Dysregulation can lead to delinquent behavior as an unhealthy coping mechanism, such as physical aggression, drug use, deviant acts, or risky sexual behavior, to reduce emotional tension or seek unfulfilled sensations [18]. Studies have shown a link between emotional dysregulation and delinquent behavior in juveniles. Adolescents who experience high levels of emotional dysregulation tend to have a higher risk of involvement in the justice system, psychiatric symptoms, poor educational outcomes, and delinquent behavior including violence, conflict with the law, or drug use [19]. It is important to remember that juvenile delinquency results from a complex interaction between many factors, and that emotional dysregulation is just one factor that may play a role.

In the context of adolescent mental health challenges, particularly in the area of emotion regulation, it is important to develop therapeutic approaches that can provide effective support [20]. Supportive therapy is emerging as a promising solution to help adolescents with mental disorders manage and improve their emotion regulation [21], [22]. Focusing on providing emotional support, these therapies are designed to build a positive relationship between therapists and adolescents, create an environment that supports healthy emotional expressions, and help adolescents develop better emotion regulation skills [23].

This study aimed to find an effective intervention program to improve emotional regulation in adolescents with mental disorders. The novelty of this study is that it focuses specifically on adolescents with mental disorders and their emotional regulation. In addition, it is hoped that this research will provide valuable insights into effective strategies for improving emotional regulation in adolescents with mental disorders.

2. METHOD

The lack of research that examines and combines research on the effectiveness of intervention programs to improve emotional regulation in adolescents with mental disorders is a problem in this research and encourages researchers to conduct a review of several previously published studies so that comprehensive conclusions can be drawn in this area. This research is a review study that uses five electronic databases were systematically searched for studies published between January 2016 and September 2023. These include SCOPUS, Science Direct, Springer Link, ProQuest, and SAGE, see Figure 1. Table 1 shows the PICOS framework studies focusing on specific populations (adolescents with mental disorders), interventions (intervention programs aimed at improving emotion regulation), comparisons (different types of intervention programs for emotion regulation), outcomes (increased emotional regulation among adolescents with mental disorders), and study design (randomized controlled trials). It provides a clear structure for conducting systematic reviews to evaluate intervention programs to improve emotion regulation and to compare other interventions or standard treatments that may improve emotion regulation among adolescents with mental disorders. Only full-text English articles were included in the search. As there were few articles on emotion regulation therapy for adolescents with mental illness in nursing publications, the search expanded to include journals on psychology, health, and health promotion.

3. RESULTS AND DISCUSSION

Featured Item Reporting Instructions for systematic review and meta-analysis (PRISMA) were followed when performing a digital search. The flow chart for study selection is shown in, see Figure 1. Five databases initially identified 591 items. The titles, abstracts, and keywords were evaluated as part of the search process. The article will be included in a further review if the title and abstract are relevant to the purpose of the study. Only full articles were checked after the screening process and articles that met the inclusion criteria were searched. The introduction, methodology, results, discussion, and conclusions have

been included in the evaluation of the content of the article. We examined only randomized controlled trials. Twenty publications were omitted from consideration because they did not involve nursing interventions, rehabilitative interventions, protocol creation, nonexperimental investigations, or evidence-based practice. six studies were conducted in Europe [24]–[29], one in the United States [30], one in Africa [31], and one in Australia [32]. Four intervention programs (cognitive behavioral therapy, mindfulness-based intervention, group therapy, and school-based program support groups) and four approaches (mental health clinics, school health settings, community mental health institutes, and online platforms) were used to improve adolescent emotion regulation skills, see Table 2.

Nursing interventions play an important role in the management and treatment of mental health disorders. Nursing interventions aim to improve the well-being and recovery of individuals who experience mental health challenges. Some nursing interventions are commonly used to treat individuals with mental illnesses. In this review, the most widely used non-pharmacological interventions were cognitive behavioral therapy (CBT), mindfulness-based interventions, group therapy, support groups, and school-based programs.

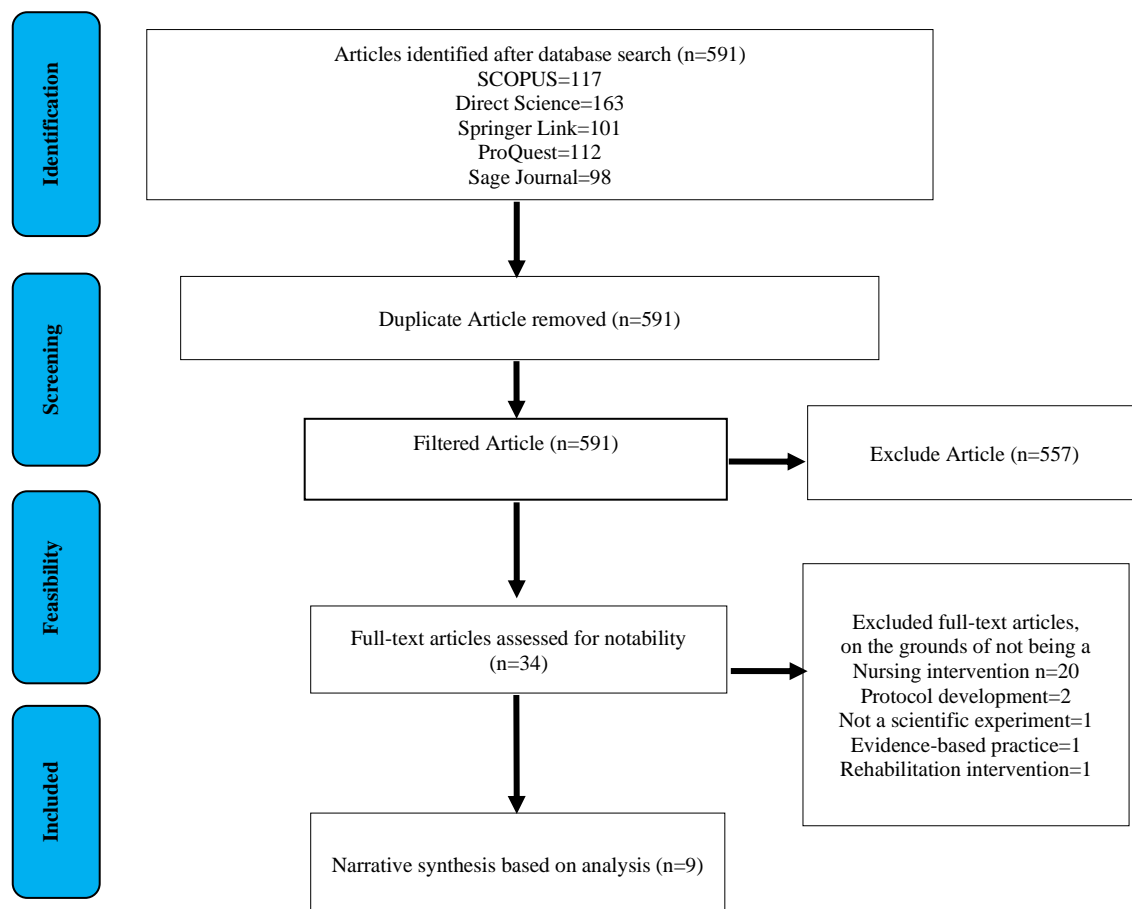


Figure 1. Research flow chart (PRISMA)

Table 1. PICOS framework

Variable	Inclusion criteria	Exclusion criteria
Population	Teen, young	Children, adults, seniors
Intervention	Cognitive behavioral therapy Group therapy and support groups School-based programs	Other interventions
Parable	Different types of intervention programs for emotion regulation	No intervention or standard care
Result	Increased emotional regulation	Results improved regulation of other emotions
Study design	Randomized controlled trials	Nursing interventions, rehabilitation interventions, protocol development, not experimental studies, and evidence-based practice

Table 2. Literature summary

Author, country	Types of therapy	Sample	Settings	Duration of follow-up and instrument	Results
[24] Sweden	Cognitive behavioral therapy (CBT)	Age 10-17 yr N=103 52 (IG), 51 (CG)	Mental health clinics; online treatment; 10 modules, 5 parent modules, and 3 video call sessions	3 months–2 years; Instrument used: clinician severity rating (CSR)	CBT delivered over the Internet is an effective and cost-effective intervention for children and adolescents with social anxiety disorder. Implementation in clinical practice can markedly increase the availability of effective interventions for social anxiety disorder.
[25] Romania	Group therapy and support groups	Ages 10-16 yr N=165 N=56 in waitlist condition; N=55 in conditions of rational emotional behavioral therapy; N=54 in rational emotional therapy conditions;	School health settings; Group intervention; 7 sessions	Six months; Instruments used: 1. SDQ 2. ERICA 3. EATQ-R 4. FD-CMS	RET (Rational Emotive Therapy) interventions are thought to have a significant impact on emotional symptoms. RET thinking is efficacious in equipping children with emotion regulation skills (emotional awareness and emotional control), highlighting its role in increasing adolescent resilience.
[26] England	CBT	Ages 16-22 yr N=2142	Public health settings; Online treatment; 4 sessions	3-12 months; 1. WEMWBS 2. PHQ-9 3. GAD-7 4. WSAS 5. GERT-S	This knowledge will be used to develop and disseminate innovative, evidence-based, feasible, and effective Mobile-health public health strategies to prevent ill mental health and improve well-being.
[27] Germany	School-based programs	Ages 12-18 yr N=265 88 (IG) 90 (CG) 87 (WL)	Platform online; Online treatment; 2 sessions	6 months; Instruments used: 1. PSS 2. PSQ 3. DASS 4. ERQ 5. SCS-SF	Cognitive reassessment as a brief online intervention can relieve acute stress and strengthen the mental health of older people in acute crises.
[28] Netherlands	The Rap & Sing MT protocol is implemented and built around the components of CBT	Age 8-12 yr N=45	School group settings; Group intervention; 16 sessions Four months	9 or 12 months; Instruments used: SDQ, DERS, SPPC	Therapy of rap music and singing can be an effective approach to improving emotional regulation in adolescents in a school setting. The use of music as a means of expression and channeling emotions can have a positive impact in helping adolescents manage stress and improve their well-being.
[29] Netherlands	CBT	Age 12-15 yr N=108	School Group Settings; Group intervention; 5 Sessions	8 months; Instruments used: 1. Externalization problems 2. DERS	Emotion regulation training has a positive impact on adaptive emotion regulation strategies of adolescents with externalizing problems. Emotion regulation training delivered (i.e., through cognitive or behavioral approaches) is not essential.
[30] United States	Group therapy and support groups	Age 12-15 yr N=80	School Group Settings; Group intervention; 4 Sessions	4 months; Instruments used: 1. Acceptability and feasibility (postintervention) 2. Scale of dysregulation 3. Sexual risk: knowledge and attitudes	The Virtual Reality Use Study provides preliminary evidence that using virtual reality environments to improve the development of emotional regulation skills in risky situations is acceptable and worth delivering. This has a positive impact on the ability of emotion regulation.
[32] Australia	Mindfulness-based interventions	Age 12-18 yr N=64 33 (IG), 31 (CG)	Community mental health institute; Group intervention; 8 sessions	4 months Instruments used: 1. DASS-21 2. SDQ 3. DEQ-A 4. AUDIT	Family therapy can reduce depression in adolescents and can improve the mental health of adolescents and parents.

SDQ (Strengths and Difficulties Questionnaire), DERS (Difficulties in Emotion Regulation Scale), SPPC (The Self-Perception Profile for Children), PSS (Perceived Stress Scale), PSQ (Patient Satisfaction Questionnaire), ERQ (The Emotion Regulation Questionnaire), SCS-SF (Self-Compassion Scale-Short Form), WEMWBS (Warwick-Edinburgh Mental Well-Being Scale), PHQ-9 (The Patient Health Questionnaire), GAD-7 (Generalised Anxiety Disorder Assessment), WSAS (The Work and Social Adjustment Scale), GERT-S (Geneva Emotion Recognition Test), DASS-21 (Depression Anxiety Stress Scales 21), DEQ-A (Delivery Expectancy Questionnaire), AUDIT (Alcohol Use Disorders Identification Test), ERICA (Emotion Regulation Index for Children and Adolescents), EATQ-R (Early Adolescent Temperament Questionnaire-Revised), FD-CMS (The Functional and Dysfunctional Child Mood Scales)

Nursing interventions can be implemented for adolescents with mental disorders in schools, mental health clinics, and communities. CBT can benefit teenagers with mental disorders. Music therapy is based on a component of CBT that helps adolescents recognize negative thoughts that can worsen their mental state [28]. It should be noted that adolescence is a transitional period characterized by significant physical, psychological, and social changes. Many interventions include emotion regulation training (anger management and cognitive problem-solving) [29]. From the community's point of view, CBT can save costs, increase school productivity for adolescents, and reduce drug use [24]. CBT may provide significant benefits [26], [31], [33].

Group therapy and support groups are two forms of therapy that involve participation in groups with individuals who have similar experiences or problems. The journal analysis, see Table 2 showed that group therapy and support groups were applied in schools aged between 10-18 years. The benefits of group therapy include gaining perspectives from other individuals, building social relationships, gaining support and understanding, and learning healthy interpersonal skills. Group therapy can effectively address a variety of problems such as anxiety disorders, depression, eating disorders, addiction, and trauma. Support groups can provide benefits such as emotional support, practical information and advice, reducing feelings of isolation, and feeling heard and understood by people going through the same thing. Structured multifamily group interventions for adolescent depression can improve the mental health symptoms of adolescents and parents [32]. To address the lack of effective treatments for people with non-suicidal self-injury, six individual emotion regulation therapies have been developed for adolescents [34]. Therefore, there is a need to explore evidence-based prevention alternatives for children and adolescents. One outreach strategy to increase access to mental health promotion programs is to use therapeutic play, which has been studied as individual and group psychotherapy [35]. Emotion regulation (ER) skills and risk reduction interventions can be learned through teaching and modeling, making them excellent targets for intervention [30].

School-based therapy programs for adolescents are therapeutic approaches applied in school settings to help adolescents cope with the emotional, behavioral, and mental problems they face. According to research [28], music, as an effective self-regulation tool for emotions and behavioral adaptations in adolescents, can improve emotion-related skills. Teens who experience Post-traumatic stress disorder may experience difficulties with their peers and caregivers, weaker school performance, and behavioral problems [31]. ECoWeB self-help intervention via a mobile app with school-based mental health programs incorporating emotion regulation interventions can effectively support adolescents [31]. Schools and educational environments are ideal for implementing emotion regulation training programs for children and adolescents [35]. Including such training in the school curriculum or as part of counseling services can reach a wide range of students and improve their emotional well-being in an educational context [36]. Emotional regulation training can be implemented in various settings depending on the needs and characteristics of the target population [37].

Emotion regulation among adolescents is an important topic because it involves understanding and managing emotions during challenging adolescent periods [29]. Emotion regulation refers to the ability to recognize, understand, and manage emotions effectively [38]. Common strategies can help promote emotion regulation among teenagers. Emotional awareness encourages teenagers to recognize and label their emotions. This self-awareness helps them understand their feelings and triggers [39]. Healthy coping mechanisms teens healthy ways to cope with stress and regulate emotions [40]. These may include engaging in physical activity, practicing relaxation techniques, journaling, and seeking support from trusted individuals [26].

Emotion regulation among adolescents varies between countries and can be influenced by various factors, including cultural, social, and environmental aspects. It is important to note that the specific duration of follow-up and evaluation in psychoeducational support groups should be tailored to the needs of the participants and program goals. Time flexibility and ongoing evaluation can help ensure that support groups effectively meet the needs of adolescents and deliver benefits.

The study reviewed in this article used several measures of emotional control. Questionnaires are the main research tools used by most researchers. Self-reported questionnaires lack precision, are prone to classification errors, and have issues with validity. The results differed depending on the tool used to measure the same. For example, previous studies have used the difficulty in emotion regulation scale to assess emotion regulation [28], [29], [34], whereas other studies have used the emotion regulation questionnaire [27]. The Difficulty in Emotion Regulation Scale is a widely used self-report measure that assesses various difficulties in emotion regulation [41], [42]. The emotion regulation questionnaire is a self-report measure that assesses two emotion regulation strategies: cognitive reassessment and expressive suppression. It consists of ten items, with six items measuring reassessment and four items measuring oppression. The ERQ captures individual differences in habits using this strategy [41]

Emotion regulation is an alteration associated with emotional activation. These include changes in emotional and psychological processes. Individuals with emotion regulation can choose the emotions they feel, when, and how to experience and express them [43], [44]. This process of emotion regulation can occur

automatically or under control, consciously or unconsciously, and has an impact on one or more aspects in the process of generalizing emotions [45]. Emotion regulation is an intrinsic and extrinsic process responsible for monitoring, evaluating, and modifying emotional reactions to achieve a goal [46], [47]. Emotion regulation is the process by which an individual regulates and changes himself or others [29]. Individuals can remain calm when under stress by possessing emotion-regulation skills [48].

Group therapy and support groups provide teens with a safe space to share their experiences, receive validation, and learn from their peers [49]. Support groups for teenagers with mental disorders can provide a valuable platform to connect with peers who share similar experiences, gain support, and learn coping strategies [50]. These interventions can improve emotion regulation skills through peer learning and shared learning. Support groups bring together individuals with shared experiences, such as specific mental health conditions, grief, addiction recovery, or trauma. They provided a safe space for participants to express themselves, obtain practical advice, receive empathy, and reduce feelings of isolation [51].

4. CONCLUSION

Intervention programs differ in their efficacy, and not every program works for every person or cultural setting. Programs for intervention should be chosen with consideration of elements such as the unique needs of teenagers, the resources at hand, and cultural considerations. Adolescents' emotional regulation differs depending on their circumstances and is affected by a range of environmental, social, and cultural elements. Nursing interventions are crucial for the management and treatment of mental-health illnesses. To find suitable intervention programs, it is advisable to speak with mental health specialists, educators, and organizations that focus on teenage mental health. Recommendation Based on the unique needs of teenagers, available resources, and cultural considerations, it is recommended to prioritize intervention programs that holistically address emotional regulation. These programs should incorporate a combination of individual therapy, group support, and educational workshops to provide comprehensive support for adolescents' mental health. Additionally, it is important to regularly evaluate and adapt these intervention programs based on feedback from both the teenagers and the professionals involved to ensure their effectiveness in addressing the specific challenges faced by this population.

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