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SCHOOLS BEYOND ACADEMICS: A SYSTEMATIC REVIEW OF PREVENTION STRATEGIES FOR YOUTH ANXIETY AND DEPRESSION

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ABSTRACT

Background: Schools are increasingly recognized as settings that extend beyond academic learning, providing opportunities to promote students' mental health and well-being. However, depression, anxiety, and behavioral disorders remain the leading causes of illness and disability among adolescents. More than 7% of adolescents experience anxiety disorders and depression is estimated to occur in 10-20% of adolescents. Given these circumstances, school-based prevention programs have been implemented as a potential strategy to address these concerns. Nonetheless, the effectiveness of such interventions in preventing anxiety and depression remains uncertain. **Method:** Research was conducted by systematically review searching online literature using Medical Subject Headings (MeSH) terms: "school-based program," "school," "adolescents," "prevention," "anxiety," and "depression." Inclusion criteria comprised open-access studies published between 2020 and 2025, involving children and adolescents aged 5–19 years, and employing experimental or quasi-experimental designs, including randomized controlled trials, with full-text availability. A total of 15 studies were included. **Results:** 10 studies demonstrated school-based prevention programs promoted positive outcomes in anxiety and depression, while 5 studies reported no significant effects. The prevention programs included CBT-based, physical activity-based, and electronic-based interventions. **Conclusion:** The findings indicate that Cognitive Behavioral Therapy (CBT)–based, mindfulness, and physical activity–related interventions show the greatest promise in preventing anxiety and depressive symptoms in children.

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INTRODUCTION

Adolescence is a critical developmental period during which mental health problems frequently emerge. Globally, approximately one in seven (14.3%) adolescents aged 10–19 years experience mental health conditions[1], with emotional disorders, including anxiety disorders and depression, being the most prevalent. Anxiety disorders typically manifest at a young age and are associated with functional impairment and symptomatic distress.[2] Anxious youth are more susceptible to developing mood disorders, substance use disorders, suicidal behavior, and psychosocial impairment, including educational underachievement.[3] Overall, anxiety disorders among adolescents is between 7-32%, while 10-20% adolescents suffer from depressive disorders.[1,4] That being said, these figures probably understate the actual numbers since underreporting is still widespread due to stigma, a lack of mental health awareness, and restricted access to professional care.[4,5] Moreover, anxiety disorders and depression during adolescence usually persist into adulthood, causing social challenges, low academic performance, and even long-term disability, as well as substance abuse problems, and attempting or completing suicide in later life.[6–11]

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Despite increased awareness to mental health issues, the prevalence of anxiety and depression among children continues to rise, meanwhile the treatment coverage remain low,[12] even those who receive treatments, the long-term outcomes are often suboptimal.[13,14] This highlights the importance of stronger preventive strategies, where focusing on the prevention of anxiety and depression in addition to their treatment could be one way to overcome these limitations. However, current studies remain being treatment-oriented, less emphasizing on preventive interventions delivered in non-clinical and population based setting such as schools.

Schools represent a strategic setting for mental health prevention, as adolescents spend their time in educational environments that shape their cognitive, emotional, and social development. Globally, schools have been positioned at the forefront of preventive mental health initiatives.[15] Mental health promotion and prevention programs aim to strengthen an individual's capacity to regulate emotions, enhance alternatives to risk-taking behaviors, build resilience for managing difficult situations and adversity, and promote supportive social environments and social networks.[1] These programs, held in a classroom or school setting, are considered beneficial because they can reach a broader range of adolescents with no inconvenience to parents or guardians.[16] School-based prevention programs also eliminate the barriers of cost, location, and time for adolescents in accessing reliable mental health resources.[17]

Different types of school-based prevention programs have been implemented using a variety of methods and achieving a range of outcomes. Some studies showed that there are no effects of school-based prevention on levels of anxiety and depression.[18–20], while others stated that there are improvements.[21–23] Several systematic reviews and meta-analyses have examined school-based mental health interventions, many focus only on single issue, combine prevention and treatment approaches. Preview studies do not systematically compare differences in program design, delivery methods, or target populations. Furthermore, the long-term effectiveness of the interventions remain inconsistent.

This study aims to assess the correlation between school-based interventions and anxiety and depression prevention in children and adolescents. The research question was to conclude whether a school-based program is significant in preventing anxiety and depression symptoms, in addition to finding which program design is more effective. This review aims to This review aims to evaluate the effectiveness of school-based prevention programs for anxiety and depression in adolescents and to identify which program designs yield the most promising outcomes.

METHODS

This systematic review was conducted and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.

Inclusion criteria

- Articles published in English between 2020-2025
- Children and adolescents aged 5–19 years
- Experimental or quasi-experimental designs, including randomized controlled trials
- Studies evaluating school-based prevention interventions aimed at reducing or preventing anxiety and/or depressive symptoms
- Studies reporting quantitative outcome measures of anxiety and/or depression using validated instruments
- Full-text articles available

Exclusion criteria

- Systematic reviews, meta-analyses, scoping reviews, or narrative reviews
- Case reports or case series
- Observational studies (e.g., cross-sectional, cohort, case–control)
- Qualitative-only studies
- Studies not reporting anxiety or depression outcomes

Literature search

The literature search adhered to the PRISMA guidelines and recommendations. Various databases, including PubMed, Science Direct, Wiley Online Library, Cochrane, and Google Scholar, were used. The terms "anxiety", "depression", "prevention", "school", "children", and "adolescents" were combined using the Boolean operators 'AND' and 'OR' to increase sensitivity in this study. The search was conducted from September to October 2025.

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Two authors independently screened the titles and abstracts of all retrieved records to identify potentially eligible studies. Full-text articles were subsequently reviewed for final inclusion based on the predefined eligibility criteria. Discrepancies between reviewers were resolved through discussion, and if consensus could not be reached, a third author was consulted.

Quality Assessment

The methodological quality of the included studies was assessed using appropriate standardized tools. Randomized controlled trials were evaluated using Cochrane Risk of Bias tool (RoB 2), while quasi-experimental studies were assessed using the ROBINS-I tool. The assessment focused on potential bias in sequence generation, allocation concealment, blinding, outcome assessment, and completeness of outcome data. Quality assessment was conducted independently by two reviewers, and any discrepancies were resolved through discussion. The results of the quality assessment were considered in the interpretation of findings but were not used as exclusion criteria. No studies were excluded solely based on quality assessment results.

Data Extraction

Data extraction was performed using a standardized data extraction form. Two reviewers independently extracted data on study characteristics (author, year, country), participant characteristics, study design, intervention type and duration, outcome measures, follow-up periods, and key findings related to anxiety and depression prevention. Discrepancies in extracted data were resolved through discussion, with consultation of a third reviewer when necessary.

Data Synthesis

Due to marked heterogeneity across included studies in terms of intervention modalities (e.g., CBT-based, mindfulness-based, physical activity, and internet-based programs), outcome measurement tools, and follow-up timepoints, statistical pooling was not feasible. Consequently, a narrative synthesis was conducted, with results organized by intervention type to identify trends in effectiveness for the prevention of anxiety and depression in school-aged populations.

Protocol Registration

This systematic review was not registered in PROSPERO. The decision was based on time constraints; however, all methods were predefined prior to study initiation, and the review was conducted in accordance with PRISMA guidelines.

RESULTS

Search results

The initial screening of five databases yielded 11,063 records. Records screened after duplicates are removed and automation tools are used are 256. Records sought for retrieval are 125 articles, excluding the inappropriate title. The studies included in this systematic review are 15 articles. The PRISMA flow diagram depicting the overall screening and selection process is shown in Figure 1.

Fifteen articles including 7 CBT-based interventions, 3 physical activity-related programs, 3 internet-based interventions, and 2 emotion regulation and behavioural activation programs. Sample sizes ranged from 20 to 2,791 participants (ages 5–18 years), with follow-ups from immediate post-intervention to 24-month follow up.

CBT-Based Intervention

Five out of seven studies of CBT-based programs generally yielded more consistent reductions in depressive and anxiety symptoms, including Happy House, Til Tiger, The Journey of The Brave, Op Volle Kracht and mindfulness based program.

Physical Activity-Related Interventions

Programs combining physical activity with psychosocial components improved outcomes. SACODE (n=1,279; first-year high school) decreased depressive symptoms (−2.495, 95% CI −4.668 to −0.323), social isolation (−4.759, 95% CI −9.025 to −0.493), and poor sleep quality (−0.560, 95% CI −1.108 to −0.012)[24]. ActTeens (n=306, age 12–15) improved moderate depressive symptoms (p=0.002) and anxiety (p=0.01).[22] Doubling PE alone was ineffective, highlighting the importance of psychosocial mechanisms. Internet-Based Interventions Effectiveness depended on engagement and guidance. A brief 10-minute psychoeducational animation plus 5-minute videos reduced anxiety at 8-

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week follow-up (n=80, g=−0.57)[25], whereas DepisNet-Thai (n=180) had no significant effect, likely due to high dropout[26]. Emotion Regulation and Behavioral Activation Programs Two universal ER/BA programs (n=162–295, age 8–13) did not significantly affect depressive or anxiety symptoms, despite improvements in resilience.[19,20,27,28].Low baseline symptoms may have limited measurable impact. Follow-up and Moderators Follow-up durations ranged from post-intervention to 24 months. Overall, 6 of 15 studies reported significant symptom reduction, whereas 9 did not. Longer duration or more frequent follow-ups did not consistently predict effectiveness; program design, delivery format, and baseline symptom severity were stronger moderators. Higher baseline symptoms tended to result in greater benefit (e.g., Til Tiger, Journey of the Brave).[10,11,23,29]

Internet or online based interventions

Three studies evaluated internet/online-based interventions. The first study from the United Kingdom examined a one-time intervention consisting of a 10-minute psychoeducational animation followed by a 5-minute video depicting personal stories. This intervention demonstrated significant results in reducing anxiety.[25] The second study used a web-based program targeting children aged 9–10 years, delivered in six 80-minute sessions. This study demonstrated no overall anxiety effect, significant improvement in emotion recognition ($p < .001$)[30]. In contrast, the third study assessed DepisNet-Thai, a five-session (50 minutes each) did not show significant effects, which was attributed to a high dropout rate among participants[26]. Overall, these findings suggest that internet-based interventions hold promise as a low-cost, resource-efficient, and universally accessible approach for mental health prevention.

Overall, fifteen studies were included, comprising 11 randomized controlled trials (RCTs) and 4 quasi-experimental designs. Sample sizes ranged from 20 to 2,791 participants. Participants were children and adolescents aged 5 to 19 years. Follow up durations varied, ranging from immediate post-intervention assessments to 24-months follow ups.

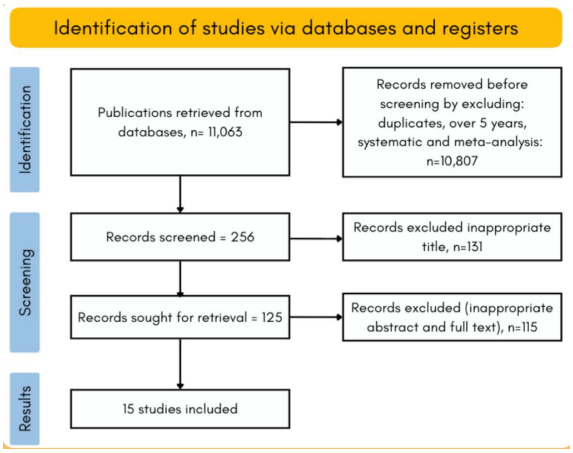

Figure 1. PRISMA

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List of Literatures

Table 1. List of literatures

No	Author, Year, Country	Title	Study Design	Number of participants	Age	Intervention	Follow-up measurements	Follow-up timepoints	Key findings + Significant or not significant
1	Rice et al., 2024, Australia	Two universal school-based prevention programs for depression and anxiety: 24-Month follow-up of an RCT	RCT	162 of 316 initial students from six Australian schools	8-13 years old	BA and ER program. 8 × 50-min weekly session, 24 months follow-up	RCADS PSWQ-C CYRM-12	24-month follow-up	No significant effect, reduced SAD with marginal reduction in GAD (p = 0.06)
2	Tran et al., 2023, Vietnam	School-based universal mental health promotion intervention for adolescents in Vietnam: Two-arm, parallel, controlled trial	RCT	1,084 students were recruited	15-16 years old	Happy House Program, six 90-minute sessions over 6 weeks,	CESD-R	Post-intervention and 6-month follow-up	Short-term reduction in depressive symptoms (ES = 0.11, p = 0.011; OR = 0.56); no long-term effect at 6-month follow up
3	De Jonge-Heesen, 2020, Netherlands	Randomized control trial testing the effectiveness of implemented depression prevention in high-risk adolescents	RCT	130 adolescents	12-16 years old	CBT depression prevention program—Op Volle Kracht 2.0	CDI-2	6 and 12-month follow-ups,	A significant reduction of depressive symptoms.
4	Johnstone, 2020, Australia	A pilot investigation of universal school-based prevention programs for anxiety and depression symptomology in children: A randomized controlled trial.	RCT	295 students	8-13 years old	BA and ER program, 8x50mins session per week	PSQW-C CYRM-12 RCDAS ERQ-CA BADS-SF	Pre and post program, 6-month follow-up	No significant effect

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No	Author, Year, Country	Title	Study Design	Number of participants	Age	Intervention	Follow-up measurements	Follow-up timepoints	Key findings + Significant or not significant
5	Garcia Escalera, 2020, Spain	The Unified Protocol for Transdiagnostic Treatment of Emotional Disorders in Adolescents (UP-A) Adapted as a School-Based Anxiety and Depression Prevention Program: An Initial Cluster Randomized Wait-List-Controlled Trial	RCT	151 students	3 ESO and 4 ESO (grade)	UP-A adapted, nine sessions weekly, 55 minutes each	RCADS-30 CDN EAN	1 week before, 1 week after intervention, and 3-month follow-up	Significant symptoms reduction over time ($p = .009$, $d = -0.22$). trend toward greater benefit in high-symptom UP-A subgroup.
6	Perkins, 2020, UK	An enhanced psychological mindset intervention to promote adolescent wellbeing within educational settings: A feasibility randomized controlled trial	RCT	80 adolescents	16-18 years old	30 min computer intervention (10-min psychoeducational animation followed by 5-min of videos depicting stories)	RCADS 25	Baseline, post-treatment, 4-week follow-up, 8-week follow-up	Significant reduction in anxiety at 8-week follow-up ($g = -0.57$)
7	Anttila, 2019, Finland	Impact of a Web Program to Support the Mental Well-being of High School Students: A Quasi-Experimental Feasibility Study	A Quasi-experimental feasibility study	180 adolescents	15-19 years old	DepisNet-Thai with 5 weekly modules x 50min, and two weeks orientation	PHQ-9 PSS	Baseline, follow-up, 11-week	No significant effects

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No	Author, Year, Country	Title	Study Design	Number of participants	Age	Intervention	Follow-up measurements	Follow-up timepoints	Key findings + Significant or not significant
8	Nicolaidou, 2021, Cyprus	Building Primary-School Children's Resilience through a Web-Based Interactive Learning Environment: Quasi-Experimental Pre-Post Study	Quasi-experimental pre-post Study	20 students	9-10 years old	Web-based learning environment, six weekly, 80-minute sessions	SCAS	Pre and post intervention	No overall anxiety effect, significant improvement in emotion recognition (p <.001)
9	Alampay, 2020, Philippines	A Pilot Randomized Controlled Trial of a Mindfulness Program for Filipino Children	RCT	186 students	9-16 years old	Kamalayan and Handicraft program (8 weekly sessions, 75-90minutes per session)	SMFQ STAIC DERS	Baseline, post-intervention, 2-month follow-up	The handicrafts group had lower depression scores than the Kamalayan group.
10	Saelid, 2022, Norway	Effects of a school-based intervention on levels of anxiety and depression: a cluster-randomized controlled trial of the MindPower program in ten high schools in Norway.	RCT	110 students	10-18 years old	MindPower program, eight weekly sessions and two booster sessions (1.5h each).	SCL-8 RADS-2:SF	1,2,3,4-month follow-ups, month-5 follow up or month-7 follow-up depending the group	No significant effect
11	Zink, 2024, Germany	Indicated Prevention for Children Screened in Routine Health Care: Effectiveness of a Social Skills Program on Social Anxiety and Depressive Symptoms	Prospective quasi-experimental design	1049 students	5-10 years old	PROMPt project, Til Tigert	SCARED CES-DC	Before and after program, month-6, and month-12	Sustained reductions in anxiety and depression

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No	Author, Year, Country	Title	Study Design	Number of participants	Age	Intervention	Follow-up measurements	Follow-up timepoints	Key findings + Significant or not significant
12	Urao, 2022, Japan	School-based cognitive behavioural intervention programme for addressing anxiety in 10- to 11-year-olds using short classroom activities in Japan: a quasi-experimental study	Quasi-experimental study	90 children	10-11 years old	Journey of The Brave (cognitive behavioural programme) 10 45-minute-long sessions	SCAS, SDQ	Pre and post intervention, month-2	Significant reduction in SCAS score
13	Saarinen, 2021, Finland	School-based mindfulness intervention for depressive symptoms in adolescence: For whom is it most effective?	RCT	2791 students	Grades 6-8 (around 12-15 years old)	9-week school-based mindfulness intervention group	RBDI	Baseline, week-9, 6-months follow-up	Effectiveness increased in the mindfulness-based intervention
14	Da Silva, 2025, Brazil	Effects of a school-based physical activity intervention on mental health indicators in a sample of Brazilian adolescents: a cluster randomized controlled trial	RCT	306 adolescents	12-15 years old	Physical Activity program (ActTeens Program), 12 weeks, twice a week for 20 minutes per lesson	DASS-21	Pre and post intervention	Significant improvement in adolescents with moderate depression (p=0.002) and anxiety (p=0.01)

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No	Author, Year, Country	Title	Study Design	Number of participants	Age	Intervention	Follow-up measurements	Follow-up timepoints	Key findings + Significant or not significant
15	Lima, 2021, Italy	Universal school-based intervention targeting depressive symptoms in adolescents: A cluster randomized trial	RCT	1279 adolescents	First year of high school	SACODE Project (3:20 h of PE classes per week for 6 months.)	CES-D	Pre and post intervention	Workshop with PE teachers decreased depressive symptoms, social isolation, and poor sleep quality scores.

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DISCUSSION

Duration of intervention and follow-ups

Of the 15 literature reviews, the number of intervention program sessions varies. Some programs lasted 30-90 minutes, depending on the program. Most intervention programs were conducted not only in a single session but also for 5 to 11 sessions, and even more. There was also an online program held in Thailand that consisted of only one session.

Despite these differences, the effectiveness of programs did not consistently correlate with session duration or follow-up frequency. Some short interventions yielded significant short-term improvements (e.g., Happy House, 2-week post-intervention effect on depressive symptoms[31]), whereas several longer programs reported non-significant outcomes at extended follow-ups (e.g., OVK 2.0, Journey of the Brave).[29,32] This suggests that program design, content, and delivery mechanisms may play a more decisive role in outcomes than the mere number or length of sessions.

Role of facilitators

Most research includes professional psychologists, provisional psychologists, school psychologists, research assistants, and school teachers. A randomized controlled trial in the Netherlands included an intervention delivered by a school psychologist and a co-trainer from collaborating mental healthcare organizations, and all participants received a 3-day training program including CBT skills, theoretical principles, and the use of a prevention protocol.[32]

School teachers were also trained to act as tutors, guiding adolescents in answering questions and completing assessments, participating in discussions, and providing positive and supportive feedback.[26] A MindPower program was delivered by teachers who had completed a five-day intensive, group-based training course on teaching the MindPower curriculum. In addition to theoretical lectures, the training included detailed guidelines, practical instructions, role-playing exercises, and homework assignments. The core modules focused on understanding adolescent brain development and the foundational principles of cognitive-behavioral theory. Fagakademiet organized the training and certification.[18]

Assessment Tools

The assessment instruments employed across the 15 intervention programs included the following standardized measures: the Revised Child Anxiety and Depression Scale (RCADS), the Penn State Worry Questionnaire for Children (PSWQ-C), the Child and Youth Resilience Measure–12 (CYRM-12), the Children's Depression Inventory–2 (CDI-2), the Child Depression Network (CDN), the Emotional Awareness and Nurturance scale (EAN), the Patient Health Questionnaire–9 (PHQ-9), the Perceived Stress Scale (PSS), and the Screen for Child Anxiety Related Emotional Disorders (SCARED).

Program Design and Mechanisms

School-based preventive interventions demonstrated heterogenous effects on anxiety and depression symptoms. Overall, CBT-based interventions tended to yield more consistent and clinically meaningful effects, where emotion-focused, mindfulness-based, and psychoeducation approaches demonstrated mixed findings.

In contrast, two studies implemented Emotion Regulation (ER) and Behavioral Activation (BA) programs demonstrated no significant effects. The ER program focused on enhancing understanding of emotions, the impact of emotion regulation, and the prevention of emotional dysregulation through self-care behaviors. The BA program was adapted from the treatment manual *Behavioral Activation for Worry*, modified for use with children.[19,20]

Both studies reported no significant effects on depressive or anxiety symptoms, despite the fact that these programs were designed as universal prevention interventions implemented in primary schools to target depression and anxiety. This lack of effect may be explained due to low baseline symptom levels, which limited the potential for symptoms change.[19,20]This demonstrated contrary to the research, the development of emotion regulation skills has been proven to reduce depressive and anxiety symptomatology in children[28] and to enhance resilience.[27] These findings contrast with two studies that reported no significant impact of their interventions.[33,34]

CBT-based prevention program showed stronger short-term benefits. For instance, the Happy House program in Hanoi demonstrated a significant reduction in depressive symptoms, as measured by the CESD-R,

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after two weeks of intervention. However, the effect was not maintained at six months, possibly due to the adverse impact of COVID-19 restrictions, as this program was implemented during the COVID-19 pandemic.[31] Meanwhile, substantial global evidence has documented the negative impact of COVID-19 restrictions on adolescent mental health.[35] The pattern of changes observed in this study likely reflected the broader psychological consequences of the pandemic among adolescents. These findings suggest that interventions primarily focused on enhancing psychological knowledge and skills may not be sufficient to counteract the mental health effects of prolonged lockdown conditions.[31] However, these findings contrast with two studies that reported no significant impact of their interventions.[33,34]

In the Netherlands, a CBT depression prevention program—Op Volle Kracht 2.0 revealed that a CBT prevention program is more effective in reducing elevated depression symptoms than psycho-education alone. Psychoeducation could be a low-cost and easier option, but CBT-based prevention ensures more sustainable outcomes.[32] This finding underscores the added value of active skill rehearsal over passive information delivery**.** In contrast, programs adapted *Unified Protocol for Adolescents* (UP-A) into a school-based prevention framework have reported no significant effects on depression and anxiety symptoms. The large group size, with approximately 30–32 students per session, may also have contributed to the lack of significant outcomes, as it limited facilitators' ability to provide individualized attention and monitor each participant's progress effectively.[36] These findings clearly stated that programs that are well-designed may fail if the implementation lacks fidelity or adequate support.

Similarly, mindfulness-based interventions shows mixed outcomes. The Kamalayan program didn't reduce depression or anxiety symptoms, meanwhile the comparison Handicrafts group demonstrated great reduction in depression symptoms.[21] This suggests that rhythmic activities may confer emotional benefits, exceeding the mindfulness practices, particularly when mindfulness demands emotional skills.[37] Similar mindfulness based program indicating that such approaches may be more suitable for selective rather than universal prevention.[38]

Internet-based interventions demonstrated variable effectiveness, influenced intensity of the program and engagement. A single 10-minuted animated video produced small but consistent improvements in anxiety and depression[26], suggesting promise for low-resource, scalable delivery. In contrast, a structured online programs such as DepisNet-Thai did not demonstrate significant effects, highlighting that digital delivery alone does not guarantee effectiveness without sufficient engagement, guidance, or adherence support.[25]

Programs involving physical activity demonstrated benefits when psychosocial components were emphasized. While doubling physical education alone didn't significantly reduce depressive symptoms, workshops delivered to PE teachers resulted in meaningful reduction in participants' depressive symptoms, social isolation, and poor sleep quality compared with the control group.[22] This might be a result of psychosocial mechanisms.[39] Engagement in group-based physical activities, such as physical education, can improve adolescents' sense of competence and help them manage interpersonal differences.[40] In results, the increased in companionship, closeness, and social support during PE sessions may have contributed to the reduction in depressive symptoms.[22]

Finally, baseline symptom severity emerged as consistent moderator across studies. Interventions such as Til Tiger, Journey of the Brave, ActTeens, and MindPower demonstrated greater effectiveness among participants with higher initial symptom levels.[13,18,22,29]

Limitations and Future Directions

Several limitations should be acknowledged. This review may have heterogeneity in outcome measures (e.g., CESD-R, anxiety scales, resilience measures) limited direct comparability across studies. This review also varied in follow-up duration and intervention intensity complicated synthesis of long-term effectiveness. Finally, the exclusion of pre-2020 systematic reviews may have restricted broader contextual comparison. Future trials should standardize outcome measures, incorporate longer follow-up periods beyond 12 months. Additionally, participating parents component and strengthening facilitator training may enhance implementation fidelity. Further research should explore cultural tailoring and contextual adaptation, particularly in

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resource-constrained settings or during large-scale disruptions such as pandemics.

CONCLUSION

In conclusion, schools play a vital role in preventing anxiety and depression. Although intervention outcomes were heterogeneous, these findings suggest that schools should move towards awareness-raising initiatives and integrate evidence-based mental health skill-building modules into existing curriculum, supported by collaboration with mental health professionals and ongoing facilitator training. Policymakers should prioritize sustainable implementation frameworks, standardized evaluation, and cross-sector partnerships between education and health systems.

Future research should include longer follow-up periods to determine whether program effects can be sustained over time. Studies should also explore how interventions can be culturally adapted and implemented more consistently to improve their effectiveness in real-world school settings. Considering the growing burden of mental health problems among adolescents worldwide, strengthening school-based prevention efforts is both timely and essential.

ETHICAL APPROVAL

There is no ethical approval.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

NKG and NAS were responsible for the conceptualization of the study, development of the methodology, data extraction, analysis, and drafting of the manuscript. SN contributed to the final editing, formatting, and preparation of the manuscript and handled the submission process to the journal. All authors reviewed and approved the final version of the manuscript.

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