

Nurse-Led Interventions on Stress, Anxiety, and Coping Strategies Among Adolescents: A Systematic Review

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Abstract

Background : Adolescence is a crucial phase of development characterized by rapid physical, psychological and social changes. The levels of stress and anxiety among adolescents are escalating due to rising academic demands, family expectations, social media exposure, peer relationships and other psychosocial stressors (School and community nurses play a key role in providing evidence-based interventions to enhance adolescents' mental health and coping skills. **Objective:** To systematically review the effectiveness of nurse-led interventions in reducing stress and anxiety and improving coping strategies among adolescents. **Methods:** The systematic review will be conducted according to the PRISMA 2020 Statement guidelines. Searches will be carried out in electronic databases like PubMed, Scopus, Web of Science, CINAHL, PsycINFO and Google Scholar for studies published between 2015 and 2026. Inclusion criteria are randomized controlled trials, quasi-experimental studies, and controlled clinical trials of adolescents aged 10-19 years receiving nurse-led interventions. **Results:** The review will integrate the findings regarding intervention type, duration, delivery mode and effectiveness in decreasing stress and anxiety and encouraging adaptive coping strategies. **Conclusion:** The review is expected to provide evidence for nurse-led mental health interventions in schools and community settings and to identify research gaps for future studies.

Keywords: Adolescents, Nurse-led intervention, Stress, Anxiety, Coping strategies, Mental health, School nursing, Systematic review.

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Background: According to the World Health Organization, one in seven adolescents has a mental health disorder, and anxiety and depression are among the leading causes of illness and disability in this age group. Stress during the adolescent period can have an adverse impact on academic performance, interpersonal relationships, emotional regulation, and quality of life. Nurses who practice in schools, in communities and in primary healthcare are ideally placed to identify adolescents experiencing psychological distress and to initiate interventions such as:

- Psychoeducation
- Cognitive behavioral therapy (CBT)-based sessions
- Mindfulness training
- Relaxation techniques
- Stress management education
- Resilience training
- Coping skills education
- Peer-support programs
- Digital mental health education
- Family-based counselling

Although numerous studies have examined these interventions, comprehensive synthesis of evidence remains limited.

Review Question (PICO)

Component	Description
Population	Adolescents (10–19 years)
Intervention	Nurse-led interventions

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Component	Description
Comparison	Routine care, no intervention, or other interventions
Outcomes	Stress reduction, anxiety reduction, improved coping strategies

Objectives

Primary Objective

To evaluate the effectiveness of nurse-led interventions in reducing stress and anxiety among adolescents.

Secondary Objectives

- To assess improvement in coping strategies.
- To identify the most effective intervention types.
- To evaluate intervention duration and follow-up outcomes.
- To identify gaps in existing evidence.

Research Question

Are nurse-led interventions effective in reducing stress and anxiety and improving coping strategies among adolescents?

Eligibility Criteria

Inclusion Criteria

- Adolescents aged 10–19 years
- Nurse-led interventions
- Randomized controlled trials
- Quasi-experimental studies
- Controlled clinical trials
- English language
- Published between 2015–2026

Exclusion Criteria

- Adult populations
- Studies without nursing involvement
- Review articles
- Editorials
- Case reports
- Conference abstracts

Search Strategy

Databases

- PubMed
- Scopus
- Web of Science
- CINAHL
- PsycINFO
- Google Scholar

Sample PubMed Search

("Adolescent"[Mesh] OR adolescent* OR teenager* OR youth*)

AND

("Nursing Care"[Mesh] OR nurse-led OR school nurse OR community nurse)

AND

(stress OR anxiety OR psychological stress)

AND

(coping OR coping strategies OR resilience)

AND

(intervention OR program OR education)

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Outcomes

Primary Outcomes

- Stress score
- Anxiety score

Secondary Outcomes

- Coping skills
- Resilience
- Emotional well-being
- Self-esteem
- Quality of life

Data Extraction

Extract:

- Author
- Year
- Country
- Study design
- Sample size
- Age
- Intervention
- Duration
- Measurement tool
- Outcomes
- Main findings

Risk of Bias Assessment

- Cochrane Risk of Bias 2 (Randomized studies)
- ROBINS-I (Non-randomized studies)

Data Synthesis

If studies are sufficiently homogeneous, conduct a meta-analysis using:

- Mean Difference (MD)
- Standardized Mean Difference (SMD)
- 95% Confidence Intervals
- Heterogeneity (I^2 statistic)

If pooling is not appropriate, provide a narrative synthesis.

Expected PRISMA Flow Diagram

PRISMA 2020 FLOW DIAGRAM

IDENTIFICATION

Records identified through database searching (n = 1,245)

- PubMed (n = 310)
- Scopus (n = 285)
- Web of Science (n = 180)
- CINAHL (n = 220)
- PsycINFO (n = 150)
- Google Scholar (n = 100)

Additional records identified through:

- Reference lists (n = 20)
- Manual search (n = 15)

Total records identified (n = 1,280)

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Duplicate records removed (n = 280)

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Records after duplicates removed (n = 1,000)



SCREENING

Records screened by title and abstract (n = 1,000)

Records excluded (n = 850)



ELIGIBILITY

Full-text articles assessed for eligibility (n = 150)

Full-text articles excluded (n = 120)

Reasons:

- Not nurse-led intervention (n = 35)
- Wrong population (n = 28)
- No stress/anxiety/coping outcomes (n = 20)
- Review articles (n = 15)
- Conference abstracts (n = 10)
- Insufficient data (n = 12)



INCLUDED

Studies included in qualitative synthesis (n = 30)

Studies included in quantitative synthesis
(meta-analysis, if applicable) (n = 22)

PRISMA Flow Summary Table

Stage	Number
Records identified	1,280
Duplicates removed	280
Records screened	1,000
Records excluded	850
Full-text articles assessed	150
Full-text articles excluded	120
Studies included in qualitative review	30
Studies included in meta-analysis	22

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Expected Evidence Table

Author	Country	Design	Sample	Intervention	Duration	Outcomes
Study 1	India	RCT	120	Mindfulness	8 weeks	↓ Stress, ↑ Coping
Study 2	USA	Quasi	90	CBT	6 weeks	↓ Anxiety
Study 3	Australia	RCT	150	Stress Management	12 weeks	↑ Resilience

Research Gap

- Limited high quality randomized trials in low and middle income countries.
- Limited studies compare different nurse-led interventions.
- There are no long term follow up data.
- Limited evidence of nurse-led mental health interventions using digital and AI support.
- There is a lack of research on rural school environments.

Expected Conclusion

Current evidence indicates that nurse-led interventions such as mindfulness-based programs, cognitive-behavioral strategies, psychoeducation and stress management training are effective in decreasing stress and anxiety and increasing coping

skills in adolescents. However, larger, multicenter randomized controlled trials with longer follow-up periods are needed to strengthen the evidence base.

References

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