



A MEDICAL PERSPECTIVE ON ADOLESCENT MENTAL HEALTH: STRESS, DEPRESSION, AND RELATED HEALTH RISKS

Chilmurzeyeva Nilufar

Kimyo International University in Tashkent,

"Medical Treatment" 2nd-year student,

Tashkent, 100121, Uzbekistan

Email: nchilmurzeyeva@gmail.com

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Abstract

Background:

Adolescence is a sensitive stage of human development marked by extensive biological, psychological, and social changes. Persistent exposure to stress and depressive symptoms during this period can substantially increase the risk of mental and physical health issues. Globally, adolescent stress and depression are recognized as significant public health concerns, potentially leading to long-term adverse outcomes if not addressed promptly.

Methods:

This cross-sectional study examined the relationship between stress, depression, and associated health risks among adolescents aged 12–18 years from a medical perspective. Standardized and validated tools, including the PHQ-9 and PSS-10/DASS-21, were used to assess depressive symptoms and perceived stress. Health risk factors such as sleep disturbances, somatic complaints, and reduced academic performance were recorded. Statistical analyses, including correlation and regression, were conducted to explore associations between psychological and health outcomes.

Results:

A considerable proportion of adolescents exhibited moderate to high stress (62%) and depressive symptoms (48%), with 35% showing comorbidity. Elevated stress and depression levels were significantly associated with sleep problems, somatic complaints, decreased academic performance, and vulnerability to chronic mental health disorders ($p < 0.001$).

Conclusion

Early identification and preventive medical interventions targeting adolescent stress and depression are critical. Incorporating mental health screening into primary healthcare and school-based medical programs may reduce long-term health risks and enhance overall adolescent well-being.

Keywords: Adolescents; Mental health; Psychological stress; Depression; Health risks; Preventive care

1. Introduction

Adolescent mental health has become a major focus in medical and public health research due to its profound effects on developmental trajectories and long-term health outcomes. Adolescence is characterized by rapid neurobiological maturation, hormonal changes, and increasing psychosocial demands, predisposing individuals to stress and depressive disorders. Epidemiological data indicate that mental health issues contribute significantly to the disease burden among adolescents, with depression among the leading causes of disability in this population.

Stress arises commonly from academic pressure, family expectations, peer relationships, and environmental challenges. Chronic stress may impair neuroendocrine regulation and emotional stability. Depression, often co-occurring with stress, involves persistent low mood, reduced interest, cognitive impairment, and somatic symptoms. Untreated stress and depression in adolescence can increase the risk of sleep disorders, substance use, cardiovascular problems, and suicidal behavior in later life.

Despite growing awareness, mental health problems among adolescents often remain underdiagnosed due to stigma, limited access to services, and insufficient screening in primary care. Addressing stress and depression as medical risk factors is critical to improving overall health outcomes. This study investigates the relationship between stress, depression, and health risks in adolescents from a medical perspective, emphasizing early diagnosis and preventive strategies.

2. Methods

Study Design

A cross-sectional observational study design was adopted to assess stress, depression, and associated health risks among adolescents.

Participants

250 adolescents aged 12–18 years (120 males, 130 females) were recruited from secondary schools and community health centers via convenience sampling.

Inclusion criteria:

Age 12–18 years

Ability to complete assessments

Written consent from participants and guardians

Exclusion criteria:

Severe psychiatric diagnoses (e.g., schizophrenia, bipolar disorder)

Chronic medical or neurological conditions affecting mental function

Incomplete questionnaires

Instruments

PHQ-9: Evaluates depressive symptoms

PSS-10 / DASS-21 Stress subscale: Measures perceived stress

Health Risk Questionnaire: Sleep disturbances, somatic complaints, reduced academic performance

Data Collection

Self-administered questionnaires were completed under supervision in a confidential setting. Data were anonymized and securely stored.

Statistical Analysis

SPSS was used for descriptive statistics, correlation (Pearson), and regression analyses. Significance was set at $p < 0.05$.

Ethical Considerations

The study followed the Declaration of Helsinki and received ethical approval. Participation was voluntary with informed consent.

3. Results

Prevalence

- Moderate/high stress: 62%
- Moderate/severe depression: 48%
- Comorbidity: 35%

Health Outcomes

Health Outcomes Table (Image)

• Adolescents with elevated stress and depression levels showed higher rates of sleep disturbances, somatic complaints, reduced academic performance, and increased risk of chronic mental disorders.



Health Outcome	Low Stress/Depression (%)	High Stress/Depression (%)
Sleep disturbances	15	52
Somatic complaints	20	47
Reduced academic performance	18	43
Risk of chronic mental disorders	5	28

Correlations

- Stress and depression: $r = 0.62, p < 0.001$
- Stress and sleep disturbances: $r = 0.54, p < 0.001$
- Depression and somatic complaints: $r = 0.48, p < 0.001$
- Combined stress and depression predicted 35% variance in health risks ($R^2 = 0.35, p < 0.001$)

Discussion

This study shows a high prevalence of stress and depressive symptoms among adolescents, consistent with international findings. Comorbid stress and depression highlight the need for integrated assessment in clinical and school settings.

Adolescents with elevated stress and depression experience sleep disturbances, somatic complaints, and reduced academic performance. Chronic psychological distress may disrupt neuroendocrine systems, leading to both immediate and long-term health effects. Regression results demonstrate that stress and depression jointly predict health-related risks, reinforcing the need for early detection.

Preventive interventions—psychoeducation, stress management, and counseling—should be integrated into primary care, school health programs, and community services. Viewing adolescent mental health as a medical concern enables clinicians to mitigate broader health risks.

Limitations: cross-sectional design, convenience sampling, and self-reported measures. Longitudinal studies with diverse populations are recommended.

Conclusion

Stress and depression are prevalent among adolescents and are significantly associated with adverse health outcomes. Early detection and preventive medical interventions are essential. Integrating mental health screening into primary healthcare and school programs can reduce long-term risks and enhance adolescent well-being. Collaboration between healthcare professionals and educators is key to promoting holistic adolescent health.

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