

Abstract

Background: Atopic dermatitis (AD) is a chronic inflammatory skin condition that may introduce significant physical and psychological effects to adolescents. In turn, this may contribute to an increased vulnerability to anxiety and depression. This research was conducted to explain the possible factors contributing to this connection to better understand how AD may influence adolescent mental health. The objective of this study is to examine the connection between AD and anxiety and depression among adolescents, with focus on biological and psychosocial factors that may influence this relationship.

Methods: A literature review was conducted using academic databases, publisher platforms, and medical reference websites such as PubMed, Google Scholar, ScienceDirect, SpringerLink, Wiley Online Library, Frontiers, Medscape, and UpToDate. Collected studies included peer-reviewed research published between 2016 and 2026, involving adolescents aged 10-19 with AD and symptoms related to anxiety, depression, or both. Findings were analyzed and connected according to biological mechanisms, psychosocial factors, and mental health outcomes.

Results: Findings demonstrated a consistent association between AD and increased symptoms of anxiety and depression among adolescents. Biological mechanisms involving immune dysregulation, chronic inflammation, the hypothalamic-pituitary-adrenal axis, hormonal changes, and the brain-gut-skin axis may contribute to this relationship. Psychosocial factors, including chronic itching, sleep disruption, appearance concerns, social difficulties, and reduced quality of life, may further increase psychological distress.

Conclusion: AD is associated with an increased vulnerability to anxiety and depression among adolescents. This relationship involves interconnected biological and psychosocial pathways, highlighting the complex connection between AD and adolescent mental health.

What is the connection between atopic dermatitis and the development of anxiety and depression among adolescents?

Juliana Hamati

Introduction

Atopic dermatitis (AD), commonly known as eczema, is a long-term skin condition that causes irritation and inflammation in which individuals with AD may experience intense itching, dryness, redness, and swelling [1]. AD has been commonly reported to have ties to anxiety and depression, particularly in adolescents with AD. Deeper exploration into the factors that may explain this link is needed to better understand why AD may influence adolescent mental health. To address the question “What is the connection between atopic dermatitis and the development of anxiety and depression among adolescents?” this research aimed to examine the potential biological and psychosocial factors that may influence this connection.

Methods

This study conducted a literature review using scholarly and medical databases:

- PubMed
- Google Scholar
- ScienceDirect
- SpringerLink
- Wiley Online Library
- Frontiers
- Medscape
- UpToDate

To meet the criteria of this research, studies needed to be:

- Peer-reviewed, published between 2016 - 2026
- Involve adolescents aged 10-19 with AD
- Discuss symptoms related to anxiety, depression, or both

Key search terms included: “*atopic dermatitis*,” “*eczema*,” “*adolescents*,” “*anxiety*,” “*depression*,” “*mental health*,” “*psychological effects*,” and “*quality of life*.”

Findings were analyzed, compared, and connected based on biological mechanisms, psychosocial factors, and mental health outcomes that may show relation to AD.

Results

Findings across studies indicate that the relationship between atopic dermatitis and mental health may be influenced by:

- Biological pathways: Immune dysregulation, chronic inflammation, the hypothalamic-pituitary-adrenal axis, hormonal changes, and the brain-gut-skin axis [1], [2], [3], [4]
- Psychosocial influences: Stigma, difficulty functioning, sleep disturbance, impaired self esteem, and reduced quality of life [5], [6], [7]

Research statistics demonstrated higher rates of anxiety/depression-related symptoms and other emotional difficulties in adolescents with AD [8], [9], [10]:

Author (Year)	Paper / Web Title	Key Insights
Long et al. (2022)	Eczema is a shared risk factor for anxiety and depression: A meta-analysis and systematic review	• Individuals with AD had higher odds of anxiety (OR= 1.68) and depression (OR= 1.64)
Hou et al. (2021)	Predictors and age-dependent pattern of psychologic problems in childhood atopic dermatitis	• Higher rates of depression/sadness (17.2% vs. 12.6%), emotional/behavioral difficulties (29.9% vs. 23.5%), frequent worry (38.8% vs. 23.5%)
Szepietowska et al. (2026)	The Psychiatric Comorbidities in Adolescents With Atopic Dermatitis: A Real-World Study of Propensity-Matched Cohorts	• Adolescents with AD have an increased hazard ratio of anxiety (HR= 2.72), depression (HR= 2.66), suicidality (HR= 1.62), self harm (HR= 1.47), and personality disorders (HR= 4.31)

Discussion

The biological and psychosocial factors that potentially contribute to the development of anxiety and depression in adolescents with AD appeared to be interconnected, with one element of AD influencing or contributing to others. This ultimately induces stress and affects emotional/stress regulation in adolescents. Indications in higher rates of anxiety, depression, and other emotional difficulties in adolescents with AD highlighted a consistent, positive association, suggesting a relationship between AD and development of symptoms of anxiety and depression.

Conclusion

To answer the question “What is the connection between atopic dermatitis and the development of anxiety and depression among adolescents?” there appears to be a positive association between AD and the development of anxiety and depression. This association is influenced by the interconnected biological and psychosocial factors presented by AD. Future studies should explore this relationship further, particularly by observing how AD severity and factors beyond biological and psychosocial influences may influence anxiety and depression.

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