



Anxiety and Atopic Dermatitis: Current Evidence on Adolescent Risk

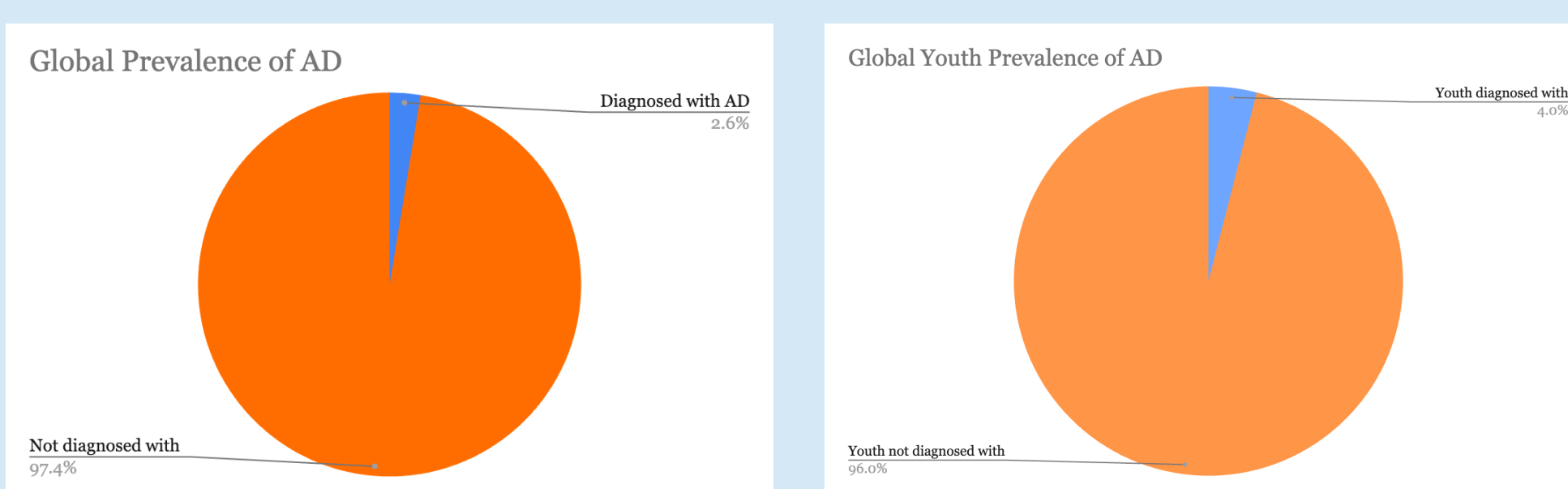
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Background

Atopic dermatitis is a chronic inflammatory skin condition caused by a combination of genetic, environmental, and psychological factors.

- Affects 10-30% of children and 2-10% of adults in developed countries (Ferrer-Bruker & Kolb, 2023)



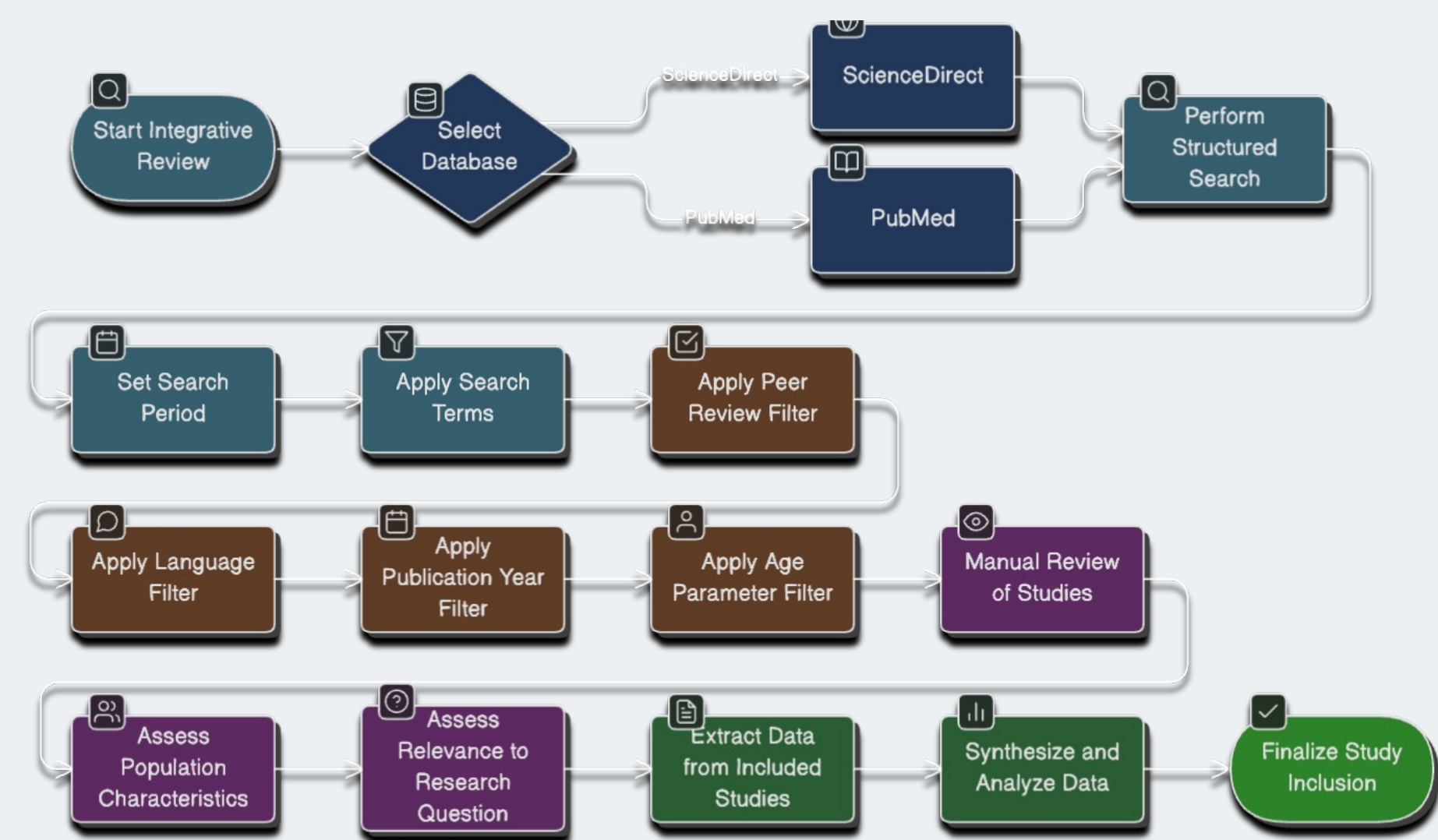
Note. Adapted from Tian et al. (2023), *British Journal of Dermatology*

Adolescence is a period of increased emotional instability, vulnerability, and impulsivity in *all* teenagers and young adults.

- AD adds physical discomfort, social challenges, and increased stress.
- Visibility of rashes and lesions may influence social isolation and mental health

- Objective:** to investigate how atopic dermatitis increases the risk of developing anxiety disorders in adolescents and why
- Despite increasing awareness of AD's psychosocial impact, there is limited research on anxiety disorders and AD in adolescents
 - Findings aim to synthesize current research on this topic

Methodology



Data Collection

- ScienceDirect and PubMed databases
- Keywords: “atopic dermatitis”/“eczema”, “anxiety”/“mental health”, and “adolescent.”

Search Filters

- Peer-reviewed studies
- English-language
- Publishing range: 2010-2025
- Children (birth – 18 years)/Adolescents (13 – 17 years)

After manual revision, five studies—two cross-sectional studies and three narrative/theoretical reviews—met the inclusion criteria.

Results

Figure 1. Current and Lifetime Anxiety Disorders Diagnosed in Adolescents with AD (n=36)

Note. Adapted from Slattery et al. (2011), *Journal of Allergy and Clinical Immunology*

Disorder	Current diagnosis	Lifetime diagnosis
Any anxiety disorder	26% (9)	31% (11)
Separation anxiety disorder	0	9% (3)
Specific phobia	11% (4)	11% (4)
Social phobia	14% (5)	14% (5)
Agoraphobia	0	0
Generalized anxiety disorder	3% (1)	3% (1)

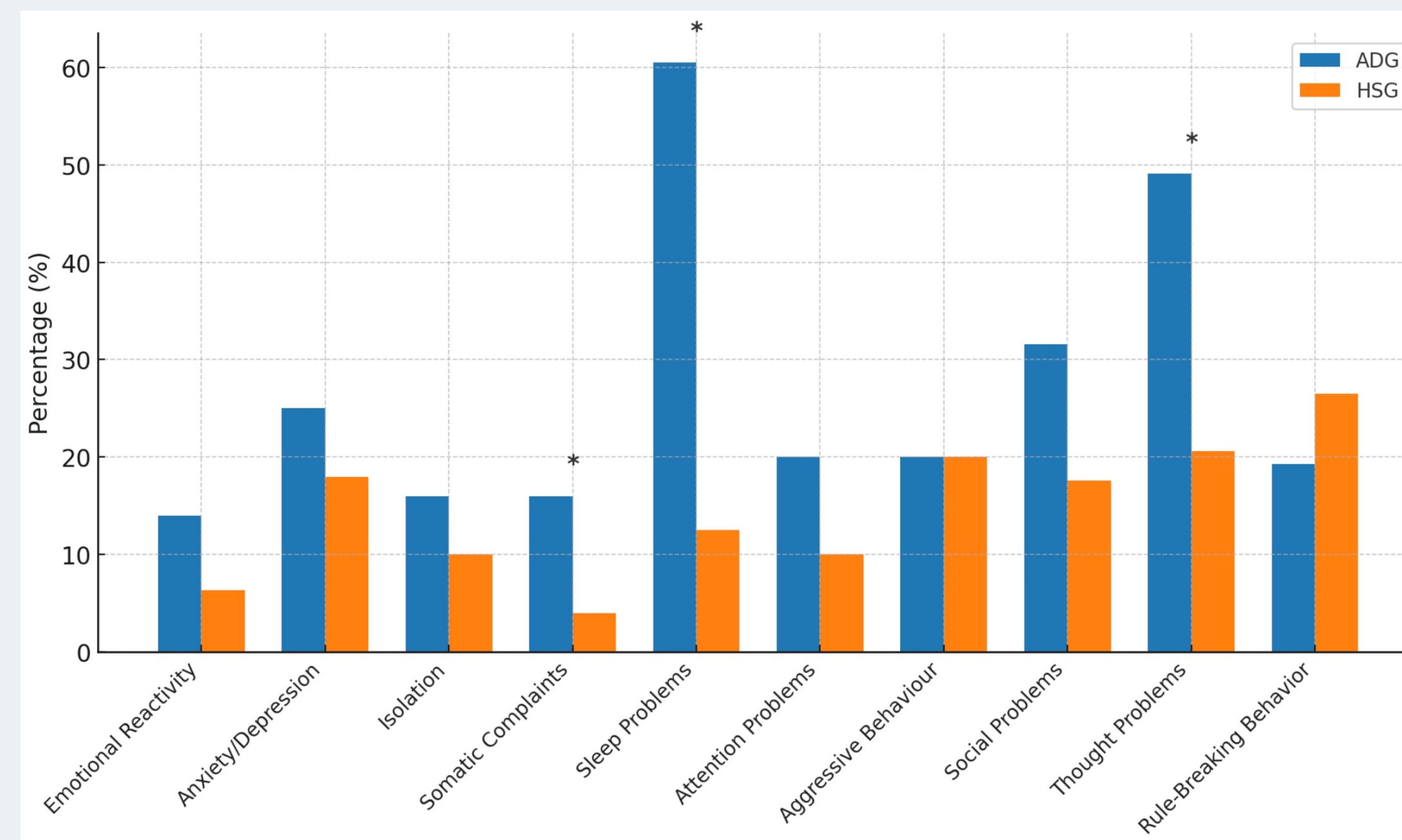
- ~1/3 of adolescents with AD had an anxiety disorder (lifetime)
- Social phobia/anxiety observed as the most common diagnosis of anxiety

Findings highlight elevated anxiety prevalence in AD adolescents compared to the general population.

Figure 2. Comparison of CBCL Syndromes between Atopic Dermatitis Group (ADG) (n=100) and Healthy Sibling Group (HSG) (n=50), *p<0.05

Note. Adapted from Muzzolon et al. (2011), *Advances in Dermatology and Allergology*

- Individuals in the ADG scored higher than their healthy siblings (HSG) across multiple CBCL syndromes
- Largest differences were observed with Sleep Problems and Thought Problems
 - Both well known precursors to anxiety disorders
- Smaller, but equally significant differences were observed under Anxiety/Depression and Social Problems.



Overall, ADG showed greater emotional and behavioral difficulties compared to HSG.

Narrative Evidence

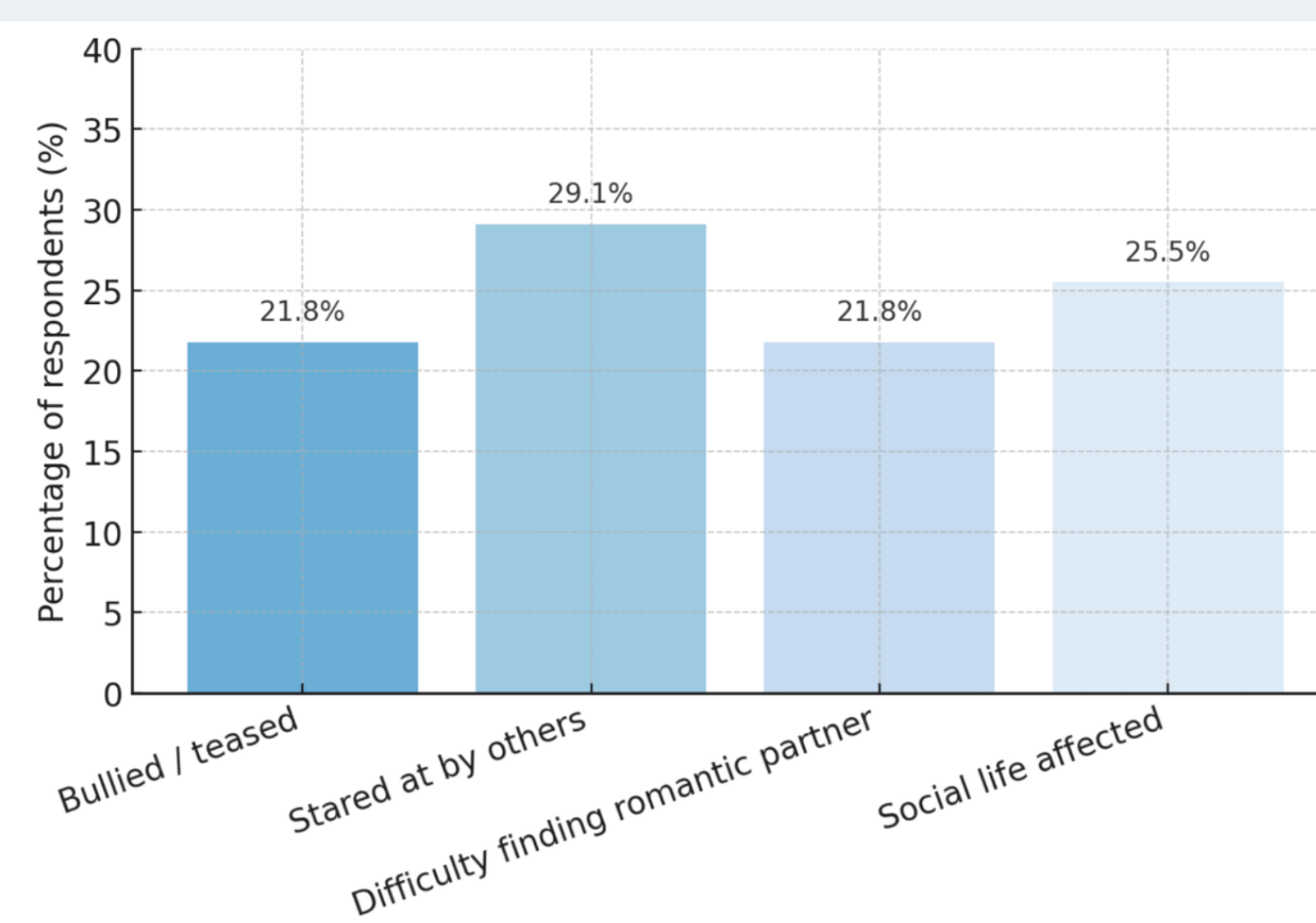


Figure 3. Social Impact of Eczema and Inflammatory Skin Conditions on Californian University Students (n=336)

Note. Adapted from Yang & Kourush (2017), *International Journal of Women's Dermatology*

Psychosocial Risk Factors (Lugović-Mihić et al., 2025)

- Chronic AD-induced stress and sleep disruption can lead to emotional dysregulation
- Internalizing symptoms (e.g., anxiety, behavioral problems, and suicidal ideation) are common in individuals with AD.
- During adolescence, when autonomy and self-esteem are developing, AD may negatively affect psychological growth (Lugović-Mihić et al., 2025).

Impact on Quality of Life (Yang & Kourush, 2017 and Vivar & Kruse, 2018)

- Adolescents with AD reported lower overall quality of life compared to healthy peers.
- Inflammatory skin conditions undermine self-esteem, social functioning, and peer relationships, often leading to emotional isolation.
- Greater severity of AD is linked to stronger impacts on mental health, social limitations, and reduced self-image.

Discussion and Conclusion

- Adolescents with AD show significantly higher prevalence of anxiety disorders compared to the general population and those without AD
 - Social anxiety was one of the most common diagnoses
- Developmental feature of adolescence (e.g., identity formation, self-consciousness, peer-acceptance) can increase psychological burden
- Chronic inflammation and dysregulated cortisol secretion in AD interfere with mood regulation
 - Persistent itching and sleep disruption further affect emotional stability
- Quality of life studies report reduced self-esteem, impaired social functioning, and greater emotional distress among adolescents with AD
- Physiological and psychosocial factors interact together, causing increased vulnerability to anxiety disorders

Overall, findings demonstrate that AD not only characterizes as a dermatological condition, but as a **multidimensional condition** with an increased risk for anxiety development, especially during adolescence.

Limitations and Future Directions

Limitations

- Lack of longitudinal studies under this topic
- Heavy reliance on self-reported surveys
 - Potential response bias
- Anxiety and depression were often grouped together in studies, limiting specificity
- Inconsistent age ranges across studies

Future Directions

- Future longitudinal studies are necessary to track long-term anxiety and AD trajectories
- Future research should distinguish between anxiety and depression outcomes, studying anxiety separately
 - Currently, there are little to no studies on specifically AD and anxiety
- More specific age ranges in study samples
- Holistic care addressing both dermatological and psychological symptoms

Selected References

- Lugović-Mihić, L., Bulcal, D., Dolacki, L., Zanze, L., Barac, E., Tomašević, R., & Viličić, M. (2025). Mental Health, Psychological Features and Psychiatric Comorbidity of Adolescents with Atopic Dermatitis: A Review. *Pediatric Reports*, 17(2), 50. <https://doi.org/10.3390/pediatric17020050>
- Muzzolon, M., Baggio Muzzolon, S. R., Lima, M., Canato, M., & Oliveira Carvalho, V. (2022). Mental disorders and atopic dermatitis in children and adolescents. *Advances in Dermatology and Allergology*, 38(6), 1066–1104. <https://doi.org/10.5114/ada.2021.122262>
- Slattery, M. J., Essex, M. J., Paletz, E. M., Vannest, E. R., Infante, M., Rogers, G. M., & Germ, J. E. (2011). Depression, anxiety, and dermatologic quality of life in adolescents with atopic dermatitis. *Journal of Allergy and Clinical Immunology*, 128(5), 668–671.e3. <https://doi.org/10.1016/j.jaci.2011.05.003>
- Vivar, K. L., & Kruse, L. (2018). The impact of pediatric skin disease on self-esteem. *International Journal of Women's Dermatology*, 4(1), 27–31. <https://doi.org/10.1016/j.ijwd.2017.11.002>
- Yang, C. Y., & Kourush, A. S. (2017). Inflammatory skin disorders and self-esteem. *International Journal of Women's Dermatology*, 4(1), 23–26. <https://doi.org/10.1016/j.ijwd.2017.09.006>
- Tian, J., Zhang, D., Yi Ching Yang, Huang, Y., Wang, L., Xu, Y., & Lu, Q. (2023). Global epidemiology of atopic dermatitis: a comprehensive systematic analysis and modelling study. *British Journal of Dermatology*, 190(1), 55–61. <https://doi.org/10.1093/bjd/ljad399>