Review Article

**THE IMPACT OF CHRONIC STRESS ON THE MENTAL HEALTH OF 9TH AND 1ST-YEAR STUDENTS AND ITS IMPLICATIONS FOR THE DEVELOPMENT OF ANXIETY AND DEPRESSION DISORDERS**

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**ABSTRACT**

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| **ABSTRACT**  **Introduction:** The rising number of individuals diagnosed with chronic stress has become increasingly common, raising concern concerns in our society. This condition is closely linked to neurological disorders and often triggers various other psychosocial issues, particularly among school-aged children and adolescents.Chronic stress has become an increasing concern among adolescents, being linked to neurological disorders, mental illnesses, and risky behaviours. Evidence shows that factors such as bullying, poverty, domestic violence, and discrimination significantly contribute to the development of anxiety, depression, and post-traumatic stress disorder in young people. The lack of early interventions and effective public policies worsens this scenario, especially in vulnerable socioeconomic contexts. Therefore, there is an urgent need for new research focused on evaluating the effectiveness of the previously proposed strategies and eliminating less effective approaches to resolve this social dilemma. **Objective:** This study aimed to analyse the impact of chronic stress on the mental health of 9th and 1st-year students at the Centro Integrado de Educação Assis Chateaubriand, located in Feira de Santana, and its implications in the development of anxiety and depression disorders, in addition to proposing evidence-based interventions. **Methodology:** This is a bibliographic, descriptive study with a mixed approach, based on scientific articles published between 2020 and 2025. Using multistage cluster sampling, 862 adolescents (65% girls, average age 15) from public and private schools in São Gonçalo were selected. The search was conducted in the PubMed and BVS databases, using DeCS descriptors combined with Boolean operators. After a careful selection, three thematic axes were defined to guide the critical analysis of the data and support the discussion. **Results and Discussion:** The analysed literature identified direct associations between chronic stress and the worsening of mental symptoms such as suicidal ideation, self-harm, depression, and anxiety. Factors such as excessive screen time, school violence, family neglect, and toxic school environments were determinants. Bullying, especially verbal and sexual, showed a high correlation with PTSD. The COVID-19 pandemic also intensified levels of psychological distress, especially among the poorest. **Conclusion:** Chronic stress severely affects adolescents' psychological development. The implementation of policies such as Law 14.819/2024, which proposes psychosocial actions in schools, and the use of approaches such as Cognitive Behavioural Therapy are promising strategies. In short, understanding what chronic stress is, how it affects students, and developing effective prevention strategies are essential steps toward creating a healthier, more supportive educational environment. It is concluded that investing in prevention, support, and mental health in the school environment is urgent in order to promote well-being and healthy development for students. |

*Keywords: Chronic stress; Mental health; Adolescents; Mental disorders; School.*

**1. INTRODUCTION**

Depression refers to a disorder characterised by persistent low mood, which can cause impairment, while anxiety refers to feelings of worry and unease about an uncertain outcome. Both disorders are two of the most ubiquitous mental health diagnoses given worldwide (Dike-Isreal & Akinboye, 2021). The rising number of individuals diagnosed with chronic stress has become increasingly common, raising concerns in our society. This condition is closely linked to neurological disorders and often triggers various other psychosocial issues, particularly among school-aged children and adolescents. Although not a new disorder, chronic stress began to be studied between 1907 and 1982 by Hans Selye, marking the beginning of efforts to understand its causes and consequences. Chronic stress is a physiological process initiated by environmental and/or psychosocial factors. Stress affects memory, cognition, and behavior, as well as whole-body homeostasis, including the cardiovascular, gastrointestinal, and immune systems. Chronic stress activates the hypothalamic-pituitary-adrenal axis, resulting in the release of glucocorticoid class stress hormones (He et al., 2024). Fields such as paediatrics are directly affected, especially when it comes to marginalised youth, as highlighted in the article *“Understanding Adolescent Mental Health Disparities Through the Lens of Environmental Stress Exposure”* by Ran Barzilay and Nadine Michel. According to the article *“Early Life Stress and Substance Use Disorders: The Critical Role of Adolescent Substance Use”* by Dylan E. Kirsch and Elizabeth T.C. Lippard, 95% of individuals with comorbid Substance Use Disorder (SUD) and mental health problems experienced a traumatic event during childhood, which subsequently triggered chronic stress.

Within this context, there is a clear need for more research into the biological mechanisms of chronic stress and the importance of early interventions to mitigate its consequences. The lack of such research hampers the development of effective treatments, adversely impacting public health and slowing scientific progress. Advancing research in this area could improve existing treatments and lead to new techniques that promote health. Therefore, it is urgently necessary to deepen our understanding of chronic stress to mitigate its effects, enhance treatments, and improve the population’s well-being.

Recent epidemiological studies on adolescent mental health have provided updated data on the prevalence, incidence, and specific rates of impairments, highlighting areas of greater vulnerability. In a Danish national cohort, Lindholdt et al. (2021) found that 2.1% of 11,929 adolescents with no previous mental disorder diagnosis were diagnosed with a mental disorder (F00–F99) within a 16-month follow-up period. The adjusted odds ratio was 2.0 for moderate perceived stress and 6.0 for high perceived stress (Lindholdt et al., 2021, p. 413). In the school setting, Xu et al. (2023) reported that about 30% of students had experienced some form of bullying (verbal, physical, relational, or cyber), and among these victims, 50% developed symptoms of post-traumatic stress disorder (PTSD), with 20% showing significant severity (Xu et al., 2023, p. 3). In a sample of preadolescent Americans, Petti et al. (2025) found a 9% prevalence of subclinical psychotic-like experiences (PLEs) with associated distress, with higher rates among Black and Hispanic groups (12–14%) compared to white students (8%). Furthermore, Kirsch and Lippard (2022) documented that 53% of adults reported at least one adverse childhood event (ACE), with each adversity increasing the probability of early substance use (before age 14) by 2–3 times and raising the risk of alcohol use disorder by up to 7.2 times and of problematic use of other drugs by 5–10 times (Kirsch & Lippard, 2022, p. 1).

The most affected groups include adolescents with high perceived stress, victims of bullying, members of ethnic-racial minorities, and those with a history of childhood adversities. There is a growing trend toward recognising perceived stress as a predictor of mental disorders and bullying as an expanding risk factor, along with the persistence of racial-ethnic disparities in subclinical psychotic experiences. Key epidemiological risk factors include high perceived stress levels (OR = 6.0), bullying victimisation (50% PTSD development), socio-environmental discrimination, and the number of adverse childhood events (2–3 times increased risk per event).

Childhood poverty has been consistently associated with mental disorders in adulthood, indicating that low-income individuals are among the most vulnerable social groups to these impacts, as cited in the article *“Childhood poverty and mental health disorders in early adulthood: evidence from a Brazilian cohort study”* (Ziebold et al., 2023). Similarly, the article *“Examining Economic Risks in Adolescents’ Families, Neighborhoods, and Schools: Implications for Mental and Behavioral Health in Early Adulthood”* (Sims J, Coley R.L. et al., 2022) emphasizes that adolescents exposed to economic risks—such as financial instability at home and poor school environments—are significantly more likely to develop depressive symptoms and antisocial behaviors, highlighting the long-term social impacts of structural inequalities. Additionally, the article *“Perceived stress among adolescents as a marker for future mental disorders”* (Lindholdt et al., 2022) presents data indicating that adolescents with high levels of perceived stress—often stemming from precarious socioeconomic conditions—face a higher risk of developing mental disorders in adulthood. This study analysed data from over 11,000 young people, linking psychological stress to social and economic determinants such as family precariousness and unequal access to mental health services.

Given this context, the reviewed studies and articles also present public policy proposals as potential interventions. These include poverty reduction, child- and adolescent-focused interventions, interinstitutional actions in humanitarian crises, and alcohol use prevention strategies, as discussed in the articles *“Childhood Poverty and Mental Health Disorders in Early Adulthood”* and *“Examining Economic Risks in Adolescents’ Families, Neighbourhoods, and Schools.”* However, these studies also highlight significant shortcomings in social interventions, particularly the lack of evidence supporting the prevention of mental disorders. The low quality of the available evidence and the scarcity of eligible prevention studies undermine confidence in the findings. The authors stress the importance of such studies due to the persistent health risks associated with income levels, the need to address childhood poverty, and the need for prevention studies to assess the long-term impact of mental disorder incidence. Therefore, there is an urgent need for new research focused on evaluating the effectiveness of the previously proposed strategies and eliminating less effective approaches to resolve this social dilemma.

Based on the analysis of the cited articles, it is clear that chronic stress in adolescents is linked to ethnic, socioeconomic, and interpersonal factors—issues directly connected to the objectives of this article, which seeks to assess the impact of chronic stress on 9th and 1st-year students and its implications for the development of anxiety and depression disorders. This study thus aims to provide a broad view of the psychological reality and stress levels of students at the Centro Integrado de Educação Assis Chateaubriand in Feira de Santana, along with an analysis of interpersonal factors, to confirm findings such as those of Xu et al. (2023) regarding school bullying and its relationship with stress-related disorders. Therefore, this article seeks not only to investigate a school psychological reality but also to serve as a basis for developing more precise and effective proposals. The project aims to transform the school environment into a more welcoming space capable of addressing adolescents' emotional needs, promoting health and well-being at a decisive stage of life.

**2. Methodology**

This was a bibliographic, descriptive study with a mixed approach, and the data collected served as the foundation for the development of the scientific article. Data collection was based on a bibliographic survey conducted through research on scientific publications related to the proposed theme, covering the period from 2020 to 2025. The inclusion criteria for content selection were: full-text publications aligned with the topic of the impact of chronic stress on students’ mental health and its implications for the development of anxiety and depression disorders, including documents, regulations, health authority standards, scientific articles, and institutional guidelines, all published in English. Exclusion criteria included: articles not directly related to the topic, duplicate or incomplete materials, reviews, abstracts, debates, and content not available in full.

The literature search was carried out in the following databases: PubMed and BVS. These databases were accessed through the Virtual Health Library (BVS). Searches were conducted using Health Sciences Descriptors (DeCS) from the Regional Library of Medicine (BIREME), as shown in Table [01]: “Transtornos Mentais” OR “Mental Disorders” AND “Estresse Psicológico” OR “Psychological Stress” AND “Instituições Acadêmicas” OR “Academic Institutions,” using the Boolean operators “AND” and “OR.”

The methodology employed in this study began with the careful selection of descriptors in DeCS, followed by searches in indexed databases. Using the main terms and their equivalents, tables were created listing the articles found in each database. Duplicate articles were eliminated, and the remaining titles were screened for relevance. After this step, abstracts were read, and then the full articles that met the established criteria were reviewed.

For data analysis, three thematic axes were defined, built around the study’s specific objectives and formulated as guiding questions. These questions directed the reading and critical analysis of the selected articles, forming the conceptual basis for the discussion and interpretation of the data. The answers obtained provided the theoretical foundation for the construction of the results and reflections proposed in this study.

**3. Results and Discussion**

**Methodologies Used to Measure Stress in Adolescents** The research involved questions regarding alcohol and drug use problems within students’ families, as well as experiences of physical and psychological abuse, using the *Brief Symptom Inventory* to assess mental health (Johansson et al., 2024). The short-form DASS-21 questionnaire evaluated symptoms of depression, anxiety, and stress. Adjusted analyses (for age, sex, and maternal education) were conducted using generalised linear regressions with Poisson distribution, with a significance level set at p<0.05 (Carolina et al., 2024). A descriptive analysis based on clinical interviews and self-reports was also applied, using DSM-5 criteria for depression diagnosis (Zhang et al., 2023).

Using multistage cluster sampling, 862 adolescents (65% girls, average age 15) from public and private schools in São Gonçalo were selected. Structured questionnaires assessed sociodemographic profiles, exposure to physical and psychological violence (in family, school, and community), sexual abuse, social support, functional impairment, resilience, and PTSD. Data were analysed using chi-square tests, Fisher’s exact test, and logistic regression (Avanci et al., 2022).

Data from the Swedish HBSC 2017/18 study were used to build an index of psychological complaints based on four items, analysing both individual and collective exposure to sexual jokes through two-level linear regressions (Låftman et al., 2021).

In a multicenter study with 12,192 students from 17 secondary schools in China, cluster sampling was used to collect general demographic data, psychological abuse and neglect (CPANS), sleep quality (PSQI), symptoms of depression, anxiety, and stress (Chinese version of DASS-21), and suicidal ideation (Chinese version of PANSI). Analyses included t-tests, chi-square tests, correlations, and structural equation modelling (Cen et al., 2025).

In an intervention with the *Mindfulness Virtual Community (MVC)*, 154 students were randomized to evaluate outcomes using the PHQ-9, *Beck Anxiety Inventory (BAI)*, *Perceived Stress Scale (PSS)*, and *Five Facets Mindfulness Questionnaire Short Form (FFMQ-SF)*, with generalized equations under an AR(1) structure (Ritvo et al., 2020).

A longitudinal cohort study with 2,263 high school students in Los Angeles administered three questionnaires over one academic year (Riehm et al., 2021). The DASS-42 scale was used with 885 university students to measure perceived stress related to multiple factors (Fruehwirth et al., 2023). Another study recruited 81 patients with exhaustion disorders at Swedish health centres, using the *Karolinska Exhaustion Disorder Scale (KEDS)* and additional validated questionnaires for anxiety and depression (Gunnarsson et al., 2024).

In the UK and Ireland, adolescents were randomised into training sessions using the *Experiences Questionnaire* (a decentering inventory) and momentary sampling analysis, evaluating depression and anxiety symptoms through hierarchical linear analysis (Bennett et al., 2022).

Finally, the Cochrane review sought randomised controlled trials involving university students to evaluate psychological interventions focused on resilience, anxiety, depression, and perceived stress, using international databases (Papola et al., 2020; Kunzler et al., 2020).

**Consequences of Chronic Stress in Youth**

A significant portion of individuals with depression reported feeling apathetic, lonely, and unable to carry out daily activities such as studying or working normally (75.18%). Among these, a high proportion attempted or committed suicide (80.85%) and engaged in self-harm (51.77%) (Zhang et al., 2023). The results also highlight differences in life trajectories between boys and girls exposed to violence (Avanci et al., 2022). Direct or indirect exposure to sexual jokes negatively impacts students' mental health, indicating that school environments free of such practices benefit everyone (Låftman et al., 2021). There is evidence that good sleep habits and interventions targeting depressed mood can reduce the risk of suicidal ideation in adolescents who have experienced neglect or psychological abuse (Cen et al., 2025).

Stress and anxiety arising from academic demands threaten students’ well-being, being associated with depression and procrastination, which impair educational performance and lead to insecurity as well as physiological and behavioural disorders (Markiewicz & Kaczmarek, 2024b). Specific types of stress, such as those related to appearance, health, and romantic relationships, have been linked to symptoms of eating disorders, insufficient sleep, and low levels of vigorous physical activity (Jane Cooley Fruehwirth et al., 2023). Stress-related illnesses also affect work capacity, social relationships, concentration, and sleep, reducing individuals’ ability to manage daily tasks and lowering overall well-being (Gunnarsson et al., 2024).

Chronic exposure to stress in healthcare education settings increases the risk of physical and mental disorders, including depression and burnout. This not only harms academic and clinical performance but also raises school dropout rates (Kunzler et al., 2020). Traumatic events affect individuals’ sense of safety in the world, leading to interpersonal insecurity, social difficulties, and reduced emotional support from others (Xu et al., 2023). These events also increase the risk of both internalising and externalising psychopathologies, such as impulsivity and emotional disturbances (Eppelmann et al., 2019).

Low academic performance, aggressiveness, delinquency, and psychological issues are direct consequences of chronic stress in young people (Alvarez-Jimenez et al., 2020). Youth facing exhausting routines often turn to the internet as an escape, heightening the risk of digital addiction and self-destructive behaviours (Pagerols et al., 2020). Stress can also trigger additional comorbidities in students already diagnosed with mental disorders, hindering their academic completion, professional integration, and ability to maintain healthy relationships (Seung Yeon Baik et al., 2024; Mario Alvarez-Jimenez et al., 2020).

Prolonged exposure to bullying leads to high rates of depression, anxiety, and aggressive behaviour, and may develop into chronic stress (Ngo et al., 2021). Stressed adolescents are at greater risk of developing eating disorders, substance dependencies, and gambling addictions, especially if these behaviors are used as coping mechanisms—resulting in academic, financial, and interpersonal problems (Chai et al., 2024; Wang et al., 2020). Finally, repeated exposure to stressful school environments can lead to Post-Traumatic Stress Disorder (PTSD), significantly impairing academic and professional performance (Harel et al., 2023).

**Causes of Chronic Stress in Youth**

Psychological abuse was identified as the most significant factor contributing to psychological distress among adolescents (Johansson et al., 2024). High levels of depressive symptoms were observed in adolescents with daily screen time between 4–6 hours (PR 1.35) and greater than or equal to 6 hours (PR 1.88). Similar symptoms of anxiety (PR 1.23 and 1.50) and stress (PR 1.25 and 1.49) were found within these same screen-time ranges when compared to youth with less than 2 hours per day (Carolina et al., 2024). Additional contributing factors included genetics, school violence, academic stress, sleep disorders, and family issues, especially among adolescents who felt neglected or misunderstood by their families (Zhang et al., 2023).

Exposure to physical and psychological violence resulted in a high prevalence of Post-Traumatic Stress Disorder (PTSD), indicating that adolescents in violent environments experience cumulative stress that can evolve into complex, long-lasting trauma (Avanci et al., 2022; Ćurčić-Hadžagić, 2020). The presence of sexual jokes in schools also significantly increased psychological complaints—even among students not directly targeted—undermining the school climate (Låftman et al., 2021). Sleep problems and depressed mood were crucial mediating factors in the development of suicidal ideation, underscoring their importance in suicide risk prevention (Cen et al., 2025).

Frequent concerns about school violence were strongly linked to generalised anxiety and panic symptoms, particularly among Black and non-Latino white youth, highlighting the role of racial context in stress perception (Riehm et al., 2021). Additionally, complex traumatic events related to armed conflict, forced displacement, and childhood sexual abuse increased the risk of not only PTSD but also other mental health comorbidities (Bennett et al., 2022). Extreme academic stress—especially common among health science students—can lead to debilitating sleep disorders, burnout, and declines in both clinical and academic performance (Kunzler et al., 2020).

School bullying is directly associated with persistent PTSD symptoms, affecting up to 50% of individuals who experience severe bullying (Xu et al., 2023). Changes in academic routine can prompt students to use the internet as an escape mechanism, increasing the risk of addiction and reinforcing chronic stress (Pagerols et al., 2020). The pressure associated with entering adulthood intensifies responsibilities and worries, reducing quality of life and increasing youth vulnerability to both physical and mental health issues (Seung Yeon Baik et al., 2024).

The COVID-19 pandemic intensified stressors among adolescents, especially due to social isolation and school closures, leading to a significant increase in depression and widespread mental health issues (Liu et al., 2024; Lu et al., 2024). Socioeconomically disadvantaged adolescents reported a higher incidence of psychosomatic symptoms, lower life satisfaction, and reduced quality of life compared to their more privileged peers (Cosma et al., 2020). Lastly, prolonged exposure to multiple traumatic events during youth is associated with a higher prevalence of PTSD and other emotional disorders, which negatively affect social, occupational, and academic development throughout life (Allen et al., 2021).

**4. Conclusion**

Chronic stress has become an increasingly common issue in students’ lives, especially among those from underprivileged backgrounds, highlighting the urgent need for further research. According to a PubMed article titled “Physiology, Stress Reaction”, chronic stress is defined as prolonged exposure to stressors, leading to cumulative physiological and psychological effects. This condition can heighten the risk of health problems such as cardiovascular disease, anxiety, and depression (Chu, Brianna; Marwaha, Komal; Sanvictores, Terrence; et al.). Based on this, intervention strategies are increasingly necessary—Cognitive Behavioural Therapy (CBT), for example, aims to restructure negative thought patterns, modify dysfunctional behaviours, and teach coping skills. This can improve students’ mental health, reduce anxiety and depression rates, and increase emotional self-awareness, resilience in the face of failure and criticism, and problem-solving abilities.

The National Policy for Psychosocial Care in School Communities (Law No. 14.819/2024) establishes guidelines for promoting mental health in public schools, including preventive and psychosocial care actions. These measures include creating spaces for reflection and dialogue, hiring school psychologists, and promoting activities that strengthen family and community bonds—all of which are crucial to reducing chronic stress among students.

In short, understanding what chronic stress is, how it affects students, and developing effective prevention strategies are essential steps toward creating a healthier, more supportive educational environment.

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