

**PREVALENCE OF ANXIETY DISORDERS AMONG HIGH SCHOOL STUDENTS  
AT A PRIVATE SCHOOL IN CAÇADOR**

***PREVALÊNCIA DE TRANSTORNOS DE ANSIEDADE EM ESTUDANTES DO  
ENSINO MÉDIO EM UM COLÉGIO PARTICULAR DE CAÇADOR***

***PREVALENCIA DE TRASTORNOS DE ANSIEDAD EN ESTUDIANTES DE  
EDUCACIÓN SECUNDARIA DE UNA ESCUELA PRIVADA DE CAÇADOR***



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**ABSTRACT:** The prevalence of anxiety disorders among high school students has increased in recent years, especially during adolescence—a stage marked by academic and emotional challenges. This descriptive and cross-sectional study aimed to investigate anxiety among students at a private school in Caçador, Brazil. The sample consisted of 38 students aged 15 to 18, who answered the Beck Anxiety Inventory (BAI), a sociodemographic questionnaire, and a Risk and Protection Factors questionnaire. Results showed a higher incidence of anxiety symptoms among female participants: 32% presented moderate anxiety and 24% severe anxiety. Among males, 81.8% showed minimal anxiety and 18.2% mild, with no moderate or severe levels. Overall, 56% of girls had moderate or severe symptoms, suggesting greater female vulnerability. The study concludes that the high prevalence of anxiety symptoms among high school students highlights the urgent need for mental health interventions within the school environment.

**KEYWORDS:** Teenager. Student health. Generalized anxiety disorder.

**RESUMO:** A prevalência de transtornos de ansiedade entre estudantes do ensino médio tem aumentado nos últimos anos, especialmente durante a adolescência, fase marcada por desafios acadêmicos e emocionais. Este estudo, de caráter descritivo e transversal, teve como objetivo investigar a ansiedade em alunos de um colégio particular de Caçador/SC. A amostra foi composta por 38 estudantes entre 15 e 18 anos, que responderam à Escala de Ansiedade de Beck (BAI), a um questionário sociodemográfico e a outro sobre fatores de risco e proteção. Os resultados mostraram maior incidência de sintomas ansiosos entre as meninas: 32% apresentaram ansiedade moderada e 24%, grave. Entre os meninos, 81,8% tiveram ansiedade mínima e 18,2%, leve. Assim, 56% das meninas apresentaram níveis moderado ou grave, evidenciando vulnerabilidade feminina. Conclui-se que há alta prevalência de ansiedade entre os estudantes, o que ressalta a necessidade de estratégias de promoção da saúde mental nas escolas.

**PALAVRAS-CHAVE:** Adolescente. Saúde do estudante. Transtorno de ansiedade generalizado.

**RESUMEN:** La prevalencia de los trastornos de ansiedad entre los estudiantes de secundaria ha aumentado en los últimos años, especialmente durante la adolescencia, etapa marcada por desafíos académicos y emocionales. Este estudio descriptivo y transversal tuvo como objetivo investigar la ansiedad en estudiantes de una escuela privada de Caçador, Brasil. La muestra estuvo compuesta por 38 estudiantes de entre 15 y 18 años, quienes respondieron al Inventario de Ansiedad de Beck (BAI), un cuestionario sociodemográfico y otro de Factores de Riesgo y Protección. Los resultados mostraron una mayor incidencia de síntomas ansiosos entre las mujeres: el 32% presentó ansiedad moderada y el 24% grave. Entre los hombres, el 81,8% mostró ansiedad mínima y el 18,2% leve. En total, el 56% de las mujeres presentó síntomas moderados o graves, evidenciando mayor vulnerabilidad femenina. Se concluye que la alta prevalencia de ansiedad resalta la necesidad de intervenciones en salud mental en el ámbito escolar.

**PALABRAS CLAVE:** Adolescente. Salud del estudiante. Trastorno de ansiedad generalizada.

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## Introduction

Adolescent mental health has become an increasing global concern, particularly during the high school years—a critical period of transition and personal development (WHO, 2023). Anxiety disorder, characterized by excessive levels of worry, fear, and tension, is one of the most prevalent mental health conditions among young people (Rapee *et al.*, 2023; Rask *et al.*, 2024). Studies indicate that factors such as academic pressure, social changes, and personal expectations significantly contribute to heightened anxiety levels in this age group (Kleinkorres; Stang-Rabrig; McElvany, 2023). Understanding the prevalence of this disorder among high school students is essential for the development of effective support and prevention strategies (Gaylor *et al.*, 2023).

The growing academic demands, coupled with the pressure to achieve excellence and define future plans, can be overwhelming for many adolescents (Krogh; Madsen, 2024). Furthermore, interpersonal relationships—with both peers and family members—often become additional sources of stress (Gagnon; Monties, 2023). Competition for recognition and the need to fit into specific social groups also heighten anxiety levels (Ren; Zhao, 2024). The impact of social media, with its constant comparisons and unrealistic expectations, cannot be underestimated, as it further exacerbates the emotional strain on young people (Carman, 2023).

The school environment plays a crucial role in adolescents' lives, significantly influencing their mental well-being (Yuen; Wu, 2024). Interactions with teachers and peers, academic workload, and extracurricular activities all contribute to the development of anxiety symptoms (Jiménez-Mijangos *et al.*, 2023). Schools must be prepared to recognize the signs of anxiety and provide the necessary resources to help students manage stress (Jiménez-Mijangos *et al.*, 2023). A lack of adequate support can lead to poor academic performance and long-term mental health issues (Wu; Zhang, 2023).

Another important aspect to consider is the family environment. Parental expectations, family dynamics, and emotional support at home have a profound impact on adolescents' mental well-being (Nygaard *et al.*, 2023; Wu; Zhang, 2023). Families that fail to provide a supportive and understanding environment may unintentionally increase young people's anxiety levels (Mc Donagh; Hennessy, 2023; Rapee *et al.*, 2023). Conversely, a positive and nurturing family atmosphere can serve as a protective factor, helping adolescents cope with the pressures of academic and social life (Benzi *et al.*, 2023).

Understanding the prevalence and associated factors of anxiety disorders among high school students remains an underexplored challenge in the scientific literature, particularly

within the Brazilian context. Although several studies have examined anxiety in university populations, there is a notable lack of research focusing specifically on school-age adolescence—a period marked by intense biopsychosocial transformations, academic pressure, and emotional instability. This gap underscores the need for investigations that consider the school environment as a decisive space in shaping youth mental health, enabling the identification of risk and protective factors related to educational, familial, and social contexts.

In this regard, the present study aimed to investigate the prevalence of anxiety disorders among high school students, as well as to understand the magnitude of this phenomenon and the factors influencing it. By combining quantitative and qualitative methods, the study sought to broaden the understanding of anxiety manifestation patterns and their implications for academic performance, interpersonal relationships, and adolescents' quality of life. The findings are expected to support the development of public policies and pedagogical strategies aimed at promoting mental health in school settings, contributing to preventive practices, psychological support programs, and integrated actions that foster students' well-being and emotional balance.

## **Methods**

This study was descriptive in nature, employing a cross-sectional design with a quantitative approach. The sample consisted of 38 students aged between 15 and 18 years, who responded to three questionnaires: the Beck Anxiety Inventory (BAI), a Sociodemographic Questionnaire, and a Risk and Protective Factors Questionnaire. Data collection was conducted at the Colégio de Aplicação of Uniarp in May 2025, following approval by the Research Ethics Committee under protocol number 7,500,416.

The instruments used in this research had been previously tested and validated in earlier studies. The BAI, developed by Beck *et al.* (1988), is widely recognized as a reliable and valid tool for measuring the intensity of anxiety symptoms in both clinical and non-clinical populations. In the Brazilian context, the version adapted and validated by Cunha (2001) demonstrated excellent internal consistency ( $\alpha = 0,92$ ) and convergent validity with other anxiety measures. The Sociodemographic Questionnaire and the Risk and Protective Factors Questionnaire were developed based on models previously used in national research on adolescent mental health (Antunes *et al.*, 2022), encompassing personal, family, and school-related variables that influence psychological well-being.

Specific inclusion and exclusion criteria were established for participation in the study. The inclusion criteria encompassed students aged between 15 and 18 years, of both sexes, who were regularly enrolled in high school; students willing to participate in the research and complete the questionnaires regarding their mental health; participants without a prior diagnosis of severe mental health conditions that could interfere with the assessment of anxiety disorders, ensuring the accuracy of the collected data; and those who provided a signed Informed Consent Form, with authorization from their legal guardians in the case of minors.

Exclusion criteria included students with a prior diagnosis of severe mental disorders—such as bipolar disorder or schizophrenia—that could compromise the evaluation of anxiety symptoms; participants undergoing treatment with medications capable of altering mental state or symptom perception; students with significant communication or comprehension difficulties, such as cognitive or neurological impairments; individuals within the age range who were not enrolled in the institution; and students who did not provide informed consent or whose guardians did not authorize participation.

Regarding the psychosocial factors associated with the participants' mental health, two composite scores were developed: a *Risk Factors Score* and a *Protective Factors Score*. Both were constructed based on responses to selected items from a structured questionnaire administered to participants.

The *Risk Factors Score* consisted of items whose responses indicated potentially harmful conditions to mental health, such as insufficient or poor-quality sleep, difficulty falling asleep, excessive use of social media, a sense of pressure from academic responsibilities, lack of emotional support, and the absence of coping strategies (e.g., relaxation techniques or physical activity). Each response indicative of risk received 1 point, resulting in a total score ranging from 0 to 8 points. The risk score classification was defined as follows: 0–1 point: low risk; 2–3 points: moderate risk; 4 points or more: high risk.

The Protective Factors Score, on the other hand, included responses reflecting behaviors or contexts favorable to emotional regulation and well-being, such as participation in extracurricular activities, perception that these activities help reduce stress, presence of an emotional support network, good-quality sleep, and the use of coping strategies. Each response indicative of protection received 1 point, with total scores ranging from 0 to 6 points. The classification for the protective score was defined as follows: 0–1 point: low protection; 2–3 points: moderate protection; 4 points or more: high protection.

This approach enabled a quantitative analysis of the participants' psychosocial factors, facilitating the interpretation of their relationship with anxiety levels and other variables of interest.

## **Results**

The sample (Table 1) consisted of adolescents with a mean age of 17 years, distributed by gender as follows: female ( $n = 25$ ), male ( $n = 11$ ), and "prefer not to say" ( $n = 2$ ). Most participants reported living with both parents, particularly among females (80%) and males (81.8%). However, a notable number of adolescents—especially females (16%)—reported living only with their mothers.

Regarding household size, homes with up to three residents predominated among female participants (56%) and those who preferred not to disclose their gender (62.5%). Among males, the majority (54%) lived in households with four to six people.

The primary source of employment outside the home was attributed to the father ( $n = 6$ ) or both parents ( $n = 23$ ), with no male participants reporting that only the mother was employed. Sixteen girls (64%) stated that both parents worked, which may indicate greater socioeconomic stability in this group.

In terms of family income, most families reported earnings above three minimum wages, particularly among females (60%) and males (63%). Lower income levels (equal to or below one minimum wage) were rare among participants.

Access to school was primarily achieved through private or family-owned vehicles, representing the reality of all female participants (100%) and 72% of male participants. Only three respondents from each of the male and "prefer not to say" groups reported walking to school.

Regarding the length of attendance at their current school, the majority reported being enrolled for more than five years, especially among females (64%) and males (45%).

In relation to satisfaction with the school, most adolescents reported being satisfied (females: 88%; males: 73%), although three participants in each group expressed dissatisfaction.

As for daily leisure activities, the most frequently mentioned by female participants were listening to music (28%) and going to the gym (24%), while gym attendance predominated



among males (45%). The “other” category was cited by 40% of those who preferred not to identify their gender.

Finally, when asked about how their families engage in leisure activities, adolescents primarily reported watching television ( $n = 15$ ), traveling ( $n = 18$ ), and “other” ( $n = 22$ ), suggesting a diversity of family leisure practices.

**Table 1** – Sociodemographic Characteristics of the Study Participants ( $n = 38$ )

Variable	Category	Female ( $n=25$ )	Male ( $n=11$ )	Prefer not to say ( $n=2$ )	Total ( $n=38$ )
<b>Age (years)</b>	Mean $\pm$ SD	17.0 $\pm$ 0.8	17.1 $\pm$ 0.9	17.0 $\pm$ 0.0	17.0 $\pm$ 0.8
<b>Family situation</b>	Both parents	20 (80.0%)	9 (81.8%)	1 (50.0%)	30 (78.9%)
	Mother only	4 (16.0%)	1 (9.1%)	1 (50.0%)	6 (15.8%)
	Other arrangements	1 (4.0%)	1 (9.1%)	0 (0%)	2 (5.3%)
<b>Number of household members</b>	Up to 3 people	14 (56.0%)	5 (45.5%)	1 (62.5%)	20 (52.6%)
	4 to 6 people	11 (44.0%)	6 (54.5%)	1 (37.5%)	18 (47.4%)
<b>Primary source of family income</b>	Father	3 (12.0%)	3 (27.3%)	0 (0%)	6 (15.8%)
	Both parents	16 (64.0%)	7 (63.6%)	0 (0%)	23 (60.5%)
	Mother only	6 (24.0%)	0 (0%)	2 (100%)	8 (21.1%)
<b>Family income level</b>	$\leq 1$ minimum wage	1 (4.0%)	0 (0%)	0 (0%)	1 (2.6%)
	2–3 minimum wages	9 (36.0%)	4 (36.4%)	1 (50.0%)	14 (36.8%)
	$> 3$ minimum wages	15 (60.0%)	7 (63.6%)	1 (50.0%)	23 (60.5%)
<b>Means of transportation to school</b>	Automotive transportation (personal/family vehicle)	25 (100%)	8 (72.7%)	0 (0%)	33 (86.8%)
	On foot	0 (0%)	3 (27.3%)	2 (100%)	5 (13.2%)
<b>Length of time enrolled in the current school</b>	Up to 5 years	9 (36.0%)	6 (54.5%)	1 (50.0%)	16 (42.1%)
	More than 5 years	16 (64.0%)	5 (45.5%)	1 (50.0%)	22 (57.9%)
<b>Satisfaction with the school</b>	Satisfied	22 (88.0%)	8 (72.7%)	1 (50.0%)	31 (81.6%)
	Dissatisfied	3 (12.0%)	3 (27.3%)	1 (50.0%)	7 (18.4%)
<b>Daily leisure activity</b>	Listening to music	7 (28.0%)	1 (9.1%)	0 (0%)	8 (21.1%)
	Gym	6 (24.0%)	5 (45.5%)	0 (0%)	11 (28.9%)
	Other	12 (48.0%)	5 (45.5%)	2 (100%)	19 (50.0%)
<b>Family leisure activities</b>	Watching TV	10 (26.3%)	4 (10.5%)	1 (2.6%)	15 (39.4%)
	Traveling	12 (31.6%)	5 (13.2%)	1 (2.6%)	18 (47.4%)

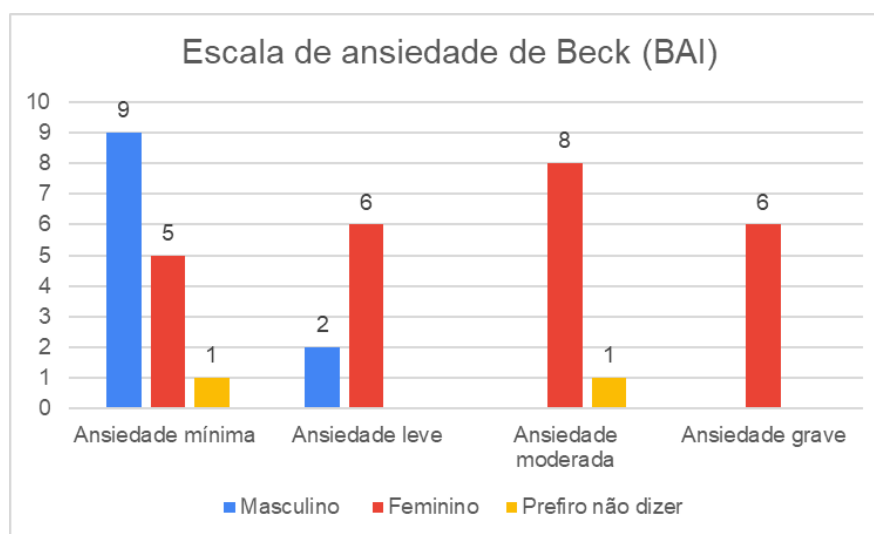
Variable	Category	Female (n=25)	Male (n=11)	Prefer not to say (n=2)	Total (n=38)
	Others	14 (36.8%)	6 (15.8%)	2 (5.3%)	22 (57.9%)

Legend: SD = standard deviation.

Source: Research data (2025).

Graph 1 presents the distribution of participants' anxiety levels according to the scores obtained on the BAI, stratified by gender. Minimal anxiety was predominant among male participants ( $n = 9$ ), followed by female participants ( $n = 5$ ) and those who preferred not to disclose their gender ( $n = 1$ ). Mild anxiety was reported by six female participants and two male participants, with no cases recorded in the "prefer not to say" category. Moderate anxiety was more prevalent among females ( $n = 8$ ), with only one case observed among participants who preferred not to disclose their gender. Severe anxiety was identified exclusively among female participants ( $n = 6$ ), with no occurrences reported in the other groups.

**Graph 1 – Beck Anxiety Inventory (BAI) score**



Source: Authors, 2025.

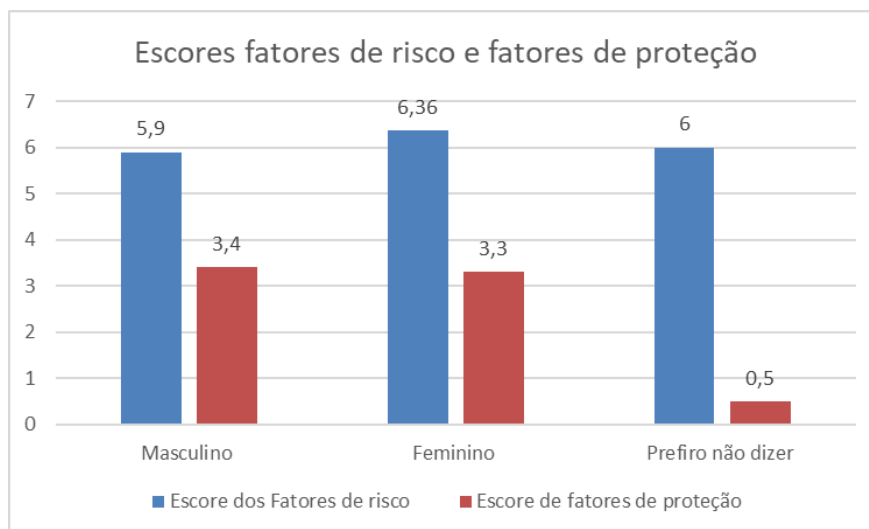
These data indicate a higher concentration of anxiety symptoms among female participants, particularly at moderate and severe levels. This finding aligns with previous studies that report a greater prevalence of anxiety disorders among women, possibly related to biopsychosocial and contextual factors (Almeida; Brandão, 2023).

Graph 2 presents the mean composite scores of psychosocial risk and protective factors, stratified by gender. Overall, the three groups exhibited high mean values for risk factors, with



the female group showing the highest average score (6.36), followed by participants who preferred not to disclose their gender (6.0) and the male group (5.9).

**Graph 2** – Scores of Risk Factors and Protective Factors



Source: Authors, 2025.

Regarding the protective factors, the mean scores were considerably lower compared to the risk scores. Male and female participants showed similar averages (3.4 and 3.3, respectively), suggesting a moderate presence of protective behaviors and conditions in both groups. However, the notably low average among individuals who preferred not to disclose their gender (0.5) may indicate greater psychosocial vulnerability within this subgroup.

These findings are consistent with the literature, which reports a higher prevalence of anxiety symptoms among female adolescents, associated with biopsychosocial factors and contexts of greater emotional exposure (Lehmkuhl; Arakawa-Belaunde, 2021). Furthermore, the coexistence of multiple risk factors combined with a scarcity of protective elements may contribute to increased psychological vulnerability, negatively impacting adolescents' well-being and coping capacity (Wandersman *et al.*, 2008).

Therefore, the data reinforce the need for preventive interventions focused on strengthening protective factors such as social support, emotional education, and the promotion of healthy practices, particularly among adolescents exposed to multiple stressors. Additionally, the importance of welcoming and monitoring less visible subgroups—such as those who do not identify within traditional gender categories—is underscored, as they may be even more vulnerable due to a lack of support networks and adequate coping strategies.

## Discussion

The findings of this study on the prevalence of anxiety disorders among high school students reveal a concerning scenario, consistent with recent research conducted in different regions of Brazil and around the world. Several studies have shown that anxiety has become one of the main complaints among adolescents, particularly in school contexts characterized by strong demands for performance and social adaptation (Alves; Figueiredo; Vagos, 2022; Fonseca-Pedrero *et al.*, 2023; Shamionov *et al.*, 2021).

Adolescence itself is a period marked by intense physical, cognitive, and emotional transformations (Mastorci *et al.*, 2024; Uktamovna, 2025). When these changes are combined with pressures related to career choice, academic competitiveness, and the constant use of digital technologies, they can heighten students' psychological vulnerability (Pattar *et al.*, 2024; Qi; Yang, 2024). From this perspective, the school becomes an essential space not only for intellectual development but also for emotional and social strengthening.

In the specific case of private institutions, this study contributes to filling an important gap in Brazilian literature, which remains predominantly focused on public schools. It was observed that pressure for results—both academic and behavioral—can intensify feelings of inadequacy and fear of failure, factors previously identified by Chen *et al.* (2022) and Valdés (2023) as significant predictors of anxiety. Research by Gedda-Muñoz *et al.* (2023) and Wuthrich *et al.* (2021) corroborates this finding, indicating that highly competitive educational contexts tend to increase stress and anxiety levels among pre-university students. Therefore, this study provides updated data on an underexplored population, allowing for future comparisons and offering concrete evidence for more targeted school-based interventions.

Another relevant aspect concerns the impact of interpersonal relationships within the school environment. Conflicts among peers, bullying, social isolation, and difficulties with belonging can exacerbate psychological distress (Arslan; Allen, 2021; Healy; Scott; Thomas, 2024). Moreover, the excessive use of social media—widely prevalent in this age group—tends to intensify social comparison and the pursuit of approval, factors directly associated with anxiety (Tian; Li; Zhang, 2024; Yang *et al.*, 2025).

The data also suggest that family support and educational practices that value dialogue and empathy are crucial for the emotional protection of adolescents (Barragán Martín *et al.*, 2021; Omar; Jodi, 2024). Families that foster open communication and show understanding toward the challenges and pressures faced by their children significantly contribute to their

emotional resilience, underscoring the need to integrate the family unit into prevention and intervention strategies for mental health.

It is important to emphasize that schools play a strategic role in promoting mental health (Santre, 2022; Wiedermann *et al.*, 2023). The implementation of emotional education programs, psychopedagogical monitoring, and preventive actions can assist in the early identification of anxiety symptoms and help prevent chronic conditions (Guerrero *et al.*, 2022). Studies by Courbet *et al.* (2024) and Siffredi *et al.* (2021) highlight that school-based interventions grounded in mindfulness, peer support groups, and socioemotional skills workshops have demonstrated positive outcomes in reducing anxiety levels.

This discussion highlights that anxiety disorders among adolescents represent an increasingly prevalent and multifactorial phenomenon, requiring interdisciplinary interventions and continuous preventive actions. Addressing this issue demands the collaborative involvement of educators, health professionals, and families to foster school environments that are more welcoming and emotionally supportive.

However, it is essential to acknowledge the methodological limitations of this study. The small sample size and the geographic restriction of data collection—limited to a single private institution in the city of Caçador—limit the generalizability of the findings to other contexts and populations. Additionally, the cross-sectional design prevents the establishment of causal relationships between the studied factors and the presence of anxiety symptoms. Despite these limitations, the findings provide a valuable starting point for future research, potentially supporting multicenter studies with broader and more representative samples.

The contribution of this study lies in offering a detailed and up-to-date analysis of the prevalence and associated factors of anxiety among high school students in a private school—an audience still scarcely explored in national scientific literature. By highlighting the relationships between school context, family structure, and anxiety symptoms, the findings reinforce the urgency of interdisciplinary strategies and public policies aimed at promoting mental health during adolescence. Thus, this study not only expands the scientific evidence base on the subject but also points to concrete pathways for building educational environments that are more inclusive, empathetic, and emotionally sustainable.

## **Final Considerations**

This study aimed to investigate the prevalence of anxiety disorders among high school students and the extent of this issue by identifying the main risk factors and predominant symptoms, thereby contributing to the understanding of mental health in the school context. The results revealed a significant incidence of anxiety symptoms within this population, reinforcing the relevance of discussing this topic in both educational and public health spheres.

It was observed that factors such as academic pressure, family expectations, social challenges, and the transition to adulthood can act as triggers or aggravating elements in the development of anxiety disorders. These findings underscore the need for prevention and intervention strategies aimed at promoting students' psychological well-being, including integrated actions involving schools, families, and mental health professionals.

It is essential that educational institutions invest in emotional support programs, discussion groups, psychopedagogical counseling, and teacher training for the early identification of psychological distress. The creation of safe spaces for listening and dialogue is also a strategic measure, as it helps reduce the stigma surrounding mental health issues and strengthens the emotional support available to adolescents.

Finally, it is important to emphasize that anxiety among adolescents constitutes a multifactorial and growing phenomenon that requires continuous attention and an interdisciplinary approach. It is expected that the findings of this study will encourage new local and regional research, expanding knowledge on the subject and providing input for educational and health policies focused on prevention, mental health promotion, and the improvement of young people's quality of life.

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