

ANXIETY DISORDERS IN AN ATTENTION-DEFICIT/HYPERACTIVITY DISORDER CLINICAL SAMPLE

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ABSTRACT - Objective: To evaluate the prevalence of anxiety disorders in a clinical referred sample of children and adolescents with attention deficit/hyperactivity disorder (ADHD). **Method:** 78 children and adolescents with ADHD according to DSM-IV criteria were investigated with a semi-structured interview (P-CHIPS), complemented by clinical interviews with the children or adolescents and their parents. Their IQ was calculated with neuropsychological testing. **Results:** A high prevalence of anxiety disorders (23.05%) was found in the sample. Generalized anxiety disorder was the most prevalent disorder (12,8%), followed by social phobia (3,84%) and separation anxiety disorder (3,8%). Two children showed more than one anxiety disorder. **Conclusion:** Children and adolescents with ADHD seem to be more prone to have comorbid anxiety disorders, at least in clinical samples referred to specialized units.

KEY WORDS: ADHD, attention deficit hyperactivity disorder, anxiety, comorbidity.

Transtorno de ansiedade em amostra de pacientes com déficit de atenção e hiperatividade

RESUMO - Objetivo: Avaliar a presença de transtornos de ansiedade numa amostra clínica referida de crianças e adolescentes com transtorno do déficit de atenção e hiperatividade (TDAH). **Método:** 78 crianças com TDAH de acordo com os critérios da DSM-IV foram avaliadas através de entrevista semi-estruturada (P-CHIPS), complementada por consultas clínicas com os pacientes e seus pais, além de avaliação de QI através de exame neuropsicológico. **Resultados:** Elevada prevalência de transtornos de ansiedade (23,05%) foi encontrada na amostra. O transtorno de ansiedade generalizada foi o mais prevalente (12,8%), seguido pela fobia social (3,84%) e ansiedade de separação (3,8%). Duas crianças apresentavam mais de um transtorno de ansiedade. **Conclusão:** Crianças e adolescentes com TDAH de amostras clínicas referidas para serviços especializados parecem apresentar mais transtornos de ansiedade comórbidos.

PALAVRAS-CHAVE: TDAH, transtorno do déficit de atenção com hiperatividade, ansiedade, comorbidade.

For many years, childhood anxiety was considered a benign and transitory disorder with a good outcome. More recent studies, however, show this belief was wrong¹. Anxiety disorders are now considered chronic and pervasive and their prevalence increases throughout adolescence². These children show a generalized anxious feeling with excessive worries about their parents, school tests, future events and visits to a doctor or past behavior. They are also distressed about their competence, behavior and performance in different settings such as school, sports and social relationships and experience physical distress with flushing, rapid heartbeat, headache, insomnia, agitation, muscles cramps and urinary urgency. Young children might also show separation anxiety, which is a very particular feeling

of distress, along with worries about separating from parents or other close ones. These symptoms are usually expressed by refusing to go to school and inability to perform social functions. Some anxious children develop specific fears with avoidance behaviors and social impairment. Obsessive-compulsive disorder can also be diagnosed in children.

Anxiety disorders are one of the most studied fields of comorbid conditions with attention deficit hyperactivity disorder (ADHD). Several studies documented a high prevalence of comorbidity in children and adolescents suffering from ADHD (Table 1). There are two Brazilian studies reporting prevalence rates similar to those described in international literature. Also, when using strict diagnostic criteria, there is no difference in the prevalence rates

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among two culturally different sites, even when using different assessment interviews³. Besides their anxiety symptomatology these children and adolescents present marked ADHD symptoms including restlessness, difficulty in concentrating, poor academic achievement and short attention span^{4,5}. Children and adolescents diagnosed with ADHD often relate several troubles with parents, teachers and friends. These difficulties can lead to low self-esteem, feelings of incapacity and inadequacy which maybe increased by the existence of a comorbid anxious disorder^{6,7}. Bussing have reported that ADHD children with internalizing symptoms, attending special education classrooms, are more prone to have lower self-esteem⁸. When neuropsychological tests are reused, ADHD/Anxiety children usually portray a worse performance in tasks that involve working memory and effortful mental processing than ADHD-only patients and these difficulties precede poor academic achievement⁹. Clinicians must be aware of comorbid conditions among ADHD patients and make efforts to identify these symptoms early in the treatment as anxiety shall cause clinically significant impairment and distress during daily activities.

The objective of this study is to evaluate the prevalence of anxiety disorders among ADHD children.

METHOD

This study has been approved by the Ethics and Research Committee of the Psychiatric Institute at Federal University of Rio de Janeiro. Written informed consent from parents was received prior to data collection.

Our sample consisted of 78 children and adolescents of both sexes, aged 6 to 16 referred to the ADHD outpatient program (Grupo de Estudos do Déficit de Atenção - GEDA) at the Psychiatric Institute of the Federal University of Rio de Janeiro from 2001 to 2002. They were referred by teachers, clinicians, psychologists and other mental care units in the state of Rio de Janeiro. The diagnosis of ADHD and anxiety disorders was performed according to DSM-IV criteria. Patients were first interviewed along with their parents by a trained clinician with experience

in ADHD. They were then evaluated with a semi-structured interview (P-CHIPS)¹⁰. The IQ was estimated based on the Vocabulary and Block Design sub tests of the Wechsler Intelligence Scale- third edition (WISC-III)¹¹.

The point-prevalence of anxiety disorders was determined and the comparison among all categorical variables was performed using Chi-square test. Data were compared using the Student t test at a 5% significance level.

RESULTS

The mean age was 9.92 (SD= 3.09). We found a preponderance of males (76.9%, n: 60) as expected. The ADHD subtype combined was more prevalent (75.6%) than the others. The estimated IQ was 89.2 (SD = 13.6).

Anxiety disorders were found in 23.05% of the sample. Among these the most prevalent disorders were generalized anxiety disorder (GAD) (12.8%), social phobia (3.84%) and separation anxiety disorder (3.8%) (Table 2). Two children showed more than one anxiety disorder. Anxiety disorders were more prevalent among children diagnosed with ADHD combined subtype (Table 3).

DISCUSSION

ADHD is frequently seen in comorbidity and the proper identification and treatment of coexistent disorders is thought to positively modify the prognosis⁶. There is an extensive data on the higher prevalence of anxiety disorders in ADHD patients when compared to general population (Table 1). Our group agree that the assessment of anxiety disorders in patients diagnosed with ADHD is fundamental not only because these symptoms are persistent but also because the management of those patients may be different. ADHD with comorbid disorders are usually a challenge for the clinician. Parent training, behavioral techniques, special educational management, cognitive-behavioral therapy and pharmacotherapy may be warranted since multimodal treatment is apparently associated to better results¹². Co-

Table 1. Prevalence of ADHD and anxiety disorders in comorbidity.

Author	Year	ADHD with anxiety	Anxiety with ADHD	Comments
Anderson et al. ¹³ (New Zealand)	1987	26%	24%	Epidemiological study.
Bird et al. ¹⁴ (Puerto Rico)	1988	23%	21%	Epidemiological study
Pliszka. ¹⁵ (USA)	1989	28%	–	–
Bowen et al. ¹⁶ (Canada)	1990	22.6%	21.2%	–
McGee et al. ¹⁷ (New Zealand)	1990	20%	6%	Prospective study of the New Zealand sample from 1987
Souza et al. ³ (Brazil)	2003	30.8%	–	24.2% in Porto Alegre and 30.8% in Rio de Janeiro

Table 2. Results. Comorbid anxiety disorders according to gender.

Comorbid anxiety disorder	Male		Female	
	N	%	N	%
GAD	9	(11.53)	1	(1.28)
SAD	2	(2.56)	1	(1.28)
SP	2	(2.56)	1	(1.28)
GAD + SAD	1	(1.28)	0	(0)
SP + SAD	1	(1.28)	0	(0)

GAD, generalized anxiety disorder; SAD, separation anxiety disorder; SP, social phobia.

Table 3. Anxiety disorders comorbidity and ADHD subtypes.

Anxiety disorders	Inattentive		Hyperactive		Combined	
	N	%	N	%	N	%
1	0	(0)	1	(1.28)	9	(11.53)
2	0	(0)	1	(1.28)	2	(2.56)
3	1	(1.28)	0	(0)	2	(2.56)
1+2	0	(0)	0	(0)	1	(1.28)
2+3	0	(0)	0	(0)	1	(1.28)

1, generalized anxiety disorder; 2, separation anxiety disorder; 3, social phobia.

morbid disorders should be considered in the treatment plan and parents must be informed about their children problems.

In our preliminary study³ ADHD children referred to our specialized unit showed a high prevalence of several comorbid psychiatric disorders and anxiety disorders were diagnosed in 39.2% of the sample, separation anxiety and GAD being the most prevalent ones. The present study encompasses a larger sample that includes the one previously described. Again, anxiety disorders were very prevalent and GAD was the most prevalent comorbid anxiety disorder. We also found two children with two different anxiety disorders. Panic disorder has not been found in the evaluated patients perhaps because they were not old enough.

Our study suggests that ADHD children and adolescents are prone to have anxiety disorders but our results should be considered in the context of the methodological limitations of the present study.

Our findings emerged from a sample with a high preponderance of males and the combined subtype and they may not hold true to the inattentive subtype and/or female sex. Also, clinical samples do not necessarily mirror prevalence rates of comorbidity found in community studies. The same caution regards a referred sample which may have higher rates of functional impairment and/or comorbidity.

More studies may be required to identify the patterns of ADHD and anxiety disorders. Also, the impact of this comorbidity in the clinical expression of the ADHD symptoms seems to be an area of interest.

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