



ORIGINAL ARTICLE

Frequency of overweight and obesity in children and adolescents with autism and attention deficit/hyperactivity disorder



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KEYWORDS

Attention deficit and hyperactivity disorder;
Autistic disorder;
Pediatric obesity;
Overweight

Abstract

Objective: To assess the frequency of overweight and obesity in children and adolescents with autism spectrum disorder (ASD) and with attention deficit/hyperactivity disorder (ADHD) and their parents, in comparison with children and adolescents without developmental disorders.

Methods: Anthropometric measures were obtained in 69 outpatients with ASD (8.4±4.2 years old), 23 with ADHD (8.5±2.4) and 19 controls without developmental disorders (8.6±2.9) between August and November 2014. Parents of patients with ASD and ADHD also had their anthropometric parameters taken. Overweight was defined as a percentile ≥85; obesity as a percentile ≥95; and underweight as a percentile ≤5. For adults, overweight was defined as a BMI between 25 and 30kg/m² and obesity as a BMI higher than 30kg/m².

Results: Children and adolescents with ASD and ADHD had higher BMI percentile ($p<0.01$) and z-score ($p<0.01$) than controls, and increased frequency of overweight and obesity ($p=0.04$). Patients with ASD and ADHD did not differ between them in these variables, nor regarding abdominal circumference. Parents of children with ASD and ADHD did not differ between themselves.

Conclusions: Children and adolescents with ASD and ADHD are at a higher risk of overweight and obesity than children without developmental problems in the community.

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PALAVRAS-CHAVE

Transtorno do déficit de atenção e hiperatividade;
Transtorno autístico;
Obesidade pediátrica;
Sobrepeso

Frequência de sobrepeso e obesidade em crianças e adolescentes com autismo e transtorno do déficit de atenção/hiperatividade

Resumo

Objetivo: Avaliar a frequência de sobrepeso e obesidade em crianças e adolescentes com transtorno do espectro do autismo (TEA) e transtorno do déficit de atenção/hiperatividade (TDAH) e em seus pais, em comparação com crianças e adolescentes da comunidade sem transtornos do desenvolvimento.

Métodos: Medidas antropométricas foram coletadas de 69 pacientes com TEA (8,4±4,2 anos), 23 com TDAH (8,5±2,4) e 19 controles sem transtornos desenvolvimentais (8,6±2,9) entre agosto e novembro de 2014. Os pais dos pacientes com TEA e TDAH também foram avaliados em relação aos parâmetros antropométricos. Sobrepeso foi definido como percentil ≥ 85 ; obesidade como percentil ≥ 95 ; e baixo peso como percentil ≤ 5 . Para os adultos, sobrepeso foi definido como IMC entre 25 e 30kg/m² e obesidade, IMC acima de 30kg/m².

Resultados: Crianças e adolescentes com TEA e TDAH exibiram maior percentil ($p < 0,01$) e escore-z ($p < 0,01$) do IMC em relação aos controles, bem como frequência mais elevada de sobrepeso e obesidade ($p = 0,04$). Os pacientes com TEA e TDAH não diferiram entre si quanto a essas variáveis ou quanto à circunferência abdominal. Os pais das crianças com TEA e TDAH também não diferiram entre si.

Conclusões: Crianças e adolescentes com TEA e TDAH estão em maior risco de ter sobrepeso e obesidade em relação a crianças da comunidade sem problemas do desenvolvimento.

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Introduction

Prevalence of overweight and obesity in developed countries is alarming and reaches 31.8% of children and adolescents.¹ In the US, despite continued efforts to reduce these public health problems, rates have been stable in the last decade.¹ In Brazil, epidemiological studies have shown an increased frequency of overweight and obesity in this age group.^{2,3} Comparison of the 1989 National Survey on Health and Nutrition (PNSN) and the 2008–2009 Consumer Expenditure Survey shows that overweight frequency in children between five and nine years old increased from about 9–33%.³

International studies have found an association between overweight/obesity and psychiatric disorders in children, such as autism spectrum disorder (ASD) and attention deficit/hyperactivity disorder (ADHD). Nevertheless, whether this association is characteristic of ASD and ADHD or common to behavioral and developmental problems in general remains unclear. Furthermore, the association is likely to be bidirectional; that is, not only behavioral problems may lead to obesity, but obesity may be a risk factor for the development of behavioral and developmental problems.⁴

Most studies of the nutritional status of young people and adults with ADHD reports a high frequency of overweight and obesity, as well as a mean body mass index (BMI) higher in patients with ADHD compared to controls without developmental disorders.^{5–7} The frequency of obesity is higher in adults with ADHD than in adults with childhood ADHD history, but whose symptoms remitted in adulthood.⁸ Similarly, obese young people also have higher frequency of ADHD.⁵ Furthermore, behavioral problems such as ADHD hinder obesity treatment.⁹

Similarly, studies also reported that children and adolescents with ASD are more often overweight and obese.^{10–13} In ASD, weight changes have been associated with sleep disorders,^{10,11} older age,¹¹ and using food as a reward,¹² among others. In addition, parents of children with autism are also more frequently obese.¹⁴ These factors suggest a complex interaction between genetic, molecular, and behavioral factors.

Despite these alarming data, there are no studies of the nutritional status of children with ASD and ADHD in Brazil. In addition, few studies have compared the BMI and/or the overweight frequency in different developmental disorders.

In this context, the aim of this study was to evaluate the frequency of overweight and obesity in children and adolescents with ASD and ADHD and their parents.

Method

Children and adolescents seen in the outpatient clinics of ASD (n=69) and Attention Deficit (n=23) of the Psychiatry Service of the Hospital das Clínicas, Federal University of Minas Gerais (UFMG), Brazil, and their parents were invited to participate in this study. Data were collected between August and November 2014, and none of those invited declined to participate. All patients with ASD and ADHD met the diagnostic criteria of the DSM-5.¹⁵ It was considered the gold standard. Patients in ASD group had no ADHD as comorbidity and vice versa. Noteworthy, some patients with ASD were taking methylphenidate, but medical records information indicated that its use was for “disruptive behavior” (e.g., hetero or self-aggressiveness). The control group (n=19) consisted of children and adolescents with normal psychomotor

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