

Self-evaluated burden in adults with attention-deficit hyperactivity disorder (ADHD): a pilot study

Impacto autoavaliado em adultos com transtorno de déficit de atenção e hiperatividade (TDAH): estudo piloto

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ABSTRACT

Objectives: To investigate feasibility and easiness of administration of a brief and simple instrument addressing impairment associated with adult attention deficit hyperactivity disorder (ADHD) and if ADHD subtypes were correlated to specific profiles of self-reported impairment. **Methods:** Thirty-five adults (19 men and 16 women; mean age of 31.74 years) diagnosed with ADHD according to DSM-IV with a semi-structured interview (K-SADS PL) were asked to fill out a Likert scale covering six different functional areas (academic, professional, marital, familiar, social and daily activities). Clinicians questioned patients about their understanding of the questionnaire and investigated their answers in more details to check consistency of their answers. **Results:** No patient reported difficulties in understanding the questionnaire. Further questioning of patients' answers confirmed their choices in the six areas. Academic burden had the highest average score in the whole sample, followed by professional burden. Social area had the lowest average score in this sample.

Keywords

Attention-deficit hyperactivity disorder, ADHD, adults, impairment, burden.

RESUMO

Objetivos: Investigar a viabilidade e facilidade de administração de instrumento simples e breve de avaliação de comprometimento em adultos com transtorno do déficit de atenção e hiperatividade e se os subtipos de TDAH se correlacionam com perfis específicos de comprometimento autoavaliado. **Métodos:** Trinta e cinco adultos (19 homens e 16 mulheres, idade média de 31,74 anos) diagnosticados com TDAH com entrevista semiestruturada (K-SADS) utilizando os critérios da DSM-IV foram solicitados a preencher uma escala tipo Likert cobrindo seis diferentes áreas do funcionamento (acadêmica, profissional, marital, familiar, social e atividades cotidianas). Os clínicos questionaram os pacientes acerca de seu entendimento do questionário e investigaram suas respostas em mais detalhes para avaliar sua consistência. **Resultados:** Nenhum paciente relatou dificuldades no entendimento do questionário. O questionamento posterior sobre as respostas confirmou as escolhas nas seis áreas. O impacto acadêmico obteve o escore médio mais alto em toda a amostra, seguido pelo profissional. A área social obteve o menor escore nesta amostra.

Palavras-chave

Transtorno do déficit de atenção e hiperatividade, TDAH, adultos, comprometimento, impacto.

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INTRODUCTION

Attention-deficit hyperactivity disorder (ADHD) is characterized by a pattern of persistent and inappropriate inattention, hyperactivity and impulsivity, resulting in significant impairment for the individual¹. ADHD persists in adulthood in 30%-70% of cases², with an estimated prevalence between 2.5%-4.5%, depending on the diagnostic criteria³.

The presence of clinically significant functional impairment in at least two different areas is required for the diagnosis according to the Diagnostic and Statistical Manual DSM-IV. In adults, ADHD is associated with impairment in multiple contexts, including work, academic environment, interpersonal relationships, family and social activities⁴⁻⁶. Some instruments like the Current Symptoms Scale⁷ list several areas potentially impaired in ADHD, but not only its length limits its use in everyday clinical practice, but also there is no data indicating the most affected areas which could be more extensively investigated by the clinician.

The purpose of this pilot study was to investigate the feasibility of a brief instrument addressing ADHD-associated burden in adults. It was designed to be self completed by the patient in a few minutes during consultation comprising six main areas of possible impairment. The rationale for such instrument is making the patient think about the burden of his ADHD symptomatology in the main areas of functioning while providing some quantitative data for clinical appraisal and allowing future comparisons during treatment. The second purpose was to investigate if there was a correlation between ADHD subtypes and areas of impairment.

METHODS

All patients were recruited in consecutive order at Grupo de Estudos do Déficit de Atenção (GEDA) at the Institute of Psychiatry of the Federal University of Rio de Janeiro. This study was approved by the Ethics Committee on Research; informed consent was obtained from all participants. Clinical evaluation included a psychiatric interview by a trained professional and a semi-structured interview (K-SADS-PL, adapted for adults⁸). All subjects completed the Adult ADHD Self-report Scale (ASRS⁹). We included only subjects who: a) reported a full diagnosis in childhood (meaning six or more symptoms in one of the domains) and b) currently presented at least six or more symptoms of either inattention or hyperactivity-impulsivity according to DSM-IV; although this DSM-IV criterion may be too restrictive for an adult sample, the same criterion is widely used in adult samples of ADHD¹⁰.

A brief self-report scale was designed for the purposes of the present study, comprising six different dimensions:

academic, professional, marital, family, social and daily living. The scale is a self-reported Likert Scale, each item being scored from 0 to 10 (0 equaling no burden and 10 the maximum burden). The instrument was given immediately after the ASRS (where patient has to complete all 18 DSM-IV symptoms taking into consideration their frequency).

A non-parametric Kruskal-Wallis test was used to compare data between groups (Inattentive, hyperactive-impulsive and combined subtypes of ADHD). A p-value < 0.05 was selected as the level of significance for all analyses.

RESULTS

The sample included 35 participants, with 19 men and 16 women between the ages of 18 and 60 years (mean = 31.74 years). Of the 35 subjects, 15 (42.9%) did not complete high school, 6 (17.1%) had completed high school, 10 (28.6%) reported completing higher education and 4 (11.4%) reported post-graduate degrees. Most participants (82.4%) belonged to the A and B economic classes (according to the IBGE – Brazilian socioeconomic classification¹¹), and the remaining subjects were in class C. The subjects were divided into three groups according DSM-IV subtypes: ADHD-I, inattentive (48.6%); ADHD-HI, hyperactive-impulsive (10.6%) and ADHD-C, combined (42.8%). An average was obtained for each dimension (academic, professional, marital, family, social and daily living) of the self-reported Likert scale. Of the total sample of 35 patients, 5 reported having no academic life, 7 did not work, 3 did not have a marital life and 2 lived alone; therefore such items had no scores.

All patients reported fully understanding of the questionnaire and no difficulties in fulfilling them, as expected for a quite simple and brief instrument. Questioning of each answer (upon physician's discretion, in a non-structured design in order to reproduce what is commonly seen in clinical practice) on each of the six domains revealed that all patients correctly evaluated the ADHD-associated impairment.

In the whole sample, academic area was the one reported with highest burden, followed by professional, daily activities, family, marital and the social functioning areas.

In the combined ADHD group (ADHD-C), self reported burden was higher in the professional and family areas. Academic area was the one with the highest burden in the ADHD-I group while family area was the one associated with highest burden in the ADHD-HI group.

Comparisons between the three groups showed a statistically significant difference only in the academic ($p = 0.039$) and occupation ($p = 0.008$) dimensions. The lowest degree of impairment was found in the ADHD-HI group. There were no significant differences in the areas of marriage ($p = 0.506$), family ($p = 0.362$), social ($p = 0.2$) or daily life ($p = 0.243$) between the groups.

Table 1. Comparison of impairment between ADHD subtypes

Dimensions	Total	ADHD subtype			P-value*
		Combined	Inattentive	Hyperactive	
		Mean (SD)	Mean (SD)	Mean (SD)	
Academic	8,4 (4,3)	8,8 (5,6)	8,9 (1,2)	4,3 (2,9)	0,039
Professional	8,2 (7,8)	9,0 (11,0)	8,0 (1,0)	5,0 (3,0)	0,008
Marital	7,2 (3,0)	7,5 (3,7)	7,2 (1,9)	5,3 (4,2)	0,506
Family	7,4 (7,0)	8,0 (10,0)	7,0 (3,0)	8,0 (3,0)	0,362
Social	7,1 (5,1)	9,0 (7,0)	6,0 (3,0)	4,0 (3,0)	0,200
Daily Living	7,9 (3,4)	8,3 (4,4)	7,9 (2,5)	5,3 (2,5)	0,243

* Kruskal-Wallis.

DISCUSSION

ADHD diagnosis requires the presence of significant functional impairments in addition to clinical significant symptomatology. In adults, ADHD is associated with greater difficulties at work, a lower employment rate, frequent changes, low work performance and higher rates of dismissal, divorce rates and traffic accidents, among others⁴. This pilot study evaluated the potential use of a simple self-report addressing six different areas (academic, professional, marital, family, social and daily activities), in order not only to allow a broader coverage of functional impairment (which may be overlooked in some areas during clinical consultation) but also provide some degree of quantitative analysis.

This pilot study also compared the differences between subtypes of ADHD, although some authors have come to question the validity of the subtypes¹². Studies comparing the impairment between the subtypes of ADHD in adults, are rare¹³, usually comparing the combined and inattentive subtypes. The hyperactive-impulsive subtype is the least studied, primarily because of its low frequency in the adult population. In a study evaluating personality profiles, Salgado *et al.*¹⁴ have demonstrated that symptoms of hyperactivity-impulsivity were associated with novelty seeking, whereas symptoms of inattention were associated with a decrease in self-directed behavior and an increase in harm avoidance¹⁴; it is not clear however if such characteristics are associated with specific patterns of functional impairment.

Among all patients, the most significant burden was reported in the academic area, followed by the professional area. This result might be related to the mean age of the sample, since the majority of patients were studying. In the comparison between the three groups, no significant differences were observed between ADHD-C and ADHD-I; however, the ADHD-HI group showed a different pattern of impairment, despite its lower frequency. In a study on children

with ADHD, Gadow *et al.*¹⁵ suggested that children with the hyperactive-impulsive subtype differ in several ways from the other two subtypes. They demonstrated that these children display a secondary set of behavioral problems, whereas the ADHD-I and ADHD-C subtypes only display a significant difficulty in academics.

In the ADHD-C subtype, the greatest impairment was observed in the professional and social dimensions, with minor impairment in marital life. In the ADHD-I subtype, the main impairment was academic, followed by family life. Family life was the most affected in the ADHD-HI group, whereas social life was the least impaired.

A study by Sobanski *et al.*¹⁶ used discrete change in the classification of subtypes¹⁶⁻¹⁸. Supported by longitudinal studies, which have indicated that symptoms of inattention appear later (along with increased demand on academics) and symptoms of hyperactivity-impulsivity decrease with the arrival of adolescence and adulthood¹⁹, the authors divided the patients into inattentive and inattentive combined with a history of symptoms of hyperactivity-impulsivity. Lahey *et al.*¹⁹ showed that the inattentive group, who had symptoms of hyperactivity-impulsivity, was more similar to that of the combined subtype¹⁹. The first two groups were significantly impaired in their professional qualifications and had a higher incidence of substance use compared to the inattentive subtype; however, no differences were observed in the percentage of divorce, unemployment, years of study, or any of the other dimensions. These findings suggest that symptoms of inattention represent a greater issue in the lives of adults, consistent with the findings of our study that show the hyperactive-impulsive subtype generally exhibits a lower impairment compared to the combined and inattentive subtypes.

CONCLUSION

This study sought to assess the use of a simple questionnaire addressing functional impairment of adult patients with ADHD and its relationship to ADHD subtypes as defined by DSM-IV. This pilot study suggests its use is fully understood by patients and their answers properly correlate to their description of the self-reported impairment. The present study also suggests there may be differences in the academic and professional dimensions depending on ADHD subtype. In the academic dimension, the inattentive subtype showed the greatest impairment, whereas the combined subtype presented with the greatest impairment in the professional dimension. Future studies using larger samples and possibly other parameters for the functional impairment evaluation in ADHD are required. The small sample used in this study suggests some caution should be used when interpreting the results for adults with ADHD in non-clinical samples.

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Para cada item marque o círculo que corresponde a quanto os sintomas atrapalham:

	NADA ↓											EXTREMAMENTE ↓
	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩		
1) Seu desempenho nos estudos (vida acadêmica): <input type="checkbox"/> Não estudo	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩		
2) Seu desempenho no trabalho (vida profissional): <input type="checkbox"/> Não trabalho	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩		
3) Seu relacionamento conjugal (ou no namoro): <input type="checkbox"/> Não sou casado/não namoro	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩		
4) Seu relacionamento com as pessoas que moram com você: <input type="checkbox"/> Moro sozinho	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩		
5) Seu relacionamento com as pessoas em geral (vida social):	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩		
6) Suas atividades da vida diária (pagar contas, comparecer a compromissos, administrar seu dinheiro, responsabilidades, etc.)	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩		