



Jornal de Pediatria

www.jpmed.com.br



REVIEW ARTICLE

Sensory abnormalities in children with autism spectrum disorder[☆]

Q1 Annio Posar^{a,b,*}, Paola Visconti^a

^a IRCCS Institute of Neurological Sciences of Bologna, Child Neurology and Psychiatry Unit, Bologna, Italy

^b University of Bologna, Department of Biomedical and Neuromotor Sciences, Bologna, Italy

Received 8 August 2017; accepted 25 August 2017

KEYWORDS

Q2 Autism spectrum disorder;
Sensory abnormalities;
Sensory seeking

Abstract

Objective: The clinical picture of children with autism spectrum disorder is characterized by deficits of social interaction and communication, as well as by repetitive interests and activities. Sensory abnormalities are a very frequent feature that often go unnoticed due to the communication difficulties of these patients. This narrative review summarizes the main features of sensory abnormalities and the respective implications for the interpretation of several signs and symptoms of autism spectrum disorder, and therefore for its management.

Sources: A search was performed in PubMed (United States National Library of Medicine) about the sensory abnormalities in subjects (particularly children) with autism spectrum disorder.

Summary of the findings: Sensory symptoms are common and often disabling in children with autism spectrum disorder, but are not specific for autism, being a feature frequently described also in subjects with intellectual disability. Three main sensory patterns have been described in autism spectrum disorder: hypo-responsiveness, hyper-responsiveness, and sensory seeking; to these, some authors have added a fourth pattern: enhanced perception. Sensory abnormalities may negatively impact the life of these individuals and their families. An impairment not only of unisensory modalities but also of multisensory integration is hypothesized.

Conclusions: Atypical sensory reactivity of subjects with autism spectrum disorder may be the key to understand many of their abnormal behaviors, and thus it is a relevant aspect to be taken into account in their daily management in all the contexts in which they live. A formal evaluation of sensory function should be always performed in these children.

© 2017 Sociedade Brasileira de Pediatria. Published by Elsevier Editora Ltda. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

[☆] Please cite this article as: Posar A, Visconti P. Sensory abnormalities in children with autism spectrum disorder. J Pediatr (Rio J). 2017. <http://dx.doi.org/10.1016/j.jpmed.2017.08.008>

* Corresponding author.

E-mail: annio.posar@unibo.it (A. Posar).

<https://doi.org/10.1016/j.jpmed.2017.08.008>

0021-7557/© 2017 Sociedade Brasileira de Pediatria. Published by Elsevier Editora Ltda. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

PALAVRAS-CHAVE

Transtorno do espectro autista;
Reatividade sensorial;
Alterações sensoriais;
Busca sensorial

Alterações sensoriais em crianças com transtorno do espectro do autismo

Resumo

Objetivo: O quadro clínico de crianças com transtorno do espectro do autismo é caracterizado por déficits de interação social e comunicação, bem como por interesses e atividades repetitivos. As alterações sensoriais são uma característica muito frequente que geralmente não é percebida devido às dificuldades de comunicação desses pacientes. Nesta análise narrativa, resumimos as principais características de alterações sensoriais e as respectivas implicações para a interpretação de vários sinais e sintomas do transtorno do espectro do autismo e, portanto, para seu manejo.

Fontes: Realizamos uma busca no PubMed (Biblioteca Nacional de Medicina dos Estados Unidos) sobre as alterações sensoriais em indivíduos (principalmente crianças) com transtorno do espectro do autismo.

Resumo dos achados: As alterações sensoriais são comuns e geralmente invalidam as crianças com transtorno do espectro do autismo, porém não são específicas do autismo, sendo uma característica frequentemente descrita também em indivíduos com deficiência intelectual. Três principais padrões sensoriais foram descritos no transtorno do espectro do autismo: hiporreatividade, hiperreatividade e busca sensorial; a eles, alguns autores acrescentaram um quarto padrão: percepção aprimorada. As alterações sensoriais podem afetar negativamente a vida desses indivíduos e de suas famílias. Hipotetizamos uma deficiência não apenas das modalidades não sensoriais, mas também da integração multissensorial.

Conclusões: A reatividade sensorial atípica de indivíduos com transtorno do espectro do autismo pode ser a chave para entender muitos de seus comportamentos anormais e, portanto, é um aspecto relevante para ser considerado em seu manejo diário em todos os contextos nos quais eles vivem. Sempre se deve fazer uma avaliação formal da função sensorial nessas crianças.

© 2017 Sociedade Brasileira de Pediatria. Publicado por Elsevier Editora Ltda. Este é um artigo Open Access sob uma licença CC BY-NC-ND (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Introduction

The clinical picture of children with autism spectrum disorder (ASD) is characterized by deficits of social interaction and communication, as well as by repetitive interests and activities, according to the criteria of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5).¹ Sensory abnormalities are a very frequent feature that often go unnoticed due to the communication difficulties of these patients. According to the DSM-5 criteria, this type of symptomatology is constituted by increased or decreased reactivity to sensory input, or by an unusual interest in sensory aspects of the environment. The following are some of the examples cited by the DSM-5: visual fascination with lights or spinning objects; adverse response to specific sounds or textures; excessive smelling or touching of objects; apparent indifference to pain, heat, or cold.¹ Almost any sensory channel may be involved, either in the sense of reduced responsiveness to stimulation or in the sense of excessive responsiveness to stimulation. There may be several types of sensory abnormalities in the same person over the course of life, or even at the same time. Table 1 describes several possible examples of behaviors related to sensory abnormalities in children with ASD. Sensory dysfunction is probably related to an impaired modulation occurring in the central nervous system, which regulates neural messages concerning sensory stimuli.² Already in Sukhareva's pioneering description of

children with autism (1926), sensory reactivity disorders were unequivocally mentioned with foresight.³ Later, hypo-reactivity as well as hyper-reactivity to sensory stimuli were reported in the classical descriptions of Kanner in 1943⁴ and Asperger in 1944.⁵ In the following decades, the attention to these features has fluctuated, although the clinical experience with ASD individuals has always suggested the importance of these aspects. In 1980, the DSM-III considered sensory hypo-responsiveness or hyper-responsiveness as infantile autism-associated features,⁶ while the following two editions, DSM-III-R⁷ and DSM-IV,⁸ did not include sensory abnormalities as definite diagnostic criteria. Finally, the DSM-5 (2013) included "hyper- or hypo-reactivity to sensory input" as well as "unusual interests in sensory aspects of environment" within the main ASD criterion concerning restricted interests and repetitive behaviors.¹

Sensory abnormalities of ASD children may also impair their behavior in family daily activities, including eating, sleeping, and bedtime and bedtime routines; and outside the home, these abnormalities may create problems, for example when taking vacations or participating in community events. Consequently, interventions for autism should include also specific strategies for managing sensory-related behaviors in order to improve daily family activities and participation in community events.⁹

This narrative review summarizes the main features of abnormal sensory reactivity in ASD patients and their implications for the interpretation of various signs and symptoms

Download English Version:

<https://daneshyari.com/en/article/8809660>

Download Persian Version:

<https://daneshyari.com/article/8809660>

[Daneshyari.com](https://daneshyari.com)