



Age-related differences in the prevalence and correlates of anxiety in youth with autism spectrum disorders



Roma A. Vasa^{a,*}, Luther Kalb^b, Micah Mazurek^c, Stephen Kanne^c,
Brian Freedman^d, Amy Keefer^b, Traci Clemons^e, Donna Murray^f

^aCenter for Autism and Related Disorders, Kennedy Krieger Institute, Department of Psychiatry, Johns Hopkins University School of Medicine, 3901 Greenspring Avenue, Baltimore, MD 21211, USA

^bCenter for Autism and Related Disorders, Kennedy Krieger Institute, 3901 Greenspring Avenue, Baltimore, MD 21211, USA

^cThompson Center for Autism and Neurodevelopmental Disorders, Department of Health Psychology, University of Missouri, 205 Portland Street, Columbia, MO 65201, USA

^dCenter for Disabilities Studies, University of Delaware, 461 Wyoming Road, Newark, DE 19716, USA

^eThe EMMES Corporation, 401N. Washington Street, Suite 700, Rockville, MD 20850, USA

^fCincinnati Children's Hospital Medical Center, University of Cincinnati College of Medicine, 3333 Burnett Avenue, Cincinnati, OH 45229-3026, USA

ARTICLE INFO

Article history:

Received 29 March 2013

Received in revised form 4 July 2013

Accepted 9 July 2013

Keywords:

Autism
Anxiety
Prevalence
Correlate
Age group

ABSTRACT

Age-related differences in the prevalence and correlates of anxiety were cross-sectionally examined in 1316 children and adolescents with autism spectrum disorder (ASD) who presented for initial evaluation at 14 outpatient autism centers around the country and in Canada. The prevalence of clinical and subclinical anxiety as well as the correlates of anxiety were examined in three age groups of children: preschool, school age and adolescents. Findings showed that the prevalence of anxiety in each age group exceeded the prevalence of anxiety in the general population. Adolescents and school age children had the highest prevalence of clinical (40%) and subclinical anxiety (26%), respectively. Higher IQ and less ASD severity were each weakly correlated with more anxiety in preschool and school age children. Affective symptoms were strongly associated with anxiety in each age group. Age specific psychiatric comorbidities were also present. Anxiety was associated with attention deficit hyperactivity disorder (ADHD) and oppositional defiant disorder (ODD) symptoms in the preschool group, ODD and somatic symptoms in the school age children, and ADHD symptoms in adolescents. These data underscore the need for prevention and treatment of anxiety as well as research examining the characteristics of anxiety in children with ASD using a developmental framework.

© 2013 Elsevier Ltd. All rights reserved.

1. Introduction

Anxiety symptoms and disorders frequently co-occur in children with autism spectrum disorder (ASD) (e.g., de Bruin, Ferdinand, Meester, de Nijs, & Verheij, 2007; Simonoff et al., 2008; Sukhodolsky et al., 2008). The presence of comorbid anxiety can aggravate core symptoms of ASD (Sukhodolsky et al., 2008), impair daily living skills (Drahota, Wood, Sze, & van

* Corresponding author. Tel.: +1 443 923 2643; fax: +1 443 923 7638.

E-mail addresses: vasa@kennedykrieger.org (R.A. Vasa), kalb@kennedykrieger.org (L. Kalb), mazurekm@missouri.edu (M. Mazurek), kannest@health.missouri.edu (S. Kanne), brianf@udel.edu (B. Freedman), keefer@kennedykrieger.org (A. Keefer), tlemons@emmes.com (T. Clemons), donna.murray@cchmc.org (D. Murray).

Dyke, 2011), and negatively impact relationships with peers, teachers, and family (Kim, Szatmari, Bryson, Streiner, & Wilson, 2000). With autism prevalence estimates rising to epidemic proportions (United States Centers for Disease Control and Prevention, 2007), research on anxiety in ASD is of paramount importance.

A review of existing studies indicates that the prevalence of anxiety symptoms or disorders in children and adolescents with ASD varies widely and ranges from 11% to 84% (White, Oswald, Ollendick, & Scahill, 2009) with a meta-analysis of data showing that about 40% of children and adolescents have at least one anxiety disorder (van Steensel, Bogels, & Perrin, 2011). Most of these studies examine the prevalence of different types of anxiety disorders including generalized anxiety disorder, separation anxiety disorder, specific phobia, social phobia, and obsessive–compulsive disorder. Some studies report a higher prevalence of clinical anxiety in children with ASD compared to the prevalence of clinical anxiety in typically developing (TD) children (Russell & Sofronoff, 2005) and children with other clinical conditions such as conduct disorder (Green, Gilchrist, Burton, & Cox, 2000), language impairment (Gillott, Furniss, & Walter, 2001), Down syndrome (Evans, Canavera, Kleinpeter, Maccubbin, & Taga, 2005), and Williams syndrome (Rodgers, Riby, Janes, Connolly, & McConachie, 2012b). The wide-ranging prevalence of anxiety in children with ASD is likely due to method variance with respect to assessment instrument (interview versus self-report scale), informant (parent versus child), type of anxiety measured (e.g., social anxiety: Bellini, 2006; social, generalized and separation anxiety: Kim et al., 2000; obsessive–compulsive disorder: Reaven & Hepburn, 2003; all anxiety disorders: Leyfer et al., 2006; Simonoff et al., 2008), and anxiety classification (symptoms versus disorders). Furthermore, most of the studies were conducted in small samples (<100 subjects) and few studies report on anxiety in preschool (Gadow, deVincent, Pomeroy, & Azizian, 2004; Hayashida, Anderson, Paparella, Freeman, & Forness, 2010; Weisbrot, Gadow, deVincent, & Pomeroy, 2005) or lower functioning (Bradley, Ames, & Bolton, 2011; Bradley, Summers, Wood, & Bryson, 2004) children with ASD.

Few studies have examined rates of subclinical anxiety symptoms in children with ASD. Niditch, Varela, Kamps, and Hill (2012) reported that about 20% of toddler/preschool children (<6 years) and 9% of early elementary school children (6–9 years) with ASD had subclinical levels of anxiety. Strang et al. (2012) found that 21% of children with ASD exhibited subclinical anxiety, but this was across a broad age group of children (6–18 years). Subclinical or subthreshold symptoms reflect a potentially evolving anxiety disorder or a previous anxiety disorder that has partially remitted. Thus, data on both clinical and subclinical anxiety provide a more comprehensive picture of the course of anxiety in children with ASD. Identifying subclinical anxiety is also critical for prevention and treatment. For instance, Ginsburg (2009) found that high risk TD youth, as defined by those with a parental history of anxiety disorder, who received cognitive-behavioral therapy (CBT) had a significantly lower risk of developing anxiety disorders after one year compared to children assigned to a wait list control condition.

Most of the anxiety studies in the ASD population are cross-sectional, report on prevalence in a distinct age group (e.g., adolescents: Bellini, 2004; Bradley et al., 2004; Kim et al., 2000) or calculate a single prevalence across a wide age range of children (e.g., Leyfer et al., 2006: 5–17 years; Muris, Steerneman, Merckelbach, Holdrinet, & Meesters, 1998: 2–18 years). These data set the stage for future research on developmental differences in anxiety since interactions between children and their environment can result in distinct patterns of disease (i.e., with respect to prevalence, phenotype, and risk factors) across different age groups (Rutter, 1988). These patterns can be seen in TD children who exhibit developmental risk periods for anxiety disorders. For example, separation anxiety disorder and specific phobias frequently emerge before adolescence (Becker et al., 2007; Kessler et al., 2005; Wittchen, Kessler, Pfister, & Lieb, 2000) whereas social phobia typically occurs in late childhood and adolescence (Beesdo et al., 2007; Kessler et al., 2005; Wittchen & Fehm, 2003).

The degree to which age influences the level of anxiety in children with ASD remains unknown. Davis et al. (2011) showed that anxiety increased from toddlerhood to childhood, decreased through young adulthood, and then recurred from young adulthood to older age. Multiple hypotheses were posited to explain these trends including the lack of inhibitory control in toddlers and the use of both adaptive and maladaptive strategies to regulate anxiety in childhood. Strang et al. (2012) conducted a case-control study examining the effect of age (6–11 and 12–18 years) and IQ on emotional symptoms in youth with high functioning autism (HFA). Results showed that levels of anxiety were unaffected by age, IQ, ASD severity, or their interaction. Finally, Niditch et al. (2012) reported that levels of clinical anxiety remained the same from preschool to the early elementary school years among children with ASD. In light of these mixed findings, further research on the relationship between age and anxiety is warranted.

Beyond age, the two other correlates of anxiety in ASD that have been most frequently examined are IQ and ASD severity, neither of which shows any consistent findings. There has been considerable enthusiasm for the hypothesis that children with ASD and higher cognitive functioning may be at greater risk for anxiety because they are more aware of their differences. Empirical support for this hypothesis however has been mixed with some data supporting this relationship (e.g., Estes, Dawson, Sterling, & Munson, 2007; Mazurek & Kanne, 2010; Sukhodolsky et al., 2008) but other data showing no effect (Simonoff et al., 2008; Strang et al., 2012). One study found that the relationship between IQ and anxiety in preschool and early elementary school children with ASD is mediated by the level of aggression or social understanding (Niditch et al., 2012). In terms of ASD symptoms, some data report an inverse relationship between anxiety and a global measure of ASD severity (Mazurek & Kanne, 2010) whereas other data show that anxiety is positively correlated specifically with high levels of repetitive behavior (Rodgers, Glod, Connolly, & McConachie, 2012a; Spiker, Lin, van Dyke, & Wood, 2012; Sukhodolsky et al., 2008). One study found no correlation between the presence of early autistic symptoms and later emotional disorders (Kim et al., 2000).

Download English Version:

<https://daneshyari.com/en/article/10317206>

Download Persian Version:

<https://daneshyari.com/article/10317206>

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