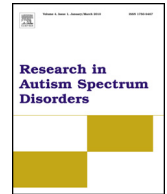




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An analysis of the predictors of comorbid psychopathology, gastrointestinal symptoms and epilepsy in children and adolescents with autism spectrum disorder[☆]

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ABSTRACT

Mannion, Leader, and Healy (2013) examined the frequency of comorbid disorders in children and adolescents with autism spectrum disorder and the predictors of sleep problems. This study will extend this research by investigating the predictors of comorbidity in 89 participants. Age, gender, level of intellectual disability, presence of epilepsy, attention deficit/hyperactivity disorder (AD/HD) and an anxiety disorder were determined using a self-constructed demographic questionnaire. The Autism Spectrum Disorder–Comorbid for Children (ASD–CC) was administered to informants to assess symptoms of comorbid psychopathology. The Children’s Sleep Habits Questionnaire (CSHQ) and Gastrointestinal symptom inventory were administered to assess sleep problems and gastrointestinal symptoms respectively. Sleep problems predicted gastrointestinal symptoms. Level of intellectual disability predicted gastrointestinal symptoms. Specifically, those with no intellectual disability were more likely to present with gastrointestinal symptoms. Gastrointestinal symptoms in turn predicted total comorbid psychopathology score and the individual subscales of worry/depressed, avoidant behavior, conduct behavior and tantrum behavior on the ASD–CC. Gender and ASD–CC total score predicted an individual having an anxiety disorder. Specifically, being male predicted an anxiety disorder. The ASD–CC subscales of worry/depressed and avoidant behavior predicted an anxiety disorder. The implications of these findings are discussed in the study.

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1. Introduction

Comorbidity is defined as the co-occurrence of two or more disorders in the same person (Matson & Nebel-Schwalm, 2007). Research on comorbidity in autism spectrum disorder (ASD) is a relatively new area in autism research. Little has been studied in terms of predictors of comorbidity. Simonoff et al. (2008) examined the risk factors for psychiatric disorders in children with ASD. The presence of epilepsy, past or present was associated with any main psychiatric disorder, and for any behavioral disorder. With regards to contextual characteristics, a relationship was found between family deprivation and any main psychiatric disorders and any behavioral disorder for males only. An association was found between area

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deprivation and attention deficit/hyperactivity disorder (AD/HD) for the entire sample and for males only. The authors did not find a relationship between IQ and a psychiatric disorder. Simonoff et al. (2008) commented that the absence of associations with putative risk factors may be because the presence of ASD “trumps” other risk factors.

Ming, Brimacombe, Chaaban, Zimmerman-Bier, and Wagner (2008) found sleep disorders to be associated with gastrointestinal dysfunction, and with mood disorders. Medical co-occurrence was not a risk factor for psychiatric co-occurrence, and vice versa. The authors found no association between epilepsy and other co-occurrences. Amiet et al. (2008) conducted a meta-analysis and analyzed the risk factors associated with epilepsy in autism. They found that the risk of epilepsy is higher in individuals with autism and an intellectual disability, and the more severe the intellectual disability, the more prevalent epilepsy is. Amiet et al. (2008) also found that females had a higher risk of epilepsy.

Valicenti-McDermott, McVicar, Cohen, Wershil, and Shinnar (2008) investigated the relationship between gastrointestinal (GI) symptoms and language regression in children with ASD. Those with a history of regression had more gastrointestinal symptoms and were more likely to have a family history of an autoimmune disease. No association was found between gastrointestinal symptoms and the use of medication, being toilet trained or a history of food selectivity. There was also no association found between GI symptoms and the Childhood Autism Rating Scale scores. In support, Nikolov et al. (2009) found that those with gastrointestinal problems were not different from those without gastrointestinal problems in terms of autism symptom severity. Similarly, Molloy and Manning-Courtney (2003) found that frequency of gastrointestinal symptoms did not vary by age, gender, race or severity of autism. In contrast, Wang, Tancredi, and Thomas (2011) found that increased autism severity is associated with increased odds of having GI problems. Nikolov et al. (2009) also found no difference between those with and without GI problems, based on demographic characteristics or measures of adaptive functioning.

Gorrindo et al. (2012) investigated gastrointestinal symptoms by both clinical evaluation and parental report. They also compared children with GI dysfunction and ASD, children with ASD only and children with GI dysfunction only. Gorrindo et al. (2012) found that more children were non-verbal in the GI dysfunction and ASD group than those with ASD alone. Supporting the evidence of Valicenti-McDermott et al. (2008), there were no significant association between medication usage and GI dysfunction. The authors also found no association between GI dysfunction and diet. The most common gastrointestinal symptom was constipation, and the risk factors were analyzed for it. Younger, more socially impaired and non-verbal children with ASD had increased odds of constipation. Agreement between parental report and physician diagnosis was high, being 92.1% in the ASD and GI dysfunction group, and was not different than that of the GI dysfunction only group.

Mannion et al. (2013) reported prevalence data on comorbid disorders in children and adolescents with autism spectrum disorder. In a sample of 89 participants, Mannion et al. (2013) examined the frequency of current comorbid diagnosis, comorbid psychopathology, gastrointestinal symptoms, sleep problems and epilepsy. It was found that 46.1% of children and adolescents with autism spectrum disorder had a comorbid diagnosis. When intellectual disability was included, 78.7% had a comorbid diagnosis. The authors found that 80.9% had a sleep problem. The avoidant behavior and under-eating subscales of the Autism Spectrum Disorder-Comorbid for Children (ASD-CC) and total gastrointestinal symptoms predicted sleep problems. Specifically, abdominal pain predicted sleep anxiety. Avoidant behavior, under-eating and gastrointestinal symptoms predicted parasomnias and daytime sleepiness. While the study looked at the prevalence of a variety of comorbid disorders, predictor variables were only analyzed for sleep problems. The majority of children (79.3%) in the study had at least one gastrointestinal symptom and one of the aims of the current study is to examine the predictors of gastrointestinal symptoms. Williams, Fuchs, Furuta, Marcon, and Coury (2010) found that children with GI symptoms had lower quality of life scores, when compared to children without GI symptoms. Therefore, this is an area of importance in research. Mannion et al. (2013) found that the prevalence of attention-deficit hyperactivity disorder was 18%, 15.7% of individuals had an anxiety disorder and 10.1% had epilepsy. The current study aims to examine the predictors of these comorbid disorders, as well as the predictors of comorbid psychopathology.

2. Method

2.1. Participants

Participants were 89 children and adolescents with a diagnosis of autism spectrum disorder (in accordance with DSM-IV-TR criteria). Participants were recruited through schools, ASD service providers, parent support groups and online forums. The mean age of the sample was 9 years ($S.D. = 39.53$), ranging from 3 to 16 years. Eighty three percent ($n = 74$) were males and 17 percent ($n = 15$) were female. Fifty nine percent ($n = 53$) of participants had an intellectual disability. A mild intellectual disability was reported for 25 percent of males ($n = 19$) and for 33 percent of females ($n = 5$). A moderate intellectual disability was reported for 27 percent of males ($n = 20$) and for 26 percent of females ($n = 4$). A severe intellectual disability was reported for 4 percent of males ($n = 3$) and for 13 percent of females ($n = 2$).

2.2. Measures

2.2.1. Demographic information

A self-constructed questionnaire provided information on the participants' age, gender, whether they had an intellectual disability and what level of intellectual disability. Presence or absence of epilepsy, Attention deficit/hyperactivity disorder (AD/HD) and an anxiety disorder were reported, as well as any other current comorbid diagnosis.

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