



Contents lists available at ScienceDirect

# Research in Autism Spectrum Disorders

journal homepage: [www.elsevier.com/locate/rasd](http://www.elsevier.com/locate/rasd)

## Brief Report

# Children with autism spectrum disorder from China and the Netherlands: Age of diagnosis, gender and comorbidities

Ke Wang<sup>a</sup>, Chongying Wang<sup>a,\*</sup>, Dehua Guo<sup>b</sup>, Marlies van Wijngaarden<sup>c</sup>, Sander Begeer<sup>c</sup>

<sup>a</sup> School of Medicine, Nankai University, 94 Weijin Road, Tianjin, 300071, China

<sup>b</sup> China Association of Persons with Psychiatric Disability and their Relatives (CAPPPDR), Beijing, 100034, China

<sup>c</sup> Faculty of Behavioural and Movement Sciences, Vrije Universiteit Amsterdam, The Netherlands



## ARTICLE INFO

Number of reviews completed is 3

### Keywords:

Autism spectrum disorder  
Age of diagnosis  
Gender  
Comorbidities

## ABSTRACT

**Background:** In recent years, an increasing number of studies have highlighted progress in ASD clinical practice and scientific research in China (Zheng & Zheng, 2015). However, little is known about the differences between clinical or scientific approaches to ASD between China and other countries. In our study we explored the impact of gender, comorbidity, parental educational and vocational status on the age of diagnosis in two samples of children with ASD from China and the Netherlands.

**Method:** 433 children with ASD aged between 6 to 14 from China and 492 age matched children with ASD from the Netherlands were investigated based on national databases on individuals with ASD.

**Results:** We found a lower diagnosis age in China compared to the Netherlands. The Chinese sample showed a higher male/female ratio and a higher proportion of co-morbid ADHD diagnoses, but lower age of first concern, diagnosis age and shorter delay from first concern to diagnosis. In the Dutch sample only, co-morbid ADHD resulted in lower age of first concern. The differential impact of comorbidity and gender across both countries may be related to cultural and clinical variations.

**Conclusions:** This study may help us understand ASD from a cross-cultural perspective.

## 1. Introduction

The first diagnosis of autism in China was reported in the 1980s (Tao, 1987). Since then, an increasing number of studies highlighted the progress of clinical practice and scientific research regarding ASD in China (Zheng & Zheng, 2015). However, little is known about how clinical or scientific progress in China compares with other countries.

Recent reports indicated that ASD is diagnosed increasingly often in eastern countries (primarily Asian countries) (Hsu, Chiang, Lin, & Lin, 2012; Kim et al., 2011). A review of the WHO even suggested that the global prevalence of autism in eastern countries is currently in line with western countries, ranging from 0.02% to 1.8% in eastern countries (China, Japan, South Korea) compared with 0.1% to 1.2% in western countries (Europe, North America, Australia) (Elsabbagh et al., 2012). Besides the prevalence, the severity and symptoms of ASD do seem to vary across eastern and western countries (Matson et al., 2012). For instance, lower nonverbal communication and socialization skills were found in eastern countries (South Korea) compared to western countries (US and UK)

\* Corresponding author at: Center for Behavioural Sciences, School of Medicine, Nankai University, 94 Weijin Road, Tianjin, China.  
E-mail address: [chongyingwang@nankai.edu.cn](mailto:chongyingwang@nankai.edu.cn) (C. Wang).

<https://doi.org/10.1016/j.rasd.2018.07.004>

Received 10 January 2018; Received in revised form 16 July 2018; Accepted 19 July 2018  
1750-9467/ © 2018 Elsevier Ltd. All rights reserved.

(Matson et al., 2012).

Adequate care for individuals with ASD relies on early diagnoses. The earlier a child is diagnosed, the better we can offer treatment and care, and prevent the development of additional problems (Lord, 1995). Interestingly, the age of diagnosis varies across eastern and western countries. The mean diagnosis age ranged from 38 to 120 months according to an overview covering 42 studies from eastern and western cultures (US, UK, Europe, India and Taiwan). Note however that the current age of participants ranged from 3 to 50 years old, and only four in 42 studies included adult participants (Daniels & Mandell, 2014). Studies on age of diagnosis in China suggest the average diagnosis age was 3.3 years old, but researchers were relying on participants younger than six years old (Zhou et al., 2014). Most western studies, particularly in North America and Europe, suggest an age of diagnosis in children varying between 3.1 (Mandell, Novak, & Zubritsky, 2005) to 14.5 years old (Mandell et al., 2005). Brett, Warnell, McConachie, and Parr, (2016) found no change of mean age of diagnosis (55 months) in the UK over 10 years across studies. Importantly, the mean age of diagnosis is determined by the age of the population studied. Younger samples were found to have an earlier age of diagnosis, as a logical consequence of their current age (Bent, Dissanayake, & Barbaro, 2015; Bickel, Bridgemohan, Sideridis, & Huntington, 2015) though there are disadvantages of early autism diagnosis, such as it would cause parents' anxiety earlier while not being able to provide further support or solutions especially in countries with limited resources.

A wide variety of factors has been associated with the lower age of diagnosis in ASD, including parental concern (Twyman, Maxim, Leet, & Ultmann, 2009), the presence of older siblings (Emerson, Morrell, & Neece, 2016; Mishaal, Ben-Itzhak, & Zachor, 2014), higher socioeconomic status (SES) (Emerson et al., 2016), developmental regression (Mishaal et al., 2014), higher symptom severity at early ages, the health and education systems (Daniels & Mandell, 2014), higher parental age and parental educational status (Emerson et al., 2016) and gender, with males showing lower age of diagnosis compared to females. However, there is no consensus the influence of SES on age of diagnosis. A number of studies linked higher SES to an earlier age at diagnosis (e.g. Goin-Kochel, Mackintosh, & Myers, 2006), but Brett et al. (2016) reported that children diagnosed before 60 months had lower SES than children diagnosed after 60 months. Note also that the male/female ratio is higher in China (6.92:1) (Zhou et al., 2014) compared to western countries (4:1) (Begeer et al., 2013), where it was found to reduce with increasing age (Rutherford et al., 2016). In addition, co-occurring psychiatric disorders are common in children with ASD, with an estimated 70% of individuals with one, and 40% with two comorbid disorders besides their ASD diagnosis (Simonoff et al., 2008). While comorbidity has been shown to influence the age of diagnosis in western countries, it is unclear whether this is the case in eastern countries.

In our current study, we aim to explore the impact of gender, diagnosis age, the presence of highly common comorbidities (ADHD, allergy, epilepsy and sleeping problems) (Doshi-Velez, Ge, & Kohane, 2014; Simonoff et al., 2008) and parental status in two samples of children with ASD from China and the Netherlands. Convenience samples were used from China and the Netherlands, available from national resources of data on individuals with ASD. We expect a higher male to female ratio in both China and the Netherlands. Considering the longer history of clinical care of autism and better SES in western countries, we would expect age of diagnosis in general to be lower in the Netherlands compared to China. However, the current Chinese participants were recruited through clinics aimed at young children, while the Dutch participants were recruited through an open online register. This may lower the age of diagnoses in the Chinese participants considerably. The impact of comorbidity, parental education and vocational status will be explored in both samples.

## 2. Methods

### 2.1. Participants

Nine hundred and twenty-five children with ASD from China or the Netherlands, aged 6–14, were investigated in this study (Table 1) during 2013 to 2014. The Dutch participants ( $n = 492$ ) were registered in the Netherlands Autism Register (NAR, <https://www.nederlandsautismeregister.nl/english/>), an online national longitudinal cohort open to all individuals with an ASD diagnosis. The Chinese participants ( $n = 433$ ) were recruited by the China Association of Persons with Psychiatric Disability and their Relatives (CAPPDR), which is the biggest national autism organization in charge of all the services of ASD in China. Both databases were national resources of data on individuals with ASD, which could represent the general picture of children aged 6 to 14 in both countries. Previous research has shown that online research databases have the ability to recruit a representative sample that, on further testing, meet the diagnostic criteria for autism (Lee, Marvin, & Watson, 2010; Warnell, George, & McConachie, 2015). Ethics and participants' informed consent were in accordance with the requirements of Nankai University School of Medicine and the NAR. The Medical Ethical Committee of the Vrije Universiteit Amsterdam approved the NAR data collection (2013/15) which were used for research purposes only.

### 2.2. Context

All diagnostic measures were administered by trained clinicians according to the Diagnostic and Statistical manual of Mental Disorders, Fourth Edition, DSM-IV-TR (APA, 2001). Since there is no such a developmental surveillance on ASD in most cities in China, a child is usually referred by preschool teachers for further assessment and diagnosis. Once a child has a confirmed diagnosis of ASD by a clinician, the parent will look for support services. In China most support services are for children with ASD younger than six years old, both private and government owned. After seven years old, children with normal IQ will attend typical schools, and those diagnosed with different disabilities will usually attend special schools, including children with ASD. However, children with ASD and normal IQ usually attend typical schools, though there are rarely any services for them. Children with ASD and low IQ

Download English Version:

<https://daneshyari.com/en/article/6847877>

Download Persian Version:

<https://daneshyari.com/article/6847877>

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