

Epidemiological Characteristics and Influencing Factors of Autism Spectrum Disorder in China

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Abstract

Background: The prevalence of autism spectrum disorder (ASD) is rising globally. Its insidious onset often delays early intervention, while families face heavy caregiving burdens and limited rehabilitation access. Multi-regional epidemiological evidence remains scarce in China. A nationwide survey across diverse geographic areas is warranted to delineate epidemiological characteristics and associated factors, informing early screening and precision prevention. **Objective:** To analyze the epidemiological characteristics and associated factors of ASD among children in China, providing empirical evidence for early screening, intervention, and policy improvement. **Methods:** Using geographical location as the stratification basis, a multi-stage stratified sampling was conducted from February to October 2025 across 8 provinces in eastern, western, southern, northern, and central China, recruiting 1,747 families with children diagnosed with ASD. Electronic questionnaires were administered via rehabilitation centers, special education schools, community health centers, and parent communities to collect data on demographics, clinical features, perinatal exposures, family care environments, and rehabilitation histories. Complex sampling weighted descriptive analyses and multivariate logistic regression were used to examine distribution patterns, clinical phenotypes, and associated factors. **Results:** Among 1,747 respondents, 1,415 (81.00%) were male and 332 (19.00%) female (ratio 4.26:1). Peak diagnostic/suspected age was 2–3 years (41.3%). Language impairment was the most common initial symptom (86.4%), followed by unresponsiveness, social deficits, and stereotyped behaviors. Over 95% received rehabilitation; all families reported unmet rehabilitation needs. Parental psychiatric history, adverse perinatal exposures, maternal age ≥ 35 years, paternal age ≥ 40 years, neonatal asphyxia, and premature rupture of membranes were risk factors ($P < 0.05$); breastfeeding, frequent outdoor activities, and democratic parenting were protective ($P < 0.05$). Birth season, sex, ethnicity, preterm birth, threatened abortion, cesarean section, maternal personality, and menarcheal age showed no significant associations ($P > 0.05$). **Conclusions:** The epidemiological profile of ASD in China is characterized by male predominance and a diagnostic peak at 2–3 years. Parental psychiatric history, adverse perinatal exposures, advanced parental age, neonatal asphyxia, and premature rupture of membranes are independent risk factors, while breastfeeding, frequent outdoor activities, and democratic parenting serve as protective factors. Despite high rehabilitation coverage, all families continue to experience unmet needs, underscoring the importance of enhanced early screening for high-risk populations and strengthened family support policies to alleviate caregiver burden.

Keywords

Autism Spectrum Disorder, Epidemiological Characteristics, Influencing Factors