

Noise and health in children with autism spectrum disorder

Hidetoshi TAKAHASHI^{1,2,3}

¹Department of Child and Adolescent Psychiatry, Kochi Medical School, Japan

²Department of Preventive Intervention for Psychiatric Disorders, National Institute of Mental Health, National Center of Neurology and Psychiatry, Japan

³Integrative Brain Imaging Center, Department of Advanced Neuroimaging, National Center of Neurology and Psychiatry, Japan

ABSTRACT

Autism Spectrum Disorder (ASD) is associated with persistent impairments in adaptive functioning across multiple domains including social, communicative, occupational, and other important areas of daily life. Sensory abnormalities have often been reported as symptoms of ASD, and auditory over-responsiveness (AOR) is the most common sensory-perceptual abnormality in individuals with ASD.

Recently, we reported that a greater acoustic startle reflex magnitude in response to weak stimuli of 65-85 dB was found in children with ASD compared to those with typical development, and that this index was related to various clinical features, including sensory problems, autistic traits, emotional/behavioral difficulties, and adaptive/maladaptive behaviors in ASD children. This intensity level of acoustic stimuli is frequently experienced in everyday situations including the classroom environment. Noise affects several aspects of both physical and mental health and those with AOR might be affected more by their daily environment. This would apply not only to children but also to adults working in schools, who suffer from AOR. Thus, for the healthy development of ASD children with AOR it is important to create an auditory-friendly environment including in the classroom.

Keywords: Autism spectrum disorder, Sensory abnormality, Noise

¹ htakahashif@kochi-u.ac.jp