

Commentary

The Controversies Concerning the Prevalence of the Neurodevelopmental Conditions ADHD and Autism

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The neurodevelopmental disorders ADHD and autism are among the most important diagnoses in Child and Adolescent Psychiatry and are also important diagnoses in adult psychiatry [1]. The prevalence of diagnosed ADHD varies considerably between countries and regions and one region can report more than twice the prevalence in another region [2,3]. ADHD and autism have been found to have very high heritabilities which implies that environmental factors, although of importance, are not completely decisive for the prevalence of these conditions [4,5]. Studies of ADHD in different countries have shown approximately the same prevalence when using the same strict criteria [6]. The prevalence of ADHD in childhood has been estimated to be in the order of 5 to 6% [7].

Concerning autism, the prevalence has shown a very dramatic increase from less than 1% 50 years ago to more than 1% in recent reports. In Korea and some parts of Sweden prevalence estimates of 3-4 % have been reported [8-10]. One reason for this increase can be that more individuals with high functioning autism are diagnosed nowadays, who previously were not regarded as having autism. Going back 30 years in time, 80% of the patients with a diagnosis of autism also had an intellectual disability. In recent reports only about 20% of patients with autism have an intellectual disability [11].

Studies of ADHD and autism have shown that the increase in prevalence is explained by a higher number of patients with low severity of symptoms being diagnosed, while the prevalence of patients with severe symptom load has not increased in the last decade [12,13]. This implies that the increased prevalence is not explained by a true increase in these conditions, but rather a change in diagnostic practices. This has led to a debate among professionals and in the general society. Karlstad et al. have shown that the month of birth has an influence on the likelihood of being medicated for ADHD [14]. The principle of equal rights for all patients to get adequate treatment is obviously not fulfilled. Also concerning autism there has been reported large geographic variation [15]. There has been concerns of an "inflation" risk of being diagnosed with ADHD or autism, as many patients diagnosed have very mild symptoms that might be regarded as part of the normal variation.

This gives rise to several questions: Is there an over-diagnosing of these conditions? Is there a diagnostic substitution so that patients who formerly got another diagnosis now get a diagnosis of ADHD

or autism? Are different attitudes and ideology among professionals of importance? There has been a debate between "biologists" and "anti-biologists" concerning these diagnoses as biological factors are regarded as etiologically important for both ADHD and autism. In southern Europe, where often psychodynamic theories are used for the diagnosis and treatment of psychiatric patients, especially concerning children and adolescents, few patients have been diagnosed with ADHD or autism [16,17]. In contrast, the northern European countries, Germany, the Netherlands, United Kingdom, USA, Canada, Australia, and New Zealand are countries with a high diagnostic frequency of ADHD and autism. Attitudes and expectations from patients, parents, teachers, and the general society, as well as different resources, might influence the likelihood of getting a diagnosis of ADHD or autism. Diagnoses of ADHD or autism might also, in different degree in different geographic areas, be of importance for the patients in order to acquire support from the schools, and for the patients and families to get financial support.

A problem, when discussing the differences in prevalence, is that we do not know the "true" prevalence with absolute certainty, although population based studies point to a prevalence around 5-6 % for ADHD [1] and 1-2% for autism [8,15,18]. All over the world, there has been fast changes in the societies related to the introduction of modern information technology. There have been big changes in the educational system and the labor market, which might lead to increased anxiety among the youth and their parents. A diagnosis of ADHD or autism can lead to better support and protection from difficult demands from school and society. For many individuals a diagnosis of ADHD or autism can lead to a better self-understanding. The diagnoses ADHD and autism both have diffuse limits towards normality and other psychiatric conditions, which may lead to a risk for a displacement of the diagnostic borders. It is thus important to ascertain that there is a clinically significant functional impairment before a diagnosis can be considered. Functional impairment and quality of life are important factors to consider in all psychiatric conditions. The assessment of function and quality of life can be difficult and the ICF (International Classification of Functioning, disability, and health), which still is under development, should be used more extensively in the future [19]. A main problem is that the functioning of a person depends heavily on the environment (demands, expectations, support), i.e. not only the individual should

be examined, but also the psycho-social environment. If the society has changed so that more and more individuals are exposed to stress, efforts should be made to reduce important societal stress factors instead of only treating individuals.

Is it possible to prevent over-diagnosing and at the same time give adequate support for patients with ADHD and autism and also to those with sub-clinical problems? These diagnoses share common genetic and environmental risk factors. They are also difficult to separate from other psychiatric diagnoses and from the normal variation. The diagnoses of ADHD and autism seem to constitute the tails of the normal distribution of human traits. Efforts should be made to ascertain that individuals have the same opportunities to get assessment and adequate treatment for their neurodevelopmental disorders, which means that the prevalence of these diagnoses across different geographic locations should not vary too much. What seems most important is that common principles are followed for the diagnostic assessments, including assessments of functional impairment, in diagnosing ADHD and autism. There should be a consensus regarding the cut-off levels for the required severity to get a diagnosis. Efforts to increase the knowledge of ADHD and autism in the society are also of importance. An increased tolerance for human diversity is important so that all individuals, with or without a diagnosis, can get adequate support and can feel that they have their rightful place in the society.

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