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# Introductory Chapter: Autism Spectrum Disorder - Advances at the End of the Second Decade of the Twenty-First Century

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## 1. Introduction

Now, as we move into the third decade of the twenty-first century, it is time to examine some of the current research in autism, for example, microbiome and other research, which is described in this book. Therapies for children with autism continue to be challenging, with no one therapy has been shown to be superior to all other forms of therapy. Indeed, the treatment situation echoes what Lewis Carroll wrote, “*all have won, and all must have prizes.*” By that is meant the equivalence of outcome for various therapies for autism. Parents should not engage with therapies promising a cure for autism, however, attractive these promises may be. Nevertheless, a great deal can be achieved with current therapies, including mind reading skills therapy, behaviour therapy, speech and language therapy, occupational therapy and certain medications, if necessary.

## 2. Diagnosis

Diagnosis is still a problem with some diagnosticians still holding on to outdated concepts like Kanner’s autism. Kanner’s autism is very real but an extremely rare form of autism, and only a small minority of children meet the criteria for Kanner’s autism. Fitzgerald et al. [1] showed that there were different prevalences of diagnosis, depending on which criteria were used:

1. There were 309 with a possible autism diagnosis, of which 285 (85%) met DSM III-R criteria.
2. One hundred forty-four (47%) met ICD-10 criteria.
3. Twenty-four (8%) met Kanner’s five criteria.
4. Two-hundred twenty (71%) met Kanner and Eisenberg’s two criteria, and nobody met criteria for Asperger’s syndrome.

This remains a problem, and it remains to be seen what the final diagnostic criteria for autism spectrum disorder will be. Currently, we use DSM 5 [2]. According to Baird et al. [3], about 25 per 10,000 met criteria for autism diagnosis based on

the autism diagnostic interview/autism diagnostic observation scale (ADI-ADOS), while the rate for current diagnosis which would be the autism spectrum disorder gave a rate of about 116 per 10,000. This means ADI-ADOS is missing over three-quarters of patients who would now be described as having an autism spectrum disorder. It is commonly missed by professionals that the diagnosis of autism is a clinical diagnosis by an expert in the diagnosis of autism [4]. Missing autism spectrum disorder has catastrophic effects on the child themselves, the family and school.

Clearly, only those with higher IQ, the standard IQ necessary for university, will move on to a university. One of the most damaging aspects of the school life, which is almost pervasive and long lasting, is bullying. This leads to anxiety, PTSD, and depression in these children, as well as suicidal behaviour.

### **3. Intervention**

It is critical that the quality of training that teachers and classroom assistants have is good. It is almost impossible for those in the classroom to work with children with autism without the clinical autism gestalt. Staff who have this correct sense of the world as seen by a child with autism do extremely good work, become fascinated with the topic and spend the rest of their professional life working with children with autism. Many of the children with autism are the most interesting children a teacher can have the privilege to work with. Many have special talents, and there is a need to build on these special talents and use them in the context of social interaction and building social skills. This will increase the chances of the child living independently and having occupational success later, sometimes which is something that is extremely challenging for persons on the autism spectrum, including those with a high IQ on the autism spectrum. The issues of parent and school relations are very challenging. Because of the nature of autism, both sides can have extreme difficulty seeing things from the others' point of view. Parent/staff meetings will have to be twice as long, when the child has autism because of the difficulties of communication. It is not surprising that staff can feel persecuted and misunderstood because they are speaking on a different level to the parents. The child with autism requires special understanding on the part of the school to understand their difficulties. It is not surprising because of these difficulties that there are often threats of litigation or actual litigation, because of these interpersonal communicational problems.

Of course, it is very easy in these situations for both sides to feel misunderstood. It is sometimes helpful for an outside professional child psychiatrist/child psychologist to be engaged to deal with these difficulties. Children with autism and their autistic friends live in a culture in an autistic culture, and it is necessary for teachers to understand them. Teachers have to be aware of the family's and particularly the child with autism difficulty understanding emotions. It is not rare for more than one member of a family to have autism because it has such a high genetic loading. It is critical that teachers make reference to special autism services when the child is depressed, is very anxious or is making threats of killing themselves, which are far from uncommon. The relationship between the teacher and the outside autism professional will be critical to the child's success in school. Severe depression of psychotic proportions may need to be treated with antidepressants, and attention deficit hyperactivity disorder, which is so often co-morbid with autism, is often missed by child psychologists and child psychiatrists, and this needs to be diagnosed and treated, if the child is to have a successful school outcome. Indeed, untreated children with autism who have also ADHD may be unmanageable in

the classroom. They are then excluded, which unfortunately is a very common outcome. There are excellent behavioural strategies for dealing with ADHD, and medications like Ritalin are sometimes necessary as well.

They were drawn to this by previous hypothesis about the opioid excess theory of autism and clinical experience by some of the authors. They observed improvements in autistic behaviour in children on gluten- and casein-free diets. These treatments have been around for over 30 years, have always been controversial, but are now becoming far more central to the treatment and understanding of autism or at least autism subgroups. These theories have not gone away because there was always a kernel of truth in them. I myself have observed a subgroup of patients with autism who have benefitted significantly from gluten- and casein-free diets. Other patients in my experience got no benefit from the diets. The reason is that there is such massive heterogeneity in autism, both at the etiological, clinical presentation and response to treatment level. Someday, we may have biomarkers which will allow us to subtype autism spectrum disorders in a meaningful way. There is no available at this time, but this chapter is working on the possibility of a biomarker. This lack of biomarkers is a central problem in all psychiatry, and we have no biomarkers that can be used clinically in psychiatry, as of now. The scientific study by Ann-Mari Knivsberg and colleagues in 1995 [5] is of critical importance for understanding the relationship between diet and clinical improvement in patients with autism.

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