



Are There Ways to Treat Children with Autism Spectrum Disorders Based on the Scientific Evidence Accumulated to Date?

Maltsev Dmytro*

Institute of Experimental and Clinical Medicine at O'Bogomolets National Medical University, Ukraine

***Corresponding Author:** Maltsev Dmytro, Institute of Experimental and Clinical Medicine at O'Bogomolets National Medical University, Ukraine.

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Autism spectrum disorders (ASD) in children are a global problem of the modern world, which has recently acquired a threatening scale. Currently, the frequency of ASD in the USA is 1 case per 36 children and continues to increase [1]. As is known, ASD is a group of heterogeneous neuropsychiatric disorders that are variable in phenotype and clinically characterized by deficits in social interactions, impaired communication, and narrowing of the range of interests.

This pathology not only disables children, but is also accompanied by increased mortality and secondarily leads to an increase in severe psychiatric illnesses in the adult population. This undermines the potential of future generations, forming a global threat that requires immediate solutions.

A recent systematic review and meta-analysis by Catalá-López F., *et al.* which included 27 controlled clinical trials involving 642,260 children, found at least a 3.8-fold increase in mortality from natural causes and a 2.5-fold increase in mortality from non-natural causes in children with ASD compared with healthy peers [2]. A recent systematic review and meta-analysis by O'Halloran L., *et al.* which included 47 controlled trials, found that suicidal ideation was present in at least 25.2% of children with ASD, suicide attempts were present in 8.3%, and completed suicides were present in 0.2% of cases [3].

The results of a systematic review and meta-analysis by Zheng Z., *et al.* covering data from epidemiological studies involving

1,950,113 participants, indicate a 3.55-fold increase in the number of cases of schizophrenia in children with ASD compared to the general population, and according to some of the studies analyzed in this meta-analysis, about 50% of children with an initial diagnosis of ASD subsequently develop manifestations of schizophrenia [4].

Specialized educational programs and behavioral therapies, which are traditionally used for children with ASD to at least partially adapt them to social conditions, have not undergone clinical studies appropriate in number, scope and design in accordance with the requirements of evidence-based medicine, therefore their effectiveness has not yet been properly confirmed. Also, these interventions cannot be called treatment in the true sense of the word, but only an educational process adapted to the needs of a child with ASD.

Although it is often claimed that there is no cure, at least three evidence-based treatment protocols for children with ASD have been developed and published in peer-reviewed journals indexed in PubMed and SCOPUS. Historically, the first paper by Bradstreet J., *et al.* in 2010 was based on the analysis of a large group of laboratory biomarkers, the relevance of which has been demonstrated in clinical studies, published in peer-reviewed journals, and subsequent targeted correction of the disorders that these biomarkers describe (the so-called biomarker-guided interventions, BGI) [5].

Subsequently, Frye R. (2022) based on BGI developed a multidisciplinary personalized approach called BaS-BiSTOR (collect Baseline data, search for Symptoms, measure Biomarkers, Select Treatment, Observe for Response), which regulates in detail the work of a multidisciplinary group of medical specialists in a large multidisciplinary hospital on the implementation of the Bradstreet J., *et al.* protocol in clinical practice [6].

The third protocol Maltsev D.V. (2024) GBINS (Genetic-Biochemistry-Immunology-Neurology-Symptoms) describes the etiology and main pathogenetic links of the development of cerebral lesions, forming a holistic scientific understanding of the complex mechanism of the disease and the dynamics of the pathological process in the patient during ontogenesis and determining the most appropriate points of application of therapeutic interventions in a personalized manner [7].

All three protocols do not contradict each other, but only appropriately complement each other, emphasizing various aspects of the problem that have not been adequately considered in other documents, and thus allowing, when used together, to implement a full-fledged integrated scientifically based approach to the clinical management of a child with ASD, which corresponds to the current level of knowledge in the outlined direction.

However, neither practitioners nor scientists are adequately informed about the existing protocols and their potential for clinical application. This letter is intended to draw the attention of the general medical community to the study of existing protocols and evidence-based approaches to the treatment of children with ASD. A broad, balanced, thorough discussion, devoid of emotions and surprising bias, is needed regarding the published documents, with an awareness of responsibility for the health of future generations and the lack of alternative scientifically based approaches to the treatment of children with ASD in the context of a progressive epidemic of the disease that has acquired threatening proportions. Wider implementation of existing protocols in medical practice would improve clinical outcomes in children with ASD, significantly contributing to the preservation of the health of future generations, and would contribute to the intensification of clinical trials testing other methods of therapy. The accumulation of clinical experience and additional evidence base would undoubtedly allow for the

development of more advanced documents in the near future, but even now we have real opportunities to help children with ASD that should not be ignored.

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