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Autism in Children: A Literature Review

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Abstract: ***Pervasive developmental disorders (PDDs) are a group of neurobiological disorders characterized by fundamental deficits in social interaction skills or communication skills, or by the presence of stereotyped behaviors, interests, or activities. Autism, a member of the pervasive developmental disorders (PDDs), has been increasing dramatically since its description by Leo Kanner in 1943. Autism is characterized by severe and pervasive impairments in several important areas of development: reciprocal social interaction and communication as well as behaviour, and imagination. Pediatricians have an important role not only in early recognition and evaluation of autism spectrum disorders but also in chronic management of these disorders. The primary goals of treatment are to maximize the child's ultimate functional independence and quality of life by minimizing the core autism spectrum disorder features, facilitating development and learning, promoting socialization, reducing maladaptive behaviors, and educating and supporting families.***

Keywords: Autism, Behavior, Impairments, Pediatricians

1. Introduction

Pervasive developmental disorders (PDDs) are a group of neurobiological disorders characterized by fundamental deficits in social interaction skills or communication skills, or by the presence of stereotyped behaviors, interests, or activities[1]. Common features include difficulty with transitions or change, unusual sensory interests or sensitivities, an extremely narrow and intense focus of interest, and stereotyped behaviors. Cognitive deficits or uneven skill development are often present. The spectrum of symptoms can range from a limited desire or ability to interact with others to the more severe symptoms seen with autistic disorder. While the symptoms of autistic disorder may be quite evident, children and adolescents with more subtle difficulties often go undiagnosed and untreated. Missed opportunities for treatment can adversely affect long-term outcomes and quality of life for these children and adolescents and their families.

Pervasive developmental disorders (PDD) include autistic disorder, Rett's disorder, childhood disintegrative disorder, Asperger's syndrome, and PDD-NOS. For children with autism, the disorder will progress continually; children with other disorders in this category may develop normally and then experience a regression.

Autism is a neuro-developmental disorder characterized by impaired communication and social interaction and repetitive behaviors. Several lines of evidence indicate that genetic, environmental, and immunological factors may play a role in its pathogenesis [2]. Some investigators expand the nature of autism to that of a multisystem metabolic disease, not just a brain disorder [3].

Recent estimates of the prevalence of ASDs are in the range of 6.5 to 6.6 per 1000, and pediatricians, therefore, are likely to care for children and adolescents with these diagnoses.[4-6] In the companion document to this clinical report, the American Academy of Pediatrics has summarized pertinent background information on ASDs and emphasized the importance of surveillance and screening as well as other potential physician roles in the diagnostic process. However, the role of the primary health care professional extends beyond recognizing signs of ASDs, referring for diagnostic evaluation, conducting an etiologic investigation, providing genetic counseling, and educating caregivers about ASDs and includes ongoing care and management.

The estimated lifetime per capita incremental societal cost of autism is $3.2 million. Lost productivity and adult care are the largest components of the cost[7]. Greater than the monetary cost, the emotional devastation caused by the great difficulties posed by the autistic individual, and the strains on the family, cause long-lasting strife and sometimes physical threats to the autistic individual and to others around them. This complex behavioral disorder encompasses a wide variety of symptoms, defined by deficits in social interaction, communication, and empathy, accompanied by unusual restricted, repetitive behaviors [8]. Since there are no objective diagnostic tests for autism, a clinical diagnosis is based on behavior, using the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* as the gold standard. Using a list of diagnostic criteria, at least six criteria must be exhibited with onset of conditions prior to age three, including at least two relating to social abnormalities and one each regarding impaired communication and range of interests and activities [8].

2. Causes

Autism is a behaviourally-defined condition, but is caused by a number of different known and unknown biologically based brain dysfunctions that affect the developing brain's ability to handle information. Autism is a neuro developmental disorder. There is a genetic component in many cases. The different way of processing information, such as perceiving, processing and interpreting information, learning new things and behaving in a well-adapted way, leads to the behavioural deviations that can be observed[9].

3. The Presentation of Autism

Social interaction

The most striking aspect of autism is often the difficulties with reciprocal, social interaction. Even from a very early age, the infant may have difficulties using and understanding

eye contact, facial expressions, gestures, intonation, etc, while in contact with other persons. Many children with autism show no social or emotional reciprocity and do not spontaneously share their joys with their parents nor seek them out for comfort. Children with autism are not always interested in children of the same age, but even if they are, they usually have difficulties is making and keeping friends[10].

Communication

Persons with autism have a delay in or a lack of language development, which they do not compensate for by using other nonverbal means of communication. About half of the children with autism never develop speech. There is great variation among the children who do. Some only use single words. Others use many words and speak correctly, but mostly repeat stock phrases or things others have said regardless of the situation. A smaller number have a well-developed and spontaneously spoken language.

Behaviour

Children with autism often engage in a restricted range of behaviours, interests and activities in a repetitive and stereotypic way. For example, they may concentrate intensively on an activity such as spinning the wheels on a toy car or lining up toys time and time again, but much more seldom engage in spontaneous and varying games of pretend and role playing. Fixations on different objects are common, as well as fixations on very complicated habits and routines that must be repeated in exactly the same way each time. A departure from such a routine or ritual can cause an outburst of despair or rage. Any sort of change, such as something being in a different place or something being done in a different order than usual, can also be hard to tolerate for a person with autism. Slightly older, more well-gifted children may especially have periods of one-sided and narrow interests such as time tables, others' birth dates, the population of all Swedish towns, etc. It is also common for children with autism to continuously wave their hands, rock back and forth and walk on tiptoe.

Large variations

Persons with autism often differ greatly from each other in many ways, even though the effect of having autism is always serious. For example, the degree of autism is said to vary from severe to mild; similarly the level of abilities can vary from severe learning disability to having above average intelligence. It is also common that persons with autism have other conditions such as various genetic syndromes, epilepsy, depression or attention-deficit/hyperactivity disorder, to name a few. A person may thus have severe autism as a component in multiple impairment together with a moderate or severe learning disability, with epilepsy, and thus be maximally disabled, or have a lesser degree of autism and a high level of ability. The variations in the degree of severity of the behavioural expressions for autism are large and also dependent on the individual's personality, age and level of development.

Management

Autism is a life-long disability. There is currently no known cure for autism. On the other hand, many children with autism can develop significantly with early, well-planned and individually tailored educational efforts in specially adapted settings. One of the primary objectives is to help the child develop functional communication. The educational approaches must focus on knowledge about the unique ways that children with autism learn. Various ABA strategies as well as the structured teaching method in the TEACCH-model are examples of such specially-tailored educational strategies for persons with autism. Early identification, assessment and diagnosis are the first step. The next step is to provide accurate information for, and education of, parents and other concerned persons as soon as possible. These, together with promptly applied supportive measures that are both well-planned and individually tailored, are the long-term basis for being able to help the child to develop. A specially adapted nursery school and subsequent schooling are important prerequisites for the child; similarly an adapted home environment and daily activities are equally important for the adults. Adolescents and adults may need continued access to educational measures to further develop skills that aim to increase independence and participation, even if these measures had been introduced early. High-functioning persons may require different types of assistance in organizing their studies and access to various forms of tailored daily activities. As adults, and for the rest of their lives, most persons with autism are in need of extensive assistance and support. However, some persons may become relatively independent[11, 12].

4. Conclusion

Pediatricians have an important role not only in early recognition and evaluation of autism spectrum disorders but also in chronic management of these disorders. The primary goals of treatment are to maximize the child's ultimate functional independence and quality of life by minimizing the core autism spectrum disorder features, facilitating development and learning, promoting socialization, reducing maladaptive behaviors, and educating and supporting families.

5. Conflict of interest

None Declared.

6. Sources of funding

Nil

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