

## **Parents as actors in their child's neurodevelopment**

*Evidence supported by current scientific data.*

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### **The relationship between parents and child in the early stages of life, from the prenatal period to the early years, is fundamental for the child's future.**

The baby's interactions with its environment, from the fetal period to the first years of life, stimulate the maturation and organization of sensory-motor, cognitive and emotional neurological circuits in its encephalic structures: essentially, cerebral amygdala, striated nuclei, prefrontal brain, and cerebellum [1, 2]. These interactions are the basis of its understanding of this environment. Their functionality continues to develop throughout childhood and adolescence.

Recent work, increasingly supported by biology, physiology, and brain imaging such as MRI, demonstrates this very early influence [3].

Parents pay full attention to the signals that their child sends and send him/her in return appropriate responses to his/her emotional and psycho-affective state. This emotional and cognitive co-construction prevents and regulates stress secondary to external aggressions. It allows the child to access increasingly complex adaptive answers. When these conditions of reciprocity are not met, the child's behavior and development can deviate from the so-called 'normal' trajectory [4]. The attachment bond, which is dependent on his/her trust in the environment (parents, siblings, caregivers, nursery staff or childminders), can then be quickly impaired. In some extreme situations of parental deprivation, a major neurodevelopmental, behavioral and cognitive disorder has been shown [5]. The very early role of parents in language development is also clearly demonstrated by clinical and imaging studies [6]. The mother's voice and native language are perceived very early, *in utero*. The infant, although not yet speaking, is constantly seeking to learn. It is essential that parents talk, name gestures and objects and, later on, work for the acquisition, by their child, of language and reading skills.

### **The role of parents is also crucial for the care of a high risk child or with a neurodevelopmental disorder (NDD), whether sensory, motor, or cognitive.**

In 1978, Mary Warnock already wrote: " the successful education of children with special educational needs is dependent upon the full involvement of their parents" [7]. In the framework of the new strategies developed internationally, parents are partners of professionals, and that's why they must be educated to make appropriate decisions and co-construct their child's project with the healthcare team. For these parents, often anxious, the search for information can be difficult and distressing. The teams now have guidance and training programs for parents and siblings [8]. This attitude is qualified today as "empowerment".

Support for parenthood is thus fundamental, on the one hand in the prevention of childhood NDD and, on the other hand in the support of children with disabilities. This observation is in line with the national objective of the "thousand days" (9) and with the whole "autism" strategy within the NDD.

### **The French National Academy of Medicine stresses the importance of**

- providing a clear and understandable information to parents about the child's neurodevelopment from the first months of pregnancy and repeatedly.
- improving the training of doctors and all early childhood professionals, as well as that of teachers, on the most recent advances concerning the sensory-motor, cognitive and emotional child neurodevelopment.
- insisting that all early childhood staff listen carefully to parents, this staff including: nurseries, childminders, health or medico-social structures (hospital services, maternal and child protection services, medico-psychological centers, early medico-social action centers, medico-psycho-pedagogical centers).
- establishing an effective partnership with parents in the care and education of any child at risk, or suffering from a neurodevelopmental disorder.

### **References**

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(\* ) Press release of the Academy's Rapid Communication Platform validated by the members of the Board of Directors on September 6, 2022.