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Fetal Alcohol Syndrome in Child's School Education

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Introduction

Learning is a process that occurs continuously in people's life in wich the acquisition of new behaviors, skills and attitudes has the aim of adapting the human being to the environment. This process occurs in the nervous system and therefore takes into consideration the neurological integrity of the brain to occur in the best possible way. For this reason, the brain is the "organ of learning". During learning, the neuron undergoes modifications in its brain structure (neuroplasticity) thus generating new adaptive behaviors in the child's life. In addition, the brain still considers in the development of learning factors such as:

Family history: presence or absence of mental disorders, learning disorders or genetic syndromes.

Emotional factors: Such as the child's experience in stressful environments, presence of physical or emotional abuse.

Social-family factors: malnutrition, families at risk, extreme poverty and social vulnerability.

Gestational influences: use of licit drugs (alcohol and tobacco) and illicit drugs (crack, cocaine, marijuana, solvents, etc.) during pregnancy.

Familiar environment: absence of stimulation between parents and children, such as moments of playful activities and new experiences of learning [1].

Under this bias, it can be observed that learning is a process that involves both intrinsic and extrinsic factors, in which genetics and environment act as modulating structures of learning. The development of learning begins during the gestational period, as the development of the baby depends on the mother's nutrition during pregnancy. Thus, healthy eating habits such as a balanced diet rich in fruits, proteins, vegetables and the ingestion of liquids (water and natural juices) are essential for the strengthening of mother and baby. The Nutrition pregnancy is crucial to the proper functioning of the nervous system of the fetus. Nutritional deficiencies, on the other hand, can compromise significantly child's brain development and consequently their learning.

When a pregnant woman ingests alcohol for example, the substance reaches the fetus through the bloodstream and placenta. This is because the baby's organs are in continuous development and therefore can not process the circulating alcohol in the body. The consumption of alcoholic beverage in the first trimester of pregnancy is already capable of causing significant changes in the development of the baby's central nervous system, thus causing Fetal Alcohol Syndrome (FAS) [2].

According The Alcohol and Drug Foundation, "FASD may be considered an acquired brain injury caused by alcohol exposure before birth. The range and severity of FASD differ from case to case and the signs and symptoms become apparent to varying degrees from birth to adulthood". Fetal alcohol Syndrome is a condition that causes physical and mental damage in the fetus due to alcohol consumption during pregnancy. The effects of the substance include problems in the migration of the development of neurons in the baby's brain, which leads to anomalies in the central nervous system and damages the child's cognitive development and behavior. It is important to emphasize that any type of alcoholic beverage (beer, wine, distilled beverages, etc.) during pregnancy can be detrimental to the baby's development.

Depending on the amount of alcohol consumed by the mother during pregnancy, as well as the stage of development of the fetus when the alcohol was consumed, the child may present from high to low levels of impairment in cognitive development, resulting in deficits in language functioning, planning, spatial organization, selective attention and memory. Among the characteristics presented in children with the syndrome are: small eyes, fine upper lip, short and upturned nose, deformities of joints, slow physical growth, low birth weight, vision difficulties or hearing problems, difficulty with reasoning and problem-solving, poor judgment skills, learning difficulties, impulsiveness, difficulties to memorize.

Fetal Alcohol Syndrome in the Classroom

Fetal Alcohol Syndrome (FAS) can compromise the cognitive development of children from mild to severe forms. However, no child is equal to another, because each one is unique in characteristics and educational needs. Even children with the same syndrome may present different caracteristics and educacional needs. For this reason, the careful observation of the teacher is crucial to identify punctually the learning necessities of each student, and from this, elaborate a pedagogic planning based

on multi sensorial activities. In order to develop child's potential, it is necessary that the teacher organize learning environments rich in multisensory stimuli, containing pedagogical activities that instigate the five senses of the child, such as colors, tastes, textures, sounds and body movements. In addition, the teacher can propose enrichment activities for memory, communication, executive functions and adaptive behavior. The variety of stimuli captured by the child's brain is crucial for the development of new brain synapses, thus building new learning experiences. It is worth emphasizing that each child is unique in potentialities and difficulties [3].

Some children with Fetal Alcohol Syndrome may present difficulties in interpreting sensory information such as touch, sound, movement and smell. The routine of a classroom can be a very challenging environment for a child with FAS due to a range of sounds that a classroom may has such as mixed voices, different smells, movements of students, very loud noises, agitation during class breaks. The child may feel irritated and distressed due to the diversity of stimuli occurring at the same time. What happens is that the nervous system of a child with FAS has difficulty in processing sensory information. For this reason, it is important to organize an environment in which "less is more" regarding visual stimuli.

Fine and gross coordination may be a difficult for some children with Fetal Alcohol Syndrome. For this reason the practice of sports such as swimming, soccer, running, riding a bike, skating, dancing, among others can greatly help the student in developing and enriching these physical motor capacities. In addition, the physical exercise helps the child in maintaining an upright posture.

Because they present a neurological impairment in sensory processing of muscles and joints, on some occasions these children may break toys, bump into objects and classmates in class. This behavior can be interpreted by some people (who do not know the characteristics of the Syndrome) as awkward, rude or purposeful attitudes. But what actually happens is that due to the presence of impaired motor skills, students with FAS have a decrease in muscle control capacity, which makes difficult in grasp and hold activities, such as picking up a pencil to write or draw [4].

Golden Tips

a. It is important to have a space in the classroom where the student can settle (or rest) whenever he or she feels irritated, harassed, or stressed. The space needs to be warm and welcoming, like one made of linen tent, a camping tent, a playhouse or just a more quiet space in the classroom, composed of beanbags, cushions or mats.

b. Students with Fetal Alcohol Syndrome are often visual and tactile (however can have children with FAS under-sensitive to the touch). Have attach in the wall a visual schedule containing the routine of the day as well as a visual timers in order to prepare the student for the day.

c. The manipulation of objects such as modeling clay, key chains (made of rubber or plastic), stress balls, sandpaper sheets can axiliar both in sensory-motor capacities and in executive attention function, as it helps to maintain focus and concentration during activity, causing the child to ignore other irrelevant stimuli.

d. Decrease the number of visual stimuli so the child does not feel irritated or overactive with lots of visual information. Give preference to natural lighting in the classroom by adjusting the level of clarity with the aid of curtains in the windows.

e. Shelves (of the size of the students) develop autonomy and organization, as they encourage the child to store personal belongings (such as backpacks, shoes and coats) in the individual compartments.

f. The use of mats, cushions or adhesive tape helps to delimit the space where students can sit during group activities. The incorporation of breaks between school tasks may be an effective strategy for the emotional self-regulation of children with FAS. Exercise activities such as walking outdoors, taking errands in another classroom to the teacher, stretching, yoga, ball activities, running, jumping, among other activities of movement with the whole body can calm and relax students during their time in the school.

g. In the development of skills communication, parents and teachers can choose materials with illustrations, showing in a simple and concrete language, instructions about child´s daily routine (social stories). Each social story describes a specific situation of the child's routine such as going to school, doctor's appointment, eating in the restaurant, traveling with the family, etc. The purpose of social stories is teaching the child different social skills, applicable to different contexts of life.

h. Children with FAS has difficulty to think abstractly. That´s why Mathematics curriculum can be so complex for these students. As a pedagogical strategy is impotant that the teacher can be able to develop an individual education plan involving daily maths problems such as the use of flyers and other print materials from retail outlets. It´s important to not overwhelm the students with a lot of math problems. A good strategy can be select a reduce number of problems on the page, enlarging the font size and spacing the questions. In order to help students understand how much time it takes to complete each classroom activity, sand timers can be use to develop a sense of time and duration.

i. The classes of arts (music, dance, drama and visual arts) can improve in students with FAS the development of fine and gross coordination, skills in creating and performing corporal expressions, representation of thoughts, images and feelings trough painting and drawing activities, enrichment of multi-sensory capacities (as concrete learners, students with FAS remember

j. Better when they use their senses - touch, sight, taste, smell and hearing).

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Parents and teachers need to establish a partnership to better include the child with FAS at school. Parents must provide to the school all the necessary information about child's characteristics and needs so that the teacher can prepare a multi-sensorial environment rich in learning experiences for this student. Parent-teacher partnership is the key to an education reduced in stress and disruptive behaviors (because parents usually know the factors that trigger impulsive behaviors in the child and therefore can inform the teacher on how to avoid them). The active participation of the parents in the development of the child (through constructive ties and daily experiences) is of great value to foster the growth and involvement of the student in his own learning process [5].

In order to develop healthy interpersonal relationships in the classroom, it is important for the teacher to teach other students values such as empathy, kindness, solidarity, equality, love and respect, as well as the value of socializing with children with disabilities. In addition, the joint work of the school with a team of specialized professionals such as special education teacher, speech therapist, occupational therapist, educational psychologist, pediatrician and child neurologist are of paramount importance for the overall development of the child with FAS.

Child cognitive development involves not only brain processes, but also aggregates experiences of the child's learning. These learnings are developed from the child's contact with the environment through play and body activities; activities to stimulate social interaction and communication; games of rules or symbolic games, etc. Through these practices it is possible to improve the capacities and potentialities of the child. Proposing pedagogical activities taking into account the sensory, motor, emotional and cognitive aspects of the child, implies providing a meaningful learning environment in a welcoming and healthy atmosphere, rich in stimuli and possibilities of development [6].

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