



Diagnosis of language disorders in children (comorbidity often neglected!)

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Abstract:

The great skill of speech therapists in diagnosing and treating language disorders has another side of the coin: that of having language blinders.

We often tend to understand a patient through the necessarily reductive means of their language alone, neglecting the whole of the individual. We can make the analogy with Western medicine which tends to fragment the individual while Eastern medicine is much more holistic.

It seems useful to remember that language disorders are sometimes comorbid and that it is the duty of speech therapists to detect them, although they do not necessarily fall within their field of expertise. Through this article, we will try to identify these disorders, in order to rule them out through the differential diagnosis of language disorders.

Keywords: *Speech therapy; Language disorder; Comorbidity.*

I. INTRODUCTION

Language disorders in children can often be associated with other disorders, known as comorbidity. Comorbidity refers to the simultaneous presence of two or more disorders or medical conditions in an individual. In the context of childhood language disorders, this means that the child may present with language difficulties in addition to other disorders or conditions.

There are several types of comorbidities that may be present in children with language disorders. For example, it is common to find comorbidities such as Attention Deficit Hyperactivity Disorder (ADHD) in children with language disorders. Studies suggest that there is a link between these two disorders, although the nature of this relationship is complex and requires further research.

Other common comorbidities in children with language disorders include autism spectrum disorder (ASD), learning disabilities, such as dyslexia, and intellectual development disorders. These comorbidities can have an impact on the severity and presentation of language disorders in children.

It is important to consider these comorbidities when diagnosing language disorders in children, as they can influence treatment and recommended interventions. A multidisciplinary approach involving health professionals such as speech-language pathologists, psychologists, and physicians may be necessary to effectively assess and treat comorbid language disorders in children. In this article, we will answer the following question: What are the most common comorbidity factors associated with language disorders in children, and how do these comorbidities influence the diagnosis and treatment of language disorders?

1. Motor coordination disorder

Praxis are finalized gestures: coordinated, deliberate movements directed toward a goal. They involve a complex management of many elementary movements, each with a spatial and temporal component. Motor coordination disorder is a disorder in the acquisition and management of voluntary, finalized gestures.

Praxis are poorly elaborated and this results in difficulties in the realization of gestures for which the child must implement voluntary, controlled strategies, and perform a succession of sequential movements, a slow, clumsy realization that is very costly in terms of attentional resources.

Evaluation

- Global: looking for a dissociation between verbal and non-verbal abilities in psychometric tests (WISC, WPPSI).
- More specific:
 - manual and digital motor skills (imitation of hand position, peg boards, etc.);
 - perceptual and visuospatial processing (recognition of degraded shapes or entangled figures, judgment of line orientation, etc.);
 - visuoconstructive praxis (copying complex geometric shapes, puzzles, various constructions, etc.);
 - visuomotor and visuospatial memories (reproduction of hand movements, memorization of spatial positions);
 - visual attention (dams).

School consequences

- Lack of autonomy for daily activities.
- General organizational difficulties.
- Difficulties managing sheet space.
- Difficulties of graphics.
- Writing: still achieved.
- Difficulty writing letters with obliques and/or loops.
- Difficulties description: inadequate pencil holding, hypertonia or hypotonia, insufficient fine movements of the fingers.

- Will always require a lot of attentional effort, limiting resources for other learning (Kk Nair & al., 2023: 580).

Clinical signs

- Motor hyperactivity: the child runs and climbs everywhere, gets agitated, does not stay seated, does not play in silence, takes risks and often puts himself in danger. This behavior is to be distinguished from an educational deficiency, he cannot help it, is the first to suffer from it and finally is like this almost all the time even with motor agitation during sleep.
 - Attention deficit: the child has difficulty concentrating, he is easily distracted, seems not to listen, often loses his things, does not finish what he is doing.
 - Impulsivity: the child does not wait his turn, rushes to respond, often interrupts conversations, moves from one activity to another, has difficulty organizing his work and cannot comply with orders.
- These disorders are very often associated with one or even two comorbidities. We can cite, for example, specific learning disorders, sleep disorders, anxiety disorders, mood disorders, somatic manifestations (enuresis, encopresis), tics, motor disorders.

Differential diagnosis

- Normal "turbulence".
- Unfavorable environment.
- Iatrogenic effects of certain medications (corticoids, antiepileptics, antiasthmatics).
- Psychological causes: childhood depression, obsessive compulsive disorder (OCD).
- Severe learning disorders.
- Intellectual precocity

Dysexecutive syndrome :

Executive functions are brain skills allowing adaptation to new, "non-routine" situations.

Executive functions thus bring together the following components:

- the development of strategies;
 - task planning (anticipation and logical execution);
 - maintaining attention and monitoring the progress of tasks until the plan is achieved;
 - mental flexibility (adapting to unforeseen events, correcting errors, moving from one task to another);
 - control of inhibition (ability to resist irrelevant information and maladaptive or automatic behaviors)
- (Marrus & Hall., 2017: 545).

2. Psycho-affective immaturity:

Psychoaffective immaturity is quite often found in the symptoms of specific non-deviant disorders; It is easy to "flush it out" during the anamnesis through questions concerning sleep (child who systematically sleeps with his parents, who joins them at night, etc.), feeding and orality (persistence of the pacifier, bottle, thumb sucking, etc.) and the acquisition and mastery of toilet training.

These caricatured symbols of early childhood obviously keep the child in childishness, which, combined with "omnipotence", constitute significant obstacles to speech therapy.

A few examples, unfortunately, not even invented: five bottles a day and one of soda at night for a thirteen-year-old child in fifth grade! A five-year-old wearing diapers day and night, a main feeding of bottles/chips and nights (despite having his own room) spent systematically in his playpen with a TV on non-stop.

Admittedly, empirically, it seems rather distressing to us to note in the clinic an upsurge and a chronological prolongation of these educational failures, although it must be acknowledged that it is not

stipulated on bottles at what age they should be stopped!

One of the levers that can work with the patient and/or his family if we want to help them become aware of this behavior is to ask if the child's friends know about it...

This immaturity will be found in adolescents and adults a few years later through the following criteria (non-exhaustive list!) (according to dr-spinnler.ch/blog/archives/34/psychoaffective-immaturity/):

- impulsiveness;
- lie;
- bad faith;
- Whims;
- irresponsibility;
- inconsistency;
- lightness;
- inconstancy, versatility;
- does not recognize the value of things;
- does not recognize the value of people;
- cowardice;
- unreliability;
- manipulation;
- doesn't bother to understand;
- has inappropriate expectations and demands;
- doesn't feel compelled to follow the rules;
- changes the rules to suit them (McLaughlin, 2011: 1890)

4. Psychopathological disorders:

While psychological immaturity can sometimes be the result of parental guidance during speech therapy, other disorders require a diagnosis and/or psychological or child psychiatric follow-up.

It can persist for more than seven years. The child is apprehensive about starting school, refuses to go on a school trip and to sleep outside his home (grandparents, family, friends or friends) for example. Repeated nightmares with a separation theme and somatizations during the actual separation are frequently described: headaches, stomach aches, diarrhoea, vomiting, nausea, etc. (Feldman, 2019: 500).

•Fear

Fear is a normal reaction to a situation perceived as threatening or dangerous, it is an alert system when the brain perceives danger:

- physical manifestations (accelerated heart rate);
- behavioral manifestations (avoidance, flight, astonishment);
- psychological manifestations (feeling of catastrophe).

It is estimated that 75% of children present fears, and are distinguished:

- the first fears: the unknown and separation (8th month anxiety), separation anxiety appears between ten and eighteen months;
- fear of real dangers: fear of animals, fear of storms, water, natural elements, fear of doctors, police officers;
- imaginary fears: monsters, ogres and witches, fear of wolves;
- fear of going to bed, the dark and nightmares: 80% of children have nightmares, it starts between three and five years old. It's a necessary "valve" and a normal expression of emotions to differentiate from night terrors (benign sleep disorder);
- fear of school;
- fear of others;

- the fear of being alone and being abandoned, of being kidnapped;
 - fear of death, illness, disasters
- trophies (appears around 6/7 years);
- the fear of blushing, of being ridiculous;
 - the fear of not succeeding or of doing badly.
- Overall, fears decrease from early childhood to adolescence

Anxiety

The epidemiology of anxiety disorders in the general population shows that they are the most frequent disorders in child and adolescent psychiatry (between 10 and 20%, depending on the study). Anxiety is a disruption of the fear system, a false alarm that sets in.

As in adults, it is expressed in four areas: the body, thoughts, behavior and emotions (Adlof & Hogan, 2018:770)

Manifestations vary according to age:

- in toddlers: crying, anger, agitation, withdrawal or clinging behavior;
- in older children: stomachaches, headaches and headaches and avoidance behaviours.

Generalized anxiety

Affects several areas: family, health, school. Hyperanxiety occurs when worry takes on such proportions that it disrupts the daily life of the child and those around him/her. It is often associated with chronic stress, a frequent need for reassurance, recurrent somatic complaints and difficulty concentrating.

Specific phobias

What distinguishes a phobia from a simple fear is the avoidance of the feared situation. The handicap is minimal when the phobic situation can be easily avoided; it can be important otherwise:

- specific phobias: animals, blood, storms, water, height, etc. ;
- agoraphobia: fear of going to an open (or closed: claustrophobia) place. May be associated with panic attacks.

Panic attacks

They often begin in adolescence and their occurrence is unpredictable:

- physical signs: palpitations, dizziness, chest pain, feelings of suffocation and dizziness;
- is often associated with a secondary fear of dying, of losing self-control.

School phobia or anxious school refusal

Characterized by the occurrence of an intense anxiety reaction when leaving for school. This reaction can take the form of a panic attack, present itself in the form of somatic manifestations or behavioral disorders (anger, violent opposition).

As a general rule, the symptoms cease as soon as that the child is allowed to stay at home.

It can lead the child to social disintegration, and practically all anxiety disorders can be the cause of school refusal (separation anxiety, social phobia, simple phobia, etc.).

Social phobia

It is the persistent and intense fear of situations in which the child is in contact with unfamiliar people or exposed to possible

careful observation of others with fear to be judged or even humiliated.

In children, the main feared situations are, in order of decreasing frequency:

- speaking in public ;

- eat in front of others;
- be in class with other children;
- write while being observed;
- use public toilets;
- talk to people representing authority.

Situations related to the school environment are very common: fear of speaking, going to the board, reading aloud, etc.

Exposure to these feared social situations causes intense distress which is often expressed in the child in the form of somatic manifestations. Typically, these children struggle to keep these anxious manifestations from being observed by others and thereby lose their coping skills (black hole).

These characteristics (excessive shyness, fear of embarrassment in society, social withdrawal) are also found in children who present with selective mutism sometimes compared to social phobia (Baixauli & al., 2023: 69)

Obsessive-compulsive disorder (OCD)

The presence of developmental rituals between the ages of three and five is not a particular handicap. These rituals constitute a mode of functioning for the child, who manages the anxiety caused by changes by setting up routines.

These rituals usually disappear after the fifth year. Obsessive-compulsive disorder seems to begin early in development, and there are many similarities with the disorder described in adults.

Obsessions or compulsions are present on an almost daily basis, and the performance of compulsive behavioral or mental acts leads to a momentary reduction in anxiety.

Obsessive or compulsive behaviors cause significant suffering or loss of time, and interfere with daily functioning.

- Prevalence: 1-3%.
- OCD: obsessions + compulsions.
- Obsessions: ideas that come to mind spontaneously (risk of accident, illness, forgetfulness, error).
- Compulsions: rituals to reduce anxiety (checking, washing, counting in your head, etc.).
- Main obsessions in children :
 - fear of contamination (around 40% of OCD in children) ;
 - fear of disaster (25%);
 - worries about order, perfection and symmetry (20 %) ;
 - others (religion, sexuality).

- Main compulsions: washing, repeating an act or behavior, touching an object several times.

It appears that prevalence rates increase steadily between the ages of five to seven and thirteen to fifteen years.

Chronic stress

Main situations for children and adolescents:

- divorce and parental conflicts;
- school: changes of establishment, major stages (CP/6e), academic difficulties;
- the child's illness;
- illness of a parent;
- changes: moves, birth;
- parental stress;
- high parental or academic pressures and demands;
- a romantic breakup in adolescents.
- The speech therapist is sometimes responsible for the loss of information linked to poor interrogative wording.
- So the question: "Is your child sleeping well?" » is often perceived by parents as such: "Do I have to

get up at night for him? ".

– And to be answered in the affirmative when the child, without disturbing his parents, may have trouble falling asleep (possible sign of anxiety) and/or restless sleep (possible sign of attentional disorder).

– Along the same lines, parents or children do not always want to talk about still drinking a bottle at 8 years old or putting on a diaper in the evening when the child is in sixth grade ...

– The question: "Did the pregnancy and birth go well?" » is often perceived by parents as such: "Was the baby born premature and went to the neonatal unit? ".

– And to be answered in the affirmative when the mother may have suffered from pregnancy-induced hypertension, may have benefited from a cesarean section at term but not planned (why?), the child was born post-term or with cord circularity and neonatal anoxia...

– It is the responsibility of the speech therapist to precisely formulate his questions so that they can directly feed into semiology and evoke decision trees regarding both language disorders and the comorbid disorders mentioned above.

– The principle of screening, dear to Gilles Le loup [2013] at the level of evaluation, applies just as much during the anamnesis and requires the most exhaustive and precise questioning possible (Korrel & all., 2017: 645) (Mil Leonard & Kueser, 2019: 350).

CONCLUSION

Language disorders in children can often be associated with other disorders, which is known as comorbidity. The most common comorbidities in children with language disorders include attention deficit hyperactivity disorder (ADHD), autism spectrum disorders (ASD), learning disorders such as dyslexia, and intellectual development disorders.

These comorbidities can have a significant impact on the diagnosis and treatment of language disorders in children. For example, the presence of a comorbidity such as ADHD can make the diagnosis of language disorders more complex, as symptoms may overlap and require in-depth assessment to distinguish the two conditions.

Additionally, comorbidities may also influence recommended treatment approaches. For example, in children with language disorders and ASD, a therapeutic approach incorporating ASD-specific interventions may be necessary to improve communication and language skills.

Research into the comorbid factors associated with childhood language disorders and their impact on diagnosis and treatment is essential to improve our understanding of these conditions and develop more effective approaches. A multidisciplinary approach involving healthcare professionals such as speech therapists, psychologists, and physicians is necessary to effectively assess and treat comorbid language disorders in children.

In summary, comorbidity is common in children with language disorders, and it can have a significant impact on diagnosis and treatment. Addressing these comorbidities is critical to providing appropriate intervention and improving outcomes for these children. Additional research is needed to better understand these relationships and develop more precise and individualized diagnostic and treatment strategies.

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