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Attention deficit disorder with or withouthyperactivity (ADD/H) and the difficulty of diagnosis

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Abstract:

Since the description of hyperactivity or psychomotor instability, the denominations and conceptions of this syndrome have evolved and have become more complex and diverse. The present work aims to highlight the difficulties of diagnosis between different manuals (DSM, CIM, CFTMEA) the appearance of the disorder as an independent structure or as a symptom in different disorders we will discuss thereafter the prevalence of the disorder at the global level, and the different diagnostic issue.

Keywords: ADHD, structure, symptom, diagnosis.

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INTRODUCTION

Hyperactivity or psychomotor instability was first described towards the end of the XIX century, since then the denominations and conceptions of this syndrome have evolved and known a controversial complexity and diversity, referring back to various manuals of diagnostics (DSM IV TR,CIM 10, CFTMEA) we notice many meanings for one single concept.

With the advent of DSM II (diagnostic and statistical manual of mental disorders, 1968) the disorder was at first described as a hyperkinetic reaction of childhood. This can be due to instability and deviation within the family, psychological disorders, learning disorders, attention and hyperactivity of the learners.[1]

DSM III, in describing the hyperkinetic reaction of childhood, favored the cognitive approach of the disorder by putting emphasis on the attention trouble, the terminology became « attention-deficit disorder with hyperactivity »,we note the importance attached to the inattention behaviors whereas hyperactivity come second. DSM III distinguished attention deficit disorder with hyperactivity, attention deficit disorder without hyperactivity and attention deficit disorder, residual type where hyperactivity remain absent while inattention and impulsivity is present.

Still another modification appears with DSM IV (1994) which results in three types a) predominantly inattentive type b) predominantly hyperactive-impulsive type c) combined type when the criteria of both categories are met.[2]

With DSM IV-TR, the current denomination covers three sub groups: type1) predominantly inattentive type, type2) predominantly impulsive-hyperactive type, type 3) combined type (inattention, impulsivity hyperactivity). The diagnosis requires the presence of at least six symptoms of inattention (for type 1) or of hyperactivity impulsivity (for type2) or six or more symptoms of both inattention and hyperactivity-impulsivity categories (for type 3). Symptoms must be present for at least 6 months, to a point which is not appropriate for a child’s age. DSM IV TR lay stress not only on the duration of

symptoms but also on the presence of some degree of symptom-linked functional impairment in two or more settings (eg. home and school) and that the symptoms develop before age seven and induce a clinically significative impairment of social academic and professional functioning.[3]

ICD-10 (international classification of disease) essentially view HDHD as a motor problem rather than inattention difficulty « for this term imply unknown physiopathologic processes » (Bursztjen, 2001), this is why ICD 10 insist upon « perturbation of activity and attention » as denomination in hyperkietic disorders chapter, at the same time the diagnostic criteria of ICM 10 and DSM IV TR are almost the same « but their diagnostic algorithms are different, in CIM 10 the definition of the category is more restricted, whereas the diagnostic algorithm of DSM IV require either six symptom of inattention or six symptoms of hyperactivity-impulsivity ;the diagnostic criteria for CIM 10 require at least six symptoms of inattention, three or more symptoms of hyperactivity and at least one of the symptoms of impulsivity. Instead of defining the subtypes depending on the nature of predominant symptoms, CIM 10 allow a specification that depend on whether the conduct disorder criteria are met or not ».[4]

The french classification of child and adolescent mental disorders (CFTMEA, 2000) take the same position as ICD 10, HDHD is named « hyperkinesis with attention disorders) in the chapter of conduct and behavior disorders.[5]

CFTMEA insist on the hyperkinesis rather than on inattention problem, and we note a striking correspondence with ICD 10.

However, incite the clinicians to wonder about the signification of these disorders by using a broad clinical and psychopathological study in order to discover an underlying pathology

In the light of these remarks, and according to the manuals of diagnostics, in the matter of inattention and hyperactivity, things should be relativized.

The first subtitle opens with an introduction that presents the specific problem under study and describes the research strategy. The first subtitle opens with an introduction that presents the specific problem under study and describes the research strategy.

1. ADHD can we talk of an over diagnosed disorder:

Considering the difficulty of defining ADHD the question of diagnosis is all the more complex, the different prevalence rates of this disorder all over the world are representative of this difficulty, A publication realized by Polanczyk et al (2014) bring out a prevalence rate of 5.29% which vary considerably with regions and according to the methodology used.[6] In fact according to the American Psychiatric Association the rates may vary from 3% to 7%, the use of various and different methodological variables by different studies account for this discrepancy; bearing in mind the importance of the environment, a study carried out by Goodman et al (2003; 2005) show that an epidemiological study that uses the same methodology in two different countries (Russia and England) gives a very similar results (1.3% and 1.4 respectively). Conversely, different methodologies in the same one country yield very different results (3.7% to 8.9%).[7] These detailed accounts prove that even when the scientific rigour is ensured the number of persons suffering from ADHD vary considerably.

Children with attention deficit hyperactivity disorder also suffer from learning difficulties. These are difficulties in reading, writing and mathematics, and that about (20%) of them have reading difficulties, and these students suffer from clear problems in Reading achievement and executive functions.[8]

In addition to these methodological problems, other questions are being posed in the clinical setting; the making of diagnosis is based upon various tests and questionnaires which utilize intensity frequency and duration factors for a given age group. But these age groups can also be challenged and put into question as we shall see age 6-8 years.

In an ADHD work «attention deficit and hyperactivity, why often the youngest of the class » a study encompassing nearly a million children, published in the Canadian Medical Association Journal in 2012 suggests that the youngest children in the classroom are over diagnosed and over treated for ADHD, the authors suggest that immaturity can promote the development of these disorders but it is a very relative immaturity. Taking into account the overall development of the child, his exact age, and this out-of-school behavior may spare the child the ADHD label while it is not always the case. In fact these children are those to whom much medication is prescribed for ADHD.

It is important to consider a relative age, a year in advance can make the child immature compared to his older classmates, this difference in maturity is called «the relative age effect» and can affect the academic and athletic performance of the child «the youngest the most diagnosed», researchers at British Columbia University were inquisitive about this effect, they studied 937943 cases, children aged 6 to 12 years in British Columbia, a Canadian province, they noted that children are 39% more likely to be diagnosed and 48% more likely to be treated with medication for ADHD if they were born in December of the year compared to January of the same year, that is to say with one year les for the same class.

At the same time, B. Golse suggest that society has a leading role when it comes to the evolution of the ADHD rates, in this way the author state that in terms of the child's hyperactivity disorder things must be put into perspective , what appears as pathological in a given period may be considered normal to another, and not just because Canguilhem has taught us that normality may be only a statistical question but more basically because the tolerance of a society towards the restlessness of its children also relies in part on educational criteria and on a variable representation of childhood, sometimes added the author, I like to imagine that in few decades the today norm-active who shall seek the treatment because hyperactivity become a selective advantage in terms of zapping evolution and

informatics.[9] Hyperactivity is a mere symptom whose description is truly environment-dependent.

As a conclusion, say that ADHD is the most frequently observed disorder according to diagnosis criteria of diagnostic manuals (ICD, DSM, and CFTMEA), it is a relative question as stressed by Golse.

2. ADHD or ADHD (s):

Is there only one ADHD? By definition, there can be an ADHD with or without hyperactivity, that is to say, the many variants of the disorder. Besides, DSM IV put forward three different types, predominantly inattention type; hyperactivity predominantly type, and the combined type, also, DSM V is expecting many modification of consequence on the diagnosis in a forward-looking publication February, 2012:

Stop using the predominantly hyperactivity /impulsivity and inattention types; the ADHD should be assigned to criterions which are now used to designate the combined subtype.

Elimination of predominantly inattention subtype and creation of new diagnosis « attention deficit syndrome » with its own code (no criterion of hyperactivity / impulsivity is required).

Besides these conduct aspects, neuropsychological approach is essential in the assessment of the diagnosis, in fact there are many theoretical models to explain the « whys » of the disorder, two theoretical hypotheses will answer our inquiry and we shall not take into account other disorder that may interfere with ADHD such as the bipolar disorder.

2.1 Barkley model (1997):

Barkley model make reference among hyperactivity disorder professionals, nevertheless it concerns only children with ADHD of combined type and predominantly hyperactivity-impulsivity type, for Barkley children with predominantly inattention type make a distinct group, as regards these groups, the different attentions are not equally affected, in the predominantly inattention type, only the selective

attention is concerned whereas in the two other forms it is the sustained attention.

The hypothesis on which rest the model is: the primary deficit in ADHD is an impairment of inhibition not a deficit of attention, according to the author inhibition has three functions:

-Inhibition of proponent response.

-Interruption of an ongoing response.

-Controlling the interferences likely to be produced when the primary response is inhibited.

So the primary deficit in ADHD is a deficit of inhibition of behavior, this deficit lead to the inefficacy of four executive functions.

Working memory: Goldman-Rakic (1995 Cited in Barkley, 1997) defines the working memory as « the capacity to hold information in mind in the absence of un external signal and to use this information to direct late action» temporality is an important dimension of working memory, this dimension is disrupted in children with ADHD, we talk of « time blindness », explaining that behavior is controlled by the present, rather than by the representations of the internal information depending on the past and the future.[10] Children with ADHD are more influenced by the immediate events and their consequences than by the more distant in time, the more distant the consequences, the worst are the performances of the child with ADHD.

Self-regulation of affect/motivation/arousal: Separates facts from motions, impairment of this function make the children more likely to react emotionally to immediate events and less able to anticipate future emotional reactions and to manage and control their feelings[11].

Internalization of speech: it corresponds to the language used in structuring our behaviours and organizing them according to rules it is also used in moral reasoning, children affected are less compliant with commands .

Reconstitution: Bronowski (1997 cited in Barkley 1997), this function consists of two processes analysis which decomposes the sequences of the events and the messages into smaller pieces, and synthesis which recombines the information units in order to create the original message or a novel pattern out of these information[12].

According to Barkley (1997) [13], the deficit of sustained attention in ADHD combined types a consequence of tertiary impairment of inhibition and of the four executive functions, the weakness of mechanisms of inhibition make persons suffering from ADHD easily distracted because of the perturbation of the executive functions responsible of self-control and persistence in carrying on talks, the amelioration of the inhibition capacity leads to the amelioration of functioning of the executive functions.

2.2 The dual pathway model of Sonuga-Barke:

This model sees ADHD as a result of two distinct processes cognitive and motivational, the first is a dys-regulation of thought and action resulting from poor inhibitory control, the second is an acquired delay aversion which links altered reward circuits, symptoms of ADHD and task involvement.

The impairment of inhibition is a primary feature whereas cognitive dys-regulations (working memory, self-regulation of affect, motivation and arousal, internalization of speech) are secondary expressions.[14] Delay aversion is secondary to combination of fundamental alteration concerning reward mechanisms and the environment characteristics.

According to this model, the emergence of symptoms is due by delay aversion, whereas the difficulties of task involvement are due to cognitive dys-regulation in tasks requiring mental flexibility, work memory and planning .

It is important to remark that executive functions do not have a direct access to ADHD symptoms, whereas motivational component influence directly the symptoms and task involvement.

Solanto et al (2001) realized a study confronting these two pathways in children with ADHD of combined type in comparison to a control group, they remark that delay aversion and poor inhibitory control are the core of ADHD but they are not connected.

As regards this two models there are two principal etiological factors of ADHD a cognitive factor represented by impairment of inhibition and an environmental factor represented by acquired delay aversion.

Two types of ADHD to be distinguished, neuropsychological type with neurophysiologic aspects and environmental type underlying education style and cultural values and standards, similar behaviors may have different origins, so the consequent management is also different, from which it follows that a precise and attentive assessment is important in when we determine the origins of the difficulties.

3. ADHD Structure and symptom:

We hall discuss the apparition of hyperactivity in several disorders, even in psychosis, which obliges us to understand this disorder either as independent structure or as a symptom in a clinical presentation. In this sense, M. Berger tries to answer this question in his book « unstable child, 1999) [15]; Redouane clinical case will clarify our question, Redouane 8 year old brought to consultation because he underperformed at school, his teachers remarked a lack of concentration.

Redouane has two sisters who do well at school, from the first clinical interview. Redouane was at ease with the presence of his mother to whom he was very attached, he showed inattention behavior, Redouane mother confide: when Redouane was sent to school for the first time he cried and underwent nausea and vomited he did not accept schooling, for his mother to quit school was out of question, Redouane understand this message, accepted education but developed symptoms of inattention with a subsequent poor results in school.

Redouane was a victim of his inattention, from the beginning Redouane suffered from a school phobia, Redouane couldn't bear tube separated from his mother whom he sought to satisfy, Redouane reached a compromise, on the one hand go to school with lack of concentration and underperforming then quitting school on the other hand rejoin his understanding mother, lack of concentration was a symptom in a clinical presentation of school phobia.

Besides, must be cautious and consider the differential diagnosis, obsessive-compulsive disorder in its severe form especially with motor instability; and a child with oppositional defiant disorder underperforms at school because of lack of interest not because of lack of concentration.

4. CONCLUSION

The diagnosis of ADHD is not only a set of symptoms present in a child, the most important is their context, in other words we should be farsighted, tools that we use in diagnosis should be relativized, we have to take several variable into account before labeling the child (eg. relative age, familial history), a clinical and psychopatholical study is necessary in order to find out an underlying pathology as mentioned in Redouane case.

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