

ADHD – FROM CHILD TO ADULT

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Rezumat

Din punct de vedere istoric ADHD (Attention-deficit/hyperactivity disorder) a fost considerată a fi mai mult o afecțiune a copilăriei. Biederman, într-un studiu recent arată că simptomele persistă la vârsta adultă la 65% din copiii diagnosticați cu ADHD. Din moment ce ADHD este o afecțiune care devine tot mai bine cunoscută, adulții care prezintă atât simptome obiective cât și subiective de dificultate în concentrare și inatenție devin candidați în vederea evaluării psihiatrice pentru stabilirea unui diagnostic.

Simptomele de ADHD se modifică de la copil la adolescent și apoi la vârsta adultă. Tipic, simptomele de hiperactivitate descresc cu vârsta și se atenuează, în timp ce problemele legate de concentrare și organizare devin dominante. Diagnosticul la adult devine și mai complicat prin suprapunerea simptomelor de ADHD cu simptomele altor afecțiuni psihiatrice frecvent întâlnite cum ar fi depresia și abuzul de droguri.

Certitudinea diagnosticului de ADHD la vârsta adultă este o provocare și necesită atenție la simptomele de debut, de inatenție, distractibilitate, impulsivitate și labilitate emoțională.

Cuvinte cheie: ADHD, copil, adult, calitatea vieții.

Abstract:

Historically, ADHD or Attention-deficit/hyperactivity disorder was considered to be primarily a childhood condition. In a recent study, Biederman shows that in 65% cases ADHD symptoms persist at adult age. Since ADHD is such a well-known disorder, adults with both objective and subjective symptoms of poor concentration and inattention have got the probabilities for evaluation.

The symptoms of ADHD change as someone with ADHD develops from a child into a teenager and then into an adult. Typically, the symptoms of hyperactivity decrease with age and become more subtle, while problems related to concentration and organization become more dominant. Diagnosis for adult is further complicated by the overlap between the symptoms of ADHD and the symptoms of other common psychiatric conditions such as depression and substance abuse.

Accurate diagnosis of ADHD in adults is challenging and requires attention to early development, and symptoms of inattention, distractibility, impulsivity and emotional lability.

Key words: ADHD, child, adult, life quality

What today we call Attention Deficit Hyperactivity Disorder (ADHD) is a disorder identified many years ago that in time had numerous other terms and definitions. "ADHD" term translation in Romanian language has different aspects like: Hyperactivity Disorder/ Attention Deficit, Attention Deficit with Hyperactivity, Hyperactive Disorder with or without Inattention. Considering there are many variants of translations in Romanian language the Chairmen of Psychiatry Departments in the University Centers agreed to keep the well known abbreviation – ADHD.

The evolution of ADHD concept: we can find data about children with ADHD in documents from as far as year 1800. These symptoms have been considered to be caused by lesions or central nervous system disorders. Stories of kids like "The Story of Fidgety Phillip" are suggestive for ADHD and it is possible that Phillip was suffering from it (1).

We will present a historical retrospective of the term "ADHD" that shows that ADHD is a real disorder and not just a "postmodern disease" (2):

ADHD is one of the most frequent disorders of the childhood being associated with long term psychosocial consequences. ADHD is a neurobiological disorder defined by an inadequate developmental level of inattention, hyperactivity and impulsivity, symptoms that can appear in any combination at school, at home or in any other social activity.

The beginning is in childhood: according to the definition – before the age of 7, almost always before 5, and often before 2 years old. The disorder often persists in adolescent and adult life and is an important risk factor for personality disorders (4).

ADHD was first mentioned in adult life in DSM III being considered a residual disorder. In DSM III-R it is specified that 1/3 of the adults that have been diagnosed with ADHD in childhood still have ADHD symptoms, while DSM IV affirms the persistence of the ADHD diagnosis at the adult.

EPIDEMIOLOGY

ADHD prevalence varies with each country: 0-2,5% for European countries, 7-12,6% in USA, 3,3-9% in Canada and 7,7% in Japan (4; 5; 6; 7).

Psychologist Dr. Maria Grigoroiu Șerbănescu partially published in 1999 and then in 2001 the results of an important epidemiological study realized in our country (project Centaur) regarding psychic and neuro-

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Table 1. A historical retrospective of ADHD term (1)

Year	Terms used
1902 (Still)	Morbid Defect of Moral Dyscontrol
1906 (French classification)	Instabilité psychomotor
1941/1947 (Strauss)	Minimal Brain Damage Syndrome
1962 (Clements și Peters)	Minimal Brain Dysfunction (MBD)
1968 (DSM II)	Hyperkinetic Reaction Disorder (HRD)
1980 (DSM III)	Attention Deficit Disorder with or without Hyperactivity, ADD/H, ADD without Hyperactivity
1987 (DSM III-R)	Attention Deficit/Hyperactivity Disorder (ADHD) Undifferentiated Attention Deficit Disorder (UADD)
1994 (DSM IV)	Attention Deficit/Hyperactivity Disorder ADHD Classification: ADHD Primarily Inattentive (ADHD-PI) ADHD Primarily Hyperactive/Impulsive (ADHD- PHI) ADHD combined (ADHD-C)2000 (DSM IV-TR)Attention Deficit/Hyperactivity Disorder ADHD Classification: ADHD Primarily Inattentive (ADHD-PI) ADHD Primarily Hyperactive/Impulsive (ADHD-PHI) ADHD combined (ADHD-C)

logical disorders in children and teenagers. The study took place between 1981-1984 on 14812 subjects with ages between 10 months and 16 years. The criteria used were DSM-III. The actual prevalence for ADHD on age groups and sex varied between 0.2 – 6.77% (8).

In a study on 3199 subjects aged between 18-44 years and that meet DSM IV criteria for ADHD Kessler et al finds 4.4% prevalence (9).

There are studies in specialty literature that show that 65% of the children with ADHD continue to present symptoms at adult age. ADHD prevalence at the adult in USA is 5% (10).

In a meta-analysis of the studies in specialty literature regarding adult ADHD Faraone et al show that the persistent rate of ADHD at adult differs with the including criteria. Thus if we include in ADHD only the adults that have all the criteria for the disorder from DSM-IV, the persistence rate is 15%. If the adults that meet the criteria for ADHD in partial remission are also included, persistence rate is 65% (11).

In a prospective study on 112 adolescents with ADHD, Biederman found in 58% of the cases characteristic symptoms for ADHD after 10 years of evolution, compared with 6% in the control group (12).

Sex ratio shows a predominance of the male sex. Literature data show a boys/girls ratio of 2.5 -12 : 1. In adult life the sex differences disappear (13; 6; 14).

Considering the age groups prevalence is higher for pre-school and early school children.

ETIOPATHOGENY

The exact etiopathogenic model of ADHD is still unknown. ADHD is an extremely heterogenic disorder.

There are genetical, environmental, familial, psychosocial, pre and perinatal factors implied that acting on a neurobiological state determine the apparition of the symptoms.

Genetical theories in ADHD

ADHD is a high inheritable disorder: 75% (15). According to the literature data 25-33% from the parents of the ADHD children are themselves affected by this disease (16; 17). Parents with ADHD have a 50% chance to have a child with ADHD (17). Concordance in Concordanța la gemenii monoziگوٹی este de 92% iar la gemenii dizigoٹی 33% (18).

Genetic studies focused on the genes involved in neurotransmitter function regulation (especially dopamine and noradrenalin). The conclusion was that there is no single gene involved, but a complex of susceptible genes. These have been identified and correlated with ADHD: dopaminergic transporter gene (DAT1), dopaminergic receptor gene D4 (DRD4), dopaminergic receptor gene D5 (DRD5), SNAP 25 gene that controls synaptic vesicles transmission, noradrenalin transporter gene, but also genes involved in serotonin transportation (19; 20; 21).

Environmental, familial and psychosocial factors

ADHD is associated with a series of risk factors: pre- and perinatal disorders, small weight at birth, antenatal exposure to alcohol and nicotine, maternal stress during pregnancy, maternal metabolic disorders, head trauma, meningitis and encephalitis. ADHD is correlated with early maternal abandon and institutionalization, with a chaotic social environment and also other psychosocial factors. The positive quality of intrafamilial relationships is considered to be a protection factor (22);

23).

ADHD is the most frequent disorder in children and adolescents with parents affected by: major affective diseases, schizo-affective disorders, schizophrenia and alcoholism (24).

Neurotransmitters involved in ADHD etiopathogeny

ADHD can be considered to be a disorder of the neurotransmitter function, mostly involved being dopamine and noradrenalin. Catecholamines have an important role in normal attention maintaining. Areas rich in catecholamines are involved in ADHD physiopathology (25). Thus the posterior systems involved in attention changing and focusing towards new stimulus (mediated by NA), and anterior system (mediated by DA and NA) involved in data analysis and answer preparation are affected.

Neuroanatomy and ADHD

Neuroimaging studies show anomalies in frontal, temporal and parietal lobes (cortical regions), basal ganglia and cerebellum. These anomalies are precocious and non-progressive.

ADHD patients have a cerebral volume significantly lower in these regions: cerebellar volume, basal ganglia, cerebellar vermis, prefrontal right cerebral cortex, globus pallidus. At ADHD children cerebral total volume is 3.2% lower and cerebellar volume is 3.5% lower compared to control. In the frontal region it has been demonstrated a reduction in white matter volume, especially in the right hemisphere. Also it has been showed a reduction of the gray matter in both hemispheres, but more in the right one. These anomalies persist in time. The cerebral volume is correlated with ADHD severity (27).

In a 2006 study Shaw pointed out to a global thinning of the cortex in ADHD children compared to control, especially in prefrontal and precentral, superior and medial regions that are important in attention control (28).

Prefrontal cortex, involved in executive functions (planning, organizing, initiation or delaying of the answers), in working memory and cognition modulation, is dysfunctional in ADHD. Neuroimaging studies demonstrate that prefrontal right cortex is smaller in ADHD patients (29). Also anomalies have been showed at the level of anterior cingulate cortex involved in stimulus selection and answer inhibition (30).

Neuropsychological profiles

There are more neuropsychological mechanisms in ADHD: prefrontal inhibitory function deficits, work memory and selective attention dysfunction, timing deficit, energetic status and particular personality traits deficiency (31).

The "reward" circuits are also affected: decrease of tolerance to aversion and decrease of the waiting time (ADHD child can't wait patiently for his reward). According to Biederman at the adult with ADHD cognition and emotional affecting is maintained.

CHILD ADHD SYMPTOMS

According to the diagnosis manuals DSM IV-TR and ICD 10 it is necessary that the symptoms of inattention and/or hyperactivity and impulsivity have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level. Some of the symptoms appear before the age of 7 and are present both at home and at school.

Inattention symptoms

- fails to give close attention to details or makes careless mistakes
- has difficulty sustaining attention in tasks or play
- does not seem to listen when spoken to directly
- does not follow instructions and fails to finish schoolwork
- has trouble organizing activities
- avoids, dislikes, or doesn't want to do things that take a lot of mental effort for a long period of time
- loses things needed for tasks and activities
- Is often easily distracted
- Is often forgetful in daily activities

Hyperactivity symptoms

- dgets with hands or feet or squirms in seat
- gets up from seat when remaining in seat is expected
- runs about or climbs when and where it is not appropriate (adolescents or adults may feel very restless)
- has trouble playing or enjoying leisure activities quietly
- is often „on the go“ or often acts as if „driven by a motor“
- talks excessively

Impulsivity symptoms

- blurts out answers before questions have been finished
- has trouble waiting one's turn
- interrupts or intrudes on

DSM IV-TR describes 3 subtypes of ADHD based on the dominant symptom pattern in the last 6 months:

Combined Type: inattention and hyperactivity-impulsivity symptoms

Predominantly Inattentive Type: inattention symptoms

Predominantly Hyperactive-Impulsive Type: hyperactivity-impulsivity symptoms

In children hyperactive-impulsive or combined types are dominant (3).

ADULT ADHD SYMPTOMS

The symptoms of ADD / ADHD change as someone with ADD / ADHD develops from a child into a teenager and then into an adult. While the core problems of hyperactivity, impulsiveness, and inattentiveness remain the same, the specific symptoms manifest differently. Typically, the symptoms of hyperactivity decrease and become more subtle, while problems

related to concentration and organization become more dominant.

Hyperactivity in adults:

- inability to relax
- restlessness, nervous energy
- overwhelmed by “urgent tasks”
- working on many activities at the same time
- insomnia, irascibility
- active job
- talking excessively

Impulsiveness in adults:

- answers before without hearing whole question
- blurting out rude or insulting remarks
- interrupting others
- often changes his job
- drives with excessive speed
- volatile moods

Inattentiveness in adults:

- “tuning out” unintentionally
- inability to focus on mundane tasks
- slow, inefficient
- has issues with time management
- difficulties with finishing activities
- often does not listen when talking directly to him
- constantly losing and forgetting things

Also at the adult there are 3 sub-types of ADHD:

Hyperactive-Impulsive Type: hyperactivity-impulsivity symptoms dominant for at least last 6 months.

Inattentive Type: inattention symptoms present for the last 6 months.

Combined Type: both inattention and hyperactivity-impulsivity symptoms for the last 6 months.

If in children hyperactive-impulsive type is dominant, in adults dominates the inattentive type (32).

According to Dr. Thomas E. Brown (cited by Smith) of the Yale University School of Medicine, „ADHD is essentially a name for developmental impairment of executive function.“ Executive functions are the skills involved in planning, selective attention, motivation, and impulse control. Adults with ADHD have problems in six major areas of executive functioning:

- Activation – Problems with organization, prioritizing, and starting tasks.
- Focus – Problems with sustaining focus and resisting distraction, especially with reading.
- Effort – Problems with motivation, sustained effort, and persistence.
- Emotion – Difficulty regulating emotions and managing stress.
- Memory – Problems with short-term memory and memory retrieval.
- Action – Problems with self-control and self-regulation.

While adults with ADHD have great difficulty maintaining attention, those same individuals often are

able to “hyperfocus” for long periods of time on tasks or projects that they find interesting. This is particularly true of interactive or hands-on activities. They may even be compulsive about it, spending hours immersed in the activity without a thought to anything or anyone else (32).

Positive characteristics of adults with ADD / ADHD

The symptoms of ADD / ADHD are not all negative. People with ADD / ADHD also have many positive traits that are directly tied to their active, impulsive minds:

● **Creativity** – People with ADD excel at thinking outside of the box, brainstorming, and finding creative solutions to problems. Because of their flexible way of thinking about things, they tend to be more open-minded, independent, and ready to improvise.

● **Enthusiasm and spontaneity** – People with ADD are free spirits with lively minds—qualities that makes for good company and engrossing conversation. Their enthusiasm and spontaneous approach to life can be infectious.

● **A quick mind** - People with ADD have the ability to think on their feet, quickly absorb new information (as long as it’s interesting), and multitask with ease. Their rapid-fire minds thrive on stimulation. They adapt well to change and are great in a crisis.

● **High energy level** – People with ADD have loads of energy. When their attention is captured by something that interests them, they can have virtually unlimited stamina and drive (33).

Negative effects of ADHD on adult life:

Left untreated, ADD can wreak havoc in your life, disrupting everything from your career to your social life, love life, and financial stability (34).

Professional life: ADD / ADHD can be a big stumbling block on the road to career success. The symptoms of disorganization and inattention, in particular, pose problems in the workplace. If you have ADD / ADHD, you may:

- be chronically late to work,
- miss or forget deadlines and meetings,
- have a hard time organizing projects and delegating work,
- have difficulty completing projects on time,
- spend hours at work, but get very little done,
- get distracted by trivial tasks, while neglecting the most important ones,
- have trouble paying attention in meetings or in conversations with your boss and colleagues.

Relationships: ADD / ADHD can put a strain on your relationships. The chaos that surrounds the disorder is particularly hard on romantic relationships. The spouse or partner without ADD may feel resentful if he or she is the one who has to take care of all the planning, organizing, cleaning, bill paying, and other household responsibilities. And you may resent your partner’s constant nagging to tidy up, get organized, and

take care of business. Friends and family members may also take it personally when you tune them out, forget conversations or commitments, speak a little too bluntly, or keep them waiting.

Finance: The ADD / ADHD symptoms of procrastination, disorganization, and impulsivity can interfere with good money management. If you have ADD / ADHD, you may find that you:

- forget to pay bills,
- run up huge balances on your credit cards,
- cannot save money,
- are unable to follow through on long-term financial goals,
- shop impulsively,
- have difficulty keeping financial paperwork in order, and
- fail at budgeting and recordkeeping.

Eating behaviors: The impulsivity of ADD / ADHD can extend to eating, and many adults with the condition also suffer from overeating, obesity, or disordered eating. talks about the connection between ADHD (ADD) and disordered eating: If you have ADD / ADHD, you may:

- eat snacks throughout the day, rather than eating at planned meals,
- be unable to stick with a diet,
- have intense cravings for carbohydrates and caffeine (in coffee and chocolate),
- eat a lot of fast food and “junk food” (cookies, chips, soda, fries, ice cream),
- ignore hunger signs, waiting until you’re too hungry to plan a healthy meal and then eating whatever you can find (34).

ADHD AND COMORBIDITY

Children and adults with ADHD frequently meet the criteria of one or more psychiatric diagnosis. 65% of the children with ADHD have the condition of some comorbidities. 85% of the newly diagnosed ADHD cases associated a comorbid disorder and 60% associate 2 comorbid disorders (35).

In children most frequent disorders that are comorbid with ADHD are: oppositional defiant disorder, conduct disorders, autism spectrum disorder (50-80% from the young children with ASD have ADHD symptoms), learning disorders, anxiety disorders, obsessive-compulsive disorder, depression, enuresis, tics, Tourette disorder, bipolar disorder, sleep disorder and accidental lesions (35).

Many of the comorbidities met in children are still present at adult life. Most frequent are: obsessive-compulsive, depressive, bipolar, sleeping and anxiety disorders, and substance abuse (9).

In a prospective study, Biederman et al, showed after 10 years of evolution a high prevalence of antisocial behavior, anxiety and disposition disorders and nicotine, alcohol and drug abuse in young people when compared with the control group. Comorbid disorders increase hospitalization costs of the ADHD patients (10).

ADHD IMPACT ON DEVELOPMENT

ADHD interferes with development and social function and leads to the apparition of other disorders. A pre-school child can frequently have behavior disorders. School children can have conduct disorders, school issues, social interaction difficulties and low self-esteem. Adolescents and students can have law and smoking problems, while at the adult life professional failure, low self-esteem, substance abuse and relationship problems can be real issues (36).

ADHD has an important impact on daily activities, school results and work performance. In a study which included 500 subjects diagnosed with ADHD with ages between 18 and 64 years (done by Biederman in USA) was pointed out a lower income at the adults with ADHD (10).

TREATMENT

Main ADHD symptoms have consequences in multiple areas determining school, home and social dysfunctionality. Main treatment targets are the optimization of child function in these areas (37).

MTA Cooperative Group (1999) established that in ADHD most efficient therapeutic strategies for symptom suppression are those based on medication and those combined: medication and behavior intervention.

Medical therapy must be taken in consideration when the patient meets the DSM IV criteria for ADHD and the criteria for primary use of medication are met, or psychological treatment by itself is insufficient.

There are numerous studies that documented in time the efficacy of the **stimulant medication**, which rapidly reduces hyperactivity, inattention and impulsivity. They improve the functionality in multiple domains both on short and on long term (4). Stimulant medication includes short time and long time action drugs.

Psycho-stimulant medication works at the level of the prefrontal cortex on noradrenergic and dopaminergic circuits. Also it works at the level of the striate, where it binds to the dopamine transporter and increases the dopamine quantity from the synaptic gap. This way Metilfenidat allows the inhibitory circuits to fulfil their role decreasing the hyperactivity and impulsivity (40).

Stimulant medication is approved and used in the majority of the European countries and in USA. In our country Metilfenidat with slow release (Concerta) has been approved for the treatment of the children with ADHD in 2007.

Non-stimulant specific medication is represented by Atomoxetine, a new drug, specific inhibitor of norepinephrine reuptake (it inhibits the presynaptic transporter of norepinephrine. It has low affinity for other noradrenergic receptors or for other transporters. Atomoxetine affects in a lower degree the dopaminergic system. Dopamine levels are not increased in the accumbens nucleus or in the striate. Atomoxetine is correlated with increased levels of dopamine in the prefrontal cortex – region responsible for working memory, the ability to repeat answers and the impulsivity level (1).

At the adult the clinical experience proves that there is an important benefit from the stimulant therapy and from the non-stimulant specific one (Atomoxetine).

The European Guide for ADHD recommends the use of both types of medication at the adult, both for those who initiated the treatment in childhood and for those

Jasper/Goldberg Adult ADD/ADHD Screening Quiz (by Larry Jasper & Ivan Goldberg)

1. At home, work, or school, I find my mind wandering from tasks that are uninteresting or difficult. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat • Moderately • Quite a lot • Very much 	<ul style="list-style-type: none"> • Moderately • Quite a lot • Very much 	<ul style="list-style-type: none"> • Quite a lot • Very much 	<ul style="list-style-type: none"> • Quite a lot • Very much
2. I find it difficult to read written material unless it is very interesting or very easy. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat • Moderately • Quite a lot • Very much 	7. I make quick decisions without thinking enough about their possible bad results. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat • Moderately • Quite a lot • Very much 	13. I almost always am on the go. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat • Moderately • Quite a lot • Very much 	19. In group activities it is hard for me to wait my turn. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat • Moderately • Quite a lot • Very much
3. Especially in groups, I find it hard to stay focused on what is being said in conversations. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat • Moderately • Quite a lot • Very much 	8. My relationships with people are made difficult by my tendency to talk first and think later. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat • Moderately • Quite a lot • Very much 	14. I am more comfortable when moving than when sitting still. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat • Moderately • Quite a lot • Very much 	20. My mind gets so cluttered that it is hard for it to function. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat • Moderately • Quite a lot • Very much
4. I have a quick temper... a short fuse. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat • Moderately • Quite a lot • Very much 	9. My moods have highs and lows. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat • Moderately • Quite a lot • Very much 	15. In conversations, I start to answer questions before the questions have been fully asked. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat • Moderately • Quite a lot • Very much 	21. My thoughts bounce around as if my mind is a pinball machine. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat • Moderately • Quite a lot • Very much
5. I am irritable, and get upset by minor annoyances. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat • Moderately • Quite a lot • Very much 	10. I have trouble planning in what order to do a series of tasks or activities. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat • Moderately • Quite a lot • Very much 	16. I usually work on more than one project at a time, and fail to finish many of them. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat • Moderately • Quite a lot • Very much 	22. My brain feels as if it is a television set with all the channels going at once. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat • Moderately • Quite a lot • Very much
6. I say things without thinking, and later regret having said them. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat 	11. I easily become upset. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat • Moderately • Quite a lot • Very much 	17. There is a lot of „static“ or „chatter“ in my head. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat • Moderately • Quite a lot • Very much 	23. I am unable to stop daydreaming. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat • Moderately • Quite a lot • Very much
	12. I seem to be thin skinned and many things upset me. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat • Moderately 	18. Even when sitting quietly, I am usually moving my hands or feet. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat • Moderately 	24. I am distressed by the disorganized way my brain works. <ul style="list-style-type: none"> • Not at all • Just a little • Somewhat • Moderately • Quite a lot • Very much

The answers to the above questions have a corresponding score as follows:

0. Not at all; 1. Just a little; 2. Somewhat; 3. Moderately; 4. Quite a lot; 5. Very much

that are starting the treatment for the first time (41).

Psycho-educational measures: counseling and education must be the base in ADHD treatment. Parent and teacher counseling is almost always mandatory. These must be instructed to observe and identify the problems and must be taught behavior techniques for solving them. Most used techniques are: positive strengthen of the adequate behavior, clear orders with assignment fragmentation, and negative strengthening of inadequate behavior. Auto-monitoring is also useful. In school environment, where children with ADHD often have difficulties, programs of behavior intervention adapted to the particularities of each class are useful (1).

What if the parent also has ADHD? The child is learning in this case different strategies (like organizing, planning, concentration, finalizing activities, auto-control) from a parent who is disorganized, hyperactive, doesn't have patience and is not attentive to the child's needs (42).

Untreated parent with ADHD becomes anxious, depressive, afraid when interacting with his/her own child. This way a vicious circle is created with parental inefficiency, guilt sentiments, low self-esteem, aggressive interaction, hostility, rejection, psychopathological development in child. So it is important to treat the adult with ADHD (psycho-education and medication) (42).

CONCLUSIONS

In present it is known that ADHD is not a transitory disorder and that it persists at the adolescent and adult. The predictors of the ADHD persistence at the adult are: maternal depression, family conflict with altered child-parent relationship, disorganized families, family history of ADHD and sever forms of ADHD. Biederman shows that symptoms persist in adult life at 65% from the children diagnosed with ADHD (12).

Diagnosing an adult with ADHD is not easy. Often, when a child is diagnosed with this pathology, one of the parents can admit that he or she also had many of the same symptoms in childhood, and for the first time can understand some of the traits that created him/her problems. Other adults who seek professional help for depression or anxiety discover that the real cause of their emotional problems is ADHD.

TOTAL SCORE	INTERPRETATION
>70	Adult ADHD
50-69	Moderate ADHD
35-49	Mild ADHD
25-34	Borderline ADHD
0-24	No ADHD likely

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