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THE BRAIN'S RELATIONSHIP TO MENTAL DISORDERS

A RELAÇÃO DO CÉREBRO COM AS PERTURBAÇÕES MENTAIS

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ABSTRACT

Mental disorder is a dysfunction of brain activity that can affect an individual's mood, behavior, reasoning, learning, and communication. It is a silent disease that can be present at any stage of life. Its reflexes occur at the psychological level and may have physical symptoms, depending on the stage of the illness. Commonly associated with suffering are anxiety disorders, depression, panic syndrome, chemical dependency, bipolar disorder, and others. Each individual manifests his or her pathology in a unique way, and the management must also be personalized. The disorder has multiple causes, such as genetic inheritance, environment, culture, emotional impacts, traumas, phases of the life cycle, among other aspects. Therefore, its treatment requires a multidisciplinary team, with professionals such as psychologists, psychiatrists, speech therapists, and, in the school environment, when it comes to learning, a psychopedagogue, an extremely important professional for the student and his family. When the manifestation of the disorder happens in the school phase, teachers are key, since school is a very familiar environment and functions as the second home and family representation. Teachers have the possibility to observe and identify the student's problem; they spend many hours with the student daily, transfer knowledge, and identify the student's emotional state, attention focus maintenance, memory, engagement, motivation, mood and behavior changes. They are the first to notice learning difficulties or inability presented by some individuals when facing new situations, triggered by several factors.

KEYWORDS: Disorder. Diagnosis. Learning disability.

RESUMO

O transtorno mental é uma disfunção da atividade cerebral que pode afetar o humor, o comportamento, o raciocínio, a forma de aprendizado e a maneira de se comunicar de um indivíduo. É um mal silencioso, que pode estar presente em qualquer fase da vida. Seus reflexos acontecem no âmbito psicológico e podem ter sintomas físicos, dependendo do estágio da doença. Comumente associado ao sofrimento, os transtornos ansiosos, depressão, síndrome do pânico, dependências químicas, transtorno bipolar e outros. Cada indivíduo manifesta sua patologia de forma singular e o manejo deve ser também de forma personalizada. O transtorno tem causas múltiplas, como herança genética, meio ambiente, cultura, impactos emocionais, traumas, fases do ciclo vital, entre outros aspetos. Portanto, seu tratamento da mesma forma exige uma equipe multidisciplinar, com profissionais como psicólogo, psiquiatra, fonoaudiólogo, e no ambiente escolar, se tratando da aprendizagem, psicopedagoga, profissional de extrema importância para o aluno e para a família. Quando a manifestação do transtorno acontece em fase escolar; os professores são peça chave, já que a escola é um ambiente muito familiar e funciona como segundo lar e representação de família. Os professores têm a possibilidade de observar e identificar o problema do aluno; pois passam muitas horas com ele diariamente, transferem conhecimentos, identificando assim seu estado emocional, manutenção de foco atencional, memória, engajamento, motivação, mudança de humor e comportamento. São os primeiros a perceber dificuldades de aprendizagem ou incapacidade apresentada por alguns indivíduos diante de situações novas, desencadeadas por diversos fatores.

PALAVRAS-CHAVE: Transtorno. Diagnóstico. Dificuldade de aprendizagem.

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1.INTRODUCTION

Patients with mental disorders showed less brain activity in the inferior prefrontal cortex/insular, the inferior parietal lobe, and also in a nearby structure called the putamen (largest component of the basal nuclei; its main role is the regulation of broad movements, and in addition, it has an influence on learning). (JANIRI et al., 2020).

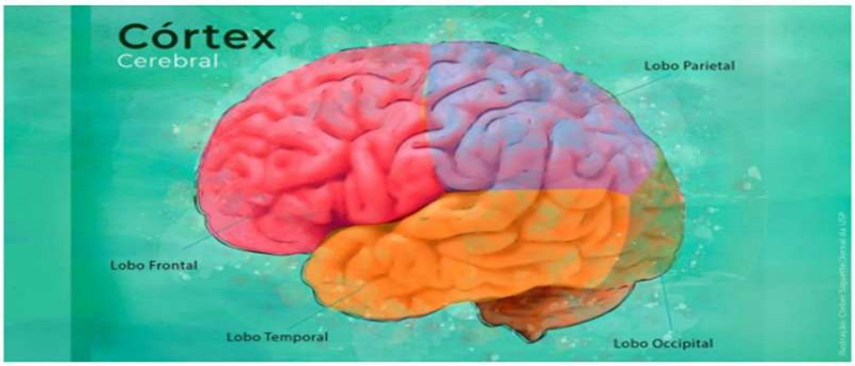

Figure 1 International consortium of researchers analyzed brain magnetic resonance images of approximately 30 thousand people around the world, to compare alterations in the superficial layer of the brain (cortex) in six types of psychiatric disorders. Source: Cleber Siquette/Jornal da USP

The movement to include children with Special Educational Needs (SEN) in school has been taking place worldwide. Since the 1990s, with the Jomtien Declaration, also known as the World Declaration on Education for All (UNESCO, 1990), together with the Convention on the Right of the Child (UNESCO, 1988) and the Salamanca Declaration (UNESCO, 1994), it has been established that every person (children, youth, and adults) should have educational opportunities geared to their learning needs. Thus, since people with disabilities require special attention, measures must be taken to ensure equal access to education for them as an integral part of the educational system.

There are several doubts that lay people and even professionals present:

1.1. how to identify an individual with a mental disorder? Changes in behavior or mood, difficulty in thinking or concentrating, problems in socializing with other people or in expressing ideas coherently.

1.2 What are the causes of mental disorders? There is no definite cause for this type of disorder, but scientific advances have made it possible to establish a relationship between genetic factors and the incidence of these cases.

1.3 How is a mental disorder diagnosed? It is done by professionals specialized in mental health: psychologists, psychiatrists or psychoanalysts. Identifying a mental illness is not an easy task; the diagnosis can take years to be defined.

1.4 How are these disorders treated? It varies according to the diagnosis and the severity of the symptoms. In some cases, medications are recommended to stabilize brain function.

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1.5 Is it possible to prevent a mental disorder? The mental disorder is still not completely understood by medicine, because it is something that does not manifest itself physically, but only reflects on a person's daily life, it is more difficult to analyze its symptoms. Great advances have been made, and today we are more aware of how much healthy eating, physical activity, and social interaction influence our minds. But none of these advances is more powerful than dialogue. Talking about feelings is becoming an increasingly common practice due to a greater awareness of mental health (BOSSA, 2007).

Learning disabilities are understood as the inability presented by some individuals when facing new situations, triggered by several factors. Learning disabilities are not an exception in the educational system. A child's failure, often labeled dyslexia, is also the result of other social, political, cultural, educational pedagogical failures, among others. To consider these acquisition disorders strictly a problem of the child is to ignore the reflections of teaching difficulties (BOSSA, 2007).

Learning must be seen as the activity of individuals or human groups that, by means of the incorporation of information and the development of experiences, promote stable changes in personality and group dynamics, which revert in the instrumental management of reality. The central object of study of psychopedagogy is structured around the human learning process: its normal and pathological evolutionary patterns and the influence of the environment (family, school, society) on its development (BOSSA, 2007).

Psychopedagogy is concerned with human learning and arose out of the need to understand learning problems. It is situated in a territory beyond the limits of psychology and of pedagogy itself. Since it is concerned with the problem of learning, it must first be concerned with the learning process. Thus, we see that psychopedagogy studies the characteristics of human learning: how people learn, how this learning varies evolutionarily and is conditioned by several factors, how changes in learning occur, how to recognize, treat and prevent them (BOSSA, 2007).

Every psycho-pedagogical treatment has as its objective the elimination of the symptom presented by the student. The psychopedagogue/patient relationship is measured by well-defined activities, whose objective is to quickly resolve the most harmful effects of the symptom and then focus on strengthening cognitive resources. One way to do this is through the use of games, which can help the psychopedagogue in dealing with children (ANJOS, 2009).

It is understood that placing students with SEN (Special Educational Needs) in the classroom and not creating strategies for their permanence and school success makes the entire movement in schools unfeasible. There is an urgent need to monitor and stimulate students with SEN in order for their learning to be effective. The role of the school psychopedagogue is very important and can and should be thought of from within the institution, which performs an important social function, which is to socialize the available knowledge, to promote cognitive development, that is, through learning, the subject is inserted in a more organized way in the cultural and symbolic world that incorporates society (BOSSA, 2007).

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Life, the events, the evolutions, show the importance of working more and more with play, with children, whatever their age group. When they are involved in playful activities, students can better assimilate the contents being worked on and, no doubt, travel through their imagination. Playful manifestations develop important functions in the development of the child and constitute an important didactic instrument for the teacher. Play is extremely important for the psychological, social, and cognitive development of the child, for it is through play that the child expresses his feelings about the world in which he lives. It is also through play that children recognize their reality and understand how the world works and their emotions, and that they develop as individuals and learn to overcome their limitations by playing and reproducing (ANJOS, 2009).

2. LITERATURE REVIEW

2.1 AUTISTIC SPECTRUM DISORDER

Autism spectrum disorder is a complex and genetically heterogeneous disorder, which has always made it difficult to identify its etiology in each particular patient and, consequently, to provide genetic counseling to families. Autism is a syndrome, not a disease, because despite its remarkable behavioral phenotype, it lacks a singular etiology or specific pathology. It is thus explicit that autism is not such a perceptible syndrome as it is with Down's Syndrome, that is, when looking at an individual with Autism Spectrum Disorder (ASD) it is not possible to notice by traits or physiognomy that he or she has the disorder. The concept of autism has been undergoing changes over time, based on new studies about autism that have emerged. The Autistic Spectrum Disorder (ASD) has as its main characteristics the difficulty in social communication and repetitive behaviors, and its main manifestations appear before the first three years of life (ÁVILA, 2008).

In the context of school inclusion, individuals with Autism Spectrum Disorder (ASD) are included. Autism now belongs to the category called Neurodevelopmental Disorders, classified as Autism Spectrum Disorders (ASD). Thus, the disorders that share characteristics of autism, such as: Autism, Asperger's, Childhood Disintegrative Disorder, and Invasive Developmental Disorder Not Otherwise Specified, were grouped as ASD, with distinctions according to the level of severity in relation to social interaction and communication (APA, 2013). It is noteworthy that, for this study, the term "autism" was considered for the literature review, excluding the other disorders that make up the ASD, due to the higher incidence of publications (ÁVILA, 2008).

The role of the school is to adapt to meet the specificities of these students, for which changes are needed in the structure and operation of the school, in the training of teachers and in the family-school relationships. Alterations in the coding region of the NLGN (Neuroligin) genes were observed in developmental delay and autism. The NLGN3 gene was screened in families with a history of autism, and the SLC6A4 gene encoding the serotonin receptor (5-HTT) and mediating serotonin receptor (5-HTRs) at the synapse is involved in autism, as it encodes neurotransmitters and receptors involved in the serotoninergic system (ÁVILA, 2008).

2.2. ATTENTION DEFICIT/HYPERACTIVITY DISORDER

In recent years, the diagnosis of ADHD has increased in the school context, and so has the amount of research on the subject. It seems to result from a complex combination of genetic, biological, environmental and social factors. In highlighting genetic factors in ADHD, some studies indicate familial phenotypic markers as well as genetic markers, and polygenic transmission is also considered. The biological factor of ADHD transmission has been demonstrated in comparative studies of monozygotic and dizygotic twins, not re-singing in the same city, and adopted children. Genetic studies involving ADHD do not exclude cultural influences, family and exposure to stressful events (FERREIRA, 2008).

Due to the significant increase of Attention Deficit Hyperactivity Disorder (ADHD) in schools, it has been the focus of attention of parents and educators. Psychologists, psychiatrists, and neurologists are increasingly specializing in the treatment and prevention of this disorder. Medications and psychotropic remedies are prescribed, parents and teachers are oriented, the child's development is monitored, and comorbidities are treated. Cases seem to increase day by day, taking over our culture. Children with ADHD are described by their parents, teachers, and classmates as daydreamers, not listening, always missing things, forgetful, and easily distracted by their surroundings (FERREIRA, 2008).

The treatment of ADHD involves a multiple approach, encompassing psychosocial and psychopharmacological interventions. Within the psychosocial interventions, the first step should be educational, through clear and precise information to the family about the disorder. Often, a training program is needed for parents to learn how to manage their children's symptoms. It is important that they know the best strategies for helping their children organize and plan activities. For example, these children need a quiet, consistent environment without major visual stimuli to study. School-based interventions are also important. Interventions at school should focus on school performance. In this sense, ideally, teachers should be oriented to the need for a well-structured classroom with few students. Consistent daily routines and predictable school environments help these children maintain emotional control (FERREIRA, 2008).

In the ADHD disorder, alterations occur in the prefrontal cortex, the limbic system, especially in the amygdala and hippocampus that cause the development of this disorder.

2.3 ANXIETY DISORDERS IN CHILDHOOD AND ADOLESCENCE

Anxiety disorders (AD) are recognized as some of the most prevalent mental disorders in children and adolescents, second only to attention-deficit/hyperactivity disorder (ADHD) and conduct disorder. They can cause clinical manifestations capable of generating important impairments in the normal functioning of the individual. Pathological anxiety leads patients to develop compensatory strategies to avoid contact with what they fear. Besides the consequent immediate functional impairment, possible medium and long-term implications are decreased self-esteem and lack of interest in life. When the disorder is present in childhood or adolescence and there is no adequate treatment,

there is an increased possibility of progressive worsening of the morbid condition throughout life (BARLETTA, 2011)

Perhaps the most common manifestation of an anxiety disorder in children and adolescents is school avoidance. The term "school rejection" has largely supplanted the term "school phobia". Actual fear of school is extremely rare. Most children who refuse to go to school probably have separation anxiety, social anxiety disorder, panic disorder, or a combination of these. Some have specific phobias. The possibility that the child is being bullied should be considered. Some children openly complain about their anxieties and describe why, e.g., "I'm afraid I'll never see you again" (separation anxiety) or "I'm afraid I'll be picked on" (social anxiety disorder). However, most children express their discomfort by citing somatic complaints: "I can't go to school because I have a stomachache. These complaints are often true because gastric discomfort, nausea, headache, and sleeping problems often develop in anxious children. Several long-term follow-up studies confirm that many children with somatic complaints, especially abdominal pain, have an underlying anxiety disorder. (BARLETTA, 2011)

Early identification and treatment of anxiety disorders can prevent negative repercussions in the child's life, such as constant school absences and consequent school dropout, overuse of pediatric services for somatic complaints associated with anxiety, and possibly the occurrence of psychiatric problems in adulthood. Advances in neurobiological studies, especially in the understanding of amygdala functions in normal individuals, will facilitate both the clarification of the pathophysiological mechanisms involved in anxiety disorders and their treatment (BARLETTA, 2011)

2.4 CONDUCT DISORDER AND OPPOSITIONAL DEFIANT DISORDER

Oppositional defiant disorder (ODD) and conduct disorder are classified as disruptive behavior disorders, the characteristics of which are defiant and disobedient behaviors. Most children sometimes exhibit some type of challenging behavior, especially with their parents and close family members. However, if this behavior lasts too long, professional help must be sought. Conduct disorder and OCD are two different types of disorders, even though they share common features. (BARLETTA, 2011)

The DSM-V (Diagnostic and Statistical Manual of Mental Disorders) classifies OCD as a condition involving challenging behavioral patterns, agitation, and aggression, but these symptoms need to remain for at least six months. To be diagnosed with OCD, the child must have at least four of the eight symptoms listed in the DSM-V diagnostic criteria. Although the exact causes of the disorder are unknown, several factors can play a role, such as genetic predisposition, lack of structure at home, and brain damage. Some examples of signs and symptoms are losing patience frequently, constant agitation, expressing anger and resentment, arguing with anyone in authority, defying rules, disobedience, disruptive behavior, irritability, aggressiveness, putting the blame for one's mistakes on others, arguing with adults frequently, deliberately bothering others, being cruel and vindictive (BARLETTA, 2011)

A conduct disorder involves a repetitive pattern of behavior. Children with a conduct disorder are selfish and insensitive to the feelings of others, and may harass other children, damage property,

lie, or steal without guilt. Psychotherapy can help but removing children from a problematic environment and providing a strictly structured environment, such as a mental health facility, may be the most effective treatment. The child's behavior varies. Some children are better behaved than others. It is diagnosed only when the child repeatedly, persistently, and in ways that are not consistent with the child's age, disregards the rules and rights of others. It usually begins in late childhood or early adolescence and is more common in boys than in girls. Heredity and environment probably have a great influence. The child usually has parents with a mental health disorder, such as substance abuse, attention deficit hyperactivity disorder, mood disorder, schizophrenia, or antisocial personality disorder. However, affected children can also come from healthy, well-functioning families (BARLETTA, 2011).

2.5 OBSESSIVE-COMPULSIVE DISORDER

OCD, or obsessive-compulsive disorder, is a psychiatric anxiety disorder described in the American Psychiatric Association's "Diagnostic and Statistical Manual of Mental Disorders - DSM V". The main characteristic of OCD is the presence of recurrent bouts of obsessions and compulsions. Obsessions can be defined as mental events, such as thoughts, ideas, impulses, and images, that are experienced as intrusive and bothersome. As mental products, obsessions can be created from any substrate of the mind, such as words, fears, worries, memories, images, songs, or scenes, this tends to be a secretive picture, due to the usual preservation of criticism and consequent shame of the sufferer regarding the symptoms. Some don't even know that it is a treatable medical condition. In one study of OCD incidence, most cases sought treatment for their emotional problems; none sought help for obsessive-compulsive symptoms, but for anxiety, stress, depressive symptoms, substance use, or relationship problems (FERREIRA, 2008).

It is on the basis of the most recent studies that scientists and experts are beginning to be able to propose descriptive and pathophysiological models for mapping the phenomenon.

Thus, OCD symptoms would be under-reported even in the clinical setting. The negative impact of OCD on the quality of life of sufferers can be great, affecting various areas of life and also affecting family members. Psychosocial rehabilitation should be seen as an essential part of treatment, and public awareness of the problem and access to appropriate treatment should be increased to minimize this sometimes devastating impact. There are two types of OCD: subclinical obsessive-compulsive disorder: the obsessions and rituals are repeated frequently, but do not disrupt the person's life, and obsessive-compulsive disorder proper: the obsessions persist until the compulsion that relieves the anxiety is exercised. Treatment for OCD can be drug or non-drug. Drug treatment uses serotonin reuptake inhibitor antidepressants. They are the only ones that work (FERREIRA, 2008).

Based on a recent study conducted by scientists in the United States, by means of Magnetic Resonance Imaging, it was possible to map regions of the brain that stand out in patients with OCD and differentiate them from patients without the disorder.

With the help of functional magnetic resonance imaging, a technique that seeks to record the brain in action, the researchers, from Wayne State University in Detroit, have observed unusual behavior

in the anterior cingulate cortex, a region of the brain associated with cognitive control, in patients with OCD.

As in autism, the SLC6A4 gene encoding the serotonin receptor (5-HTT) and mediating serotonin receptor (5-HTRs) at the synapse is involved in the development of OCD by encoding neurotransmitters and receptors involved in the serotoninergic system.

2.6. DISRUPTIVE MOOD REGULATION DISORDERS

Disruptive mood dysregulation disorder (TDDH) is a childhood condition characterized by intense anger, irritability, and frequent bouts of misbehavior.

Although misbehavior is not uncommon for children, TDDH goes beyond the usual moodiness. The angry outbursts in this case are extreme, intense, and can lead to significant disruption in many areas of the child's life. The onset of TDDH is before the age of 10, and the diagnosis is not considered in children under the age of 6. Approximately half of children with severe chronic irritability will have a presentation that continues to meet criteria for the condition one year later (AMERICAN PSYCHIATRIC ASSOCIATION, 2003).

ADHD is more common than bipolar disorder before adolescence. And symptoms of the condition generally become less common as children move toward adulthood. Deviations in behavior such as bouts of anger, men-tirting, or truancy are part of child and adolescent development, as long as they are not constant. When they occur in an isolated or sporadic manner, they are seen as normal and do not indicate a disorder. When these disturbances become a habit or a threat to themselves or to others, they can reach more serious and worrisome dimensions. Therefore, it is necessary to take the child or teenager for urgent psychiatric evaluation. Only a psychiatric professional can provide the best treatment to reduce the risks to mental and physical integrity (AMERICAN PSYCHIATRIC ASSOCIATION, 2003).

2.7. SCHIZOPHRENIA

The symptoms of schizophrenia vary according to the type of schizophrenia and from person to person, and there is no specific symptom for this disorder. It is an endogenous psychiatric illness, characterized by a loss of contact with reality. The person may be closed in on himself, with a lost gaze, indifferent to everything that is going on around him, or, the most classic examples, have hallucinations and delusions. She hears voices that no one else hears and imagines that she is the victim of a diabolical plot plotted with the firm purpose of destroying her. No amount of argument or common sense can convince her otherwise (AMERICAN PSYCHIATRIC ASSOCIATION, 2003).

Schizophrenia usually begins with a simple apathy in late adolescence and early adulthood, from about 18 to 30 years of age. Gradually, the individual abandons routine activities and isolates himself. His reactions become strange and maladjusted, and he does not show his feelings when faced with sad or happy events (AMERICAN PSYCHIATRIC ASSOCIATION, 2003).

It has been investigated for decades but is still full of mysteries. It is still not known, for example, what happens in the brains of these subjects. Studies point out that some defect in the production or action of a neurotransmitter called dopamine occurs. The exact cause of what causes schizophrenia is still unknown; however, it is known that genetic and environmental factors can lead to the development of symptoms. A person with a family member diagnosed with schizophrenia has a 10 times greater risk of also developing the illness. (AMERICAN PSYCHIA-TRIC ASSOCIATION, 2003)

The SLC6A4 gene is also altered when an individual has schizophrenia, changing the amount of neurotransmitters and serotonin receptors present in the serotoninergic system.

2.8. BIPOLAR DISORDER

A marked change in mood is one of the most striking features of bipolar disorder. The cause of the problem is unknown, but it is believed that brain changes may be involved. Following this line, scientists from the University of Southern California, in the United States, have done the largest brain analysis that is known in people affected by the disease and detected changes in areas linked to inhibition and motivation. Do people with bipolar disorder have similar brain changes? To find out the answer to this question, we gathered information from all over the world, using brain scans to map the bipolar brain, Paul Thompson, co-author of the study, tells the Post. With the help of magnetic resonance apparatus, the team analyzed the brains of 6,503 adult volunteers, of which 2,447 had bipolar disorder (MYNAIO, 2000).

By analyzing the material, Thompson and his colleagues detected a reduction of gray matter (formed by the body of neurons) in parts of the brain that control inhibition and motivation, the frontal and temporal regions, respectively, in people with the disorder. Those who also had a history of psychosis had even greater deficits. Two main differences were detected in the bipolar brain, not all of them follow this pattern, but on average, bipolar patients tend to have a structural abnormality in the frontal brain regions involved in self-control. This may explain some manic symptoms, explains the researcher (MYNAIO, 2000).

In bipolar disorder it is also visible alterations in the SLC6A4 gene, changing the amount of neurotransmitters and serotonin receptors present in the serotoninergic system of individuals with this disorder.

2.9. GENERALIZED ANXIETY DISORDER

Generalized anxiety disorder is a common type of anxiety disorder. Approximately 3% of adults suffer from this disorder annually. Women are twice as likely to suffer from it. It often begins in childhood or adolescence, but it can start at any age. In most people, this disorder fluctuates and occasionally worsens (especially during periods of stress) and persists over several years (MYNAIO, 2000)

The person with a generalized anxiety disorder constantly feels worried or anxious, and he or she has great difficulty controlling these feelings. The intensity, frequency, or duration of the worries are greater than expected for the situation. The worries are general in nature, include several issues, and

often jump from one issue to another over time. Common worries include work and family responsibilities, money, health, safety, car repairs, and errands (MYNAIO, 2000).

The diagnosis of TAG takes into account the patient's life history, a careful clinical evaluation and, when necessary, some complementary tests. Since the symptoms can be common to several different clinical conditions that require specific treatment, it is fundamental to establish the differential diagnosis with OCD, panic syndrome or social phobia, for example (MYNAIO, 2000).

The treatment of OCD includes the use of antidepressant or anxiolytic medications, under medical supervision, and cognitive behavioral therapy. The pharmacological treatment usually needs to be maintained for six to twelve months after the symptoms disappear and should be discontinued in decreasing doses. (MYNAIO, 2000).

In generalized anxiety disorder neurophysiological changes occur through alteration in the amount of substances such as noradrenaline, dopamine, serotonin, amino acids such as gamma-aminobutyric acid (GABA), glutamate, glycine, adrenocorticotrophic hormone (ACTH) and corticosterone. In situations of near panic, which occur with anxiety, cardiovascular alterations occur, such as increased blood pressure, tachycardia, and vasoconstriction, and the nervous system responsible for these activities activates the dorsal MCP and the medial hypothalamus, releasing corticotrophin-releasing factor and promoting the secretion of ACTH, which leads to the release of cortisol by the hypothalamic-pituitary-adrenal axis, interfering with hippocampal function and producing alterations in memory and cognition (MYNAIO, 2000).

2.10. PANIC ATTACKS AND PANIC SYNDROME

Panic attacks can be part of any anxiety disorder. Panic attacks can also occur in people with other psychiatric disorders (for example, depression). Some panic attacks occur in response to a specific situation. For example, a person with a phobia of snakes may panic when encountering one. Other attacks occur without an apparent trigger. Panic attacks are common and occur in at least 11% of adults annually. Most people usually recover from panic attacks without treatment; however, some develop panic syndrome (MYNAIO, 2000).

Panic syndrome is present when a person worries about having another panic attack and/or modifies his or her behavior to try to avoid the crisis. It feels like a heart attack: increased heartbeat, rapid breathing, dizziness, and even chest pains. Along with all this comes the fear of dying. Panic syndrome occurs in 2 to 3 percent of the population annually. Women are two times more likely to have panic syndrome than men. Panic syndrome usually begins in late adolescence or early adulthood. It does not have a fixed time of occurrence. People who have experienced it report that everything was normal and then suddenly they start feeling the signs (MYNAIO, 2000).

Panic syndrome presents the strongest evidence of abnormality in the noradrenergic system related to intrusive experiences, with an increase of noradrenaline in the synaptic cleft resulting in an increase in the monosynaptic evoked response (MYNAIO, 2000).

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3. CONCLUSION

A person's Mental Health is related to how they react to the demands of life and how they harmonize their desires, abilities, ambitions, ideas, and emotions. To have mental health is: Being well with yourself and others. Brain disorders are diseases that are due to a real problem in the functioning of the nervous system, which interferes with the brain's ability to receive and send signals appropriately. They are not caused by any structural damage or injury to the nervous system. The causes or risk factors for the disorders can range from genetic predisposition to traumatic events, or even drug abuse. There are several mental disorders, such as anxiety, depression, schizophrenia, and bipolar disorder, among others.

Once the patient enters the mania phase, characterized by episodes of joy, euphoria, and extreme mood, his or her brain changes completely. The prefrontal cortex, the area associated with planning, personality expression, and decision making, receives more blood than usual. An anxiety disorder can develop when stressful situations provoke inappropriate responses, or when the person is overwhelmed by events. Mental disorders usually have specific pictures, but it is common to find patients in whom the symptoms are quite similar. For example, a person diagnosed with generalized anxiety disorder may experience symptoms of depression, while a depressed person may experience traits of generalized anxiety may experience symptoms of depression, while a depressed person may experience traits of anxiety. (PIRES, 2004).

Some people understand that public speaking is a stimulating activity. Others, however, hate it and become anxious, experiencing feelings such as sweating, fear, increased heart rate, and trembling. People subject to these reactions may avoid speaking even in front of a small group. Doctors believe that some of these tendencies may be hereditary, but some are probably acquired by living with anxious people or by the type of life routine.

Depending on our emotional and psychological state, the body can generate physical reactions such as pain or illness, in a process that is known as somatization, when this occurs frequently, it is called a somatization disorder, when the symptoms start to happen frequently.

A psychotic disorder is never a branch of an emotional problem. A psychosis is not the end of a phobia; emotional problems and psychosis have different origins and evolutions. They are similar paths, but they do not overlap. In the same way that having a cold can turn into a cold, but it would never be a cancer.

Schizophrenia is a rarer and also a more serious mental disorder, responsible for altering the patient's behavior, bringing symptoms such as learning difficulties, apathy, indifference, persecution mania, and altered senses, which can also bring the sensation of having voices in the head.

Body and mind talk! We tend to think of body language as something that reflects and expresses our internal states to the external world. But interestingly enough, it also works the other way around: the position of our body also influences the way we think and feel. The saying "healthy mind, healthy body" is therefore a reality, just as the opposite is also true. If the mind is not healthy, the body can end up suffering from the consequences, giving rise to psychosomatic illnesses.

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Taking care of your health is an attitude that should be taken, daily, to avoid diseases and, of course, to maintain a more balanced life. However, many times, due to an increasingly hectic routine, people end up forgetting the care they should take with their health. Mental health is an important factor that enables the necessary adjustment to deal with positive and negative emotions. Investing in strategies that make it possible to balance mental functions is essential for a healthier social life. Thus, it is important to take care of the mind as a priority because it is the mind that governs the results of our lives. It is the mind that makes us aware of the importance of keeping the body healthy (AMERICAN PSYCHIATRIC ASSOCIATION - APA, 2002).

Although we are inserted in the context of modern urban life, where the demand seems to be always higher and more strenuous than the possibility of production, we must be aware of separating a fraction of time, either daily or at least at the end of each work week, to take care of our mind. Being aware of ourselves, reconnected with nature, paying attention to our internal contents and variations in mood and behavior. In this aspect, children are a vulnerable point, and the eye of the mature and responsible adult should be engaged in observing any difficulty presented in early childhood, whether in the order of relationships and social skills, or any difficulty of an educational nature, especially in the literacy period. The earlier the diagnosis of any disorder is made, the better the prognosis will be. Preventive actions are always the best promotion of mental and physical health.

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