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DEPENDENT BEHAVIOR AND THE MODEL OF FAMILY RELATIONS IN THE SYSTEM OF "SAFE" ATTACHMENT

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Abstract: This article examines a model of family relations, namely the "mother-child" dyad, built on the basis of a study of the lateral profile of normo-typical adolescents and their mothers. Testing the position of postures (comparing the interlacing of the fingers, crossing the arms on the chest, aiming and applauding) revealed a highly significant inverse correlation for the leading eye. This suggests that there is a significant interaction between the structures of the brain of the mother and the child in the thalamus (visual hillocks). The asymmetry of the brain structures of the mother-child dyad indicates their difference in the style of processing sensory information. These differences give rise to the dominance of the pair in the leading hemisphere of the brain (left or right) and, accordingly, in the style of thinking, which does not coincide in this pair. Thus, the state of "reliable" attachment in the mother-child dyad depends on whether the mother is ready to accept a different way of thinking (reading and processing sensory information) in her child. Based on the physiological characteristics of the structure of the brain of the mother and child, we will consider the system of dependent personality behavior, caused by disorders of interaction and attachment.

Keywords: ontogenesis of motherhood, attachment dynamics, separation disorders, self-identification, families, lateral profile, children with ADHD, self-esteem, dependent behavior, addiction.

1. Introduction

In examining the concept of addictive behavior, we will look at its history. In ancient Rome, an addict (adjudged, addictus) was called a debtor, who became a slave of the creditor. Miller V. and Landry M. introduced the concept of "addictive behavior", designating it as the initial stage of dependent behavior [1]. Cordwell M. describes a dependent person as a helpless person, with a deep sense of inadequacy and incapable of making an independent decision [2]. According to Vesmer L. [1], the basis of the future pathology of addicted people is the "phobic core", which is an infantile neurosis. In our article we will look at the origins of the emergence of this phobic behavior, which leads the person into fantasy to protect one from fears. The study of brain asymmetry in the mother-child dyad in the framework of addictive behavior will help us to have an idea of what gives rise to addiction and how the feeling of being a debtor (addictus) is formed in this addiction.

John Bowlby says – attachment is a family bond that is formed during childhood and is the emotional foundation of all life. Mother and baby are part of a self-regulating system, the parts of which are interdependent [3].

2. Materials and Methods

In order to understand the connection between the structures of the brain of the mother and the child, we decided to test their lateral connection. Assuming that while assessing the dominance of the lateral relationships of the mother and child systems (motor and sensory), we can find out the genetically inherent characteristics of the brain structures in this pair. The term "laterality" (lateralis) is used to mean asymmetry or incomplete identity of the left and right parts of the body. Laterality is manifested at the anatomical, biochemical, physiological and functional levels [4].

We conducted the research at the Odessa specialized school with in-depth study of the German language No. 90 in accordance with the Code of Ethics of the World Medical Association (Declaration of Helsinki) and with the consent of the school administration and all participants in our study. We determined the profile of the lateral organization of the brain of the mother and the adolescent using the neuropsychological idea of Luria (Luria 1969, 1970, etc.) [5]. For motor tests were chosen interlocking fingers, crossing arms over the chest, or Napoleon's pose, and a clapping test, in which the leading hand makes percussion movements. The sensory test was performed by analyzing the leading eye. To do this, we asked the participants to blink one eye [6]. When blinking in 70 % of people, the dominant eye remains open, 20 % of people blink with both eyes, and 10 % blink with the dominant eye. If our participants blinked with two eyes, we asked them to imagine, which eye they would blink first. The profile of the lateral organization of the brain was checked for each participant, the indicators were compared in a pair of "mother-teenager".

In the course of our study, the lateral indices of the asymmetry of the brain of 312 adolescents and their mothers (156 pairs) were compared. The time of formation of lateral preferences corresponds to the end of adolescence [7]. Since both studied characteristics are dichotomous, we built two-input contingency tables of size 2×2, which made it possible to conduct a more accurate statistical analysis of the results obtained. According to these tables, the following indicators of the degree of significance of the statistical relationship were calculated.

3. Results

The results indicated that significant feedback was found in the dominant eye test in a teenage mom ($CHI2$=3.88, PHI=–0.17, Q=–0.34, C=–0.17) [8]. Consequently, anatomical feedback is formed in the "visual hillocks" or Thalamus in this pair. At the tendency level, a negative correlation was found in the applause test, for which the diencephalic region is responsible. It is known, that an eye dominancy is connected with the opposite thalamus activity as a link between the cortex from the one side and cerebellum and basal ganglia from another side. Thalamus or the opposite thalami provides filtering of information from all the receptors, it processes the information primarily and then sends it to different cortex areas [9]. Fingers intertwining, arms crossing, as any other movements, arise due to impulses from cerebral hemispheres, transmitting by long nerve fibers. These are neuron axons, situated in the middle part of the precentral gyrus [4]. The way of clapping is highly related to left- or right-handedness as a sign of pre-existing brain structures asymmetry, not connected directly with hands manipulation ability. Laterality of clapping is simple emotionally charged movements' motor manifestation that is created in central nervous system limbic diencephalic structures and is a sign of gestational dominant functional interhemispheric asymmetry [10].

4. Discussion of Research Results

Thus, we can formulate the assumption that in some pairs the adolescent (child) differs from his/her mother in a diametrically opposite style of "capturing" and processing sensory information, and a connection is found between the parameters of the asymmetry of brain structures in the mother-child dyad.

This means that at a deep anatomical level, an anatomical inverse relationship is formed in the dominance of the hemispheres in the mother-child pair. Then, based on the described studies, the main function of the mother-child system is to create an effective balance in interhemispheric interaction. In psychological terms, such a balanced relationship is described as "safe" attachment. How the relationship in a couple will manifest itself, in the form of balance or conflict, will depend on how mature the mother is (how

much she is able to perceive a radically different way of interacting with the world to that which her child puts into practice) [11].

Using this information about the connection between the structures of the brain of the mother and the child, we decided to analyze the system of addictive behavior of a person.

Let's take a closer look at the thalamus. One of the most important functions of the thalamus is the integration of sensory and motor activity. The thalamus receives all sensory information, sorts it according to modalities and sends it to the cortex, to specific centers [9]. In diseases of the thalamus, various types of memory impairment can develop, from mild forgetfulness with absent-mindedness to severe amnesia. Let us analyze whether the emotional disturbance of the mother in such a connection with the child's thalamus can affect the child as do diseases of the thalamus. For example, if the thalamus is disrupted, a child's loss of initiative is observed.

The thalamus, which contains part of the neurons in the reticular formation of the brainstem, plays a central role in maintaining consciousness and attention. Immaturity of the thalamus is one of the causes of a common problem as is ADHD – attention deficit hyperactivity disorder [12]. The results of modern studies indicate the involvement of the system "associative cortex – basal ganglia – thalamus – cerebellum – prefrontal cortex" in the pathogenetic mechanisms of ADHD. And the coordinated interaction of these structures provides control of attention and organization of behavior [13].

In adolescents with signs of deviant behavior, there were changes in the EEG of limbic structures, as well as signs of a non-optimal state of the fronto-thalamic structures (at the level of tendencies) and in the lateral prefrontal areas of the left hemisphere [14].

Pathological activity of the orbitofrontal and limbic structures was revealed in people, demonstrating addictive behavior. MRI studies have found that the more pronounced the addiction, the lower the activation by the reward system, the reduced sensitivity to dopamine. Non-dominance of the left hemisphere is reflected in speech [15]. A study of alcohol-addicted people showed a dysregulation and functioning of the endocrine glands at different levels: hypothalamic, pituitary in the executive organs of the endocrine system [14].

Let us consider the early stages of a child's development. It is also known, that in the cerebral cortex, under the influence of impulses, emanating from the nonspecific nuclei of the optic hillock (thalamus), thalamic drivers of the α-rhythm are generated [9]. The mother-child connection in the thalamus suggests that it is possible that the infant (up to three months without the α-rhythm) unconsciously adjusts its thalamic driver to the maternal α-rhythm, in a compensatory manner, focusing on maintaining the mother's sensory impulses. If during this period, the mother has anxiety or stressful experiences, and the child does not build a harmonious phased development of the brain, he/she unconsciously tunes his/her brain rhythms to the rhythms of overexcitation that his/her mother broadcasts to him/her [8].

Thus, the mother, being in omnipotent unity with the child, rubs off her anxieties and the child becomes the bearer of this tension. And then the child becomes stressed out.

The importance of a mother's calm state in the first three months after the birth of a child is extremely important. We called this period the "fourth trimester of pregnancy" [8]. At this time, the child is attuned to the environment, thanks to the calm, harmonious rhythmically and emotionally connection with his/her mother. If the mother offers the child only her executive system, which, possibly, is characterized by the beta-activity of the brain rhythms, then the child has received a finished product, a ready-made style of thinking. But the child cannot use it for him/herself, since according to our research, his/her style of thinking differs from his/her mother's one. And the mother's style reflects only the mother's interests. It is impossible to get rid of it, since the child is merged with his/her mother and in order to change himself/herself it appears that one needs to destroy him/herself.

If the mother is not ready to accept a different way of thinking to hers, then the child will in some way agree with the mother's decisions, oppressing his/her desires, thinking that it is dangerous to voice his/her opinion and "my desire will be condemned and I know that I am wrong." But it is also impossible to think like his/her mother. In this case, the child does not have confidence in his/her actions.

There is a need for either constant advice from the mother and/or protest against her. The conflict causes numbness and the desire to act in spite of. Through the mother's program, the child's brain activity is stimulated. Feeding your child with your thinking perhaps is guided by the fear of losing yourself. The mother gives the child life and the right To Be. And can block this right in any life cycle. From conception, birth and at the stage of independence and creation of your family. Sometimes the mother perceives the child as her resource and disposes of it depending on her own strength.

Often children with hyperactive behavior syndrome, as they grow up, suffer from computer, gambling and other types of addiction. Being in captivity of the power of their mother's thinking, they try to get rid of the oppressive mother's influence, leaving for their non-material worlds. Motivation for their own goals is impossible without the right to initiative, which was blocked by their mother. In this situation, self-esteem is not formed, since there is no right to one's own thinking. In the violation of the family attachment system, in particular, self-esteem is the most vulnerable problem.

Sensory processing is carried out mainly by the thalamus. If the mother of the newborn is under stress, then in order to preserve her psyche, she can block sensory and control the incoming sensory stimulation of the child. People with addictive behavior have a high sensory search and are characterized by an active response to a high neurological threshold. They seek strong stimulation, enjoy stimulating environments and activities, and sometimes exhibit risky behaviors [16]. Drug stimulation affects dopamine, activates the flow of sensory information into the cerebral cortex [17]. It is known, that sensory processing features are associated with different attachment styles of individuals.

Addictive behavior can satisfy an emotional need for attachment. In our study, the mother-child relationship in the limbic system is eager for reliability [15]. When a mother does not accept her child's way of thinking, which is different from hers, then the child cannot get pleasure from the right to his/her desires. John Arden described, that the pleasure center is responsible for the formation of addiction. It includes the nucleus accumbens, the striatum, which regulates muscle tone, movement and is responsible for the connection between emotions and actions, the prefrontal cortex is responsible for problem solving. And all this connects movements, emotions and thoughts separation [18].

What can we use, knowing about the thalamus and the connection between the structures of the brain of the mother and the child, to correct addictive behavior?

Our task is to restore structures that were broken or not used in childhood. Since the child did not have the possibility of his/her own thinking, processing sensory information in his/her own way, forming his/her thoughts on this experience, then at any age it is possible to return the original experience of feeling of peace through meditation. Considering the connection in the thalamus between the mother and the child, one can understand its deep meaning and usefulness.

For the development and formation of maturity of the thalamus, we propose to use the system of sensory reformation [from lat. reformatio – change, transformation], which will help shape oneself and a sense of selfhood at any age. The return to yourself can be accomplished through simple and accessible methods, using the olfactory, gustatory, auditory, tactile channels, gradually concentrating on each of the sense organs. At the same time, it is desirable to find an appropriate emotional response to the sensory response. Each sensory sensation, passing through the thalamus, reconnects with its dominant hemisphere, activating the cerebral cortex. And this helps to regain your lost "Me" and the right to your thinking.

Interaction with your senses makes it possible to learn to hear your inner self and enjoy life, ecologically fulfilling your desires.

5. Conclusions

Thus, in the mother-child system, relationships are built on the balance of interhemispheric interaction. If the mother is able to accept her child's way of thinking, then such a relationship can form a "secure" attachment. And whether there will be a balance or conflict in the mother-child relationship depends on the mother's willingness to accept the different way her child reads and processes sensory information. ADHD, deviant behavior in adolescence, and addictive behavior in older age may contribute to the difficulty of a child, adopting a mother's thinking style. The experience of separating from your mother can be based on trust in your style of thinking and the freedom of your own development, which is not possible with an overprotective and controlling mother. And restoring self-esteem and a sense of self-confidence is possible through the reform of the sensory experience. In traditional medicine, the main and sometimes the only object (and not the subject) is not the mother, but the patient with addictive behavior. By including a dyad in treatment, we can get closer to the cause of the disorder that has appeared. But the interpersonal approach provides more options for exposure and more hope of compensation. Our research revealed a problem in families with a family member with addiction – this is a symbiotic relationship with the hanging on to the impossibility and fear of separation of a mother from her child.

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