Color preferences of women with postpartum depression

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Color preferences of puerperae with postpartum depression

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SUMMARY

The features of color preference of women with postpartum depression have been analyzed. There were revealed significant differences in color preference in women who received acupuncture in the early recovery period. The inclusion of acupuncture in the complex rehabilitation of the "mother-child" dyad provides an optimization of color choice and a decrease in the severity of postpartum depression.

Keywords: acupuncture, postpartum woman, rehabilitation, postpartum depression, color preference.

RESUME

The color preferences peculiarities of puerperae with postpartum depression have been analyzed. Examination showed significant difference in color preferences in women treated with course of acupuncture in the early reconvalescent period. Inclusion of the acupuncture in complex rehabilitation of the union "mother-baby" provides the optimization of the color choice and reduction of postpartum depression expressiveness.Keywords: acupuncture, puerpera, rehabilitation, postpartum depression, color preference.

INTRODUCTION

The concept of "color" carries in itself not only the meaning of a characteristic of objective reality, but also a symbol of objects, personal experience, expression, psychoemotional state. Psychological reflection of the component composition of mental states is interpreted by their chromaticity, which allows a fuller and more detailed understanding of the content and specific features of a particular state [1]. Perception and color recognition are carried out by specialized structures of the nervous system. Detection and primary differentiation of signals is provided by receptors, and detection and recognition of signals - by neurons of the cerebral hemispheres. Transmission, transformation and coding of signals is carried out by neurons of all layers of sensory systems [2].

stating Availability and intensity pulse. Further signals processed by the secondary (V2), tertiary (V3), V4 and V5 visual (extrastriatal) areas, the efferent fibers of which are directed to the anterior colliculus and pretectal region, to the cushion of the optic tubercle (posterior part of the thalamus), external geniculate body, emotional centers of the brain, providing an emotional coloring of color perception [3]. Color-blindness disorders may be based on genetic mutations with the development of color blindness.
- tritanopia, deuteranopia or protanopia [4], toxic and infectious effects, mental illness. The molecular basis of changes in the perception of red-green (CG) color vision is associated with differences in the amino acid composition involved in the synthesis of opsin, the protein part of the cone photopigment [5]. Disorders of color perception in persons working with neurotoxic chemicals that discriminate blue-yellow (SJ) or, less often, a combination of SJ and CG colors, are caused by the direct action of neurotoxins on receptors, possibly on cone membranes, or by interfering with the work of neurotransmitters in the retina and direct effect on the optic nerve [6]. Optic neuritis is accompanied by nonselective CV and SD color defects. The short-circuit defect is more common in the acute phase of the disease, and the SD-defect is more common in the sixth month of convalescence [7].

Color and emotion are interconnected. Emotions are colored. The emotional severity of the psychophysiological state changes the personal preferences of the color choice. The preferences and rejections of color choice in emotional assessment of pain were studied. In patients with neurogenic and somatogenic pain syndromes, in children with acute non-pathogenic pain, and in healthy people, color preference (CP) is presented with severe pain - black and gray, with pain of moderate intensity - brown and red, in the absence of pain - yellow and green ... In patients with psychogenic pain syndrome, pain of moderate and high intensity is associated with yellow, purple, red colors, and the absence of pain is associated with gray, green [8]. Color and numerological preferences of an adult are determined by the social, cultural, and religious environment of the region, traditions of society, gender, social status, temperament and mood. Thus, patients with mental illness in the eastern regions of Turkey, professing Islam, prefer green and the number 3 [9], although in the Luscher test this number is red. Mental illness alters color perception. About 8% of men and 0.5% of women in the population suffer from congenital color abnormalities. However, color vision disorders were found in 63% of women suffering from endogenous depression [10], and in 72% of cases of schizophrenic psychosis [11]. Unified neurotransmitter systems are involved in the mechanisms of synaptic transmission and the development of depression. With depression, the activity of the dopaminergic system decreases. Violation of the transmission of nerve impulses in the retina changes the contrast sensitivity of vision, increasing its threshold [12], which also affects color perception. CPs in patients with major depressive disorder differ from those in the control group [13] and are interrelated with the nature of emotions [14]. Patients with borderline mental disorders

prefer black and red color choices when decorating living rooms in their home [15]. Brown and black are the preferred choice of patients with a score of more than 10 on the Beck Depression Inventory [16]. The degree of depression is differentiated by the choice of the CP Luscher test, with the predominant choice of yellow when the condition is expressed [17]. CP are an important aspect of visual experience that determines human behavior [18], conditioned by the analytical function of the cerebral cortex. Negative emotions affect the state of thinking. Emotional decline slows down intellectual abilities, reduces creative activity. Patients with depression show deficits in attention and executive functions with decreased fluency of speech and memory [19]. Studies of functional neuroimaging of the brain have revealed a decrease in the metabolic activity of the neocortex and a change in the activity of limbic structures during the development of a depressive state [20]. Acupuncture (IRT) changes the psychoemotional profile of postpartum women with postpartum depression (PD). The presence of a correlation dependence of the parameters of electrocutaneous conductivity (ECP) on the level of most tests of the psycho-vegetative state of puerperas, characterized by a significant sensitivity of the electrometric characteristics of the skin zones to the degree of psychoemotional load. IRT harmonizes the ECP and changes the emotional status of women with PD [21]. The study of the influence of IRT on color choice is highly relevant in terms of the hypothesis that the effect of the therapeutic stimulation method, which changes emotions, will also change the CP, manifesting its action at the level of the cerebral cortex, participating in the processes of human higher nervous activity. The nature of the dynamics of the color choice of puerperas will reveal the influence of IRT on the integrative function of the human brain, the degree of emotional severity and severity of PD.

The aim of the study was to study the attitude to the color of puerperas with PD in the late neonatal period of newborns with perinatal lesions of the central nervous system and the dynamics of color choice under the influence of IRT in the “mother-child” system.

MATERIAL AND METHODS

This study was based on the results of clinical observation of 200 mothers aged 24 to 28 years in the late neonatal period of their newborns. All women were consulted by a psychotherapist who was diagnosed with mild mental and behavioral disorders associated with the postpartum period in the form of PD (heading F 53.0 ICD-10). The studies were carried out twice - at the 2nd and 4th week of the child's life - before and after treatment. The main group is represented by 137 mothers, divided into 3 subgroups. The first subgroup included 52 mothers who received the IRT course together with their child (average age - 25.3 ± 0.6 years). In the second subgroup, only 36 mothers (average age - 26.0 ± 0.7 years) of full-term newborns received RTI. The third subgroup consisted of 49 mothers (average age - 26.4 ± 0.6 years),

The control group, identical in age (26.9 ± 0.7 years), parity of childbirth, professional affiliation, ethnic composition, education, physical development and severity of the condition of newborns, included 63 mother-child pairs, which were not exposed to IRT ... All children of the main and control groups were born from mothers with aggravated course of pregnancy, childbirth and were breastfed or mixed feeding.

To objectify clinical manifestations, well-known psychological tests were used: M. Luscher's method of color choices [22] with the interpretation of the results of the second conscious choice, the level of neurotization and psychopathization (UNP), P. Pishaud's test, self-assessment of anxiety by Ch.D. Spielberger and Yu.L. Khanina, questionnaire Mini-cartoon (abbreviated version of MMPI). ECP of mother and child were monitored by the Ryodoraku method according to Y. Nakatani. We used the F. Mann brake recipe technique with the addition of a group Lo-point. The duration of the session is up to 60 minutes during the child's sleep after the morning feeding. Disposable needles "SuJok Acupuncture Needles Sterelised by Gamma-ray" from Subal were used. The IRT course consisted of 5 sessions. Statistical processing was performed by parametric and nonparametric methods with the calculation of the mean, standard error of the mean.$_2$). The Statistika 5.0 software package was used.

RESULTS

The positions of the color in the color range of preferences are presented in table. 1. The color choice is characterized by the predominant arrangement of purple (5) and red (3) colors in the first two positions of the control and main groups at the beginning, and at the end of the late neonatal period, blue (1) and purple - in the main group, while maintaining the initial choice of the puerperas control group.

Table 1

The position of the color in the color range preferences at the beginning and at the end of the late neonatal

Группы	Поздний неонатальный период	
	начало	конец
Группа сравнения	5 3 1 4 2 8 6 7	3 5 1 4 8 2 6 7
1-я подгруппа	5 3 1 4 8 2 6 7	1 5 3 2 4 8 6 7
2-я подгруппа	3 1 5 4 8 2 6 7	1 5 3 4 2 8 6 7
3-я подгруппа	3 5 4 1 8 2 6 7	1 5 3 2 4 8 6 7

The frequency of color preference in the position of the beginning and end of the late neonatal period is presented in table. 2 and 3. The initial color choice (Table 2.) is characterized by a wide dispersion of primary and secondary colors in a number of preferences, corresponding to the Gaussian distribution. Blue color in 15% of cases shifted to VI place, green (2) to VII, and red and yellow (4) to eighth. Complementary colors shifted towards the beginning of the row. Even black (7) at 10%

women was located in the first position, occupying the entire length of the row. The greatest deviation from the 5th place is characterized by the choice of gray color (8), which in total occupies up to 30% of the choice in the first four positions. This was followed by brown (6) - up to 20% and, above mentioned, black. Test duration 5.6 ± 2.36 minutes. The preference for additional colors in the first positions is characterized by low self-esteem of the postpartum woman.

table 2

Color frequency in the series of preferences of parturient women in early late neonatal period

Цветовой выбор (абс./%)	Группа сравнения n = 46	1-я подгруппа n = 45	2-я подгруппа n = 34	3-я подгруппа n = 43
Синий (1)	11/23,9	16/35,5	10/29,4	9/20,9
Зеленый (2)	10/21,7	11/24,4	9/26,5	8/18,6
Красный (3)	13/28,3	10/22,2	11/32,4	16/37,2
Желтый (4)	9/19,5	8/17,7	7/20,7	12/30,7
Фиолетовый (5)	12/26,1	13/28,8	5/17,6	10/13,3
Коричневый (6)	18/39,1	14/31,1	11/32,3	21/48,8
Черный (7)	28/60,8	25/55,5	15/44,1	29/67,4
Серый (8)	10/21,7	8/17,7	7/20,5	11/25,6

However, the main working group of colors (red, yellow, green) is located at the beginning of the row, which predicts a high efficiency of mothers in caring for a child. Up to 20% of postpartum women with PD completely reject yellow, referring it to the last place of choice, confirming the lack of satisfaction from the very process of caring for the newborn. The blue color in the III position indicates the desire for peace with the preserved ability for interpersonal communication. The shift in the work group towards the end of the series reflects the high fatigue of women. Green color, being in VI place (up to 18%), reflects the presence of negative emotions of anxiety and fear. Concentration of gray at the 5th place reveals the presence of compensations and self-protective behavior. The psychophysiological characteristics of women were light and quick enthusiasm for everything that excites. Absorption in things that can greatly excite, capture. They want to excite others and interest them as a person, without letting go of their charm and impressiveness. Skillful use of various techniques so as not to jeopardize your chances of success and not undermine the trust of others. Easy adaptability. They only feel calm when they communicate with someone or a group of people they can rely on. They believe that they are getting less than they should, but they understand that they will have to come to terms with this and try to make the best use of the situation. Sympathicotonic variant of autonomic reactivity. Significant stress caused by unwanted restrictions or prohibitions, indicated by the main color, occupying the VII or VIII position if there is a mark able to strongly excite, capture. They want to excite others and interest them as a person, without letting go of their charm and impressiveness. Skillful use of various techniques so as not to jeopardize your chances of success and not undermine the trust of others. Easy adaptability. They only feel calm when they communicate with someone or a group of people they can rely on. They believe that they are getting less than they should, but they understand that they will have to come to terms with this and try to make the best use of the situation. Sympathicotonic variant of autonomic reactivity. Significant stress caused by unwanted restrictions or prohibitions, indicated by the main color, occupying the VII or VIII position if there is a mark able to strongly excite, capture. They want to excite others and interest them as a person, without letting go of their charm and impressiveness. Skillful use of various techniques so as not to jeopardize your chances of success and not undermine the trust of others. Easy adaptability. They only feel calm when they communicate with someone or a group of people they can rely on. They believe that they are getting less than they should, but they understand that they will have to come to terms with this and try to make the best use of the situation. Sympathicotonic variant of autonomic reactivity. Significant stress caused by unwanted restrictions or prohibitions, indicated by the main color, occupying the VII or VIII position if there is a mark They want to excite others and interest them as a person, without letting go of their charm and impressiveness. Skillful use of various techniques so as not to jeopardize your chances of success and not undermine the trust of others. Easy adaptability. They only feel calm when they communicate with someone or a group of people they can rely on. They believe that they are getting less than they should, but they understand that they will have to come to terms with this and try to make the best use of the situation. Sympathicotonic variant of autonomic reactivity. Significant stress caused by unwanted restrictions or prohibitions, indicated by the main color, occupying the VII or VIII position if there is a mark They want to excite others and interest them as a person, without letting go of their charm and impressiveness. Skillful use of various techniques so as not to jeopardize your chances of success and not undermine the trust of others. Easy adaptability. They only feel calm when they communicate with someone or a group of people they can rely on. They believe that they are getting less than they should, but they understand that they will have to come to terms with this and try to make the best use of the situation. Sympathicotonic variant of autonomic reactivity. Significant stress caused by unwanted restrictions or prohibitions, indicated by the main color, occu

"anxiety". They want to freely follow their own convictions and principles, to gain respect for themselves as a person, so called by right. They take every opportunity when they can disobey any restrictions or prohibitions. The desire to control your own destiny. They seek to avoid criticism and prevent any restrictions on their freedom of action and to determine their own fate when they deal with others, using their personal charm.

Table 3

Color frequency in the series of preferences of parturient women at the end of late neonatal period

Цветовой выбор (абс./%)	Группа сравнения n = 46	1-я подгруппа n = 45	2-я подгруппа n = 34	3-я подгруппа n = 43
Синий (1)	13/28,2	27/60,0*	19/55,8*	20/46,6*
Зеленый (2)	12/26,1	19/42,2	14/41,2	13/30,2
Красный (3)	14/30,4	18/40,0	19/55,8	21/48,8
Желтый (4)	11/23,9	15/33,3	12/35,2	18/41,8
Фиолетовый (5)	13/28,2	24/53,3*	14/41,2*	20/46,5*
Коричневый (6)	22/47,8	26/57,7*	21/61,8*	31/72,1*
Черный (7)	30/65,2	35/77,7*	24/70,5*	38/88,3*
Серый (8)	15/32,6	21/46,7*	17/50,0*	24/55,8*

* – достоверность разницы показателей основных подгрупп на этапах исследования ($p < 0,05$)

The final color choice of the mothers of the main group (Table 3) is characterized by the concentration of color in the dominant place of preference or rejection, the value of which significantly differs from the initial values for the colors occupying the first (blue), II (purple), VI (brown), VII (black) and VIII (gray) positions, with variance not exceeding one place on either side of the position of the preferential choice. The colors occupying the III, IV and V places are also concentrated, but reveal an unreliable difference in selection, deviating two or three places from the predominant location. Emotional stability, a state of rest are achieved by the preference for blue in position I. The absence of additional colors in the first positions is characterized by an increase in the self-esteem of the parturient woman. The main working group of colors is still located at the beginning of the row, which reflects the high efficiency of mothers in caring for their newborns and themselves. The absence of the choice of primary colors in the last places confirms satisfaction with the process of caring for a newborn, the appearance of a feeling of "joy of motherhood", indicates the presence of positive emotions, the disappearance of fear and anxiety. The shift of the working group to the beginning of the series characterizes a decrease in women's fatigue. Concentration of gray at the 6th place reveals a lack of compensation and self-protective behavior. Test duration 2.8 ± The shift of the working group to the beginning of the series characterizes a decrease in women's fatigue. Concentration of gray at the 6th place reveals a lack of compensation and self-protective behavior. Test duration 2.8 ± The shift of the working group to the beginning of the series characterizes a decrease in women's fatigue. Concentration of gray at the 6th place reveals a lack of compensation and self-protective behavior. Test duration 2.8 ±

0.12 minutes. A distinctive feature of the psychoemotional state was the desire of women for tenderness and subtlety of feelings in which they could dissolve. Sensitivity to everything that is aesthetically pleasing and full of taste. Show initiative in overcoming obstacles and difficulties. They occupy or want to occupy a position in which they would be exposed by the authorities in order to control the course of events. They want to feel “emotionally involved”, but they are demanding and fastidious in choosing a partner and in relationships with loved ones. Need encouragement. They seek to avoid open conflicts that can reduce the chances of their hopes coming true. Vagotonic variant of autonomic reactivity. No stress. Striving for independence. They do not want to be drawn into disagreements because of any opinions, views or judgments, preferring to be left alone. Everything unusual, original, including people with some outstanding qualities, make a strong impression on them. They try to adopt the qualities they admire and show the originality of their own personality.

Interpretation of color formulas showed that the emotional and personal sphere at the beginning of the early recovery period according to the Luscher test (Table 4) reveals deviations from the autogenous norm (3 4 2 5 1 6 8 7). The presence of additional colors in the number of preferences in the first positions was characterized by personal disharmony and anxiety, expressed neuropsychic tension, acquiring the character of stress. Lack of optimal forms of psychological defense and high compensation for anxiety, low self-esteem and decreased independence, focus on their problems, detachment from the child with a sufficient level of performance and sympathicotonic variant of autonomic reactivity. Lost vitality and willpower in overcoming difficulties. Significant difference (χ_2, p > 0.05) the severity of the condition in relation to the indicators of the comparison group was not revealed.

Table 4

Indicators of the Luscher test of mothers at the beginning of the early recovery period (M ± m)

Показатель	Группа сравнения	1 подгруппа	2 подгруппа	3 подгруппа
Тревожность	-0,2 ± 0,44	0,5 ± 0,41	-0,01 ± 0,48	-0,8 ± 0,43
Компенсация	-1,4 ± 0,47	-2,1 ± 0,43	-2,6 ± 0,53	-4,8 ± 0,50
Личностный баланс	-2,8 ± 0,47	-3,5 ± 0,44	-5,6 ± 0,54	-3,4 ± 0,52
Вегетативный баланс	4,2 ± 0,48	4,2 ± 0,45	4,7 ± 0,54	6,9 ± 0,55
Работоспособность	16,8 ± 0,34	16,1 ± 0,34	17,4 ± 0,39	18,1 ± 0,33
Стресс	6,0 ± 0,82	6,0 ± 0,89	6,0 ± 0,87	6,0 ± 0,80

Разница показателей между подгруппами наблюдения и контрольной группой не достоверна (p > 0,05)

The analysis of the indicators of the color formulas of the Luscher test at the end of the early recovery period reflects the dynamics of the psychophysiological and emotional state during treatment (Table 5).

Table 5

Indicators of the Luscher test of mothers at the end of the early recovery period (M ± m)

Показатель	Группа сравнения	1 подгруппа	2 подгруппа	3 подгруппа
Тревожность	-0,8 ± 0,45	1,5 ± 0,29*	2,7 ± 0,60*	1,5 ± 0,38*
Компенсация	-3,4 ± 0,47	2,7 ± 0,49*	1,5 ± 0,57*	2,7 ± 0,56*
Личностный баланс	-4,8 ± 0,44	-4,1 ± 0,46	-4,1 ± 0,58	-4,1 ± 0,47
Вегетативный баланс	5,5 ± 0,43	0,7 ± 0,53*	1,3 ± 0,52*	0,7 ± 0,57*
Работоспособность	17,4 ± 0,35	16,0 ± 0,39	16,0 ± 0,35	16,0 ± 0,39
Стресс	6,0 ± 0,94	0,1 ± 0,51*	0,1 ± 0,57*	0,1 ± 0,97*

* Разница показателей между подгруппами наблюдения и контрольной группой достоверна ($p < 0,05$)

According to the data of the second conscious choice among mothers of the comparison group (45 people or 73.1%), the levels of anxiety (increase by 4 times), compensation (increase by 2.4 times), personal balance (decrease by 1.7 times), vegetative balance (an increase of 30.9%), performance (an increase of 3.5%), stress (maintaining the same level) in relation to those at the beginning of the early recovery period. In the main group (122 people or 89.1%) levels of anxiety (below 3 times - in 1 subgroup, 2.7 times - in 2 subgroup, and 2.3 times - in 3 subgroup), compensation (lower in 1, 8, 2.7 and 2.8 times, respectively), personal balance (14.6% higher in all subgroups), vegetative balance (6.0, 3.6 and 9.8 times lower) , efficiency (lower by 1.0%, by 8.1%, and by 12.1%), stress (6 times lower in all subgroups) underwent IRT correction. The nature of the CP changes corresponds to the results of earlier studies of the emotional state of puerperas, revealing in all mothers the initial presence of various mild manifestations of depressive disorders. Delusional ideas and suicidal tendencies were absent. Women experienced anxiety (76 and 78%, respectively for the control and main groups), suspiciousness (63 and 70%), increased fatigue (85 and 90%), irritability (70 and 75%), poor sleep (90 and 88%) , fears for the child (60 and 72%), for their health (65 and 60%), fulfilling the duties of caring (70 and 68%), tearfulness (90 and 88%), instability of attention (78 and 80%), poor memorization (80 and 84%), forgetfulness (77 and 76%), feelings of "emptiness" (63 and 59%) and lack of joy of motherhood (30 and 35%), disappointment in their feelings (65 and 70%), self-doubt (65 and 60%). Sadness (78 and 80%), lack of appetite (40 and 45%). The need for consolation (95 and 92%), impaired self-esteem and self-awareness (68 and 70%). Along with this, the state was characterized by emotional dryness (40 and 45%), a reaction of protest (45 and 40%), indignation (20 and 10%), negativism (15 and 20%), intolerance of objections and

advice (10 and 15%), a tendency to lie (15 and 20%). There were no positive emotions (100 and 99%). By the end of the early recovery period, all (100%) mothers of the control group prolonged their previous psychoemotional status without significant dynamics. Decreased mood (87%), sleep disorders (72%), anxiety (76%) persisted. In the main group, the changes statistically significantly ($p < 0.05$) differed from the severity of the mothers of newborns in the comparison group. The psycho-emotional sphere was significantly optimized, mainly in mothers of the first and second subgroups. Fears (90%) and anxiety (80%) disappeared. Positive emotions prevailed, a feeling of joy appeared (70%), and a completely new feeling (30%) of lightness and airiness appeared, which the woman describes as “the joy of flight” (“I fly!”) [23].

DISCUSSION

The study of conscious CP in puerperas with PD allows confirming the concept of a violation of the higher nervous activity of women with borderline mental disorders. Behavior and color perception are interconnected. The results of studies of the spatial organization and nature of the transformation of color signals of the neural circuit from the retina to the visual cortex, which determine the characteristics of behavior, indicate that the conscious experience of color is provided by extrastriatal regions of the visual cortex [24]. The nature of the CP is determined by the functional state of the color-selective neurons of the color analyzer of the cerebral cortex. The method of functional magnetic resonance imaging (MRI) in the extrastriatal cortex of primates revealed a large number of millimeter-sized globular formations, which are clusters of color-perceiving neurons, called by the authors of the study - "globs" - globules or balls, scattered over the regions V3, V4. The microorganization of neurons in balls and the color properties of individual cells have been investigated. First, the CPs of neurons in one globule are different. Second, adjacent formations tend to have the same color settings. It is assumed that the CP is morphologically organized at a finer level than the functional capacity of one globule [25]. In humans, similar structural formations are represented by a columnar organization of neurons located in the associative fields V2 (medial-occipital), V3, V4 and VO1 (ventral-occipital), analyzing the color, shape, quality of the signal, and absent in V1, LO1 (lateral occipital) , LO2, V3A / B and MT + [26]. named by the authors of the study - "globs" - globules or balls, scattered over the regions V3, V4. The microorganization of neurons in balls and the color properties of individual cells have been investigated. First, the CPs of neurons in one globule are different. Second, adjacent formations tend to have the same color settings. It is assumed that the CP is morphologically organized at a finer level than the functional capacity of one globule [25]. In humans, similar structural formations are represented by a columnar organization of neurons located in the associative fields V2 (medial-occipital), V3, V4 and VO1 (ventral-occipital), analyzing the color, shape, quality of the signal, and absent in V1, LO1 (lateral occipital) , LO2, V3A / B and MT + [26]. named by the authors of the study - "globs" - globules or balls, scattered over the regions V3, V4. The microorganization of neurons in balls and the color properties of individual cells have been investigated. First, the CPs of neurons in one globule are different. Second, adjacent formations tend to have the same color settings. It is assumed that the CP is morphologically organized at a finer level than the functional capacity of one globule [25]. In humans, similar structural formations are represented by a columnar organization of neurons located in the associative fields V2 (medial-occipital), V3, V4 and VO1 (ventral-occipital), analyzing the color, shape, quality of the signal, and absent in V1, LO1 (lateral occipital) , LO2, V3A / B and MT + [26]. The microorganization of neurons in balls and the color properties of individual cells have been investigated. First, the CPs of neurons in one globule are different. Second, adjacent formations tend to have the same color settings. It is assumed that the CP is morphologically organized at a finer level than the functional capacity of one globule [25]. In humans, similar structural formations are represented by a columnar organization of neurons located in the associative fields V2 (medial-occipital), V3, V4 and VO1 (ventral-occipital), analyzing the color, shape, quality of the signal, and absent in V1, LO1 (lateral occipital) , LO2, V3A / B and MT + [26]. The microorganization of neurons in balls and the color properties of individual cells have been investigated. First, the CPs of neurons in one globule are different. Second, adjacent formations tend to have the same color settings. It is assumed that the CP is morphologically organized at a finer level than the functional capacity of one globule [25]. In humans, similar structural formations are represented by a columnar organization of neurons located in the associative fields V2 (medial-occipital), V3, V4 and VO1 (ventral-occipital), analyzing the color, shape, quality of the signal,

The wide dispersion of the place of color in the series of conscious preferences of women with PD is explained by the functional dissociation of neurons in the columnar structures of the visual cortex, functioning in an autonomous "vertical" mode. A decrease in the spread and an increase in the frequency of the preferred color in the dominant place of choice in postpartum women who received the course of IRT is presumably associated with the integration of specific color-selective neurons of the columnar structures of the color analyzer of the cerebral cortex into “horizontal” functional systems interconnected. Changes in the CP of postpartum women under the influence of IRT confirm the concept that the effect of acupuncture is also manifested at the level of the cerebral cortex, taking part in

processes of higher nervous activity, cognitive, behavioral processes of a person, acts as a mechanism of psychological defense. Thus, the prerequisites for studying the influence of RTI on the dynamics of human cognitive impairment are outlined. With PD, not only the subcortical nodes and endocrine glands suffer, but also the neocortex with impairment of the higher integrative functions of the visual analyzer, which is confirmed by the asymmetry of the functional activity of the cerebral cortex.

Asymmetry of mental activity is an important form functional asymmetry of the brain in the choice of CP and emotional expression of AP. The presence of a connection between depression and a decrease in functional activation of the left prefrontal lobe, as well as the involvement of the amygdala in the formation of negative emotions in depression. Depressive states are characterized not only by a decrease in the functional activity of the left hemisphere, especially its prefrontal region, but also by a mutual increase in the physiological activity of the prefrontal region of the right hemisphere in combination with functional insufficiency of the right hemisphere, especially its posterior (parietal-temporal) regions [27]. In depression, visual emotional stimulation causes activation of the occipital-parietal cortex and hypofunction of the right temporo-parietal cortex [28],

Emotional impact affects the spatial attention of the human visual cortex [29]. The duration of the Luscher test for women with PD, which is 2-3 times longer than the testing time for women without PD, confirms the specialization of the human visual cortex in various perceptual functions, in particular, in response to temporal and chromatic signals [30]. The results obtained agree with the data that in patients with endogenous depression, the deficit in the recognition of emotions by facial expression is associated with a violation of different stages of the analysis of visual information, a change in the nature of interhemispheric asymmetry, indicating a slowdown in the primary analysis of visual information and a pronounced reduction in the stages of perception related to classification and decision making. in the sensory-specific inferior temporal and occipital areas of the cortex.

The neural mechanisms underlying synesthesia, stimulation of one sensory modality, for example, hearing, which induces perception in another, not stimulated, vision, remains to be elucidated, but the phenomenon is already being used for therapeutic purposes [32]. Auditory and somatosensory perception is stimulated under the influence of color. Red expands the perception of sound loudness and lowers the threshold for perception of cold pain, while green decreases the perception of loudness and increases the threshold for heat pain [33]. The emergence of new emotions under the influence of IRT in puerperas with PD is probably also based on the mechanisms of synesthesia, which change the color perception of the thalamus under the influence of IRT stimulation.

The psychological characteristics of postpartum women identified on the basis of CP analysis

PD, in particular, the need to communicate with any person or group of people on whom they can rely, aesthetic sensitivity and sensitivity, easy adaptability justify the need to introduce interpersonal and suggestive methods of rehabilitation into the practice of therapy.

CONCLUSIONS

CP of puerperas with PD differ from the autogenous norm. A significant dynamics of CP was revealed in women who received a course of IRT in the early recovery period. The inclusion of IRT in the complex rehabilitation of the "mother-child" dyad ensures the optimization of color choice and a decrease in the severity of PD.

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