INTERACTION DURING THE DOLPHIN THERAPY COURSE

PSYCHO-PHYSIOLOGICAL ASPECTS IN THE HUMAN-DOLPHIN INTERACTION DURING THE DOLPHIN THERAPY COURSE

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More than 20 years the Research centre “State Oceanarium” has been the base of conducting research on using Black sea Bottlenose dolphins for health state improvement in patients who suffer from psycho-neurological symptoms. The article presents the results obtained in more than 8000 patients proving the therapeutic effect of dolphin therapy in children with neuroses, autism, infantile cerebral paralysis and mental-speech retardation. Impressions during dolphin therapy for a neurotic and accentuated personality, as well as emotions of their own success have remained in the memory for a long time and changed their behaviour. It is the starting incentive which makes each patient with neurosis in his way to recovery. In case of autism dolphins help a child to direct the existing behaviour habits and form the new ones. In cases with infantile cerebral paralysis patients, dolphins are managed to impose motor stereotypes achieving the best method of interaction for each individual patient. Dolphins are able to make little patients overcome their problems trying to restore neural reflex links of the central nervous system with affected muscles during the 10-th day dolphin therapy course. Thus, mobilization of the patient’s active behaviour during the period of disease, as well as shifting the attention from a painful attitude at the first day and fixes them during the next procedures.

In recent years dolphins are widely used for health state improvement [2, 6, 7, 8, 9]. However, the absence of uniform methodological procedures, discrepancies with regard to mechanisms of the therapeutic effects of dolphin therapy procedures observed lead to falsification of information and the loss of patients’ trust to dolphin therapy.

More than 20 years the Research centre “State Oceanarium” has been the base of conducting research on using Black sea Bottlenose dolphins for health state improvement in patients who suffer from psycho-neurological symptoms. The results obtained in more than 8000 patients have proven the therapeutic effect of dolphin therapy in children with neuroses, autism, infantile cerebral paralysis (ICP) and mental-speech retardation. Impressions require mobilization of efforts directed to overcome the disease. The studies have shown that the therapeutic effect begins at the stage of forming the attitudinal dominance in a patient who is preparing for procedures of dolphin therapy [3]. The use of visual material depicting dolphins, listening to cassette recordings with signals of dolphins help to stimulate the main mechanism that controls the behaviour – motivation. A direct contact with a dolphin has a strong emotional impact on the patient and creates a positive therapeutic background, and the effect of physical factors of water and dolphins, the need to control and train the breathing while swimming require mobilization of efforts directed to overcome the disease.

As a result of various psycho-physiological effects it has been found in patients of different age that the dynamics of changes in the patient’s state during the procedures with dolphins depends not only on the procedures regime and the character of pathology, but also on the relationships of the functional systems in the patient’s organism formed to the time of impact [4].

The main objects of therapeutic and preventive effects involving dolphins are psychosomatic factors in the pathogenesis of the disease. The studies have shown that the therapeutic effect begins at the stage of forming the attitudinal dominance in a patient who is preparing for procedures of dolphin therapy [3]. The use of visual material depicting dolphins, listening to cassette recordings with signals of dolphins help to stimulate the main mechanism that controls the behaviour – motivation. A direct contact with a dolphin has a strong emotional impact on the patient and creates a positive therapeutic background, and the effect of physical factors of water and dolphins, the need to control and train the breathing while swimming require mobilization of efforts directed to overcome the disease.

The analysis of dolphin therapy results among children with neurosis has shown that for this nosological form of disease the pathological forms of adaptation to impacts based on impossibility of satisfaction of needs under the high motivation to realization of this need and manifested as active and passive reactions are characteristic. Figure 1 presents the scheme of therapeutic effects genesis of the dolphin therapy procedures among children with neurosis.

Dolphin therapy with the preliminary psychotherapeutic study setting a patient for recovery makes a child (but now always consciously) step forward into water to a dolphin automatically making control over the movement in water (swimming, talking with a dolphin, communication with a coach). During exercises the coach with the help of encouragements transfers the child automatic deliberate actions into the conscious attitude at the first day and fixes them during the next procedures. Impressions of during dolphin therapy for a neurotic and accentuated personality, as well as emotions of their own success have remained in the memory for a long time and changed their behaviour. It is the starting incentive which makes each patient with neurosis in his way to recovery.
In the variant of the so-called self stress (autism) the main task of dolphin therapy is activation of positive elements in the structure of intentions and aims of the personality, shift in emphasis in the attitude system to the side of maximum socialization, bringing up the adequate reactions. The clinical picture of the child autism syndrome is characterized by auto-stimulation, field and ritual behaviour, autism, which significantly reduce the communicative function of the child (Fig. 2).

Under dolphin therapy in such children the games with dolphins are always accompanied with psychoemotional excitation, attempts to pronounce words, singing. Autostimulation revealing as obsessive movements during communication with dolphins is repressed by introduction of the new psychophysical tasks (feeding of dolphins, playing with a ball, swimming by himself and with the coach), which cause the stress tension in the patient leading to more successful replacement from bad habits to good ones. In case of autism dolphins help a child to start to know outward things and then on this base manage the study and behaviour, direct to the needed way and form his new habits and knowledge.

During dolphin therapy in diseases with a marked psychosomatic constituent it is necessary to estimate the margins of the method's opportunities at different stages of the pathology development. In ICP transition from the initial stage of disease to prolonged and chronic forms is accompanied with psychophysiological rebuilding of the patient, which allow him to perform the main vital functions under the changed condition of the existence. At this stage it is necessary to understand what is the expression of the real anatomic physiological substrate in the clinical picture of the disease and what is connected with activation of the psychical sphere. In conditions when the patient perceives inadequately disorders developed during his disease (the so-called distorted sensitive image of disease), it is very important to impact on the psychophysiological mechanisms of the anxiety condition, hypochondriac fixations. The correction of such violations is successfully performed with the help of psychotherapeutic actions of patients with participation of dolphins in this process.

By the schematic research of the problem the condition about blockade of signals from the CNS to the locomotor system (see a dotted line in Fig. 3) in children with ICP can be taken. During the dolphin therapy procedures the coach forces the patient to cooperate with a dolphin stimulating him to movement seeking communication with the animal. Besides, positive emotions and new motivation appear in child; it leads to active movement in water, muscles contraction of the body, limbs and regeneration of links between periphery motoneurons and the CNS.

![Fig. 1. The scheme of therapeutic effects genesis of the dolphin therapy procedures among children with neurosis](image1)

![Fig. 2. The scheme of therapeutic effects genesis of the dolphin therapy procedures among patients with diagnosis of autism](image2)
In cases with infantile cerebral paralysis patients, dolphins are managed to impose motor stereotypes achieving the best method of interaction for each individual patient. The dolphins are able to make little patients overcome their problems trying to restore neural reflex links of the central nervous system with affected muscles during the 10-th day dolphin therapy course. Positive emotions from communication with a dolphin help parents to form a stable motivation to movement in their child and exercises of hydrokinesotherapy leading to saving of the given effects of dolphin therapy.

Application of dolphin therapy must be strictly regulated by indications and contraindications. Unreasonable extension of indications for this method, attempts to treat all diseases with dolphins lead to discrimination of the method, skeptic attitude of clinicians and psychotherapists forward it. A high efficiency of this method can be in the case when the psychoemotional sphere of the patients can be influenced with a dolphin increasing self-importance both in self-esteem and in the opinion of others.

In a number of cases attraction of the members of the patient’s family and his friends to dolphin therapy accelerates and facilitates to get the therapeutic effect. Besides, as L.S. Vygotsky stated [1], for adaptation of a child with the problems in development it is important to take into count not only disease itself, but also the opportunity of the social compensation.

Thus, mobilization of the patient’s active behaviour during the period of disease, as well as shifting the attention from a painful dominant on optimistically healing motivations are the important elements of dolphin therapy.

REFERENCES

ПСИХОФИЗИОЛОГІЧЕСКИЕ АСПЕКТЫ ВЗАИМОДЕЙСТВИЯ ЧЕЛОВЕКА И ДЕЛЬФИНА В ПРОЦЕДУРАХ ДЕЛЬФИНОТЕРАПИИ
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В научно-исследовательском центре «Государственный океанариум» более 20-ти лет проводятся работы по изучению возможности использования черноморских дельфинов афалин для восстановления здоровья людей, страдающих психоневрологическими заболеваниями. В статье представлены данные, полученные на более чем 8000 пациентов, подтверждающие лечебные эффекты процедур дельфинотерапии у детей с неврозами, аутизмом, детским церебральным параличом (ДЦП) и задержкой психоречевого развития (ЗПР). Для пациента невропата и личностно акцентуированного пациента впечатление от пережитого в процедурах дельфинотерапии, а также ощущение собственной победы и успеха надолго остаются закрепленными в поведении и являются тем старта-овым прыжком, который делает каждый пациент с неврозом на пути к выздоровлению. При аутизме с помощью дельфина удаётся помочь ребенку осмысленно взаимодействовать с окружающим миром, а потом на основе полученных результатов осуществлять управление обучением и воспитанием, направляя в нужное русло имеющееся впечатление и формируя у него новые привычки и знания. При ДЦП с помощью дельфина удаётся навязать двигательные стереотипы с целью достижения оптимального взаимодействия с дельфином, заставляя ребенка ощутить вкус победы над собой и постараться восстановить нервно-рефлекторные связи ЦНС с пораженными мышцами за десять дней занятий с дельфинами. Таким образом, мобилизация активного поведения пациента во время болезни, переключение его внимания с болезненной доминанты на оптимистично-заживляющие мотивации являются важнейшими элементами дельфинотерапии.