Effects of the Medical Resonance Therapy Music in the Complex Treatment of Epileptic Patients

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Abstract—The purpose of the study was to evaluate the effectiveness of Medical Resonance Therapy Music (MRT-Music) as a psycho-physiological method for the treatment of epilepsy in severe epileptic patients, whose attacks persevered despite comprehensive drug treatments. Under investigation were frequency and severity of epileptic attacks, the subjective state, the dynamics of the inter-paroxysmal symptoms and the individual parameters of the functional asymmetry of the brain (IPFA).

Frequency and severity of the paroxysms changed positively in 80 percent of the cases: frequency of attacks were reduced by 75 percent and many attacks manifested in the form of abortive variants. The paroxysmal component, the degree of amnesia and the polymorphism of the attacks were reduced. Such positive changes were 4 times less frequent in the control group. Changes in subjective state were 90 percent positive: the patients felt more healthy, were calmer, had a better mood and fewer ups and downs in mood, released tension, and reduced unrest, wrath, and irritation.

The evaluation of the Minnesota Multiphasic Personality Inventory (MMPI) showed clear improvements in the inter-paroxysmal clinical picture, particularly in those parameters that characterise the general degree of sickness, psychasthenic and paranoid traits, hypochondria, aggression and depressive states. Similar positive changes in the control group were observed two times less frequently. The changes of the IPFA-values were positive in 73.3 percent of the patients (27.8 percent in controls), had differently directed shiftings, were dependent on the initial level, and were determined by the location of the epileptic focus.

Introduction

Epilepsy is a disease that is evident world wide. Medical statistics report that 3 to 5 percent of the world’s population suffer from epilepsy, out of which 10 to 20 percent of those epileptics suffer from the severe form of epilepsy. Although there are some successes in medical treatment, the present state of affairs can not be considered satisfactory. Unsolved remain the problems of paroxysmal as well as inter-paroxysmal symptoms and their treatment. One of the methods to reduce epileptic activity is to introduce normal biological rhythms.

Music is a strong factor of influence for the psycho-physiological state (4). Scientific research shows that when music is in tune with the harmony laws of the microcosm of music, it can produce a synchronisation of brain waves and a harmonisation of the psychic profile by changing bioelectric, biochemical, hormonal, and immune biological parameters (5,6).
In developing the Medical Resonance Therapy Music® (MRT-Music), musicologist and classical composer Peter Huebner, in order to strengthen the natural inner harmony of man and to bring his life activity in accord with the laws of nature, created an integrated concept for the application of music structures in medicine (2,3). He utilised creative technologies of sound creation, new recording and production technologies, as well as new, computer directed processes of analyses and synthesis. An essential and unique feature of the MRT-Music is that it is based on the rhythmical harmony laws of nature as they are presented in the microcosm of music (1).

The purpose of this study was how rhythmically natural music delivered through the ear to the central nervous system could be useful in the treatment of epilepsy. The study was conducted in a specialised hospital for epilepsy in Minsk under the direction of the international medical helping program for the population of the Republic of Belarus, who was harmed by the catastrophe in the nuclear plant of Chernobyl.

Patients and Methods

The studies on the effects of the MRT-Music on the paroxysmal and inter-paroxysmal status of the patients were performed on 34 patients with various forms of epilepsy. The selection of the patients was randomised and the results of the study were compared to the results of 22 patients in a control group. Age and sex were comparable in both groups. All patients received the traditional anti-epileptic therapy with the drugs Phenobarbital and Filepsin including anti-convulsants, and, if necessary, also a sedative therapy. The MRT-Music was applied once a day for about one hour. The number of treatments varied from 6–16 treatments. To determine the effectiveness of the Medical Resonance Therapy Music the following methods were applied:

1. Clinical observation, including the registration of the subjective state as well as registering frequency, degree, and characteristics of the attacks. Criteria for a positive effect were:
   -- reducing the frequency of attacks by 75 percent
   -- manifestations of attacks in the form of abortive variants
   -- reducing the paroxysmal component
   -- reduction of the degree of amnesia
   -- reduction of the polymorphism of the attacks
   The changes of the subjective state were judged by the patients themselves according to the following criteria:
     -- improving of the general state of health
     -- calming
     -- improving mood
     -- lack of ups and downs in mood
     -- releasing tension
     -- reducing unrest
     -- reducing wrath
     -- releasing irritation

2. Psychological studies using the Minnesota Multiphasic Personality Inventory (MMPI)—a test to determine structure and form of expression of a psycho-pathological syndrome.

3. Investigations of individual profiles of the functional asymmetry of the brain (IPFA)—to determine deviations from norm values in neuro-psychological pathology