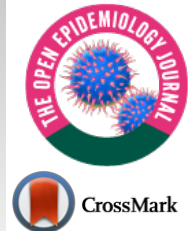




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RESEARCH ARTICLE

The Effectiveness of Bioresonance Method on Human Health

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Abstract:

Introduction:

Bioresonance is a holistic physical method that can be used diagnostically and therapeutically to treat various diseases. Bioresonance uses the electromagnetic waves it receives from the patient. This biophysical method of treatment alters the energy field of the affected organism, increasing the effectiveness of the autoimmune system, thus improving the patient's overall health.

Methods:

A quasi-experimental design was used to examine whether bioresonance had an effect on the symptoms of the patients. Statistical data processing involves a study of various parameters such as age, gender, studies, occupation, intolerance or illness as well as the existence and balancing of allergic charges. The study included 311 patients from doctors and bio-coordinating laboratories in Athens, Thessaloniki, Volos and Xanthi. The sample of the study included both men (120 subjects - 38.58%) and women (191 subjects - 61.42%), aged from 2 to 76 years old. The age group with the largest number of patients included those aged from 31 to 45.

Results:

The patients under treatment came forward with symptoms mostly nasal (61.09%), followed by eye, respiratory, cutaneous, and gastrointestinal symptoms. Most of the patients (90%) observe no symptoms at all or show significant improvement of their symptoms after a period of 12 months of bioresonance treatment. These results show that bioresonance intervention had a significant effect on the improvement of symptoms and this improvement is even obvious 12 months after the intervention; $p < .01$.

Conclusion:

We believe that the forthcoming results contribute to a better understanding of the effect of bioresonance on the human body and its affect in preventing and restoring health issues.

Keywords: Bioresonance, CAM, Holistic medicine, Allergy, Public health, Autoimmune system.

Article History

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1. INTRODUCTION

It is scientifically proven that our body cells emit and receive electromagnetic signals [1]. When normal cellular electromagnetic communication is disrupted, due to interference of some pathogenic microorganism, diseases appear [2]. Such "parasites" in cells' electromagnetic communication can be caused by stress, fungi, bacteria, hormonal disorders, as well as allergens such as pollen, dust, various food anomalies, bee sting poison, anxiety, atmospheric pollution, heavy metals, radiation and other similar aggravating factors, resulting in the onset of symptoms or even the disease itself [3]. In the history

of medicine, the 20th century will be referred to as the century in which medicine was based on cellular pathology, biochemistry, advances in surgery, and increased life expectancy thanks to the development of new treatment methods that are based on chemical, antibiotic or other methods. We will face the need for the use of Complementary and Alternative Medicine (CAM) in order to relax, improve our subjective well-being, preventative care and we will meet the need for more individualized and holistic care [4]. Bioresonance is a holistic method, the basic principle of which is that each human is an individual being. Therefore, each disease of a specific organism is an individual case and as such it should be treated accordingly. Bioresonance treatment must be specifically adapted to each patient [5]. One can say that bioresonance is the modern "Phaistos disk", as the scientific

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community has neither managed to clarify its aetiology, nor to fully elucidate its pathogenic mechanisms so far.

In recent years, our everyday life has changed, becoming even more stressful and difficult and as all things around us have changed, we have to change the way we approach the human body. Therefore, what we expect from medicine in the 21st century is to dissolve the prejudices and pave the way for us to accept certain new approaches in our way of thinking [6]. We live in a “world of change” [7]. According to recent studies, chronic diseases have significant financial and social consequences on global economy. Despite the increasing scientific efforts to determine the aetiology and mechanisms of chronic diseases in relation to their treatment, the number of these diseases is constantly expanding. One concept describing the aetiology and mechanisms of chronic diseases is based on “Epigenetic Changes” [8]. Epigenetic changes are permanent changes in gene expression that are caused by Chromatin conformation changes and do not involve DNA sequence changes. Depending on the time-scale, these changes can be persistent through DNA replication. The nuclear chromatin cluster has electric oscillation capacity in the eukaryotic nucleus. The natural frequency of an oscillating chromatin region is determined by DNA-protein complexes’ physical properties in that region, which can be changed by its epigenetic state and associated protein factors [9]. The detection of such changes is possible using the method of bioresonance, and therefore they can be used for the early detection of chronic diseases. Bioresonance works on the basis of living organisms’ magnetic fields spectral analysis, thus allowing the therapist to differentiate between the normal and abnormal frequencies emitted by the body. Electromagnetic waves as epigenetic factors could influence the dynamic changes of chromatin, resulting in the activation or suppression of the body’s biochemical processes and play a critical role in the development or treatment of chronic diseases [10]. The principle of electro-dermal diagnostic devices was discovered by Dr. Reinhard Voll, who argued that the human body’s electrical resistance is not homogeneous, and there are meridians appearing as electric fields. There is a total number of 1000 points on the human body corresponding to the 12 classical meridians of Chinese medicine. Dr. Voll proposed a device that could measure skin resistance in each acupuncture point in combination with galvanic skin resistance [11]. In 1922, the Russian biophysicist A.G. Gurwitsch discovered mitogenetic radiation. He observed that the root of an onion during its growth phase can increase cellular division of another root, even when these two roots are separated by glass [12]. This observation was the beginning of the theory of bioresonance method through the development of the theory of biological information transfer [13].

The German doctor Franz Morell is considered the “father” of bioresonance treatment. In 1977, having long-term experience in electro-acupuncture, he thought that his treatments could be more precise if he could use the electromagnetic vibrations of the patient’s own body. Thus, the first electronic device that could receive and return electromagnetic frequencies from/to the body using electrodes was constructed [14]. Morell introduced the treatment model using the signals of the patient’s own body, which was initially called the MORA treatment. Its name was given by the initials of its

inventors MÖrell and RASche, who was an electronic engineer and designed the first treatment device. The use of the BICOM device started in 1987, offering many advantages as compared to the initial device. The body receives the disturbed signal from the patient through the input of the information from the abdominal area (as well as any part of the body). This signal is being processed by the Bicom device and amplified. Following this, the inverted therapeutic signal returns to the patient amplified through the modulation mat located along the spinal cord. Bicom bioresonance device allows the selection of specific parts of the total frequency spectrum for the treatment [15]. The device’s scanning frequency range from 1Hz to 800kHz and it is CE certified. To treat allergies, the modified (inverted) electromagnetic vibrations of allergens are sent to the body, which are placed in a container attached to the bioresonance device.

In the endogenous form of bioresonance, the oscillations are picked up using electrodes at various parts of the body and following an electronic inversion they are transmitted back to the body for therapeutic purposes. In the exogenous form, the oscillations of bio-active substances are transmitted following the electronic inversion (e.g. an allergen) or amplification (e.g. nosodes) for therapeutic purposes to the human body [16]. In 1990, the pediatrician Dr. Schumacher conducted a research study in his medical practice, including 204 children with various allergies. The patients completed a questionnaire at baseline, and then five to nine months after the bioresonance treatment, the majority (83%) reported that they did not have any allergic symptoms anymore. The symptoms improved in 11% of the respondents, no difference was reported by 4.5% of them, and 1.5% could not specify. At that time, this was a revolutionary finding. The level of evidence for the study was 4-5 [17]. During the same period Dr. Schumacher published another study with patients with high fever (spring allergic rhinitis). In the following spring after the treatment, 43.4% of the patients did not have symptoms anymore, while improvement was evident in 50.4% of the patients, indicating that effectiveness exceeded 90% [18].

In 1993 Dr. Hennecke conducted a research study in his medical practice. He had developed a new treatment method for allergies with the use of meridians from the Bicom bioresonance device. A few months after the use of the new method, he sent questionnaires to 248 of his patients that underwent treatment. The allergen should not be avoided, which is the advantage of his method. The group included both adults and children with atopic dermatitis, eczema, allergy to pollen, as well as eye, respiratory and intestinal allergic conditions. Among the 200 cases that were analyzed, 50.4% reported having no symptoms, and 34.1% showed improvement. Most patients had a long history of allergies and had also tried other less effective therapies [19]. In 2002, a study was conducted by the Russian Institute of Theoretical and Experimental Biophysics with patients with rheumatoid arthritis, analyzing results before and during bioresonance therapy. The state of the lymphocytes of patients receiving pharmacotherapy showed activation of the key antioxidant enzymes and decreased content in thiol groups. Patients under bioresonance therapy increased the content of thiol groups and normalised activities of glutathione peroxidase. The conclusion of the study was that

the chances in the lymphatic system indicate that bioresonance therapy activates protective mechanisms in patients with rheumatoid arthritis [20]. In recent years, similar studies are conducted in Europe and China, including children and adults assessing the application of bioresonance in treating allergies (atopic dermatitis, rhinitis, asthma, *etc.*) with very promising results [21]. An initial study in 79 patients with cutaneous symptoms was published in March 2005. This study also demonstrated that treatment was effective, with 75% of the patients showing complete healing and 22% having improvement of their symptoms [22]. Another study compared three groups including 181 children with bronchial asthma or allergic rhinitis. This was a prospective, randomised, controlled, parallel group study [23]. The patients were divided into three groups, the first of which included children with a first-time diagnosis, the second group children for whom prior medication therapy was not successful, and the third was the control group, including children with a first-time diagnosis who received medication only. A further study that was published in 2011 included 935 patients suffering from allergies treated with the use of bioresonance therapy in the period between 1998 and 2008. Three groups of indications were specified: patients with allergies, pain symptoms, and infections. The overall assessment of treatment effectiveness was determined as either satisfactory or non-satisfactory healing. The results for 83.3% of the total number of patients receiving treatment were classified as very satisfactory. In particular, among patients with allergic symptoms, 88.2% of them demonstrated effectiveness, in patients with pain symptoms effectiveness reached 85.9%, while the corresponding effectiveness for infections reached 96.1% [24]. In 2002 the results of diagnosis using EAV were compared to the skin prick test in 31 patients with four allergies (mites, grass, olive pollen, and nettle). The percentage of correspondence reached up to 95%. During the evaluation performed as part of this study, it was observed that “as an objective method, the Bicom device is particularly appropriate for conducting tests for allergies”. The level of evidence of this study was determined as 1 [25]. The treatment of allergies with the Bicom device was “legitimized” through court decision 6U 2187/06 on May 14th, 2009 by the Court of Munich.

The purpose of the present study is the preliminary empirical investigation of the effect of bioresonance as an alternative protective method for the body against harmful factors, without scientific evidence of the effectiveness of the method so far. The hypotheses of the study are (1) there is significant effect of bioresonance as an alternative protective method for the cells, improvement in relation to aggravating and harmful factors and (2) there differences are evident among patient after treatment completion.

2. MATERIALS AND METHODS

2.1. Study Design

For the purposes of this study, a quasi-experimental design was used to examine whether bioresonance had an effect on the patients' symptoms. The survey lasted for 1 year and the subjects for the survey were listed as Patients of Bioresonance Centres in 4 cities in Greece (Athens, Thessaloniki, Volos and Xanthi) between 1/1/2012 and 30/4/2016.

2.2. Tool of Survey

A questionnaire with 75 questions was used to record the data and was distributed to all patients. The questionnaire consisted of 75 questions to be answered by all patients who used the bioresonance method and completed or stopped treatment with the Bicom device [26]. The questionnaires for children under the age of 12 were completed by their parents. The questionnaire included questions about the patient's demographic characteristics, their symptoms, and the aetiology causing them. Fourteen (14) questions focused on demographic characteristics, such as gender, age, education, profession, smoking status, alcohol-coffee consumption, the use of other treatment methods in the past, and the reasons for choosing bioresonance. Ten (10) questions related to patients' medical history, including symptom frequency, the time of the onset of symptoms, if they had undergone any prior surgical operation, if they used any medication for relieving symptoms, their family medical history, *etc.* Twenty two (22) questions assessed some of the patients' symptoms, such as stuffy nose, itching, sneezing, and runny nose among others. In addition, nineteen (19) questions assessed whether certain aggravating factors affect the patients' symptoms, such as alcohol, perfumes, air-conditioning, seasonal changes, *etc.* More specifically, a scale 0-3 was used for allergic rhinitis relating to patients' type of symptoms, TNSS (Total Nasal Symptom Score) [27]. The last page of the questionnaire included certain questions examining whether patients had any symptoms after the completion of the bioresonance therapy after a period of three (3) months, six (6) months and one year. Thus it was possible to monitor patients' symptoms and specify whether their symptoms had improved or not. Furthermore, the patients were asked if they continued medical treatment along with bioresonance, the number of aggravating factors that were positive, and the number of treatments required, while one question was for those patients who did not complete the treatment, so that to specify the reason of discontinuation.

2.3. Participants

At total 360 patients were selected for bioresonance treatments using simple random sampling. As a criterion for inclusion in the survey was the visit to the bioresonance centers and the initiation of some treatment with bioresonance method to deal with their health problems. Patients who did not correctly complete the questionnaire and did not continue treatment were not included in the survey. Patients completed anonymously the questionnaires given to them and signed their consent to use the information for research purposes only in accordance with medical confidentiality. Furthermore, the treatment results were rechecked over a period of 3, 6 and 12 months with the completion of 10 additional questions by the therapist. Following a careful check, 311 correctly completed questionnaires were included in the study. The sample of the study included both male (120 in total - 38.58%) and female (191 in total - 61.42%) patients, aged from 2 to 76 years old; their distribution based on age.

2.4. Data Analysis

Data analysis was performed in the Statistical Package for Social Science version 24. For the purpose of the study,

descriptors were used to evaluate the symptoms of patients, the causes that caused the symptoms and the causes that may have stopped treatment. The main outcome of the survey was the evaluation of the symptoms by the therapist. The effectiveness of bioresonance was analysed using non parametric Friedman test. Moreover, post-hoc analysis using Wilcoxon test was used in order to research the exact times of a statistically significant differentiation. The significance level of the survey defined to be $\alpha=0.05$ (95% confidence interval).

3. RESULTS AND DISCUSSION

The symptoms in the survey refer to various health problems such as nasal, respiratory, gastrointestinal and orthopedic issues. Based on the results of the research it seems that health conditions which are treated with bioresonance are to a large extent allergy-related illnesses. This fact signifies the effectiveness of bioresonance in the treatment of allergies and its acceptance by patients who used treatment of this method.

The results indicate that women are more positive in selecting alternative treatments, and it is also worth noting that a great percentage of men had a positive attitude towards bioresonance therapy after being advised by their wife or spouse. In a survey that took place in 2013, women were more likely to use CAM than men (67.0% vs. 50.9% for men) [28]. Patients varying from 2 to 76 years of age were included in the study, covering a wide range of age scale. The age group with the largest number of patients included those aged 31 to 45 years old. In an investigation which took place in Denmark, people with MS who used CAM treatments were more likely to be of female gender, 18-40 years of age [29]. This indicates that in these age groups patients seek to find new methods and new ways, apart from traditional medicine, to treat their health issues. This result strengthens the view of the great power of advertising, which is evident today both on the Internet and other media.

As far as participants' educational level is concerned, it is evident that most participants had secondary and university educational level (48.23%). Patients with graduate and post-graduate education were also more likely to use CAM than those with primary education (63.9% vs. 53.5%) [30]. It is evident that patients selecting alternative treatment methods and bioresonance are usually young, educated individuals, seeking for an alternative treatment for their symptoms. The answers given to the question: "Have you used other treatment methods? Please specify" indicate that most patients (39.87%) answered that the first choice to treat their symptoms was medication, while a significant percentage (32,8%) of the patients did not use other methods, but chose bioresonance therapy as their first choice to manage their symptoms.

Furthermore in 2002, about 62% of U.S. adults used some form of Complementary and Alternative Medicine (CAM) [31]. This also demonstrates a significant increase in the preference of CAM use for the treatment of patient symptoms. A significant number of patients select bioresonance as their first choice for the treatment of their symptoms, indicating the emerging awareness for bioresonance. When examining the symptoms reported by patients, it is evident that most symptoms are nasal (61.09%), followed by eye, respiratory, cutaneous, and gastrointestinal symptoms. It is also evident that most symptoms concern the upper respiratory system, indicating allergic rhinitis as their cause. Fig. (1) presented the reported symptoms and Fig. (2) presents the reported causes of symptoms aggravation. The most frequent of which include humidity, dust, and pollen from flowers, which are mainly observed during spring, again indicating allergic rhinitis as their cause. Fig. (3) presents patients' state immediately after the completion of treatment. It is evident that 38.26% do not have any symptoms at all, while 28.29% had significant improvement of their symptoms.

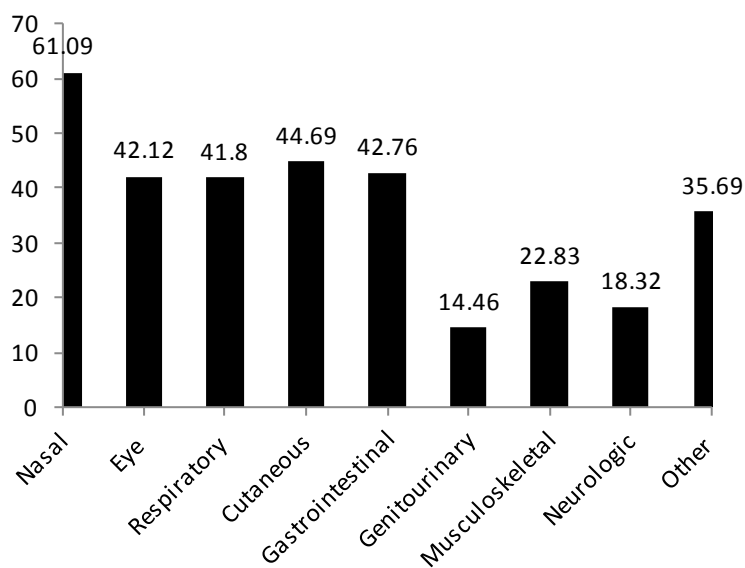


Fig. (1). Symptoms.

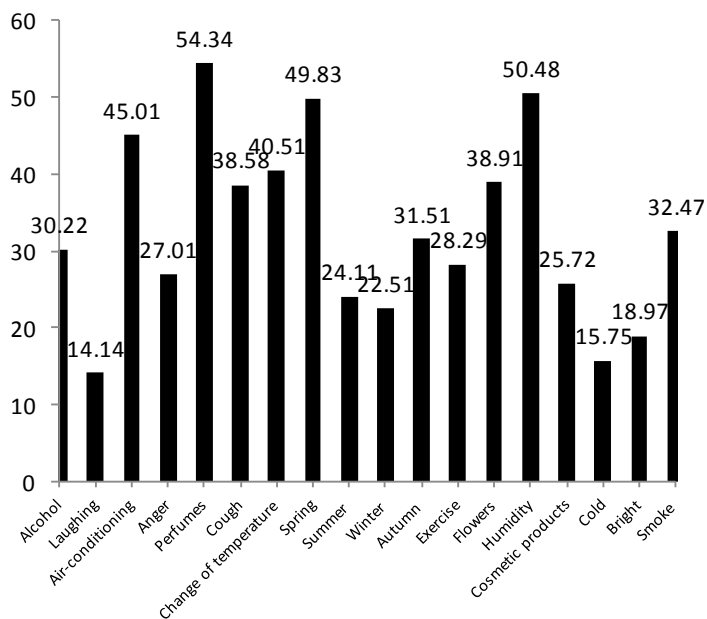


Fig. (2). Causes aggravating the symptoms.

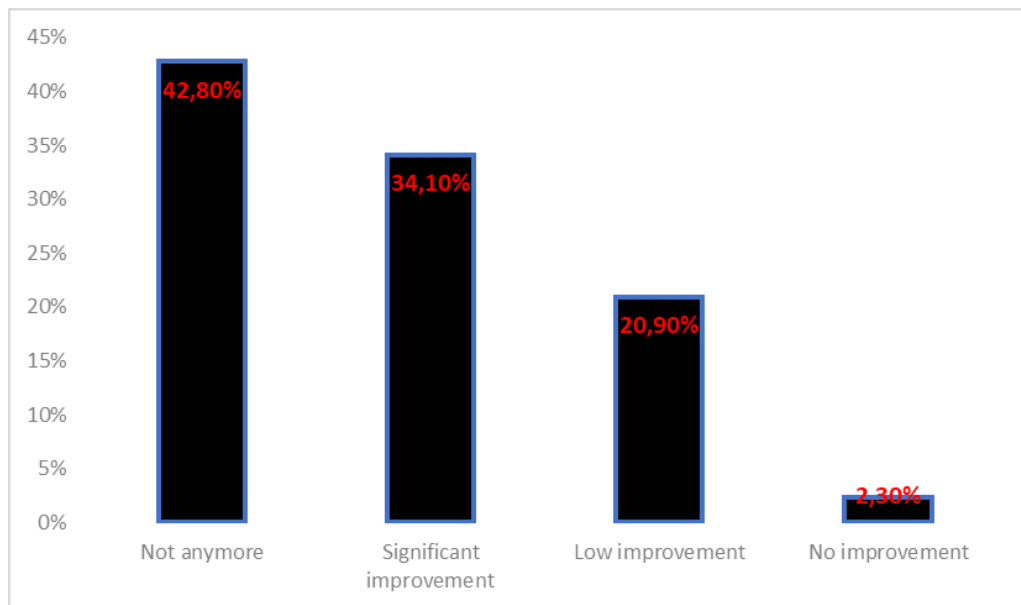


Fig. (3). Symptoms immediately after intervention.

The results regarding the effectiveness of bioresonance are presented in Table 1. The results indicate that the percentage of patients with small improvement immediately after interventions was 20.9%, and only 2.3% had no improvement at all. Moreover, 42.8% of the patients did not show any symptoms following their intervention. Symptoms recorded after a period of 3 months indicate that no symptoms are present in 39.9% of the patients and 37% of the patients show significant improvement. The 21.2% of the patients had small improvement and the percentage of patients with no improvement at all was 1.9%. The feedback after 6 months was no symptom present in 37% of the patients, while significant improvement was evident in 51.1% of the patients. In follow-up measurement 12 months after intervention, 43.4% of the

patients had no symptoms, 46.6% showed up significant improvement and 10% showed up small improvement. The Friedman test indicate that there is significant effect of bioresonance intervention; $\chi^2(3)=33.94, p<.001$. In more detail, post-hoc analysis indicate that there is significant difference between the improvement immediately after intervention and 6 months after intervention; $z=-4.930, p<.01$, there is significant difference between the improvement immediately after intervention and 12 months after intervention; $z=-4.831, p<.01$. These results show that bioresonance intervention had a significant effect on the improvement of symptoms and this improvement is even obvious even 12 months after the intervention.

Table 1. Symptoms pro and post intervention (3, 6 and 12 months after treatment).

		Not Anymore	Significant Improvement	Low Improvement	No Improvement
Immediately after	n	133	106	65	7
	%	42.8%	34.1%	20.9%	2.3%
After 3 months	n	124	115	66	6
	%	39.9%	37.0%	21.2%	1.9%
After 6 months	n	115	159	37	0
	%	37.0%	51.1%	11.9%	0.0%
After 12 months	n	135	145	31	0
	%	43.4%	46.6%	10.0%	0.0%

The main diagnosis of allergies and their treatment are based on traditional allergy tests, which include well-validated diagnostic methods and proven treatment methods. Furthermore several tests have been proposed that have not been tested adequately in the evaluation of patients with allergies. According to the results of our study it is evident that bioresonance can help significantly as an alternative treatment of diseases and allergies. No clinical study or experimental protocol assessing the effect of bioresonance was used. To the contrary, a special study with questionnaires was conducted, so that to investigate the different factors among the 311 patients, such as age, gender, studies, intolerances and/or diseases, as well as the presence and balancing of allergy burden. Based on the study results, about 61.13% of adults used bioresonance therapy or other CAM as their first choice to manage their symptoms. Also, women in our study, were more likely to use bioresonance than men (61.42% vs. 38.68). As far as the participants' educational level is concerned, it is evident that participants with secondary (31.51%) and postgraduate educational level (48.23%) were more likely to use bioresonance. It is evident that patients selecting alternative treatment methods and bioresonance are usually young, educated individuals, seeking for an alternative treatment for their symptoms. Young people between the ages of 31-45 are informed and educated as well as they are looking for new alternative ways of coping with their symptoms, either because they don't rely on classical medicine or because they are looking for a new permanent and non-prescriptive way to cope with their symptoms. The charges that humans now receive are much more intense than those accepted 20-30 years ago. Of course, there is much more information on health issues. This has led young people to turn to alternative therapies as a more painless and meaningful solution to their health problems. As reported by the study results, it is evident that one year after the end of treatment, the percentage of patients without any symptoms is 43.4%, while 46.6% of the patients showed significant improvement. The total percentage of patients (90%) observe no symptoms or significant improvement of the symptoms, which indicates that bioresonance is a very effective method, while no aggravation of patients' symptoms is observed. The harsh life rhythms and the burdens that our body receives from stress, atmospheric pollution, poor nutrition, aggravating radiation, etc. have increased over the previous years. This results in new diseases in human body such as autoimmune diseases, obesity, allergies or psychosomatic disorders. Diseases that in many occasions classic medicine cannot find a permanent and painless solution. Based

on the results of the research, Bioresonance can be a holistic way of addressing and finding the primary causes of symptom manifestation.

The key point of this research is the high efficiency of the method on humans. It is also worth noting that bioresonance can be applied to a wide range of diseases without medication or side effects. It can be applied to anyone, regardless of their age or gender. This promising method is a new scientific holistic method, the encouraging results of which can be a source of knowledge for dealing with many malfunctions of the human body.

The conclusions of the study cannot be generalized to the extent of the general population, since of course there was a limitation in people examined. Accordingly, the part of re-examining the patients' symptoms was conducted by telephone and questionnaires were completed by doctors and therapists according to the description of the patients' symptoms. No microbiological examinations and patient measurements were performed to evaluate the symptoms of patients as there was a wide variety of symptoms from the randomized patients who participated in the study. For this reason, it was not easy to evaluate them in total, thus only using a questionnaire response from the patients themselves. However, the high rate of success of the bioresonance method has given us the incentive to further research into more complex symptoms and specific applications.

CONCLUSION

Bioresonance does not intend to replace traditional medicine, but in many cases it provides significant help, even in cases with no effective medications. It is important to highlight the fact that even patients who did not show complete healing, discontinued medication. This demonstrates another potential of Bioresonance, to be combined with a standard medication treatment in order to be better assimilated from patients and minimize side effects from the effects of the conventional drug. This is an opportunity to use data for further research in the future with a perspective of making better use of the method in humans. Bioresonance is a method that can help both in identifying and in preventing and restoring health status, through the identification of the underlying causes of a disease. The aim of bioresonance treatment is the restoration of the body's energy flow, the elimination of pathological conditions, and the enhancement of health to restore the body's auto-healing system and to treat pathological conditions causing the disease. Bioresonance is neither a panacea nor it is

intended to replace conventional medicine. However, it is of great importance since it 'comes to complement' traditional medicine as it is a new approach, which in future times can prove to be a new diagnostic and therapeutic method to prevent and deal with the hidden causes that can cause a disease in the first place. Bioresonance is a new development in the field of medicine that covers the need for early detection of disorders and organism malfunctions that can potentially develop into ailments.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Not applicable.

HUMAN AND ANIMAL RIGHTS

No animals/ humans were used for the studies that are basis of this research.

CONSENT FOR PUBLICATION

Informed consent was obtained from all the participants prior to publication.

AVAILABILITY OF DATA AND MATERIALS

Not applicable.

FUNDING

None.

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

ACKNOWLEDGEMENTS

Declared none.

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