

# Application of Innovative Digital Medical Technologies of Bioquantum Medicine and Therapy in Elimination of Allergy Symptoms

**Iurii Titarenko** (PhD in Psychology, Scientific and Research University of Medical and Pharmaceutical Law, European Academy of Digital Medical Technologies – “Re-Generation” Center, Ukraine)  
Corresponding author: Iurii Titarenko

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**Abstract.** In recent years, there has been an increasing integration of alternative medical technologies, particularly those involving digital medical technologies based on quantum and bioquantum medicine, frequency and wave therapy, and bioquantum therapy, for treating COVID-19, post-COVID, and long-COVID conditions as outlined in ICD-11. This study aimed to experimentally evaluate the latest digital medical technologies, specifically focusing on bioquantum therapy, for allergy treatment. A comprehensive review of existing literature on the application of bioquantum medicine in allergy therapy was conducted. The findings confirm that bioquantum therapy is an effective treatment option for mild to moderate allergies, significantly enhancing symptoms and overall quality of life. BICOM devices are recommended for managing mild to moderate allergies and associated

complications. Furthermore, the study highlights that BICOM therapy is not only effective but also safe, with no serious adverse effects observed throughout the year-long study period. Given these promising results, it is recommended that healthcare professionals pursue specialized training, including master classes and continuous professional development in bioquantum medicine and therapy. Obtaining the necessary licenses and permits to work with BICOM devices is essential for ensuring the safe and effective application of this innovative treatment method. As the field continues to evolve, staying updated on the latest advancements in bioquantum medicine will be crucial for medical practitioners.

**Keywords:** digital medical technologies, alternative medicine, bioquantum medicine, bioquantum therapy, bioresonance, BICOM-therapy of allergy.

**Introduction.** In recent years, alternative medical technologies, digital medical technologies based on quantum medicine, bioquantum medicine, frequency and wave therapy, bioquantum therapy for the treatment of covid, post-covid, long-covid disorders according to ICD-11 have been increasingly implemented [1-11].

Innovative as well as complementary methods are increasingly used in allergic diseases. Among the many complementary methods mentioned are medicinal herbs, homeopathy, bioresonance, acupuncture, relaxation techniques and diets. The expediency of using a complementary diagnostic procedure based on bioelectric reactions of the skin surface has been studied. It has been established that this technique can be effective. For example, the bioresonance method can be an easy-to-use and quite sensitive non-invasive tool for assessing a potential allergic disorder [12-14].

In the treatment of allergies, bioresonance is indicated as one of the methods of alternative, complementary medicine. Scientists found that 26.5% of patients with allergies used bioresonance therapy. Costs of allergy treatment using bioresonance therapy methods are reimbursed by insurance companies in a number of countries. The study has significant positive implications for health care and policy [15].

Another study reported on the epidemiological characteristics and determinants of the use of complementary and alternative medicine in Europe, particularly in Germany. It has been established that approximately 30% of patients with allergies have experience using alternative medical technologies. In some inpatient populations, this indicator reaches 50%.

A literature search in PubMed, as well as the use of reference literature and the author's opinions, made it possible to analyze the experience of European research in detail. It was found that the most frequent users of alternative methods are usually young women with higher education who control their health and quality of life, as well as the health of their children. In Germany, alternative medicine (for example, bioresonance) is widely used for the treatment of allergies [16].

Bioresonance methods, as a type of bioquantum therapy, have a significant impact on scientific understanding in medicine and physics, comparing their potential with important scientific discoveries. Scientists have investigated the use of physical methods of complementary medicine (applied kinesiology, bioresonance). It has been established that their effective application can lead to a paradigm shift in biophysics and medicine. This change is equivalent to the discovery of X-rays, nuclear fission in physics, Koch's discovery in medicine. The traditional mechanism of chemical communication through the interaction of matter waves at molecular distances could be replaced by the action of electromagnetic waves, and the influence of matter could be replaced by the influence of information fluctuations [17].

Bioresonance, as a type of bioquantum therapy as part of the development of bioquantum medicine, has been introduced for the treatment of atopic eczema in Germany with the need for further research to confirm its effectiveness and safety [18].

The scientific literature describes the use of bioresonance method for determining the allergens of contact dermatitis. Eighty-three patients were clinically diagnosed as suspected contact dermatitis due to cosmetics. Authors made a conclusion that the bioresonance method is safe, fast and noninvasive [19].

There is a substantial and growing interest in complementary alternative medicine in the general population. In Germany, about 46% of the general population and up to 51% of inpatients with eczema use complementary alternative medicine. Better educated, middle-aged women use complementary alternative medicine more frequently [20].

One of the authors practiced the bioresonance concept since 1984. 83.3% of patients treated only with bioresonance therapy rated the effectiveness of the therapy as very good, good or satisfactory (86.7%). For allergies, the positive score reaches 95.1%. For pain – 92.1%.

For infections, it also remains high – 93.6%. The results show statistically significant improvements both in general and in the area of allergies, which emphasizes the effectiveness of the therapy. Research demonstrates high practical therapeutic effectiveness of bioresonance therapy, especially in the treatment of allergies, pain, infections and inflammation [21].

Medical equipment for performing bioresonance therapy as a method of bioquantum medicine is described in the literature. [22]. In the following article, these authors assessed the effects of complementary and alternative medicine treatments for atopic eczema [23]. The scientific literature also describes the use of bioresonance therapy in patients with food allergies. Recommendations include improving education for medical professionals and consumers on the latest digital medical technologies, frequency-wave technologies, and bioquantum medicine technologies [24, 25].

**The purpose of the study** was to examine experimental use of the latest digital medical technologies based on bioquantum therapy for the treatment of allergies.

**Materials and methods.** The report covers the period from 01.01.2021 to 01.01.2023. Date the first patient enrolled: 01.01.2021; date last patient enrolled: 01.01.2023. Total patients: 128 (32 children <12 years, 79 from 12 to 50 years, and 17 adults – 50 years and older). Patients diagnosed with allergic disorders caused by pollen (e.g. tree, grass), house dust mite, animal hair allergy, food allergens.

Examined device: «BICOM» and «BICOM mobile». All patients provided written consent to participate before the study commenced. They were informed about data protection, the use of their medical data, and their right to withdraw from the study at any time without providing a reason. Patient data was consistently collected before the start of each treatment session, including the initial one. Additionally, a follow-up questionnaire was administered within two weeks after the final treatment session. Treatments consisting of three or more sessions were included in the study. Each session lasts no longer than an hour and is administered automatically by the BICOM device after being programmed by a doctor, practitioner, or trained medical personnel. Proper training of the doctor is crucial for the success of the treatment.

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**Results and discussion.** Bioquantum therapy suggests that low-energy electromagnetic waves can be employed to treat various human diseases. This theory is grounded in the well-established scientific findings of particle physics, which state that each type of matter has its unique electromagnetic field. Electromagnetic interactions play a significant role in cell communication and the transmission of information, similar to the electrical processes at receptor proteins and bio membranes. Specific electromagnetic wave patterns act as carriers of information, which can be modulated by the BICOM devices to eliminate disruptive or stressful information in the body. The aim is to restore the free flow of healing information (cell communication) and stimulate the body's self-regulation and self-healing processes. The therapy uses both individual patient information and the information from native and digitalized substances.

Allergic rhinitis is a chronic inflammation of the nasal mucosa triggered by the body's immune response to an allergen. Symptoms include a runny nose, nasal congestion, nasal itching, and repeated sneezing, often accompanied by allergic conjunctivitis with symptoms like itchy, red, watery, and/or swollen eyes.

Studies indicate a high prevalence of allergies within the Ukrainian population. Research shows that nearly one-third of adults will be diagnosed with an allergy at some point in their lives. Common allergic diseases include rhino-conjunctivitis (about 15%), asthma and contact eczema (around 8%), food allergies (about 5%), and atopic dermatitis, urticaria, as well as insect venom allergies (around 3% each). For children, studies find a prevalence of neurodermatitis (almost 13%), hay fever (11%), bronchial asthma (6%), and allergic contact dermatitis (nearly 3%).

Although allergies are often considered minor due to their non-life-threatening symptoms, they significantly impact quality of life, emotional well-being, sleep, daily activities, and productivity when poorly managed. Restrictions can be severe, leaving patients unable to find basic therapy.

The first line of treatment for allergies is typically allergen avoidance. Patients are advised to limit their exposure to relevant allergens. Following that, allergies are usually treated with antihistamines, corticosteroids, leukotriene antagonists, and inhaled beta-blockers. Allergen immunotherapy, commonly known as "desensitization", is another well-known method for eliminating allergies. This practice involves gradually introducing allergens to the patient in increasing amounts to reduce allergic symptoms. However, desensitization typically takes three to five years, is costly, and requires significant effort from the patient. It also carries risks of severe side effects, including anaphylaxis, raising concerns over its safety and limiting its widespread use.

The primary aim of study was to assess the change in patients' weekly symptoms. To achieve this, patients completed a questionnaire listing six symptoms. They rated each symptom on a scale from zero (no symptoms) to three. The symptoms included nasal irritation, sneezing, runny nose, stuffy nose, itchy/red eyes, and watery/swollen eyes. An improvement of one point was regarded as a successful outcome of the treatment. Additionally, data on quality of life, medication requirements, and acute symptoms were gathered. These aspects were measured using three extra scores.

To assess the safety of bioquantum therapy, patients were asked about any adverse effects that could be caused by the device or the treatment itself. Both adverse effects and serious adverse effects were included in the questionnaire from the start of the study. If a serious adverse effect occurred, the treatment was halted and the incident documented.

Doctors experienced with the bioquantum therapy method are well aware of a phenomenon known as initial aggravation, where symptoms temporarily worsen at the beginning of treatment. This is considered a normal and even desirable effect, as it indicates that the therapy is starting to work by activating the immune system. Such symptoms should not be suppressed, although they can be alleviated with medication.

Severe cases of initial aggravation are rare. In these instances, the decision to continue or adjust the treatment is left to the discretion of the doctor. The intensity of the initial reaction varies based on the severity and type of the disease being treated. Initial worsening of symptoms was also noted in the questionnaire as an adverse effect.

Characteristics of patients' visits are given in Table 1.

**Table 1.** Characteristics of patients' visits.

List of questions	Visit 1 (optional)	Visit 2 (optional)	Visit 3 to visit max 10, if applicable	End-of-study for each patient
	Preparation treatment Session 1	Preparation treatment Session 2	Allergy treatment Session 3 up to Session 10	One week follow up after the last allergy treatment
Informed consent <sup>1)</sup>	X			
Anamnesis <sup>1)</sup>	X			
Demographic data <sup>1)</sup>	X			
Symptom Score <sup>1), 2)</sup>	X	X	X	X
Medicaments Score <sup>1), 2)</sup>	X	X	X	X
Actual Symptom Score by investigator <sup>1)</sup>	X	X	X	X
Quality of Life Questionnaire <sup>1), 3)</sup>	X	X	X	X
Energetic testing <sup>4)</sup>	X	X	X	
Basic treatment <sup>4, 5)</sup>	X	X		
Blockage - releasing treatment <sup>6)</sup>	X	X	X	
Elimination treatment <sup>7)</sup>	X	X	X	
Allergy treatment <sup>8)</sup>			X	
ADE/SADE recording <sup>9)</sup>	X	X	X	

Before each treatment session, the symptoms, the medication, and the quality-of-life scores were recorded. This also applied to the two preparation treatments with basic treatment, blockage-releasing treatment and elimination treatment. Description of the Table 1:

- ✓ Informed consent <sup>1)</sup> Data from patients who did not receive preparation-treatment was collected from the first allergy treatment session.
- ✓ Symptom Score <sup>2)</sup> This score asked about the most severe symptoms and their duration in days, as well as medication including the duration of medication in days.
- ✓ Quality of Life Questionnaire <sup>3)</sup> This score assessed the impact of rhino-conjunctivitis on quality of life.
- ✓ Energetic testing <sup>4)</sup> This test is part of the standard procedure when using «BICOM» devices.
- ✓ Basic treatment <sup>5)</sup> A basic therapy program or sequence aims to prepare the patient for allergy treatment.
- ✓ Blockage-releasing treatment <sup>6)</sup> Up to three blockage-releasing programs or sequences could be used after bioenergetic testing.

- ✓ Elimination treatment 7) Up to three elimination programs or sequences could be used after bioenergetic testing.
  - ✓ Allergy treatment 8) Allergy treatment involved the use of allergy therapy programs as well as supportive symptom-related programs or sequences.
  - ✓ ADE/SADE recording 9) Adverse device effects (ADE) and serious adverse device effects (SADE) were recorded from the first treatment session.
- Total 128 patients participated in the study. The distribution of patients is shown in Table 2.

**Table 2.** Distribution of patients.

Distribution of patients	Quantity
Number of patients for the final evaluation	128
Adults ≥ 50 years	17
Patients 12-50 years	79
Children <12 years	32

On average, the patients had been experiencing allergy symptoms for 6,5 years. The primary allergens were pollen, followed by house dust mites, animal dander, and certain foods. Most patients exhibited sensitivities to multiple allergens.

The primary goal of the evaluation was to monitor changes in symptoms. Patients consistently filled out a questionnaire that inquired about nasal irritation, sneezing, runny nose, nasal congestion, itchy/red eyes, watery/swollen eyes, and skin irritation. They rated the severity of their symptoms on a scale from 0 (no symptoms) to 3.

The weekly Symptom Score (wSS) indicated the severity of symptoms over the previous week. A lower wSS value corresponded to milder symptoms. The maximum possible symptom score was 18 (six symptoms each rated up to three), while the minimum score was 0.

The baseline symptom score was documented at the beginning of the therapy. Additional data was collected during treatment sessions and once again after the final session (follow-up). An average value was calculated from the weekly Symptom Scores and compared to the initial baseline score. On average, treatment concluded after 5 sessions.

The results of bioquantum therapy are shown in Table 3.

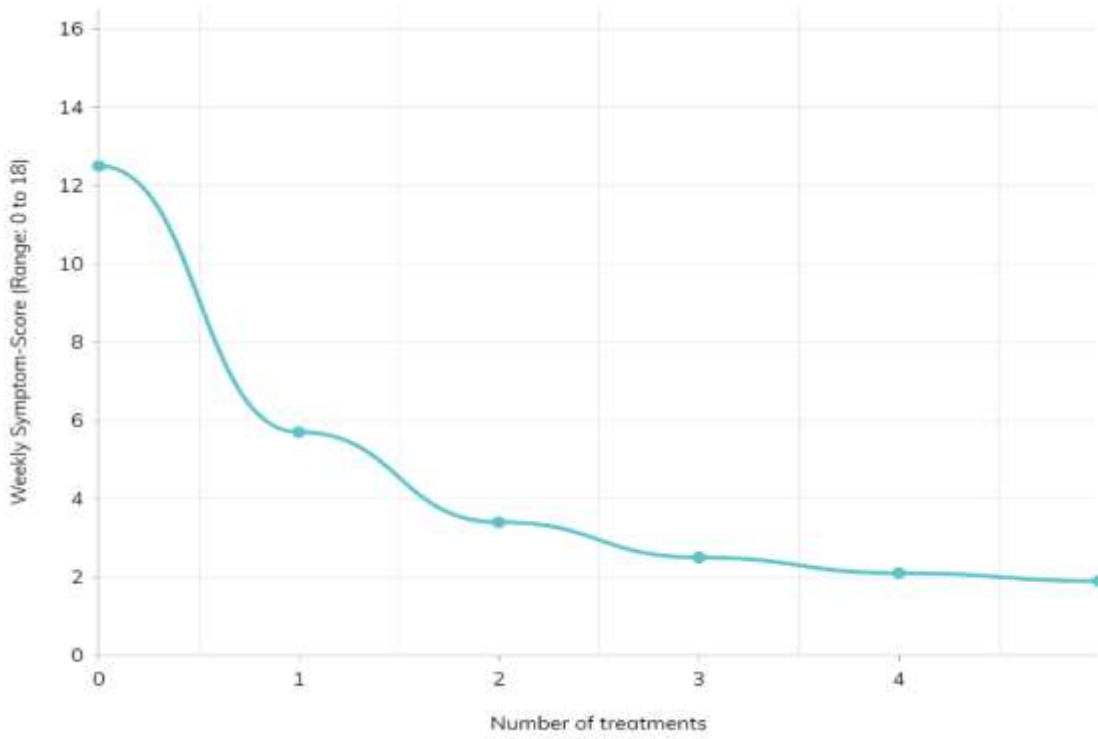
**Table 3.** BICOM-therapy results during the week.

Stage of treatment	All N=128	Children under 12 y. N=32	Patients 12-50 y. N=79	Adults 50 y.+ N=17
Baseline Mean:	12.5	9.8	13.5	12.9
During treatment Mean:	1.9	1.5	2.0	1.9
Difference Mean:	10.6	8.3	11.5	11

On average, the symptoms decreased from 12 to 1.9 points across all patients, indicating a clinically and statistically significant improvement for the entire sample. The absolute score reduction, which is 10.6, far exceeds the initial target reduction of 1 point set at the beginning of the study to gauge the treatment's efficacy.

For all age groups, the results are both clinically and statistically highly significant when considered independently. The reductions in symptoms are similarly highly statistically significant across different age groups. This study clearly demonstrates that bioresonance BICOM-therapy, as a variety of bioquantum therapy, significantly reduces symptoms.

### Mean course of weekly symptoms



**Fig. 1.** The average dynamics of the weekly BICOM-therapy symptoms.

The study also assessed changes in the patients' perceived quality of life. The questionnaire included six items, asking patients to rate their limitations in wellbeing, sleep, daily activities, sports activities, school or work activities, and social interactions. A scale from 0 to 4 was used, where 0 indicated no limitations. Thus, the maximum score of 24 represented the greatest level of limitations.

Quality of Life Score BICOM-therapy (baseline, average) during the treatment and difference are shown in Table 4.

**Table 4.** Quality of Life Score BICOM-therapy.

Stage of the bioquantum therapy	All N=128	Children under 12 y. N=32	Patients 12-50 y. N=79	Adults 50 y.+ N=17
Baseline Mean:	9,8	15,9	7,4	9,8
During treatment Mean:	2,5	4,0	1,9	2,5
Difference Mean:	7,3	11,9	5,5	7,4

The score indicates a substantial reduction in quality-of-life restrictions, dropping from 9.8 to 2.5 points across all age groups. This difference of 7.3 points represents an improvement of nearly 75% compared to the baseline. Improvements were observed in all age groups. The study therefore

demonstrates a significant enhancement in the quality of life for patients with allergy when treated with BICOM.

Another focus of the study was the need for symptom-relieving medication. Patients completed a weekly questionnaire regarding their medication usage. A reduction in the need for medication was considered a success of bioquantum therapy. The medication score evaluated the use of antihistamines (ingested or in the form of eye drops), nasal sprays, intranasal glucocorticoids with or without antihistamines, and glucocorticoids with or without intranasal glucocorticoids or antihistamines.

The study revealed that most patients did not use conventional medications before the initial session, and this pattern did not change during the treatment. Consequently, the data on the potential reduction in medication use is inconclusive. As noted by the commissioned research institute, further evaluation, such as reviewing mean values for possible improvements, must therefore be omitted.

Prior to each treatment session and one week after the final allergy treatment (follow-up), the examining doctor or therapist surveyed the patients' acute symptoms. Lower values indicated fewer and/or milder symptoms.

**Table 5.** Acute symptoms BICOM-therapy.

Stage of the bioquantum therapy	All N=128	Children under 12 y. N=32	Patients 12-50 y. N=79	Adults 50 y.+ N=17
Baseline Mean:	1,6	1,8	1,6	1,5
During treatment Mean:	0,4	0,5	0,4	0,5
Difference Mean:	1,2	1,3	1,2	1,0

The research indicates a notable enhancement in acute symptoms across all age demographics during BICOM-therapy. On average, symptoms saw a 69 percent reduction from the initial score, dropping from 1.6 to 0.4. The outcomes were consistent across different age groups.

Therefore, the study illustrates BICOM-therapy effectively alleviates acute symptoms in patients suffering from allergy.

Four patients encountered adverse effects, though none were severe or serious. All instances were classified as mild to moderate, and each patient made a full recovery. One patient chose to discontinue treatment after discussing the side effects with their doctor. The study found no reason to alter the current favorable risk-benefit evaluation.

**Conclusion.** Proven effectiveness of the BICOM-therapy, as a method of bioquantum therapy in the treatment of allergy: alleviation of symptoms in all patients; significant improvement in quality of life; fast recovery time; improvement of acute symptoms; avoidance of conventional medication; without harmful side effects. The study confirms the effectiveness of the bioquantum therapy method for the treatment of mild to moderate allergy. The study was conducted according to the latest standards and demonstrates a strong level of evidence according to current scientific criteria. BICOM devices are recommended for treating mild to moderate allergies and allergy-related diseases or complications. The findings of this study reveal that BICOM-therapy, as a method of bioquantum therapy significantly enhances symptoms and quality of life for individuals with mild to moderate allergy. The study confirms the effectiveness of this treatment and its benefits to patients. Furthermore, BICOM devices are highly safe, with no serious adverse effects reported over the course of the study, which lasted for over a year. Among the proposals, it is recommended that medical personnel take master classes of continuous professional development of doctors on the topic of bioquantum medicine, bioquantum therapy.

**Declaration of conflict interest.** The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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**Ethical approval.** Ethical clearance was obtained from the administration of the European Academy of Digital Medical Technologies – “Re-Generation” Medical Center (Kyiv, Ukraine). Permission statement for conducting the experiments was received from the administration of the Academy of Digital Medical Technologies – “Re-Generation” medical Center (Kyiv, Ukraine). Before any data collection, the main purpose of the study was clearly explained to each department (concerned personnel).

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**Data availability statement.** The datasets analyzed during the current study are available from the corresponding author on reasonable request.

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