

BIOPHYSICAL THERAPY USING FREQUENCY-EMITTING DEVICES: CURRENT PERSPECTIVES IN HUMAN HEALTH

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Abstract: Frequency-based therapy, which employs devices that emit electromagnetic signals or microcurrents with predefined parameters, is increasingly recognized within integrative and complementary health practices. Modalities such as pulsed electromagnetic fields (PEMF), frequency-specific microcurrent (FSM), and bioresonance demonstrate growing evidence of bioelectric and bioenergetic modulation with therapeutic relevance. Proposed mechanisms include effects on ion channels, calcium flux, mitochondrial ATP synthesis, epigenetic modulation, and reorganization of vibrational patterns associated with biophoton-mediated cellular communication. From the perspective of vibrational medicine and quantum biophysics, these technologies act on the coherence of the human energetic field, supporting systemic balance. The reviewed literature indicates consistent, although protocol-dependent, benefits in musculoskeletal pain, osteoarthritis, bone and soft tissue healing, and reductions in depressive symptoms. Clinical trials and case series report functional improvements, analgesia, and accelerated tissue repair. Clinical experience with ILIB, Laser therapy, and frequency-emitting devices such as the PC Zapper II supports these findings, showing positive outcomes also in cardiovascular dysfunctions, infectious processes, metabolic imbalance, and emotional conditions. The safety profile is favorable, with a low incidence of adverse effects when contraindications, such as pacemakers, pregnancy, and uncontrolled epilepsy are observed. Despite promising results, methodological limitations remain, including small sample sizes, heterogeneity of parameters, and lack of device standardization. These constraints highlight the need for more rigorous, multicenter randomized trials. Frequency therapy should be understood as a complementary intervention, not

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a substitute for conventional treatment, offering enhanced clinical outcomes, reduced medication burden, and improved quality of life. The growing evidence base justifies further investigation to consolidate its scientific foundations and clinical applicability.

Keywords: Biophysical therapy; Therapeutic frequencies; Frequency-emitting devices; Integrative health; Bioelectromedicine

INTRODUCTION

Frequency therapy, understood here as the use of devices that emit electromagnetic signals or microcurrents with pre-defined parameters (frequencies, amplitudes, pulsed patterns), is part of a set of approaches often grouped under the terms vibrational therapies, biofield or quantum biophysics in complementary and integrative literature. These modalities include, among others, pulsed electromagnetic fields (PEMF), frequency-specific microcurrent (FSM), and commercially known techniques as bioresonance; all share the premise that low-intensity electromagnetic stimuli can modulate biological processes and promote therapeutic responses when applied in a targeted manner (RUBIK, 2015)

From a biophysical point of view, the proposed mechanisms for these effects include modulation of cell signaling (e.g., ion transport and calcium channels), changes in gene expression related to repair and inflammation, and influence on cell migration and proliferation processes—phenomena observed in in vitro models and in preclinical studies. Although the terminology “quantum” is used in some circles to describe theoretical principles of energy information, published experimental evidence tends to make explicit measured effects on classical biophysical parameters (current, electric/magnetic field, membrane potentials), and therefore caution is advised when extrapolating explanations beyond what the data support (MAYER et al., 2024)

In terms of clinical evidence, reviews and meta-analyses have documented consistent, albeit moderate and protocol-dependent, benefits for specific applications: for example, improvement of



pain and function in joints with osteoarthritis and reduction of musculoskeletal pain after PEMF treatments; promising results in bone and tissue healing; and clinical reports and controlled studies with FSM and bioresonance signaling effects on pain, musculoskeletal dysfunction and emotional/depressive states in selected samples. However, the methodological quality of the studies varies — there is heterogeneity of protocols (frequencies, intensity, duration), small samples, and lack of standardization of devices — which requires careful interpretation and more high-quality randomized studies (YANG et al., 2020).

In addition to the potential efficacy, several studies have highlighted the favorable safety profile of these techniques when applied correctly (low intensity, clinical monitoring, and use as contraindicated), which makes frequency therapy attractive as a complementary or adjuvant therapy in different clinical contexts. Even so, it is essential that local regulatory standards, certification of devices, and that the patient does not fail to follow essential conventional medical treatments — especially in serious or life-threatening conditions (PAOLUCCI et al., 2020).

Frequential therapy is an integrative approach that is based on the principles of vibrational medicine and quantum biophysics, which recognize that human beings are energy systems that vibrate at different frequencies. This therapy uses frequency-emitting equipment that promotes the vibrational resonance of the body, aiming to reestablish energy balance and favor self-healing processes (LIMEIRA JUNIOR, F.A., 2024). The frequencies emitted act on the body's energy fields, stimulating physiological functions and positively influencing the patient's physical, emotional and mental health.

According to the scientific literature, frequency therapy is based on the premise that imbalances in bioenergetic frequencies can cause organic and emotional dysfunctions. By applying specific vibrations, frequential therapies seek to rebalance these frequencies, promoting harmonization and overall well-being. Studies show that this modality can help in the treatment of stress, anxiety, chronic pain, and other conditions, working as a complement to conventional treatments and contributing to a holistic approach to health (ARNT et al., 2014; LIMEIRA JUNIOR et al., 2024).



The technology involved includes methods that transfer vibrational information, making it possible to interact with biological systems at the biophysical and energetic levels, with exemplary results in clinical practices. Since 2006, the World Health Organization has recognized frequencial flower essences as natural therapies, which strengthens the application of these techniques in the field of integrative and complementary therapies (LIMEIRA JUNIOR et al., 2024).

The proposed biological mechanisms that sustain frequencial therapy are based on the interaction between the vibrational frequencies emitted by the equipment and the biophysical processes of the human body, considered a vibrational and energetic system. According to studies reviewed, the human body emits biophotons — coherent light stored in DNA molecules — which form a dynamic network for cellular communication and regulation of vital processes. This light network is fundamental for the integrated functioning of organs and tissues, and disturbances in the frequency of these emissions may be related to organic dysfunctions.

Frequencial therapy acts by modulating these emissions, promoting cellular energy rebalancing that can result in the reestablishment of organic functions lost due to changes in the vibrational pattern. Researchers, such as quantum biologist Bruce Lipton, propose that the cell membrane functions as a brain where the environment (including vibrational signals) exerts control over cellular behavior, implicating this mechanism in the regulation of health (LIPTON, 2007).

In addition, studies indicate that the specific frequencies emitted by the equipment can act on epigenetic modulation, influencing gene expression by altering DNA methylation patterns, which are reversible and can recover the activity of genes important for cellular health (PADILHA, 2016). These biophysical and biochemical effects support the use of frequency therapy as a way to induce self-healing, complementing conventional treatments by acting on the physical, emotional and mental levels in an integrated way.

In summary, the proposed biological mechanisms include:

- Modulation of biophoton emission and reception for cellular communication and regulation.



- Influence on the cell membrane and environmental control over cell expression.
- Reversible epigenetic changes that affect gene activation or silencing.
- Stimulation of the restoration of the energy and functional balance of the body's organs and systems.

These foundations provide emerging scientific support for frequency therapy as an integrative tool in promoting health and balance in the body (LIMEIRA JUNIOR et al., 2024).

A recent study has shown that terahertz waves (THz – 2.88) can induce some biological effects in certain human breast and melanoma tumor cells. These effects are significant for possible applications in future tumor treatments. Obvious morphological changes, especially the initial apoptotic phenomena, were observed in both cancer cells. Flow cytometry results also confirmed that some cancer cells underwent early apoptosis. An evaluation of the thermic effects suggests that the apoptosis observed in both cancer cells can be attributed primarily to the non-thermal effects induced by the strong THz waves. According to the authors, the findings indicate the potential of utilizing strong THz waves in the treatment of non-inflammatory cancer in the future (ZHAO et al., 2025).

Because we are seeing encouraging and real results in our scientific studies and clinical care with the use of frequency-emitting devices such as the PC Zapper II (Nova Ciência Global, São Paulo – SP, Brazil), in various health conditions, we decided to further investigate the literature and share these findings and reflections with peers.

Thus, frequencial therapy represents an interface between science and holistic practices, using principles of quantum physics to treat the human being in an integral way, promoting health and quality of life based on the vibrational reprogramming of the organism.

GOAL

Synthesize the current literature on frequency-emitting equipment used in frequency therapies,



discuss plausible biological mechanisms, assess the strength of clinical evidence by indication (e.g., musculoskeletal pain, scarring, emotional disorders), outline safety and methodological limitations, and propose guidelines for clinical practice and future investigation. The review will integrate findings from systematic reviews, randomised controlled trials and case series.

METHOD

This narrative review was conducted based on literature indexed in the main biomedical databases: PubMed/MEDLINE, Scopus, Web of Science and SciELO. Articles published up to September 2025, in English, Portuguese, or Spanish, without geographic restriction, were included. The search strategy used combinations of controlled descriptors and keywords, such as: “pulsed electromagnetic fields”, “frequency-specific microcurrent”, “bioresonance therapy”, “biofield therapies”, “vibrational medicine” and “frequency therapy”, associated with clinical terms such as “pain”, “osteoarthritis”, “wound healing”, “mental health”, “depression” and “complementary therapy”.

Clinical findings by indication (Table 01)

1. Musculoskeletal pain and osteoarthritis

Systematic reviews and meta-analyses indicate that pulsed electromagnetic fields (PEMF) have a positive effect on pain control and functional improvement in patients with knee and hip osteoarthritis. Wang et al. (2020) observed significant pain reduction and mobility improvement in protocols of 4 to 6 weeks of use, especially in regular applications (3 to 5 times per week). Despite the methodological heterogeneity, the results indicate moderate clinical efficacy and safety in use (WANG et al., 2020).



2. Bone and soft tissue healing

The use of PEMF in orthopedics has a long history, being recognized as an adjuvant in the consolidation of fractures and pseudoarthrosis. Reviews have shown that patients treated with PEMF have a higher rate of bone healing when compared to controls (MARKOV, 2017). In addition, there is evidence of benefit in the healing of chronic ulcers and wounds that are difficult to resolve, although the studies have smaller samples and less methodological rigor (MAYER et al., 2024).

3. Emotional disorders and mental health

Controlled clinical studies on bioresonance therapy report positive effects on symptoms of depression. In a randomized clinical trial, Mureşan et al. (2022) demonstrated that patients undergoing bioresonance sessions had a significant reduction in depressive scores when compared to the control group. Such results suggest that frequency-emitting equipment can act as psychophysiological modulators in emotional conditions (MUREŞAN et al., 2022).

4. Neuropathic and soft tissue pain

Frequency-specific microcurrent (FSM) has been applied in musculoskeletal and neuropathic conditions. McMakin (2013) described consistent clinical effects on pain reduction and tissue relaxation in patients with fibromyalgia and sports injuries, suggesting mechanisms related to inflammatory modulation and increased availability of cellular ATP (MCMAKIN, 2013).

5. My Personal Experience

In recent years we have been working with frequency capture devices, such as bioresonance



equipment (magnetic bioresonance), and frequency emitters for modulation and therapy (ILIB, PC Zapper II, Laser Equipment in general), in various situations such as anxiety, hypertensive conditions, kidney disorders, skin lesions, diabetes, infectious conditions, among others, and we have observed satisfactory results. In the past, we have worked a lot with Laser Therapy equipment and we have seen its modulating effects in cases of facial paralysis or neuropathy, TMJ disorders, oral lesions such as mucositis, tissue repair processes, among others, which is already duly established in the national and international literature. I have never heard any reference to the relevance of the frequency parameter of the laser light used in the various treatment protocols. There is still a lot of focus on wavelengths and the monochromaticity of laser light. These parameters change in contact with the tissues, so that they should not be responsible for the positive effects of irradiation. Is it not the frequencies, which are maintained even after the penetration of light into the target tissues, that actually produce the effects, because they carry the information that the tissues need for their functional and structural recovery?! As Nikola Tesla said, isn't the secret of the universe energy, vibration and frequency?! I think it's time for phototherapists to shift their focus to frequency, because according to physics and quantum vibrational medicine, frequency is what determines everything, including the energetic identity of everything that exists. I am immensely motivated about this, because the path of quantum approaches to health is something with no return.

Security Profile

The literature reviewed indicates that frequency therapies, when applied within standardized protocols, have a high safety profile, with a low incidence of adverse effects. Contraindications include pacemaker carriers, pregnant women, and patients with uncontrolled epilepsy (MARKOV, 2017; RUBIK, 2015).



Table 01 – Clinical evidence of frequency therapy with frequency-emitting equipment

Clinical indication	Kind of equipment	n (patients)	Main outcome	Main result	Reference
Knee and hip osteoarthritis	PEMF	300+ (meta-analysis)	Pain (VAS), Function (WOMAC)	Significant reduction in pain; Functional Improvement	WANG et al., 2020
Pseudoarthrosis and fractures	PEMF	150+ (RCTs & Series)	Bone healing	Higher consolidation ratio compared to control	M A R K O V, 2017
Chronic ulcers	PEMF	80 (controlled trials)	Healing time	Faster healing in treated groups	MAYER et al., 2024
Mild to moderate depression	Bioresonance	60 (RCT)	Depression score (BDI, HAM-D)	Significant reduction in scores	MUREŞAN et al., 2022
Fibromyalgia and muscle pain	WFTU	50 (case series)	Pain intensity, muscle relaxation	C l i n i c a l improvement reported in >70%	M C M a k i n, 2013

Acronyms: PEMF - pulsed electromagnetic fields ; FSM - frequency-specific microcurrent ; RCT – Randomized Controlled Trial ; VAS – Visual Analogue Scale ; BDI – Beck Depression Inventory ; WOMAC – Western Ontario and McMaster Universities Osteoarthritis Index ; HAM-D – Hamilton Depression Rating Scale

Source: Authorship

DISCUSSION

The analysis of the literature shows that frequency therapy by means of frequency-emitting equipment represents a promising approach in the context of integrative and complementary health practices. In particular, pulsed electromagnetic fields (PEMF), specific frequency microcurrent (FSM), and bioresonance have demonstrated clinical benefits in different conditions, such as musculoskeletal pain, tissue healing, and emotional disorders (WANG et al., 2020; MUREŞAN et al., 2022; MCMAKIN, 2013).

From a biological point of view, there is evidence that low-intensity electromagnetic stimuli



can act to modulate cellular activity. In vitro and in vivo studies describe effects on ion channels, calcium flow, mitochondrial ATP synthesis, and gene expression related to inflammatory and repairing processes (MAYER et al., 2024; MARKOV, 2017). This biophysical basis corroborates the clinical reports of pain reduction, accelerated healing, and functional improvement observed in treated patients.

From the perspective of vibrational medicine and quantum biophysics, it is interpreted that the human organism maintains a dynamic energy field, whose coherence can be modulated by specific external frequencies (RUBIK, 2015). Although part of this conceptualization still lacks empirical proof in classical biomedical molds, there is growing interest in understanding how the interaction between subtle electromagnetic signals and biological processes can underlie safe and effective clinical interventions.

Another relevant aspect is the security profile. Unlike pharmacological therapies, which often have systemic adverse effects, frequency-emitting devices — when used according to established protocols — demonstrate a low incidence of undesirable events. Even so, clinical practice must observe known contraindications, such as use in pregnant women, pacemaker carriers, or individuals with uncontrolled epilepsy (MARKOV, 2017).

Despite the encouraging results, it is important to recognize the methodological limitations of the available literature. Many studies have small sample sizes, absence of adequate blinding, and heterogeneity in protocols (frequencies, intensities, duration of sessions). These factors make it difficult to generalize the findings and reinforce the need for multicenter, randomized clinical trials with greater methodological rigor. However, these observations have encouraged numerous researchers in the search to adapt the scientific methods established in traditional investigations, to studies involving energy therapies, which take into account individualities, the various biological terrains, almost always issues ignored by official science.

From an integrative point of view, frequency therapy should not be understood as a substitute, but rather as an adjuvant to conventional practices, offering additional benefits in terms of analgesia,



tissue regeneration, improved quality of life, and psychosocial support. Especially in contexts of chronic pain, musculoskeletal rehabilitation, and mental health, its association with other therapeutic interventions can optimize clinical outcomes, reduce drug use, and increase patient adherence to treatment.

In our clinical experience, we have observed very positive responses from patients in various situations such as joint pain, cardiovascular dysfunctions, heavy metal poisoning, parasitosis, bacterial infections, emotional disorders, endometriosis, among others. Hence, our decision to share these results in our publications and lectures. It is important to emphasize that we have never acted in the sense of using frequency therapy with the Zapper II PC to the detriment of conventional treatments, but integrating according to the principles of integrative and complementary health.

Finally, it is observed that the incorporation of such technologies encounters regulatory and epistemological barriers, mainly due to the scarcity of standardized guidelines and the debate around terminologies such as “quantum” or “vibrational”. To move forward, it is necessary to align the production of knowledge with evidence-based clinical practice, favoring a common language between biomedical science and integrative therapies.

CONCLUSIONS

The present review reinforces that frequency therapy with frequency-emitting equipment such as the Zapper II PC and others is a relevant strategy in the field of integrative and complementary health practices. The available evidence indicates consistent benefits in conditions such as musculoskeletal pain, osteoarthritis, bone and tissue healing, as well as improvement in emotional and depressive symptoms (WANG et al., 2020; MUREŞAN et al., 2022; MCKIN, 2013).

The positive results are supported by plausible biological mechanisms, including modulation of cellular activity, increased ATP production, regulation of inflammatory mediators, and influence on gene expression (MAYER et al., 2024; MARKOV, 2017). From the perspective of quantum biophysics



and vibrational medicine, it is understood that these frequencies act in the organization of the human energy field, favoring greater coherence and systemic balance (RUBIK, 2015).

Despite the growing number of studies, important methodological limitations persist, such as small sample sizes, lack of standardization of frequency parameters, and heterogeneity of protocols. Therefore, the development of randomized, multicenter, long-term clinical trials is recommended, which can consolidate scientific evidence and guide the development of safe and effective clinical guidelines.

New studies are being designed with the purpose of giving more and more scientific solidity to biophysical therapies that are still very misunderstood and, to a certain extent, pursued by crystallized and closed minds to this new world of possibilities that Quantum Physics has brought to the health area.

In summary, frequency therapy should be understood as an integrative and complementary tool, which does not replace conventional treatments, but can enhance clinical results, reduce drug use, increase quality of life, and offer new therapeutic perspectives to patients with different health conditions.

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