RESEARCH PAPER

Analytical And Clinical Evaluation Of Quantum Based Bio-Electromagnetic Molecular Crystalline Configuration: A Safest Therapeutic Approaches Against Cognitive Neurological Disorder

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Abstract

Conventional treatments for psychological disorders often cause adverse drug reactions, dose-related side effects, and interactions, leading to serious health issues and toxicity. An emerging quantum wave energy approach, modulated by metallic composites and specific geometries, generates a bio-electromagnetic molecular crystalline impact to address neuro-hormonal imbalances. The drug sample underwent analysis via scanning electron microscopy (sem), x-ray diffraction (xrd), dielectric electromotive force, ferroelectric, and piezoelectric tests to assess structural and functional properties. An incidental clinical observation revealed patients exposed to mineral rocks patches for two weeks exhibited heightened cognitive and physical activity, inspiring targeted psychomotor studies on neuron-hormonal responses. Sem and xrd confirmed the sample's microstructure and composite nature, while dielectric and piezoelectric tests evidenced energy potential.

Keywords: Bio-Electromagnetic Threshold, Neuro-Hormonal Regulation, Molecular Quantum-Based Analysis, Psycho-Clinical Activity.

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Introduction

The substantia nigra, ventral tegmental region, and hypothalamus produce dopamine, essential for the nervous system, with dysfunction related to various neurological disorders. Increased dopamine transmission is influenced by rewards, medications, and oxidative stress[1,2] .In Attention-Deficit/Hyperactivity Disorder (ADHD), genetic modifications of dopamine transporter genes can impact executive functions and neural transmission, linking improper dopamine regulation in specific brain areas to ADHD symptoms [3,4]. Dopamine synthesis involves converting tyrosine into L-DOPA by tyrosine hydroxylase, which is further transformed into dopamine by DOPA decarboxylase, with L-phenylalanine also serving as a precursor in dopaminergic neurons [5, 6].

Alternative therapy approaches need exploration due to adverse effects of traditional medications like dopamine agonists and antipsychotics [7]. Recent interest in therapies utilizing the bioenergetic and electromagnetic properties of materials has emerged, particularly in quantum-based bio-electromagnetic molecular crystalline concepts [8, 9, 10]. These ideas propose that quantum wave energy in crystalline structures, such as quartz crystals, influences biological systems. Quartz, especially α-quartz, shows mechanical oscillations from its high Q value and stable SiO_2 structure, which is affected by aqueous impurities that alter dislocation mobility, resulting in three-dimensional kinetic energy responses [11].

The dislocation principle suggests that quantum wave energy in crystalline or metallic structures can affect biological systems, notably through its

biocompatibility and low intensity. This energy is thought to interact with neurochemical pathways, possibly altering dopamine levels without the need for systemic medication.

Several traditional herbal medicines can effectively treat conditions like inflammation and high blood pressure via neurovascular pathways, enhancing cognitive functions [12,13] . However, such treatments do not achieve the cognitive effects seen with bio-electromagnetic therapies, which involve natural geological formations [14, 15]. While the role of these formations in neuro-hormonal control remains unclear, certain rocks in India's Narmada River basin may have unique properties for therapeutic uses [16]**.** Studies on ferroelectric and piezoelectric materials highlight their potential in generating bioelectric signals but applications in neuro-hormonal regulation are still unexplored [17, 18, 19]**.**

Scanning electron microscopy (SEM) and X-ray diffraction (XRD) will characterize two rock types to explore their potential bio-electromagnetic effects on neuro-hormonal physiology, focusing on dopamine variation and therapeutic benefits. Material properties will be analysed using SEM and XRD, while bio-electromagnetic functions will be assessed through Electromotive force (EMF), dielectric properties, and Ferro/ Piezo-electric potential. Clinical evaluations with human volunteers will study the effects on neuro-hormonal balance, physical stability, and mental disorientation.

1. Materials and Methods:

1.1. Sample Preparation

1.1.1.Origin of this resource

The Palaeolithic Narmada stone was collected from Archaeological survey of India, Kolkata, on auction sold. The sample is Sedimentary under water rock removed from Narmada River, shape is irregular. The Colour of this rock is greyish black and brownish red in origin**.**

1.1.2. Pulverization

The 25gm of stone matter is ground into coarse powders from the red (sample A1) and white (sample A2) portions for analysis. The particle sizes of the powders are uniform, and they are weighed using a digital meter for X-ray diffraction (XRD), scanning electron microscopy (SEM), and ferroelectric and piezoelectric analysis.

1.2. Instrumental Analysis

2.2.1. XRD of Red Rock & White Rock

To identify each of the crystal forms that are present in a sample and can be identified as distinct minerals, powdered rock samples are subjected to a variety of X-ray bombardment angles [20]**.** This signifies the quantum holding capacity; "Q" value crystal oscillation is a measure of its efficiency and stability, identification of dislocation mobility of individual crystal. Which can The EMF that was created during the XRD process for both rocks display variation throughout the angle 2θ range of variations from 0° to 70° 2θ on EMF [21]**.**

2.2.2. Scanning Electron Microscopy of rock

The surface electrons of a sample are excited by an electron beam passing over it in a scanning electron microscope (SEM). After which, it detects changes in electrons and generates an image, which likely reveals the microstructural composition of the compound, including its coordinating atomic groups associated with crystal clusters [22].

2.2.3. Ferro/Piezo-electric evaluation

The 25 gm of stone matter is ground into coarse powders from the red (sample A1) and white (sample A2) portions for analysis. The particle sizes of the powders are uniform, and they are weighed using a digital meter for X-ray diffraction (XRD), scanning electron microscopy (SEM), and ferroelectric and piezoelectric analysis.

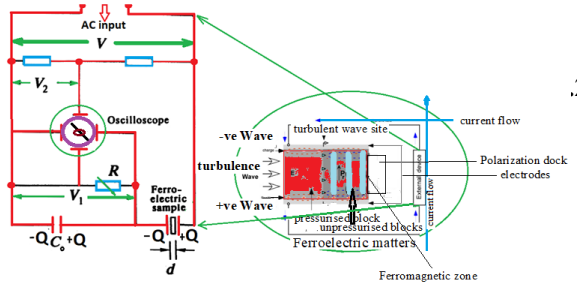
2.2.3. Procedure for Ferro/Piezo-electric evaluation

A system for performing simultaneous Piezo-strain-electric-field (P-S-E) measurements is shown schematically in figure-1. This modular system has been assembled using commercially available measurement instrumentation, so the construction is simply a matter of connecting these units together. At the end of this section lists the various components used in the system, as well as some similar instruments that could be used.

Instrument used: Ferro-electric Loop Tester, LC-II precision, Radiant Instrument inc., USA.

Theorem: For the test, the sample was prepared in the form of pellets through which electrodes were passed. A system for performing simultaneous Piezo-strain-electric-field (P-S-E) measurements. This modular system has been assembled using commercially available measurement instrumentation, so the construction is simply a matter of connecting these units together **(Figure-1).**

Figure-1: Schematic circuit blocks system of Ferro/piezo-electric device operation



Engineers utilize digital storage oscilloscopes (DSOs) to visualize electrical signals as voltage over time, aiding in circuit testing and analysis. The Q-quality factor, which measures the ratio of energy stored to energy dissipated, is essential in applications like radio-frequency cavities. Oscilloscopes also enable the analysis of ferroelectric materials' electrical characteristics, such as capacitance (Co) and resistance (R), by measuring voltage during current flow. The DSO converts current flow into voltage and records waveforms from displacement measurement devices and high-voltage amplifiers for further computer analysis [23].

2.3. Di-electric absorptive wave properties of Electromotive force (EMF) conductance

The study investigates the dielectric properties of materials, notably meteoroidal rock and monocotyledon seed, in relation to electromagnetic field (EMF) conductance. An EMF detector is used to measure electric field strength (E) and magnetic field strength (H) as it examines wave interference from drug course powder patches designed for calibrated dosage. The setup utilizes an open electrical terminal and highlights the connection between wave generation, internal capacitance, and external EMF, reflecting the relationship to various brainwave types (alpha, beta, gamma, delta, theta) through an insulating layer that directs waves and minimizes fluctuations [24].

2. Clinical study

2.1. Selection of human volunteers

For this study, 17 professional volunteers as a team were selected for clinical evaluation watching occupational stress-based neuro-hormonal disorders. But the inclusion and exclusion criteria for the same study are too narrow, leading to its specificity and to getting risk-free intervention. Under the inclusion criteria, all types of available, stressed professional volunteers are involved; all genders are considered; and good lifestyle maintenance is required. And under exclusion criteria, epileptic and parkinsonian patients were not considered volunteers, as that would cause interference in the study from various angles and complications.

.2. Clinical Non-invasive evaluation

The characterization of drugs and analytical evaluation of the material will show the positive reports to support the clinical test. The reason is that this material is always handled manually without gloves by the many workers in their relevant occupations, and no clinical diseases or disorders have been reported so far. That is why, after discussion regarding ethical guidelines with the ethical approval team, we are permitted to go for a pilot clinical bioethical healthy human evaluation.

3.3. Test to formulate dosage form for clinical study

Membrane permeability test—Since this drug course material requires wave therapy characteristics, it does not need to transfer across the membrane. Thus**,** this test was performed to observe if any particulate/drug matter from the sample could be able to penetrate through the membrane [25, 26].

Membrane characterization was conducted on eggshell membrane, measuring thickness between 13.48 ± 3.96 µm and 11.69 ± 4.11 µm. Testing involved three mediums: purified water, a water-alcohol solution, and aloe vera gel. For purified water, 0.10 g of sample was mixed, observing particle transfer. In the alcohol test, 0.2 ml of 95% ethanol with 0.8 ml of purified water and 0.10 g of sample was applied, checking for particles. Lastly, the aloe vera gel mixture with 0.10 g of sample was also evaluated for particle transfer.

3.4. Hypersensitive reaction test (Allergic reaction)

This test observes hypersensitive reactions from topical application of a 0.10 g sample drug mixed with aloe vera gel on volunteer skin. After 10-15 minutes, the area is cleaned and monitored for reactions.

3.5. Clinical study: sample formulation

Patches were developed for a clinical study approved by the College of Pharmaceutical Sciences in Bengaluru on December 5, 2023. This study involved selected candidates under continuous observation, drawn from a large volunteer demographic. Volunteers underwent thorough medical screening and provided signed consent, while exclusion criteria ruled out complicated cases and individuals with potential neurological issues. The patch was made with inert butter paper as the base and velvet paper as the cover, coated with 0.02 mg of a sample drug for optimal skin contact.

3.6. Steps to clinical evaluation

Volunteers for the study were selected based on specific criteria and consented after counseling. They received familiarization with materials and medications, and medication patches were used to monitor adverse effects within 24 hours. The intervention lasted three to ten days, with no negative effects reported. Most participants showed improvement, while a few did not. Observations assessed pharmacological and toxicological actions, supported by statistical evaluations such as ANOVA and Pearson's correlation coefficients, without claims of physiological normality.

4. Result

The instrumental analysis results for both portions of the same meteoroid rock were traced through different instruments to obtain qualitative and quantitative values using all supportive dimensional parametric components.

4.1. Scanning Electron Microscopy (SEM) of Red rock

After conducting SEM analysis on the red rock portion, four images are discussed. Image “A” presents a 20 µm scale at a working distance of 9.0 mm, using an EHT voltage of 20.00 kV with a magnification of 1.00 Kx, indicative of SE1 resolution. Images “B,” “C,” and “D” focus on higher resolution, showing 2 µm at an EHT of 20.00 kV and a working distance of 8.5 mm. Images B and D have a magnification of 5.00 Kx, while image “C” is magnified to 10 Kx, **Figure-2(a).**

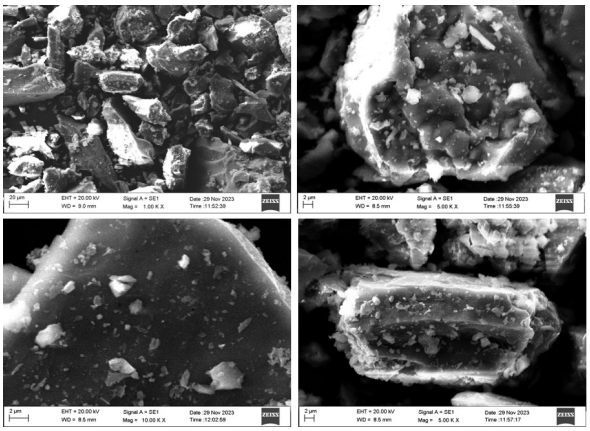
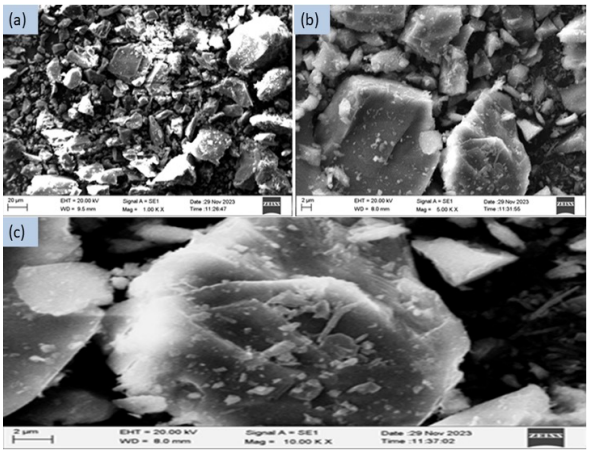


Figure-2 (a): Scanning Electronic Microscopic images of Red rock portionunder changing magnification**.**

4.2. Scanning Electron Microscopy of White rock

After analyzing the SEM images **(Figure-2(b))** of the white rock portion, three images are discussed. Image "A" displays a 20 µm dimension at a working distance of 9.0-9.5 mm, with an extra high tension voltage of 20.00 kV and a magnification of 1.00 Kx. Images "B" and "C" focus on higher resolution with dimensions of 2 µm, using the same EHT and a working distance of 8.0 mm. Image "B" is magnified at 5.00 Kx while image "C" has a magnification of 10 Kx. Observed spots of scattered white stains on a red background are included in the analysis.

Figure-2(b): Scanning Electronic Microscopic images of white rock portionunder changing magnification**.**



4.3. XRD of Red Rock & White Rock.

Under a 27° angle, X-ray induction indicates that quartz shows high intensity in both rock types, especially compared to elements like Ca, Fe, and K. This intensity is linked to quartz's linear molecular structures, facilitating high frequencies through elastic scattering. The X-ray directional map reveals intensity variations in the 2θ angle across samples, with significant changes observed from 0° to 70° 2θ.

The red crystalline rock contains quartz, potassium, iron, and calcium, while the white rock consists entirely of quartz. The red color arises from iron content, and Sample A1 exhibits sharper λ max and greater quartz abundance than Sample A2. Additionally, quartz absorbs cosmic photonic quanta across all wavelengths. The red rock also includes calcium oxide (CaO), which can form solid solutions with Monteponite, but destabilizes in humid conditions, converting to portlandite ($Ca(OH)_2$).

4.4. Ferro/Piezo-electric evaluation

Sample A was run at 99.9 volts with a velocity of 100 m/s. The instrumental analysis was performed on a Ferroelectric loop tester (PLC21018-405), Model – LC-II precision, version 5.18.1; Manufacturer: Radiant Instrument Inc., USA, which has a processor of x86

(AMD or Intel). The Internal Ampere (Amp) type is 100V Rev F Slow**.** The analysis has been done on four (4) types of principle components (PC1, PC2, PC3, PC4) for the variables (4) of eigenvalue, proportion of variance, cumulative proportion of variance, and component selection. The placing of material palates extended up to approx. 10 min, and the results are showing under the driving voltage of 0.876226 V. The number of stimulations of each component is 1000 times, which was expressed in 500 analyzed rows**.**

4.5. Di-electric absorptive wave properties on Electromotive force (EMF) conductance

The material described possesses stable properties under electromagnetic fields (EMF) and sufficient capacitance to affect EMF interactions. Its formulation can create a shielding boundary around neurons or neural plexuses, allowing for the directional and synchronized redirection of generated waves. The material demonstrates enhanced dielectric absorption capabilities in response to external EMF, especially when its three-dimensional wave harmonizing energy characteristics are maximized. When placed near a 120V electric source, the displacement of the EMF boundary decreases as the EMF meter moves along a defined scale, represented by the empirical value "γ" ranging from 1 to 3, **Table-1.**

Table-1: Di-electric absorptive wave interference of Sample pulverized meteoroidal rock patch.

Sl. No.	Blank EMF borderline on dangerous zone (In cm) **[α]**	The borderline shifted in presence of drug (2μg) specimen (in cm) [β]	Difference between Blank and drug (2 μg) **α - β = [γ]**
1	6	5	1
2	6	3	3
3	6	3	3
4	6	5	1
5	6	4	2
6	6	5	1
7	6	3	3

4.6. Test for clinical study:

4.6.1. Membrane permeability test

Using water as a medium for the membrane permeability test**,** after the solution was poured over the membrane mounted on the mouth of the test tube, no material passed through the membrane observed when the other side of the membrane was checked.

4.6.2. Hypersensitive reaction test (Allergy)

A hypersensitivity test was performed, and the observation was recorded as -No rashes, no redness, or any kind of topical hypersensitive skin reaction was observed.

4.7. Clinical study assessment

4.7.1. Clinical Data taken for assessment

The medical investigation took place over a period of 9 days, involving 17 staff members at Sagar Hospital, Dayananda Sagar University. The medical and medication history has been evaluated for all those participants in order to select the volunteers who have no previous Adverse Drug Reaction (ADR), addiction, or drug-drug and drug-food interactions **Table-3.** So that the intervention of formulated bio-electromagnetic patches could be carried out to get good results.

4.7.2. This is the indexing of empirical number potency against the activity responses: Certain indexing of cognitive mentally, physically and psychological state calibration have been done through implementation of empirical number potency against the activity responses, **Table-3.**

The level of potential remarks of patients as per the ongoing state without any drugs in healthy human volunteers (OS) and targeted drug responses (TR) without any complementary therapy in healthy human volunteers was revealed by numerical figures known as indexing. Here, certain characterized parameters in **Table-4**, such as confidence level, intelligence, degree of freeness, sleeping orders, and degree of peace, denote the mental and spiritual state of all 17 staff volunteers. **Table-3** is represented by their own numerical remarks valued from 1 to 5 levels. On the other side, the clenching and clamping tests and coordinating senses project the physical status of neuromuscular potentialities.

Table-2: Clinical data assessment of 17 staff volunteers before conducting targeted sample material patches test in order to validate healthy volunteer selection.

Volunteer Name	Occup-ation	Disease Profile ±4 months	Allergic Reaction history	Addiction/ medication self-history & family History and	Medical history	Family Medical History	Any Neuro hormonal/ psychological disorder	Consent Taken?	Targeted drug Experiment Duration	Remark
	Clinician	No	No	Occasional drinking alcohol	No medical problem in last 4 months	Hypersensitivity	No	Yes	9 days	Safe, efficient physiological control. No ADR, Malfunctioning.
	Professor	No	No	No	No medical problem in last 4 months	hyperglycemia	No	Yes	9 days	Safe, efficient physiological control. No ADR, Malfunctioning.
	Receptio-nist	No	occasional	No	No medical problem in last 4 months	No	No	Yes	9 days	Safe, efficient physiological control. No ADR, Malfunctioning.
	Student	No	No	No	No medical problem in last 4 months	No	No	Yes	9 days	Safe, efficient physiological control. No ADR, Malfunctioning.
	Clerk in Hospital	Seasonal	No	Smoking occational	No medical problem	Skin disease	No	Yes	9 days	Safe, efficient physiological control.

				in last 4 months					No ADR, Malfunctioning.
Lab Technician	No	No	No	No medical problem in last 4 months	No	No	Yes	9 days	Safe, efficient physiological control. No ADR, Malfunctioning.
student	No	No	No	No medical problem in last 4 months	constipation	No	Yes	9 days	Safe, efficient physiological control. No ADR, Malfunctioning.
student	No	No	No	No medical problem in last 4 months	No	No	Yes	9 days	Safe, efficient physiological control. No ADR, Malfunctioning.

Assit. Professor	Mild constipation regular	No	No	No medical problem in last 4 months	No	No	Yes	9 days	Safe, efficient physiological control. No ADR, Malfunctioning.
PhD. Scholar	No	No	No	No medical problem in last 4 months	No	No	Yes	9 days	Safe, efficient physiological control. No ADR, Malfunctioning.
Scholar	No	No	No	No medical problem in last 4 months	insomnia	No	Yes	9 days	Safe, efficient physiological control. No ADR, Malfunctioning.
Student	No	No	Smoking occational	No medical problem in last 4 months	No	No	Yes	9 days	Safe, efficient physiological control. No ADR, Malfunctioning.
student	No	No	No	No medical problem in last 4 months	No	No	Yes	9 days	Safe, efficient physiological control. No ADR, Malfunctioning.
Pharm.D student	Skin infection	No	No	No medical problem in last 4 months	hyperglycemia	No	Yes	9 days	Safe, efficient physiological control. No ADR, Malfunctioning.

Student	No	No	No	No medical problem in last 4 months	fistula	No	Yes	9 days	Safe, efficient physiological control. No ADR, Malfunctioning.
Lab. Technician	No	No	No	No medical problem in last 4 months	No	No	Yes	9 days	Safe, efficient physiological control. No ADR, Malfunctioning.
Head Clerk	Acidity	No	No	No medical problem in last 4 months	No	No	Yes	9 days	Safe, efficient physiological control. No ADR, Malfunctioning.

Table-4: Clinical data assessment of 17 patients against this targeted sample material patches in order to know the management on physical and psychological state

Volunteer ID	Confidence level		Intelligence		Degree of freeness		Clutching /clamping test		Sleeping order		Degree of Peace		Coordinating sense		Remark	
	OS	TR	OS	TR	OS	TR	OS	TR	OS	TR	OS	TR	OS	TR	OS	TR
ID-062221	4	5	4	4	4	5	3	5	4	5	4	5	4	5	4	5
ID-062245	3	4	4	5	4	5	3	5	4	5	3	5	3	5	4	5
ID-062321	4	5	4	4	5	5	4	5	3	5	4	5	4	4	5	5
ID-065725	5	5	4	5	4	4	4	5	3	5	3	4	4	5	4	5
ID-065400	3	5	4	5	5	5	4	4	4	5	3	4	3	4	5	5
ID-L066624	5	5	3	5	5	5	3	4	3	5	4	5	3	4	4	4
ID-002555	4	4	4	5	4	4	3	4	4	5	4	5	5	5	3	4
ID-005102	4	5	3	4	4	5	4	4	4	4	3	4	4	4	3	4
ID-C-47731	3	5	4	4	3	5	5	5	3	4	2	4	4	5	5	5
ID-012131a	2	4	3	5	3	5	4	4	4	4	2	4	5	5	4	5
ID-003765	4	4	4	4	4	4	4	5	5	5	4	5	4	4	3	5
ID-0097742	3	5	4	5	3	4	5	5	4	4	5	5	3	4	4	5
ID-043786b	4	5	3	4	3	4	5	5	4	5	3	5	4	4	5	4
ID-N-032421	2	4	3	5	2	4	4	5	3	4	4	4	4	5	4	5
ID-0042017	4	4	3	5	1	4	4	4	5	5	3	4	3	5	4	5
ID-L420044	3	5	4	5	4	5	4	4	3	5	3	4	5	5	3	4
ID-C-420081	4	5	5	5	2	4	5	5	5	5	2	3	3	4	5	5

** **Foot notes:** Ongoing state without any drugs in healthy human volunteer - OS; Targeteddrug responses without any Complimentary therapy in healthy human volunteers – TR, In-patients-IP.

Characterization	Low Level	Low to moderate	Moderate to high	High to severe	Sever to extreme
Confidence level	1	2	3	4	5
Intelligence	1	2	3	4	5
Degree of freeness	1	2	3	4	5
Clutching & clamping test	1	2	3	4	5
Sleeping order	1	2	3	4	5
Degree of Peace	1	2	3	4	5
Coordinating sense	1	2	3	4	5

Table 3: Indexing the numerical degree of level of various test parameters to detect the physical mental and psychological state of stability.

5.1.1. SEM of Red Rock:

Some scattered white stains, identified as quartz, have been observed on a red ferrous silicate background. The high content of ferrous silicate in the rock contains the quartz in various forms. This quartz and ferrous ion complex indicate the quality factor "Q" of a quartz crystal oscillator, measuring its efficiency, stability, and dislocation mobility, as noted in references.

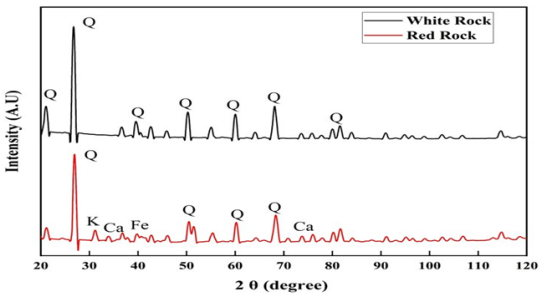
5.1.2. SEM of White Rock:

The white rock is primarily composed of quartz with a minimal presence of ferrous silicate, resulting in a complex structure that exhibits higher molecular oscillation compared to the stable red rock. The potassium silicate complex is predominantly located at the interface between Sample-A1 and Sample-A2, where the white and red portions meet, and is also dispersed in the red rock, surrounding the ferrous Fe++ complex in three dimensions.

5.2. XRD of Red Rock & White Rock regarding Atomic rigidity evaluation

The red crystalline rock is primarily composed of quartz, potassium, iron, and calcium, with its colour resulting from iron. The white crystalline rock consists solely of quartz, which has distinct optical properties **Figure-3.** The red rock includes calcium oxide, which can form solid solutions and is unstable in wet conditions, converting to portlandite. Additionally, potassium originates from the metamorphism of potassium silicate complexes. Scanning Electron Microscopy (SEM) analysis indicates high potential for quartz wave holding capacity in these minerals.

Figure-3: The XRD peaks of pulverized Sample A1 & A2



Foot note: Q, Quartz; K, Potassium; Fe, Iron; Ca, calcium; A.U., arbitrary units.

5.2.1 EMF Generated by XRD

The document discusses the relationship between crystal orientation, size, and particle density through the analysis of peak heights in electromagnetic field (EMF) potential. Taller peaks signify denser particle concentrations, while double peaks indicate noise due to impurities. Additionally, it highlights the importance of Eigenvalues in linking scalar values to linear equations and notes the statistical metrics of variance and cumulative variance relevant to the sample analysis.

The EMF detection involved placing drug materials (2 µg) parallel to a 120 V electric terminal on one side of a calibrated scale. An EMF detector was then moved from the opposite side, resulting in the indicator light glowing at a consistent distance of 6 cm from a marked borderline α. This indicates interference from the drug material at a specific distance β, as noted in table-2.Hence, the interference level is denoted by γ, α - β = [γ].

Although there is a technically positive correlation between the variables α and γ, it is weak ($R = 0.0772$, $R^2 = 0.006$). The P-value of 0.869331 indicates that the result is not significant, as it exceeds the threshold of $p < .05$. This implies considerable variation between the two variables. Additionally, the analysis of the difference between Blank and drug (2 µg) shows remarkable fluctuation in electromagnetic interference of dielectric materials influenced by the properties of three-dimensional waves. The rank correlation value (rs) is also 0.07715, reaffirming the statistical insignificance of the association.

5.2.2. Clinical Study with statistical explanation:

A statistical analysis examined the relationship between targeted drug responses (TR) and the ongoing state (OS) in healthy volunteers, emphasizing neuro-hormonal factors and neurotransmitters. While most correlations were non-significant ($P > 0.05$), a significant moderately positive correlation was found

between the Degree of Peace and TR (R = 0.7074, P = 0.001492). However, a one-way ANOVA indicated no significant variations in overall responses to targeted drug therapies (f-ratio = 0.31138, P = 0.869591), suggesting a consistent treatment response within the population studied.

6. Conclusion

In the experiment, analytical tests on pulverized red and white rock samples, such as X-ray diffraction and scanning electron microscopy, were conducted. A ferro/piezoelectric evaluation assessed the drug sample's potential, with measurements of di-electrical absorptive wave properties. The drug was tested under clinician observation for membrane permeability and hypersensitivity, with no reactions noted. Clinical data from 17 healthy volunteers showed a positive correlation across most attributes, whereas the sleep order indicated a negative correlation. Non-significant P-values suggested no variation among volunteers, while significant P-values indicated otherwise. Results indicated that Quantum based bio-electromagnetic molecular crystalline impact exists without health discomfort, suggesting this medication may be considered for future studies in treating neuro-hormonal diseases.

Declarations

Conflict of Interest

Authors declare no conflict of interest regarding financial or any materials discussed in this article.

Consent to Participate: All participants furnished written informed consent before enrollment.

Ethics Approval: Ethical clearance for this protocol was secured from Dayananda Sagar University, Dr. Chandramma Dayananda Sagar Institute of Medical Education & Research (CDSIMER); ethical number DSU/M.Pharm/IHEC/2022-2023/0053;
Devarakaggalahalli, Kanakapura Road, Bengaluru South District, Karnataka - 562112

Consent to Publication: Not applicable.

References

1. Juárez Olguín H, Calderón Guzmán D, Hernández García E, Barragán Mejía G. The role of dopamine and its dysfunction as a consequence of oxidative stress. *Oxid Med Cell Longev.* 2016;2016:9730467.
2. Alghasham A, Rasheed N. Stress-mediated modulations in dopaminergic system and their subsequent impact on behavioral and oxidative alterations: an update. *Pharm Biol.* 2014;52(3):368–77.
3. Yacoub MW, Smith SR, Abbas B, Iqbal F, Jazieh CMO, Al Shaer NSH, et al. Attention-deficit hyperactivity disorder (ADHD): a comprehensive overview of the mechanistic insights from human studies to animal models. *Cells.* 2025;14(17):1367.
4. Blum K, Chen ALC, Braverman ER, Comings DE, Chen TJ, Arcuri V, et al. Attention-deficit-hyperactivity disorder and reward deficiency syndrome. *Neuropsychiatr Dis Treat.* 2008;4(5):893–918.
5. De Deurwaerdère P, Di Giovanni G, Millan MJ. Expanding the repertoire of L-DOPA's actions: a comprehensive review of its functional neurochemistry. *Prog Neurobiol.* 2017;151:57–100.
6. Delcambre S. *In vitro* metabolic studies of dopamine synthesis and the toxicity of L-DOPA in human cells [Internet]. 2016 [cited 2025 Oct 22]. Available from: https://orbilu.uni.lu/handle/10993/28204
7. Borovac JA. Side effects of a dopamine agonist therapy for Parkinson's disease: a mini-review of clinical pharmacology. *Yale J Biol Med.* 2016;89(1):37–47.
8. Wisneski L, Williams BO. Energy medicine: focus on nonthermal electromagnetic therapies. In: *The Scientific Basis of Integrative Health.* 3rd ed. Routledge; 2017.
9. Rubik B, Becker RO, Flower RG, Hazlewood CF, Liboff AR, Walleczek J. Bioelectromagnetics applications in medicine.
10. *Alternative medicine: expanding medical horizons ~ bioelectromagnetics applications in medicine* [Internet]. [cited 2025 Oct 22]. Available from: https://chiro.org/alt_med_abstracts/FULL/Expanding_Medical_Horizons_UPDATE/Bioelectromagnetics_Applications.shtml
11. Buschow KHJ. *Encyclopedia of materials: science and technology* [Internet]. Elsevier; 2001 [cited 2025 Oct 22]. Available from: https://cir.nii.ac.jp/crid/1970304959874913606
12. Zhou R, Wang J, Han X, Ma B, Yuan H, Song Y. Baicalin regulates the dopamine system to control the core symptoms of ADHD. *Mol Brain.* 2019;12(1):11.
13. Stępnicki P, Kondej M, Kaczor AA. Current concepts and treatments of schizophrenia. *Molecules.* 2018;23(8):2087.

14. Concerto C. Modulation of neuroplasticity in humans after acute intake of antidepressant, anxiolytic and adaptogenic herbs [Internet]. 2018 [cited 2025 Oct 22]. Available from: https://tesidottorato.depositolegale.it/handle/20.500.14242/75550
15. Jiang N, Li YJ, Wang MD, Huang H, Chen S, Li Y, et al. The cognitive-enhancing effects of *Dendrobium nobile* Lindl extract in sleep deprivation-induced amnesic mice. *Front Psychiatry* [Internet]. 2022 [cited 2025 Oct 22];12. Available from: https://www.frontiersin.org/journals/psychiatry/articles/10.3389/fpsyt.2021.596017/full
16. Jönsson AK, Schill J, Olsson H, Spigset O, Hägg S. Venous thromboembolism during treatment with antipsychotics: a review of current evidence. *CNS Drugs.* 2018;32(1):47–64.
17. Pinoșanu EA, Pîrșcoveanu D, Albu CV, Burada E, Pîrvu A, Surugiu R, et al. Rhoa/ROCK, mTOR and secretome-based treatments for ischemic stroke: new perspectives. *Curr Issues Mol Biol.* 2024;46(4):3484–501.
18. Kimura T, Horikoshi Y, Kuriyagawa C, Niiyama Y. Rho/ROCK pathway and noncoding RNAs: implications in ischemic stroke and spinal cord injury. *Int J Mol Sci.* 2021;22(21):11573.
19. Lu W, Wen J, Chen Z. Distinct roles of ROCK1 and ROCK2 on the cerebral ischemia injury and subsequently neurodegenerative changes. *Pharmacology.* 2019;105(1–2):3–8.
20. Lavina B, Dera P, Downs RT. Modern X-ray diffraction methods in mineralogy and geosciences. *Rev Mineral Geochem.* 2014;78(1):1–31.
21. Qu B, Wang J, Zhu H, Hu L, Liao Q. Experimental study on evolution and mechanism for dielectric response of different rank coals in terahertz band. *Energy.* 2024;288:129567.
22. Zhou W, Apkarian R, Wang ZL, Joy D. Fundamentals of scanning electron microscopy (SEM). In: Zhou W, Wang ZL, editors. *Scanning microscopy for nanotechnology: techniques and applications* [Internet]. New York (NY): Springer; 2007 [cited 2025 Oct 22]. p. 1–40. Available from: https://doi.org/10.1007/978-0-387-39620-0_1
23. Bhatnagar R, Yadav V, Kumar U, Carrasco MF. Piezoelectric energy harvesting: from fundamentals to advanced applications. *Energy Technol.* 2025;13(4):2401455.
24. Auluck K, Kan EC. Circuit models for ferroelectrics—part I: physics of polarization switching. *IEEE Trans Electron Devices.* 2016;63(2):631–6.
25. Cole KS. Permeability and impermeability of cell membranes for ions. *Cold Spring Harb Symp Quant Biol.* 1940;8:110–22.
26. Park HB, Kamcev J, Robeson LM, Elimelech M, Freeman BD. Maximizing the right stuff: the trade-off between membrane permeability and selectivity. *Science.* 2017;356(6343):eaab0530.