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Physical Science & Biophysics Journal
ISSN: 2641-9165

Evaluation of the Outcome of Consciousness Energy Healing Treatment on the Physicochemical and Thermal Properties of Magnesium

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Research Article

Volume 3 Issue 3

Received Date: August 19, 2019

Published Date: September 04, 2019

Abstract

Magnesium is an eighth-most-abundant element in the Earth's crust present in the human body, which is required for more than 300 metabolic activity, normal functioning of nerves, cells, muscles, heart, bones, etc. The study was performed to evaluate the impact of the Trivedi Effect® on the physicochemical and thermal properties of magnesium powder using modern analytical techniques. Magnesium powder sample was divided into two parts, one part of magnesium was called control sample (no Biofield Energy Treatment was provided), while second part received the Trivedi Effect®-Consciousness Energy Healing Treatment remotely by a famous Biofield Energy Healer, Alice Branton and called as a treated sample. The PXRD peak intensities and crystallite sizes of the treated magnesium were significantly altered ranging from 9.57% to 39.27% and -15.16% to 20.69%, respectively compared to the control sample. Overall the average crystallite size of the treated sample was significantly increased by 8.74% compared with the control sample. The particle size values in the treated magnesium were significantly decreased by 17.24% (d_{10}), 13.49% (d_{50}), 10.97% (d_{90}), and 12.73% {D(4,3)} compared to the control sample. Therefore, the specific surface area of the treated magnesium powder was significantly increased by 17.82% compared with the control sample. The total weight loss was significantly decreased by 43.11%; whereas, the residual amount was significantly decreased by 62.67% in the treated magnesium powder compared with the control sample. The maximum thermal degradation temperature of the treated sample was slightly altered by 1.98% compared with the control sample. The results concluded that the Trivedi Effect®-Consciousness Energy Healing Treatment might lead to generating a new polymorphic form of magnesium, which would be better soluble in solvents and thermally more stable compared with the untreated sample. The Biofield Energy Treated magnesium would be very useful for prevention and treatment of ventricular arrhythmias, hypomagnesaemia, sudden cardiac death, pre-eclampsia, eclampsia, migraine, inflammatory diseases, immunological disorders, diabetes

mellitus, cancer, gestational hypertension, oxidative stress, etc. It would be beneficial for the designing of more efficacious nutraceutical/pharmaceutical formulations, and other metal and chemical industries.

Keywords: Magnesium; Consciousness Energy Healing Treatment; The Trivedi Effect®; PXRD; Particle size; TGA/DTG

Introduction

Magnesium (Mg) is one of the very important mineral abundantly present in the human body, which is required for more than 300 metabolic activity, normal functioning of nerves, cells, muscles, heart, bones, etc [1]. Magnesium ions interact with ATP, DNA, and RNA in the body [2]. An adult human contains 22-26 grams of magnesium, with 60% in the skeleton, 39% intracellular, and 1% extracellular (serum levels are 0.7–1.0 mmol/L) in the body [3]. Magnesium reach dietary source are spices, nuts, cereals, cocoa, and green leafy vegetables such as spinach vegetables [2]. Other than this, numerous nutraceutical and pharmaceutical preparations of magnesium are available, such as magnesium gluconate, citrate, chloride, lactate, or aspartate [4]. Low plasma magnesium, also called "hypomagnesaemia" is a very common problem found in 2.5-15% of the general population [5]. Hypomagnesaemia mainly due to the low dietary intake, increased renal or gastrointestinal loss, an increased intracellular shift, proton-pump inhibitor antacid therapy, alcoholism, type 2 diabetes, hypertension [5-7]. In the UK and U.S., the recommended daily values for magnesium is 300 mg and 420 for men and 270 mg and 320 mg for women, respectively [2]. Magnesium is used for the prevention and treatment of hypomagnesaemia, ventricular arrhythmias, sudden cardiac death, eclampsia, pre-eclampsia, migraine, etc [2,8-10]. Magnesium salt also has applications in nutraceutical and pharmaceutical industry for the treatment of the inflammatory diseases, diabetes mellitus, immunological disorders, allergies, septic shock, cancer, asthma, oxidative stress, gestational hypertension, hearing loss, etc. Salt of magnesium also used as a potent antioxidant agent, oral tocolytic agent, antacid, laxative, neuroprotective, and skin-tightening antiaging cosmetic composition [2,11-16]. Magnesium is a metal used for the structural metal, die-casting, aluminium alloys, aircraft, and automobiles, reagents in the organic synthesis, manufacturing of laptop, mobile phones, computers, cameras, and other electronic components [2,17]. Mg metal and its alloys can be explosive hazards; it is highly reactive with water (burning or molten magnesium), flammable at the temperature of approximately 3100°C and the auto-ignition at the temperature of 473°C [2,18].

Intrinsic physicochemical properties of any magnesium play a crucial role in the manufacturing of pharmaceutical/nutraceutical formulations and other industrial applications. The Biofield Energy Healing Treatment has the potential influence altering the physicochemical properties of many objects [19-21]. The Trivedi Effect® is a natural and scientifically proven phenomenon in which a healer can harness this intelligent energy from the Universe and transfer it anywhere on the planet *via* the possible mediation of neutrinos [22]. Every organism possesses a unique energy field surrounding the body known as "Biofield", which is infinite, para-dimensional electromagnetic field. Biofield based Energy Therapies have been reported with significant positive outcomes against various disease [23]. National Institute of Health/National Center for Complementary and Alternative Medicine recommends and included the Energy therapy under Complementary and Alternative Medicine category that has been accepted by the most of the U.S. people [24,25]. Numerous extensive research has been conducted to prove the impact of the Trivedi Effect®-Consciousness Energy Healing Treatment on the non-living and living object(s) and the scientific outcome is miraculous in metals and ceramic [26,27], organic compounds [28,29], nutraceuticals [30,31], pharmaceuticals [33,34], cancer cells [34,35], microorganisms [36,37], and crops [38,39]. Keeping all these significant aspects, this study was designed to investigate the impact of the Trivedi Effect®-Consciousness Energy Healing Treatment on the physicochemical, and thermal properties of magnesium using modern analytical techniques.

Materials and Methods

Chemicals and Reagents

The test sample magnesium powder was purchased from Sigma Aldrich, USA. All other chemicals used in the experiments were purchased in India.

Consciousness Energy Healing Treatment Strategies

The magnesium powder sample considered for the experiment was divided into two equal parts. One part of

the magnesium powder sample was called control sample, where no Biofield Energy Treatment was provided. However, the second part of magnesium was received the Trivedi Effect®-Energy of Consciousness Healing Treatment remotely under standard laboratory conditions for 3 minutes by the renowned Biofield Energy Healer, Alice Branton, USA, and known as the treated magnesium sample. Further, the control magnesium was treated with a "sham" healer, who did not have any knowledge about the Biofield Energy. After that, both the samples were kept in sealed conditions and characterized using sophisticated analytical techniques.

Characterization

The powder X-ray diffraction (PXRD) analysis of magnesium powder was performed using Rigaku MiniFlex-II Desktop X-ray diffractometer (Japan) [40,41]. The average size of crystallites was calculated from PXRD data using the Scherrer's formula (1)

$$G=\frac{k\lambda}{\beta\cos\theta} \quad (1)$$

Where G: crystallite size (nm), k: equipment constant, λ: radiation wavelength, β: full-width at half maximum (FWHM), and θ: Bragg angle [42].

The particle size distribution (PSD) analysis of magnesium test samples was performed with the help of Malvern Mastersizer 2000 (UK) using the wet method [43,44]. Similarly, the thermal gravimetric analysis (TGA) thermograms of magnesium samples were obtained with the help of TGA Q50 TA instruments [42].

The % change in the above parameters of the treated magnesium was calculated compared with the control sample using the following equation 2:

$$\%\ Change=\frac{[Treated-Control]}{Control}X\,100 \quad (2)$$

Results and Discussion

Powder X-ray Diffraction (PXRD) Analysis

The control and treated magnesium powder showed sharp and intense peaks at Bragg's angle in the PXRD diffractograms (Figure 1), indicating that both the samples were crystalline in nature. The PXRD diffractograms of the control and treated magnesium samples showed the highest peak intensity at 2θ equal to 37° (Table 1, entry 3). All the peak intensities of the treated magnesium were significantly decreased from the range of 9.57% to 39.27% compared to the control sample.

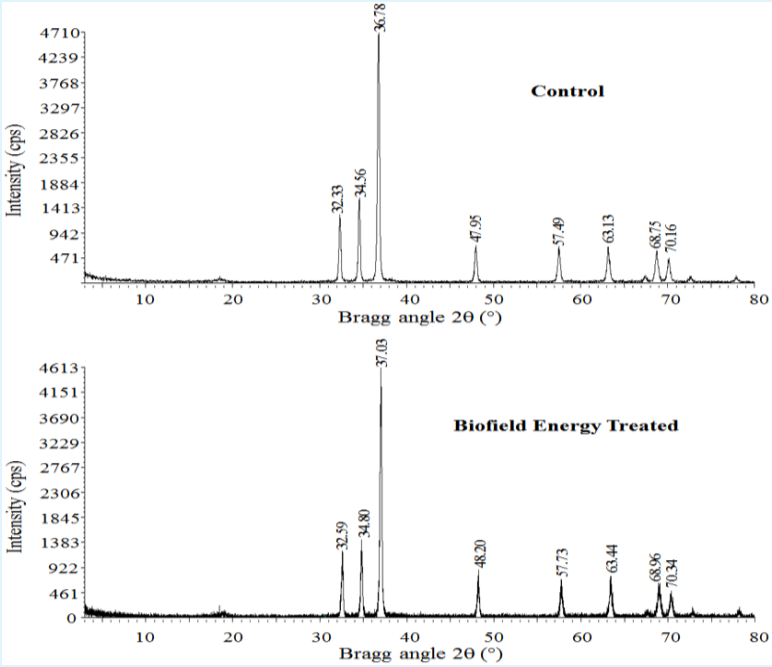

Figure 1: PXRD diffractograms of the control and treated magnesium powder.

Entry No.	Bragg Angle (°2θ)		Peak Intensity (%)			Crystallite Size (G, nm)		
	Control	Treated	Control	Treated	% Change*	Control	Treated	% Change*
1	32.33	32.59	235.00	189.00	-19.57	351.00	389.00	10.83
2	34.56	34.80	287.00	229.00	-20.21	385.00	382.00	-0.78
3	36.78	37.03	981.00	805.00	-17.94	354.00	387.00	9.32
4	47.95	48.20	157.00	118.00	-24.84	329.00	387.00	17.63
5	57.49	57.73	166.00	124.00	-25.30	326.00	380.00	16.56
6	63.13	63.44	179.00	147.00	-17.88	295.00	344.00	16.61
7	67.42	67.60	21.90	13.30	-39.27	485.00	493.00	1.65
8	68.75	68.96	158.00	135.00	-14.56	300.00	325.00	8.33
9	70.16	70.34	115.00	104.00	-9.57	319.00	385.00	20.69
10	72.70	72.80	20.30	16.80	-17.24	409.00	347.00	-15.16
11	77.82	78.17	26.00	20.70	-20.38	394.00	473.00	20.05
12	Average crystallite size					358.82	390.18	8.74

Table 1: PXRD data for the control and treated magnesium powder.
*denotes the percentage change in the peak intensity and crystallite size of the treated sample compared to the control sample.

The crystallite sizes of the Biofield Energy Treated magnesium at 2θ equal to 32.5°, 37°, 48.2°, 57.7°, 63.4°, 67.6°, 68.9°, 70.3°, and 78.2° (Table 1, entry 1, 3-9, and 11), was significantly increased in the range from 1.65% to 20.69% compared with the control sample. However, the crystallite sizes of the Biofield Energy Treated magnesium at 2θ equal to 34.8° and 72.8° (Table 1, entry 2 and 10) were decreased by 0.78% and 15.16%, respectively with respect to the control sample. Hence, the crystallite sizes of the Biofield Energy Treated sample were significantly altered in the range from -15.16% to 20.69% compared to the control sample. However, the average crystallite size of the Biofield Energy Treated sample was significantly increased by 8.74% compared with the control sample.

The variations in the crystallite sizes and peak intensities of magnesium powder indicated the modification of the crystal morphology of the Biofield Energy Treated sample compared to the control sample. The peak intensity of each diffraction face on the crystalline compound changes according to the crystal morphology [45], and alterations in the PXRD pattern provide the proof of polymorphic transitions [46,47]. Therefore, it was concluded that the Trivedi Effect®-Consciousness Energy Healing Treatment probably produced the new polymorphic form of magnesium through the Biofield Energy *via* neutrino oscillation [22]. New polymorphic forms of pharmaceuticals have significant effects on the thermodynamic and physicochemical properties like melting point, energy, stability, and especially solubility, are different from the original form [48,49]. Thus, it can be anticipated that the Biofield Energy Treated magnesium would be better for designing more efficacious nutraceutical/pharmaceutical formulations and other industrial applications.

Particle Size Analysis (PSA)

The particle size distribution analysis of both the control and Biofield Energy Treated magnesium powder are presented in Table 2. The particle size values of the control magnesium powder at d_{10}, d_{50}, d_{90}, and D(4,3) were 176.61 µm, 353.21 µm, 651.24 µm, and 386.49 µm, respectively. Similarly, the particle sizes of the Biofield Energy Treated magnesium at d_{10}, d_{50}, d_{90}, and D(4,3) were 146.16 µm, 305.58 µm, 579.77 µm, and 337.27 µm, respectively. Therefore, the particle size values in the Biofield Energy Treated magnesium were significantly decreased at d_{10}, d_{50}, d_{90}, and D(4,3) by 17.24%, 13.49%, 10.97%, and 12.73%, respectively compared to the control sample. The specific surface area of Biofield Energy Treated magnesium powder (0.0238 m^2/g) was significantly increased by 17.82% compared with the control sample (0.0202 m^2/g). The results indicated that the Trivedi Effect®-Consciousness Energy Healing Treatment might be acting as an external force for breaking the larger particle to smaller particle size; hence increased the surface area of magnesium compared to the control sample. Reducing the particle size of magnesium affect its physicochemical and thermal behaviour. Thus, the Biofield Energy Treated magnesium might offer better soluble and bioavailable in different reagents compared with the untreated sample.

Parameter	d_{10} (µm)	d_{50} (µm)	d_{90} (µm)	D(4,3) (µm)	SSA (m^2/g)
Control	176.61	353.21	651.24	386.49	0.0202
Biofield Treated	146.16	305.58	579.77	337.27	0.0238
Percent change* (%)	-17.24	-13.49	-10.97	-12.73	17.82

Table 2: The particle size distribution of the control and treated magnesium powder.
d_{10}, d_{50}, and d_{90}: particle diameter corresponding to 10%, 50%, and 90% of the cumulative distribution, D(4,3): the average mass-volume diameter, and SSA: the specific surface area. *denotes the percentage change in the particle size distribution of the treated sample with respect to the control sample.

Thermal Gravimetric Analysis (TGA) / Differential Thermo gravimetric Analysis (DTG)

The TGA thermograms of the control and Biofield Energy Treated samples displayed one steps of thermal degradation (Figure 2). The total weight loss in Biofield Energy Treated magnesium powder was significantly decreased by 43.11% compared with the control sample (Table 3). Therefore, the residue amount was significantly increased by 62.67% in the Biofield Energy Treated magnesium powder to the control sample (Table 3).

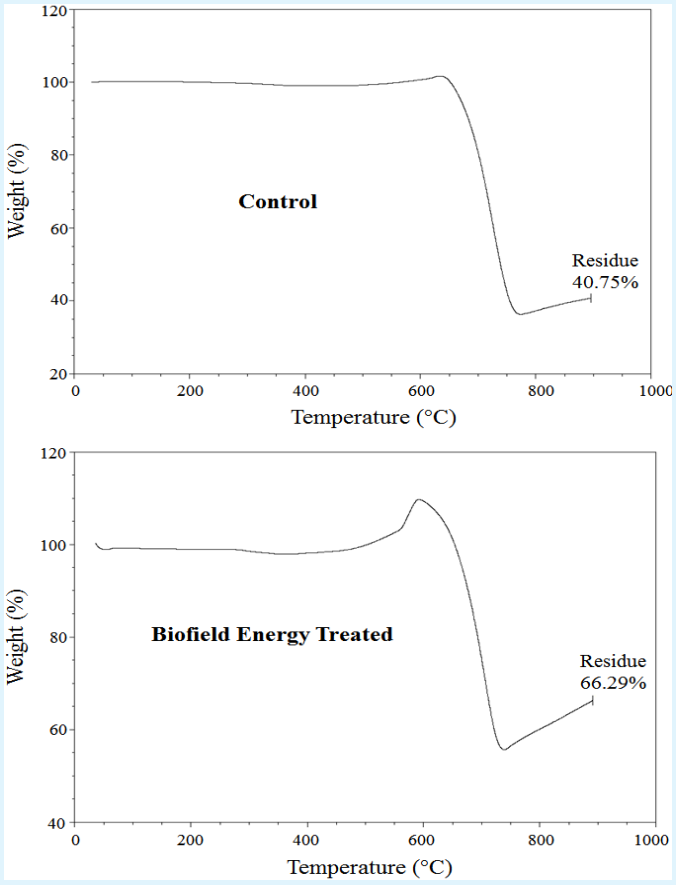

Figure 2: TGA thermograms of the control and treated magnesium powder.

Sample	TGA		DTG
	Total Weight Loss (%)	Residue %	T_{max} (°C)
Control	59.25	40.75	724.42
Biofield Energy Treated	33.71	66.29	710.08
% Change*	-43.11	62.67	-1.98

Table 3: TGA/DTG data of the control and treated samples of magnesium powder.
*denotes the percentage change of the treated sample with respect to the control sample, T_{max} = the temperature at which maximum weight loss takes place.

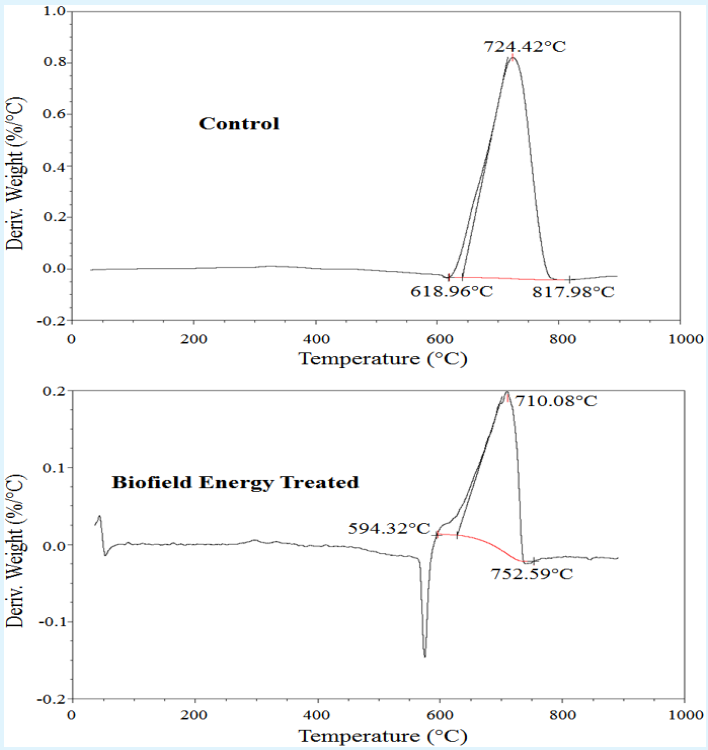

Figure 3: DTG thermograms of the control and treated magnesium powder.

The control and Biofield Energy Treated magnesium powder exhibited one peak in the DTG thermograms (Figure 3). The T_{max} of the Biofield Energy Treated sample was slightly altered by 1.98% compared with the control sample (Table 3). Overall, TGA/DTG revealed that the thermal stability of the Biofield Energy Treated magnesium was significantly improved compared with the control sample.

Conclusions

The Trivedi Effect®-Consciousness Energy Healing Treatment showed significant effects on the peak intensities, crystallite size, particle size, surface area, and thermal properties of magnesium powder. The PXRD peak intensities and crystallite sizes of the Biofield Energy Treated magnesium were significantly altered ranging from 9.57% to 39.27% and -15.16% to 20.69%, respectively compared to the control sample. Overall the average crystallite size of the treated sample was significantly increased by 8.74% compared with the control sample. The particle size values in the Biofield Energy Treated magnesium were significantly decreased by 17.24% (d_{10}), 13.49% (d_{50}), 10.97% (d_{90}), and 12.73% {D(4,3)} compared to the control sample. Therefore, the specific surface area of the Biofield Energy Treated magnesium powder was significantly increased by 17.82% compared with the control sample. The total

weight loss was significantly decreased by 43.11%; whereas, the residual amount was significantly decreased by 62.67% in the Biofield Energy Treated magnesium powder compared with the control sample. The T_{max} of the Biofield Energy Treated sample was slightly altered by 1.98% compared with the control sample. The results concluded that the Trivedi Effect®-Consciousness Energy Healing Treatment might lead to generating a new polymorphic form of magnesium, which would be better soluble in solvents and thermally more stable compared with the untreated sample. The Trivedi Effect Treated magnesium would be very useful for prevention and treatment of hypomagnesaemia, ventricular arrhythmias, sudden cardiac death, pre-eclampsia, eclampsia, migraine, inflammatory diseases, immunological disorders, diabetes mellitus, allergies, cancer, septic shock, asthma, gestational hypertension, oxidative stress, hearing loss, etc. It would be beneficial for the designing of more efficacious nutraceutical/pharmaceutical formulations, and other metal and chemical industries.

Acknowledgements

The authors are grateful to Central Leather Research Institute, SIPRA Lab. Ltd., Trivedi Science, Trivedi Global, Inc., Trivedi Testimonials, and Trivedi Master Wellness for their assistance and support during this work.

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