

Potential Impact of BioField Treatment on Atomic and Physical Characteristics of Magnesium

Mahendra Kumar Trivedi¹, Rama Mohan Tallapragada¹, Alice Branton¹, Dahryn Trivedi¹, Gopal Nayak¹, Omprakash Latiyal² and Snehasis Jana^{2*}

¹Trivedi Global Inc., 10624 S Eastern Avenue Suite A-969, Henderson, NV 89052, USA

²Trivedi Science Research Laboratory Pvt. Ltd., Hall-A, Chinar Mega Mall, Chinar Fortune City, Hoshangabad Rd., Bhopal- 462026, Madhya Pradesh, India

Abstract

Magnesium (Mg), present in every cell of all living organisms, is an essential nutrient and primarily responsible for catalytic reaction of over 300 enzymes. The aim of present study was to evaluate the effect of biofield treatment on atomic and physical properties of magnesium powder. Magnesium powder was divided into two parts denoted as control and treatment. Control part was remained as untreated and treatment part received biofield treatment. Both control and treated magnesium samples were characterized using X-ray diffraction (XRD), surface area and particle size analyzer. XRD data showed that biofield treatment has altered the lattice parameter, unit cell volume, density, atomic weight, and nuclear charge per unit volume of treated magnesium powder, as compared to control. In addition, the crystallite size of treated magnesium was significantly reduced up to 16.70, 16.70, and 28.59% on day 7, 41 and 63 respectively as compared to control. Besides this, the surface area of treated magnesium powder was increased by 36.5 and 10.72% on day 6 and 72 respectively, whereas it was reduced by 32.77% on day 92 as compared to control. In addition, biofield treatment has also altered the particle sizes d_{10} , d_{50} , and d_{99} (size, below which 10, 50, and 99% particles were present, respectively) as compared to control. Overall, data suggest that biofield treatment has substantially altered the atomic and physical properties of treated magnesium powder.

Keywords: Biofield treatment; Magnesium powder; X-ray diffraction; Fourier transform infrared; Particle size; Surface area

Introduction

Magnesium (Mg) is the third most abundant metal in the earth's crust. It exists in the form of hexagonal closed packed (HCP) crystal structure. Magnesium is the fourth most abundant mineral in the human body, which are responsible for various metabolic reactions and biological mechanisms. A normal human body contains about 22-26 grams of magnesium, in which 60% is present in skeleton, 39% in intracellular medium, and 1% in extracellular compartment. Furthermore, the main source of energy for living cells *i.e.* adenosine triphosphate (ATP) must require magnesium ions for their biological activity [1]. In addition, magnesium is essential for plants in chlorophyll synthesis and photosynthesis [2]. Although the magnesium is found in many food ingredients, but it is usually present in very low levels [3]. Thus, deficiency of magnesium is likely common among geriatric [4], obese, diabetics, and alcoholic people [5]. Deficiency of the magnesium in human body, known as hypomagnesaemia that causes many diseases such as osteoporosis, diabetes, and heart disease [6,7]. Currently, magnesium deficiency can be overcome by increase of magnesium concentration in diet or through oral supplements. Nevertheless, in oral supplement of magnesium, the dissolution, absorption, bioavailability, and permeability plays a major role. It was reported that dissolution and bioavailability of minerals are closely related to its crystal structure, crystallite size, and physical properties such as particle size and surface area [8]. Recently, dissolution, absorption and bioavailability of magnesium is improved by using various kind of magnesium-salts such as magnesium oxide, magnesium chloride, magnesium sulphate, and magnesium citrate [9,10]. Besides this, magnesium is also utilized in synthesis of Grignard reagent, which is primarily responsible for the formation of carbon-carbon bonds, carbon-silicon bonds, carbon-boron bonds, carbon-phosphorus bonds in synthesis of various pharmaceutical products [11]. After considering the vast importance of magnesium in life of living organisms, authors wish to investigate an economically safe approach that could be beneficial to modify the atomic and physical properties of magnesium powder.

In physics, the energy is considered as the ability to do work; which fundamentally interrelates with matter as $E=mc^2$ (Einstein's famous equation). However the energy can be considered as a field of force which effectively interacts with any matter at a distance and cause action. Researchers have confirmed that bio magnetic fields are present around human body, which have been evidenced by electromyography (EMG), electrocardiography (ECG) and electroencephalogram (EEG) [12]. Scientists have postulated that it is due to the flow of bioelectricity (generated from heart, brain functions or due to the motion of charged particles such as protons, electrons, and ions) in the human body. As per the basic fundamental law in physics, when an electrical signal passes through any material, a magnetic field is generated in the surrounding space [13]. Hence, a magnetic field is created along with the bioelectricity in human body, known as bio magnetic field. Due to this, a human has ability to harness the energy from environment/universe and can transmit into any object (living or non-living) around the Globe. The object(s) always receive the energy and responded into useful way that is called biofield energy. This process is termed as biofield treatment. Mr. Trivedi's biofield treatment is known as Trivedi Effect'. Mr. Trivedi's biofield treatment is known to alter the physical, structural and atomic level in various metals [14-16] and ceramics [17,18] in material science. Additionally, biofield treatment has significantly studied in the field of microbiology [19-21], biotechnology [22,23], and agriculture [24-26]. Recently, it was reported that biofield treatment had increased the particle size by six fold and enhanced the crystallite size by two fold in zinc powder [27]. In another report,

*Corresponding author: Snehasis Jana, Trivedi Science Research Laboratory Pvt. Ltd., Hall-A, Chinar Mega Mall, Chinar Fortune City, Hoshangabad Rd., Bhopal- 462026, Madhya Pradesh, India, Tel: +91-755-6660006; Email: publication@trivedisrl.com

Received July 29, 2015; Accepted August 03, 2015; Published August 12, 2015

Citation: Trivedi MK, Tallapragada RM, Branton A, Trivedi D, Nayak G, et al. (2015) Potential Impact of Biofield Treatment on Atomic and Physical Characteristics of Magnesium. Vitam Miner 3: 129. doi:10.4172/2376-1318.1000129

Copyright: © 2015 Trivedi MK, et al., This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

biofield treatment has shown the significant effect in carbon allotropes, where the unit cell volume was decrease by 1% and crystallite size was increased by 100% [28]. Based on the outstanding result achieved by biofield treatment on metals and ceramics, an attempt was made to evaluate the effect of biofield treatment on atomic and physical properties of magnesium powder.

Experimental

The magnesium powder was purchased from MEPCO, India. The sample was equally divided into two parts, considered as control and treated. Treated group was in sealed pack and handed over to Mr. Trivedi for biofield treatment under laboratory condition. Mr. Trivedi provided the biofield treatment through his energy transmission process to the treated group without touching the sample. The control and treated samples were characterized using X-ray diffraction (XRD), surface area analyzer, and particle size analyzer at different time periods.

X-ray diffraction study

XRD analysis of control and treated magnesium powder was carried out on Phillips, Holland PW 1710 X-ray diffractometer system, which had a copper anode with nickel filter. The radiation of wavelength used by the XRD system was 1.54056Å. The data obtained from this XRD were in the form of a chart of 2θ vs. intensity and a detailed table containing peak intensity counts, d value (Å), peak width (θ°), relative intensity (%) etc. Additionally, PowderX software was used to calculate lattice parameter and unit cell volume of magnesium powder samples.

Weight of the unit cell was calculated as, atomic weight multiplied by the number of atoms present in a unit cell. Density of the unit cell was computed as follows:

$$\text{Density} = \frac{\text{Weight of unit cell}}{\text{Volume of unit cell}}$$

Atomic Weight = [(Number of total proton × mass of proton) + (Number of total neutron × mass of neutron) + (Number of total electron × mass of electron)]

Atomic weight in g/mol was calculated as multiplying the atomic weight by the Avogadro number (6.023 × 10²³). Total nuclear charge was calculated as the number of protons multiplied by charge on a proton (1.6 × 10⁻¹⁹C). Nuclear charge per unit volume was computed as follow:

$$\text{Nuclear charge per unit volume} = \frac{\text{Total nuclear charge in an atom}}{\text{Volume of an atom}}$$

The crystallite size (G) was calculated by using formula:

$$G = k\lambda / (b \cos\theta),$$

Here, λ is the wavelength of radiation used, b is full width half maximum (FWHM) and k is the equipment constant (0.94). Furthermore, the percent change in the lattice parameter was calculated using following equation:

$$\% \text{ change in lattice parameter} = \frac{[A_{\text{Treated}} - A_{\text{control}}]}{A_{\text{control}}} \times 100$$

Where A_{Control} and A_{Treated} are the lattice parameter of treated and control samples respectively. Similarly, the percent change in all other parameters such as unit cell volume, density, atomic weight, nuclear charge per unit volume and crystallite size were calculated.

Surface area analysis

The surface area was measured by the Surface area analyzer, Smart SORB 90 based on Brunauer–Emmett–Teller (BET), which had a detection range of 0.20–1000 m²/g. Percent changes in surface area were calculated using following equation:

$$\% \text{ change in surface area} = \frac{[S_{\text{Treated}} - S_{\text{control}}]}{S_{\text{control}}} \times 100$$

Where, S_{Control} and S_{Treated} are the surface area of control and treated samples respectively.

Particle size analysis

Particle size of control and treated magnesium powder was evaluated using, laser particle size analyzer SYMPATEC HELOS-BF, which had a detection range of 0.1–875 μm. The particle size data was collected in the form of a chart of particle size vs. cumulative percentage. Four parameters of particle sizes viz. d₁₀, d₅₀, and d₉₉ (size below which 10%, 50% and 99% particles are present, respectively) were calculated from the particle size distribution curve. The percent change in particle size was calculated using following equation:

$$\% \text{ change in particle size, } d_{10} = \frac{[(d_{10})_{\text{Treated}} - (d_{10})_{\text{control}}]}{(d_{10})_{\text{control}}} \times 100$$

Where, (d₁₀)_{Control} and (d₁₀)_{Treated} are the particle size, d₁₀ of control and treated samples respectively. Similarly, the percent change in particle size d₅₀ and d₉₉ were calculated.

Results and Discussion

X-ray diffraction (XRD)

XRD results of control and treated magnesium samples are presented in Table 1. It was found that that lattice parameter of unit cell was slightly increased by 0.08, 0.07, 0.05 % on day 7, 41, and 63 respectively as compared to control. The increase in lattice parameter leads to increase the unit cell volume by 0.16, 0.13, and 0.09% on day 7, 41 and 63 respectively as compared to control. While the density was reduced by 0.16, 0.13 and 0.09% on day 7, 41 and 63 respectively as compared to control (Figure 1). The decrease in density could be due to increase in unit cell volume in magnesium powder after biofield treatment. Furthermore, data exhibited that atomic weight of treated magnesium was increased by 0.16, 0.13, and 0.09% on day 7, 41, and 63 respectively as compared to control. In addition, nuclear charge per unit volume was reduced by 0.24, 0.20, and 0.14% on day 7, 41, and 63 respectively as compared to control (Figure 2). It was previously reported that biofield treatment has altered the atomic weight and

Group	Lattice parameter (Å)	Unit cell volume (×10 ⁻²³ cm ³)	Density (g/cc)	Atomic weight (g/mol)	Nuclear Change per unit volume (C/cm ³)	Crystallite size (nm)
Control, Day 0	3.2094	4.6525	1.7275	24.205	110892.80	87.16
Treated, Day 7	3.2120	4.6600	1.7248	24.244	110625.20	72.60
Treated, Day 41	3.2115	4.6586	1.7253	24.237	110675.07	72.60
Treated, Day 63	3.2109	4.6568	1.7260	24.228	110739.24	62.23

Table 1: X-ray diffraction analysis of magnesium powder.

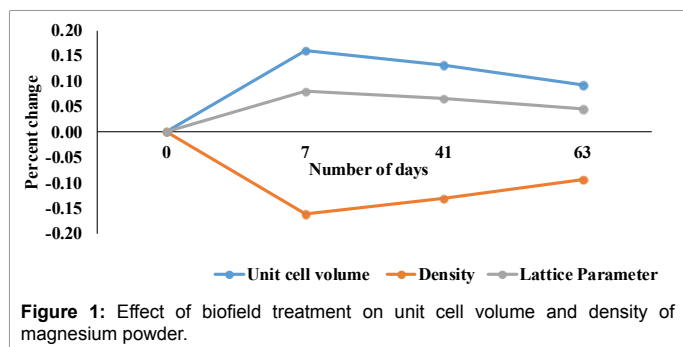


Figure 1: Effect of biofield treatment on unit cell volume and density of magnesium powder.

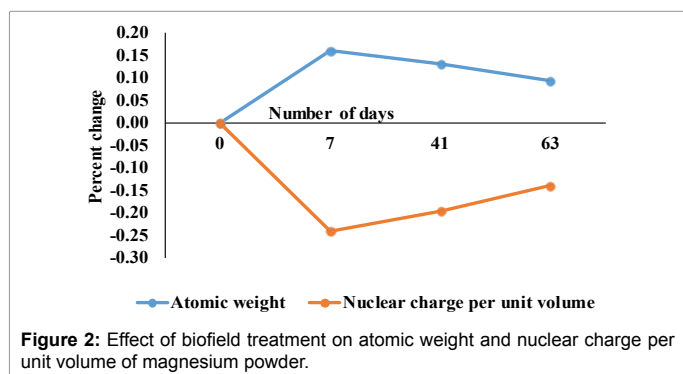


Figure 2: Effect of biofield treatment on atomic weight and nuclear charge per unit volume of magnesium powder.

nuclear charge per unit volume in iron, zinc and copper [27,28]. The change in atomic weight and nuclear charge per unit volume indicates that number of protons and neutron probably altered after biofield treatment. It could be possible if a weak reversible nuclear level reaction occurred in treated magnesium after biofield treatment. Thus, it is assumed that biofield treatment probably transferred the energy to magnesium atoms and that might cause these alteration at nuclear level [29]. Besides this, the crystallite sizes of control and treated magnesium powder were computed using Scherrer formula and presented in Table 1. Data showed that the crystallite size was decreased from 87.16 (control) to 72.60, 72.60, and 62.23 nm in treated magnesium sample on day 7, 41, and 63, respectively. It suggests that crystallite size of treated magnesium powder was significantly reduced by 16.70, 16.70, and 28.60% on day 7, 41, and 63, respectively as compared to control (Figure 3). It was previously reported that biofield treatment has reduced the crystallite size in cobalt (Co), manganese (Mn), and titanium (Ti) [27]. Moreover, the existence of severe lattice strains in treated magnesium are evidenced by the change in unit cell volume (Figure 1). Thus, it is assumed that presence of these internal strains may lead to fracture the grains into sub grains and decrease the crystallite size. Furthermore, it is demonstrated that the rate of dissolution may also be altered by choosing a suitable polymorph of a compound, which has low crystallinity or high amorphous phase and hence exhibits higher solubility [30]. Torrado *et al.* reported that solids with small crystallite size exhibits faster dissolution rate as compared to solids with higher crystallite size [31]. Thus, it is hypothesized that biofield treated magnesium powder may exhibit the higher dissolution rate as compared to control.

Surface area analysis

Surface area analysis of magnesium powder is illustrated in Table 2 and Figure 4. Data showed that surface area of treated magnesium powder was increased from 0.30 m²/g (control) to 0.41 and 0.33 m²/g on day 6 and 72 respectively, whereas it was decreased to 0.20 m²/g on day 92 as compared to control (Table 2). This indicates that surface

area of treated magnesium powder was increased by 36.5 and 10.72% on day 6 and 72 respectively, whereas it was decreased by 32.77% on day 92 as compared to control (Figure 4). Our group previously reported that biofield treatment has significantly increased the surface area in zirconium oxide [32]. Besides, Noyes-Whitney proposed the relationship between rate of dissolution (R) and surface area (S) of a solid as following [33]:

$$R = \frac{D S (C_s - C)}{L}$$

Where, D is diffusion constant, C_s and C are the concentration in the bulk dissolution medium and diffusion layer surrounding the solid, respectively, L is diffusion layer thickness. Thus, Noyes-Whitney equation, inferred that the rate of dissolution may be modified primarily by altering the surface area of the solid. Hence, it is assumed that biofield treated magnesium powder, having higher surface area may exhibit higher rate of dissolution as compared to control. This higher dissolution of a mineral in the human gastric fluid, make it easily available for absorption in the body, which may results into higher bioavailability as compared to control.

Particle size analysis

The effect of biofield treatment on particle sizes d₁₀ and d₅₀ was analyzed and results are presented in Table 3 and Figure 5. Data showed that smaller particle size d₁₀, was changed from 89.75 μm (control) to 79.79, 137.87, 83.69 and 76.79 μm in treated magnesium powder on day 10, 75, 80, and 98, respectively (Table 3). It indicates that d₁₀ in treated sample was reduced by 11.09% on day 10 as compared to control, which might be responsible for increase in surface area. Our group previously reported that biofield treatment has induced energy milling in metal powder, which fractured the titanium and chromium powder [27]. Thus, it is hypothesized that reduction in particle size in magnesium powder could be due to energy milling induced through biofield treatment. Further, d₁₀ was increased by 53.61% as compared

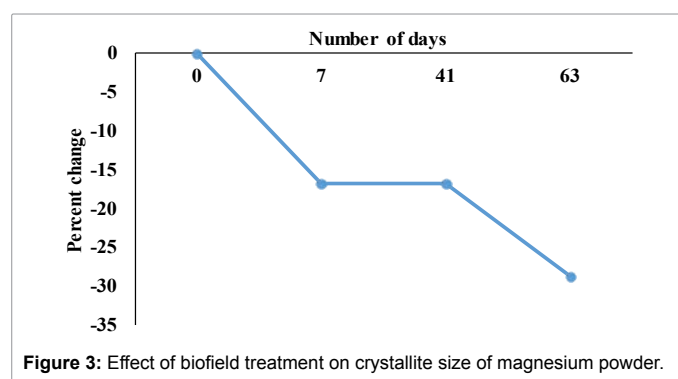


Figure 3: Effect of biofield treatment on crystallite size of magnesium powder.

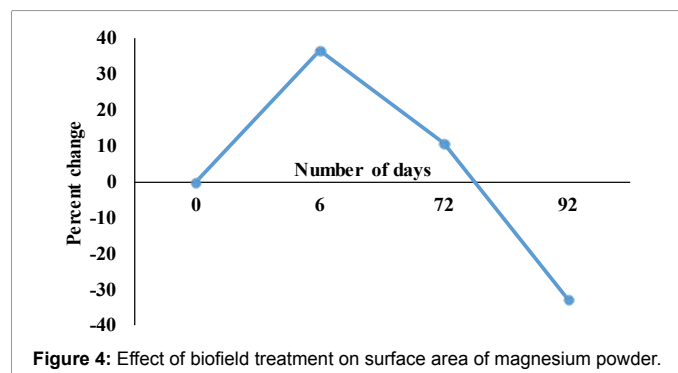


Figure 4: Effect of biofield treatment on surface area of magnesium powder.

Group	Surface Area (m ² /g)
Control, Day 0	0.2975
Treated, Day 6	0.4061
Treated, Day 72	0.3294
Treated, Day 92	0.2000

Table 2: Surface area analysis of magnesium powder.

Groups	d ₁₀ (µm)	d ₅₀ (µm)	d ₉₉ (µm)
Control, Day 0	89.75	256.7	501.5
Treated, Day 10	79.79	260.7	502.3
Treated, Day 75	137.87	290.5	500.1
Treated, Day 80	83.69	261.5	498.4
Treated, Day 98	76.79	252.6	498.9

d₁₀, d₅₀, and d₉₉, size below which 10, 50, and 99% particles are present, respectively

Table 3: Particle size analysis of magnesium powder.

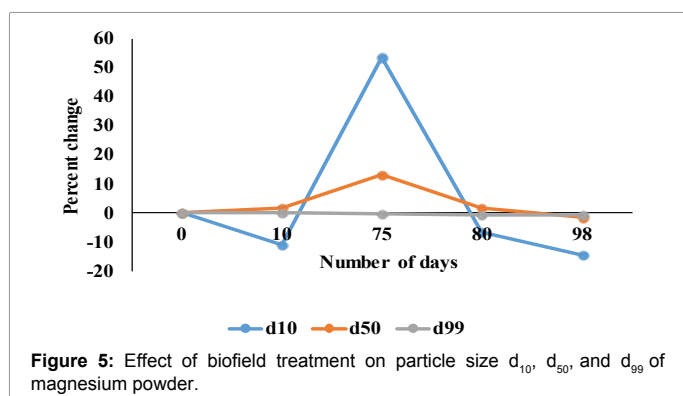


Figure 5: Effect of biofield treatment on particle size d₁₀, d₅₀, and d₉₉ of magnesium powder.

to control on day 75. It is possible that fresh surface generated through fracturing, possibly welded with each other and increased particle size [16]. Furthermore, d₁₀ was reduced by 6.75 and 14.44% on day 80 and 98 respectively as compared to control. In addition, average particle size, d₅₀ was changed from 256.7 µm (control) to 260.7, 290.5, 261.5, and 252.6 µm in treated magnesium powder on day 10, 75, 80, and 98, respectively. It suggests that d₅₀ was increased by 0.16, 13.17, and 1.87% powder on day 10, 75, and 80 respectively, whereas it was slightly decreased by 1.59% as compared to control on day 98 (Figure 5). In addition, larger particle size d₉₉ was reduced from 501.5 µm (control) to 502.3, 500.1, 498.4, and 498.9 µm in treated magnesium powder on day 10, 75, 80, and 98, respectively (Table 3). It suggests that d₉₉ was not significantly changed after biofield treatment. Thus, the particle size data suggest that medium (d₅₀) and smaller (d₁₀) size particles were more affected through biofield treatment as compared to large (d₉₉) particles. It was previously reported that biofield treatment has significantly altered the particle size in aluminium [15] and zinc powder [27]. Moreover, it is well established fact that particle size and surface area are having inverse relationship *i.e.* smaller the particle size, the larger the surface area. The increase in surface area on day 6 (Figure 4) can be correlated to reduction in particle size of smaller particles (d₁₀) on day 10 (Figure 5). Further, data showed that on day 72 surface area reduces up to 0.33 m²/g as compared to 0.41 m²/g *i.e.* found on day 6, which may be due to increase in particle size d₁₀ and d₅₀. Furthermore, the reduction in particle size (after day 75) and surface area (after day 72) is contrary. It is possible that the fresh surfaces of the particles obtained after fracture got oxidized and which probably results into low surface area as compared to control [34]. Therefore, particle size and surface area result suggest that biofield treatment has

altered the physical properties of magnesium powder.

Conclusion

In summary, the biofield treatment has significantly altered the atomic and physical properties of magnesium powder. XRD data revealed that biofield treatment has increased the unit cell volume and atomic weight up to 0.16% and reduced the nuclear charge per unit volume up to 0.24%, as compared to control. The crystallite size of treated magnesium was significantly reduced up to 28.59% as compared to control. It is assumed that the internal strain induced by biofield treatment may fracture the crystallite and reduced crystallite size. Besides, the surface area of treated magnesium was increased up to 36.5% as compared to control. It is assumed that higher surface area and lower crystallite size in treated magnesium might exhibits the higher dissolution rate in human gastric fluid and may lead to increase the bioavailability of magnesium ions in the body.

Acknowledgement

Authors gratefully acknowledged to Dr. Cheng Dong of NLSC, Institute of Physics, and Chinese academy of Sciences for providing the facilities to use PowderX software for analyzing XRD data. Authors also would like to thank Trivedi science, Trivedi master wellness and Trivedi testimonials for their support during the work.

References

- Erdman JW (2012) Present knowledge in nutrition. (10thedn). John Wiley & Sons.
- Maria-Jose M (2008) Chlorophylls – from functionality in food to health relevance. 5th pigments in food congress- for quality and health. University of Helsinki.
- Fine KD, Ana CAS, Porter JL, Fordtran JS (1991) Intestinal absorption of magnesium from food and supplements. *J Clin Invest* 88: 396-402.
- Gums JG (2004) Magnesium in cardiovascular and other disorders. *Ame J Health Syst Pharm* 61: 1569-1576.
- Purvis JR, Movahed A (1992) Magnesium disorders and cardiovascular diseases. *Clin Cardiol* 5: 556-568.
- Sales CH, Lde FP (2006) Magnesium and diabetes mellitus: their relation. *Clin Nutr* 25: 554-562.
- Guerrero-Romero F, Rodriguez-Moran M (2006) Hypomagnesemia, oxidative stress, inflammation, and metabolic syndrome. *Diabetes Metab Res Rev* 22: 471-476.
- Cheroson R (2009) Bioavailability, bioequivalence, and drug selection. In: Makoid CM, Vuchetich PJ, Banakar UV (eds) *Basic pharmacokinetics* (1stedn) Pharmaceutical Press, London.
- Herbert K, Thomas W, Peter M, Harald A, Klaus H, et al. (1998) Magnesium sulfate reduces intra- and postoperative analgesic requirements. *AnesthAnalg* 87: 206-210.
- Gurley BJ, Wang P, Gardner SF (1998) Ephedrine-type alkaloid content of nutritional supplements containing *Ephedra sinica* (ma-huang) as determined by high performance liquid chromatography. *J Pharm Sci* 87: 1547-1553.
- Maruyama K, Katagiri T (1989) Mechanism of the Grignard reaction. *J Phys Org Chem* 2: 205-213.
- Zahra M, Farsi M (2009) Biofield therapies: Biophysical basis and biological regulations. *Complement Ther Clin Pract* 15: 35-37.
- Maxwell JC (1865) A dynamical theory of the electromagnetic field. *Phil Trans R SocLond* 155: 459-512.
- Trivedi MK, Patil S, Tallapragada RM (2012) Thought intervention through biofield changing metal powder characteristics experiments on powder characteristics at a PM plant. *Future Control and Automation LNEE* 173: 247-252.
- Trivedi MK, Patil S, Tallapragada RM (2015) Effect of biofield treatment on the physical and thermal characteristics of aluminium powders. *Ind Eng Manage* 4: 151.
- Trivedi MK, Patil S, Tallapragada RM (2013) Effect of biofield treatment on the

- physical and thermal characteristics of silicon, tin and lead powders. *J Material Sci Eng* 2: 125.
17. Trivedi MK, Patil S, Tallapragada RM (2013) Effect of biofield treatment on the physical and thermal characteristics of vanadium pentoxide powder. *J Material Sci Eng* S11: 001.
 18. Trivedi MK, Nayak G, Patil S, Tallapragada RM, Latiyal O (2015) Studies of the atomic and crystalline characteristics of ceramic oxide nano powders after biofield treatment. *Ind Eng Manage* 4: 161.
 19. Trivedi MK, Patil S, Shettigar H, Gangwar M, Jana S (2015) Antimicrobial sensitivity pattern of *Pseudomonas fluorescens* after biofield treatment. *J Infect Dis Ther* 3: 222.
 20. Trivedi MK, Patil S, Shettigar H, Bairwa K, Jana S (2015) Phenotypic and biotypic characterization of *Klebsiella oxytoca*: An impact of biofield treatment. *J Microb Biochem Technol* 7: 203-206.
 21. Mahendra KT, Shrikant P, Harish S, Mayank G, Jana S (2015) An effect of biofield treatment on Multidrug-resistant *Burkholderia cepacia*: A multihost pathogen. *J Trop Dis* 3: 167.
 22. Patil S, Nayak GB, Barve SS, Tembe RP, Khan RR (2012) Impact of biofield treatment on growth and anatomical characteristics of *Pogostemon cablin* (Benth). *Biotechnology* 11: 154-162.
 23. Altekar N, Nayak G (2015) Effect of biofield treatment on plant growth and adaptation. *J Environ Health Sci* 1: 1-9.
 24. Shinde V, Sances F, Patil S, Spence A (2012) Impact of biofield treatment on growth and yield of lettuce and tomato. *Aust J Basic Appl Sci* 6: 100-105.
 25. Lenssen AW (2013) Biofield and fungicide seed treatment influences on soybean productivity, seed quality and weed community. *Agricultural Journal* 8: 138-143.
 26. Sances F, Flora E, Patil S, Spence A, Shinde V (2013) Impact of biofield treatment on ginseng and organic blueberry yield. *Agrivita J Agric Sci* 35.
 27. Trivedi MK, Tallapragada RM (2008) A transcendental to changing metal powder characteristics. *Met Powder Rep* 63: 22-28, 31.
 28. Trivedi MK, Tallapragada RM (2009) Effect of superconsciousness external energy on atomic, crystalline and powder characteristics of carbon allotrope powders. *Mater Res Innov* 13: 473-480.
 29. Narlikar JV (1993) Introduction to cosmology. (2nd edn), Jones and Bartlett Inc., Cambridge University Press.
 30. Raza K, Kumar P, Ratan S, Malik R, Arora S (2014) Polymorphism: The phenomenon affecting the performance of drugs. *SOJ Pharm Pharm Sci* 1: 10.
 31. Torrado G, Fraile S, Torrado S, Torrado S (1998) Process-induced crystallite size and dissolution changes elucidated by a variety of analytical methods. *Int J Pharm* 166: 55-63.
 32. Trivedi MK, Patil S, Tallapragada RM (2014) Atomic, crystalline and powder characteristics of treated zirconia and silica powders. *J Material Sci Eng* 3: 144.
 33. Dokoumetzidis A, Macheras P (2006) A century of dissolution research: From Noyes and Whitney to the biopharmaceutics classification system. *Int J Pharm* 321: 1-11.
 34. Dhabade VV, Tallapragada RM, Trivedi MK (2009) Effect of external energy on atomic, crystalline and powder characteristics of antimony and bismuth powders. *Bull Mater Sci* 32: 471-479.

Citation: Trivedi MK, Tallapragada RM, Branton A, Trivedi D, Nayak G, et al. (2015) Potential Impact of Biofield Treatment on Atomic and Physical Characteristics of Magnesium. *Vitam Miner* 3: 129. doi:[10.4172/2376-1318.1000129](https://doi.org/10.4172/2376-1318.1000129)

Submit your next manuscript and get advantages of OMICS Group submissions

Unique features:

- User friendly/feasible website-translation of your paper to 50 world's leading languages
- Audio Version of published paper
- Digital articles to share and explore

Special features:

- 400 Open Access Journals
- 30,000 editorial team
- 21 days rapid review process
- Quality and quick editorial, review and publication processing
- Indexing at PubMed (partial), Scopus, EBSCO, Index Copernicus and Google Scholar etc
- Sharing Option: Social Networking Enabled
- Authors, Reviewers and Editors rewarded with online Scientific Credits
- Better discount for your subsequent articles

Submit your manuscript at: <http://omicsgroup.info/editorialtracking/vitamins/>