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Consciousness Energy Healing Treatment and its Impact on Physicochemical and Thermal Properties of Tellurium

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Abstract

Tellurium is a chemical element, which known to have many industrial applications, i.e., manufacturing of semiconductor, metal alloys, etc. The objective of this study was to evaluate the impact of the Trivedi Effect®-Consciousness Energy Healing Treatment on the physicochemical and thermal properties of tellurium powder using modern analytical techniques. Tellurium powder sample was divided into two parts; one part of tellurium was considered as a control sample, while second part received the Trivedi Effect®-Consciousness Energy Healing Treatment remotely by a renowned Biofield Energy Healer, Alice Branton and termed as a Biofield Energy Treated sample. The PXRD peak intensities and crystallite sizes of the treated tellurium were significantly altered ranging from -51.33 to 27.78% and -40.96% to 69.75%, respectively compared to the control sample. However, the average crystallite size of the treated sample was significantly decreased by 5.24% compared with the control sample. The particle size values in the treated tellurium were significantly altered by -14.1% (d_{10}), -3.98% (d_{50}), 0.73% (d_{90}) and -1.94% {D(4,3)} compared to the control sample. Therefore, the specific surface area of the treated tellurium powder was significantly increased by 11% compared with the control sample. The total weight loss was significantly decreased by 32.28%; however, the residual amount was significantly increased by 12.23% in the treated tellurium compared with the control sample. The maximum thermal degradation temperature of the treated sample was increased by 2.56% compared with the control sample. The results concluded that the Trivedi Effect®-Consciousness Energy Healing Treatment might have generated a new polymorphic form of tellurium, which would be better soluble in solvents and thermally more stable compared with the untreated sample. The Biofield Energy Treated tellurium would be very useful for the industrial applications, i.e., metal alloys, cadmium telluride solar panels, pigments for ceramics, glass optical fibers for telecommunications, vulcanization of rubber, blasting caps, tellurite agar to identify members of the Corynebacterium genus, catalysts for the heterogeneous reactions, production of iodine-131 by neutron bombardment, etc.

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

Introduction

Tellurium (Te) is a chemical element, far more common in the universe as a whole than on earth. It has two allotropic forms, crystalline and amorphous. The crystalline form is silvery-white with a metallic luster, brittle and can be easily pulverized. However, the amorphous form is black-brown powder [1]. Due to its greater electrical conductivity, tellurium is used as a semiconductor, and its conductivity increased when exposed to light [2]. Naturally tellurium has eight isotopes (^{120}Te, ^{122}Te, ^{123}Te, ^{124}Te, ^{125}Te, ^{126}Te, ^{128}Te and ^{130}Te). The biological function of tellurium not been established properly, but some of the organism like fungi utilize it in place of sulfur and selenium into amino acids such as telluro-cysteine and telluro-methionine [3]. Many bacteria, such as *Pseudomonas aeruginosa* and yeast use it for a different purpose [4,5]. Tellurium have many industrial applications, i.e., metallurgy (in iron, stainless steel, copper, and lead alloys), cadmium telluride (CdTe) solar panels, pigments for ceramics, glass optical fibers for telecommunications, vulcanization of rubber, blasting caps, tellurite agar to identify members of the Corynebacterium genus *(Corynebacterium diphtheriae)*, catalysts for the heterogeneous reactions, production of iodine-131 by neutron bombardment, etc. [6-11]. Tellurium accumulation in the body seems to account for the toxicity effects. Humans on exposed to as little as 0.01 mg/m3 or less in air exude a foul garlic-like odor called "tellurium breath" [1]. Tellurium is insoluble in hot & cold water, hydrochloric acid; soluble in nitric acid, aqua regia, potassium cyanide, potassium hydroxide, sulfuric acid.

Intrinsic physicochemical properties of any substance play a crucial role in the manufacturing and other industrial purposes. It was experimentally found that Biofield Energy Healing Treatment (the Trivedi Effect®) has the significant impact on various properties such as particle size, surface area, and other chemical and thermal properties of many substances [13-15]. The Trivedi Effect® is a

natural and only scientifically proven phenomenon in which a person can harness this inherently intelligent energy and transmit it anywhere on the planet through the possible mediation of neutrinos [16]. A unique energy field exists surrounding the every living organism's body known as Biofield Energy, which is infinite, para-dimensional electromagnetic field. Biofield (Putative Energy Fields) based Energy Healing Therapies have been reported to have significant outcomes against various disease conditions [17]. National Institute of Health/National Center for Complementary and Alternative Medicine (NIH/NCCAM) recommend and included the Energy therapy under Complementary and Alternative Medicine (CAM) category that has been accepted by the 62% of the U.S. population with several advantages [18,19]. The significant impact of the Trivedi Effect®-Consciousness Energy Healing Treatment on the non-living and living object(s) have been widely reported with scientifically experimental data, i.e., metals and ceramic [13,20-22], organic compounds [23,24], nutraceuticals [25,26], pharmaceuticals [27,28], cancer cells [29,30], microorganisms [31,32], and crops [33,34]. Therefore, this study was designed to determine the impact of the Trivedi Effect®-Consciousness Energy Healing Treatment on the physicochemical, and thermal properties of tellurium using powder X-ray diffraction (PXRD), particle size analysis (PSA), and thermogravimetric analysis (TGA)/ Differential thermogravimetric analysis (DTG).

Materials and Methods

Chemicals and Reagents

The test sample tellurium powder (99.8%) was purchased from Sigma Aldrich, USA, and other chemicals used during the experiments were purchased in India.

Consciousness Energy Healing Treatment Strategies

The test sample tellurium powder was divided into two parts. One part of tellurium sample received no Biofield Energy Treatment and considered as a control sample. However, the second part received the Trivedi Effect®-Consciousness Energy Healing Treatment remotely under standard laboratory conditions for 3 minutes by the famous Biofield Energy Healer, Alice Branton, USA, and known as the treated tellurium sample. Further, the control sample has received treatment from a "sham" healer, where the sham healer did not have any knowledge about the Biofield Energy Treatment. After that, both the samples were kept in sealed conditions and characterized using PXRD, PSA, and TGA/DTG analytical techniques.

Characterization

The PXRD analysis of tellurium sample was achieved with the help of Rigaku MiniFlex-II Desktop X-ray diffractometer (Japan) [35,36]. The average crystallite size was calculated using the Scherrer's formula (1)

$$G = k\lambda/\beta\cos\theta \quad (1)$$

Where G = crystallite size (nm), k = dimensionless shape factor, λ = radiation wavelength, β = full-width half maximum, and θ = Bragg angle [37].

The PSD analysis was performed with the help Malvern Mastersizer 2000, from the UK using the wet method. Similarly, the TGA/DTG was performed with the help of TGA Q50 TA instruments in nitrogen gas environment [38,39].

The % change in peak intensity, crystallite size, specific surface area (SSA), particle size, weight loss and the maximum thermal degradation temperature (T_{max}) of the Biofield Energy Treated tellurium was calculated compared with the control sample using the following equation 2:

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

Results and Discussion

Powder X-ray Diffraction (PXRD) Analysis

The PXRD analysis of the control and Biofield Energy Treated tellurium powder showed sharp and intense peaks in the diffractograms (Figure 1) indicated that both the samples were crystalline. The PXRD diffractograms of the control and Biofield Energy Treated samples showed the highest peak intensity at 2θ equal to 27.7° (Table 1, entry 3). The peak intensities of the Biofield Energy Treated tellurium were altered ranging from -51.33 to 27.78% compared with the control sample. The crystallite sizes of the treated sample were significantly altered ranging from -40.96% to 69.75% compared to the control sample. However, the average crystallite size of the treated sample was significantly decreased by 5.24% compared with the control sample.

The variations in the crystallite sizes and peak intensities indicated the modification of the crystal morphology of the Biofield Energy Treated tellurium compared to the control sample. The peak intensity of each diffraction face on the crystalline compound changes according to the crystal morphology [40], and alterations in the PXRD pattern indicated the polymorphic transitions [41,42]. Therefore, it was concluded that the Trivedi Effect®-Consciousness Energy Healing Treatment probably produced the new polymorphic form of tellurium through Biofield Energy *via* neutrino oscillation [16]. Different polymorphic forms of a compound have the significant effects on the thermodynamic and physicochemical properties like melting point, energy, stability, and especially solubility, are different from the original form [43,44]. Thus, it can be anticipated that the treated tellurium would be better for industrial applications.

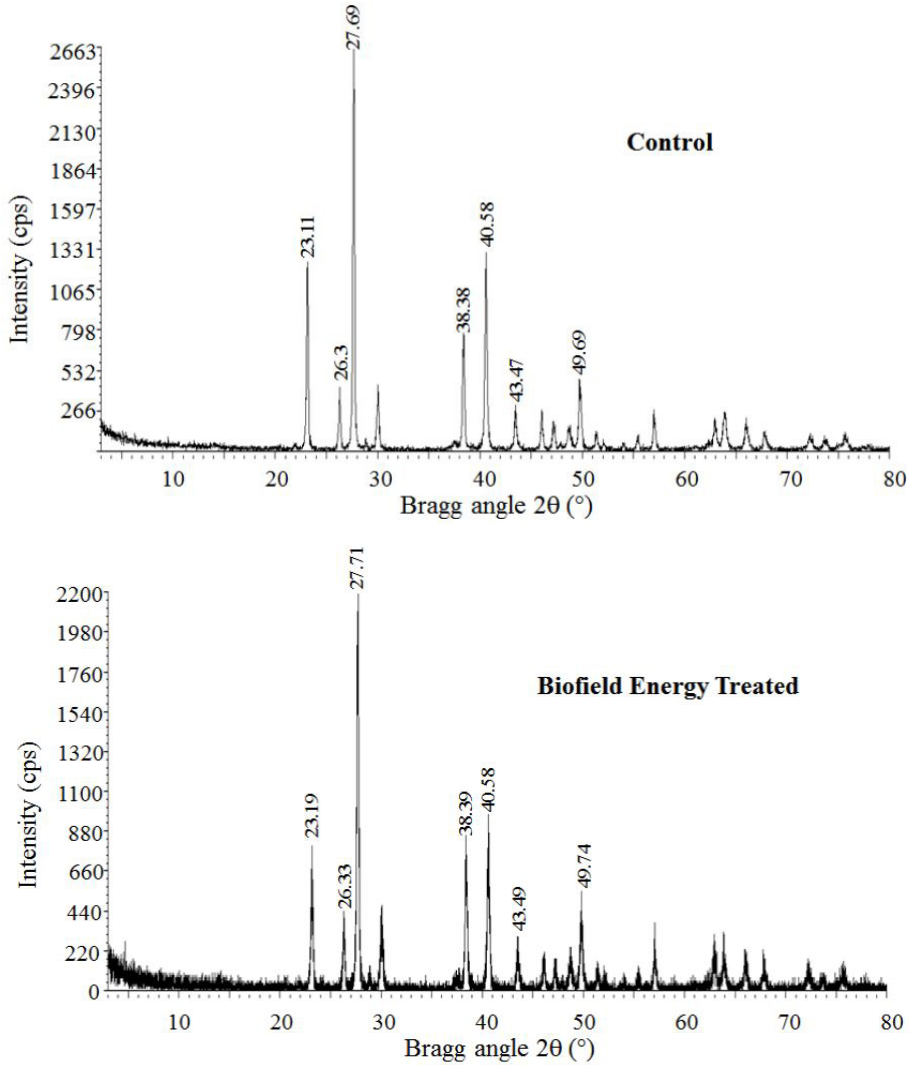

Figure 1: PXRD diffractograms of the control and Biofield Energy Treated tellurium

Entry No.	Bragg angle (°2θ)		Peak Intensity (%)			Crystallite size (G, nm)		
	Control	Treated	Control	Treated	% Change *	Control	Treated	% Change *
1	23.11	23.19	193	106	-45.08	581	343	-40.96
2	26.3	26.33	52	48.4	-6.92	413	375	-9.20
3	27.69	27.71	393	352	-10.43	521	377	-27.64
4	38.38	38.39	149	129	-13.42	485	371	-23.51
5	40.58	40.58	226	148	-34.51	395	332	-15.95
6	43.47	43.49	55	33.8	-38.55	466	430	-7.73
7	47.17	47.19	32	15.8	-50.63	398	507	27.39
8	48.63	48.67	37	32.8	-11.35	290	280	-3.45
9	49.69	49.74	93	77	-17.20	428	364	-14.95
10	52.09	51.4	9	11.5	27.78	813	514	-36.78
11	62.94	62.95	52	44.4	-14.62	367	623	69.75
12	63.82	63.82	76	45.7	-39.87	309	414	33.98
13	65.97	65.97	43	33	-23.26	271	356	31.37
14	67.74	67.79	27.4	24.3	-11.31	488	424	-13.11
15	72.13	72.19	27	18.9	-30.00	272	333	22.43
16	73.68	73.69	15	7.3	-51.33	272	371	36.40
17	Average crystallite size					423.06	400.88	-5.24

**denotes the percentage change in the peak intensity and crystallite size of Biofield Energy Treated sample compared with the control sample.*

Table 1: PXRD data for the control and Biofield Energy Treated tellurium

Particle Size Analysis (PSA)

The particle size distribution analysis data of both the control and Biofield Energy Treated tellurium powder were presented in Table 2. The particle size values in the Biofield Energy Treated tellurium were significantly decreased at d_{10}, d_{50}, and D(4,3) by 14.1%, 3.98%, and 1.94%, respectively compared to the control sample. However, the particle size values in the Biofield Energy Treated tellurium was slightly increased at d_{90} by 0.73% compared to the control sample. The specific surface area of Biofield Energy Treated tellurium powder (0.38 m^2/g) was significantly increased by 11% compared with the control sample (0.342 m^2/g). As per the result, it was assumed that the Trivedi Effect®-Consciousness Energy Healing Treatment might be acting like an external force for breaking the larger particle to smaller particle size; hence increased the surface area of tellurium compared to the control sample. Reducing the particle size of tellurium affect its physicochemical and thermal behaviour. Thus, the treated tellurium might offer better solubility 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	8.10	28.90	74.48	35.74	0.342
Biofield Energy Treated	6.96	27.75	75.02	35.05	0.38
Percent change* (%)	-14.10	-3.98	0.73	-1.94	11.11

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 Biofield Energy Treated sample with respect to the control sample.

Table 2: Particle size distribution of the control and Biofield Energy Treated tellurium

Thermal Gravimetric Analysis (TGA) / Differential Thermogravimetric Analysis (DTG)

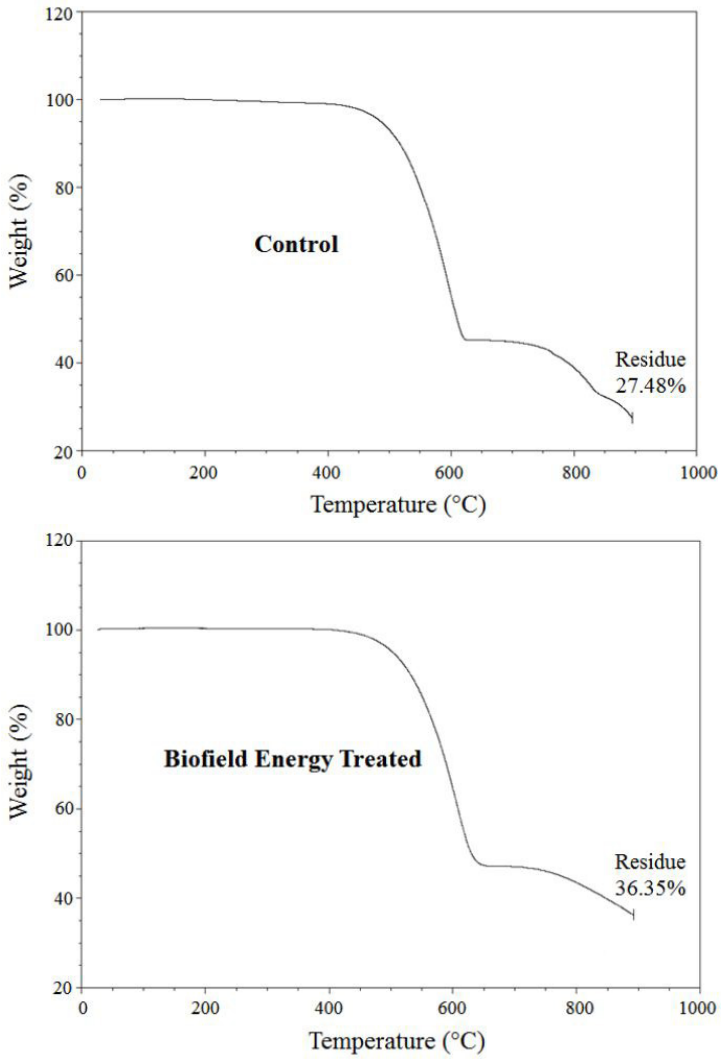

Figure 2: TGA thermograms of the control and Biofield Energy Treated tellurium

Sample	TGA		DTG
	Total weight loss (%)	Residue %	T_{max} (°C)
Control	72.52	27.48	592.28
Biofield Energy Treated	63.65	36.35	607.42
% Change*	-12.23	32.28	2.56

*denotes the percentage change of the Biofield Energy Treated sample with respect to the control sample,

T_{max} = The temperature at which maximum weight loss takes place in TG or peak temperature in DTG.

Table 3: TGA/DTG data of the control and Biofield Energy Treated samples of tellurium

The TGA thermograms of the control and Biofield Energy Treated samples clearly displayed two steps of thermal degradation (Figure 2). The total weight loss in Biofield Energy Treated tellurium was significantly decreased by 32.28% compared with the control sample (Table 3). Therefore, the residue amount was significantly increased by 12.23% in the Biofield Energy Treated tellurium compared to the control sample (Table 3).

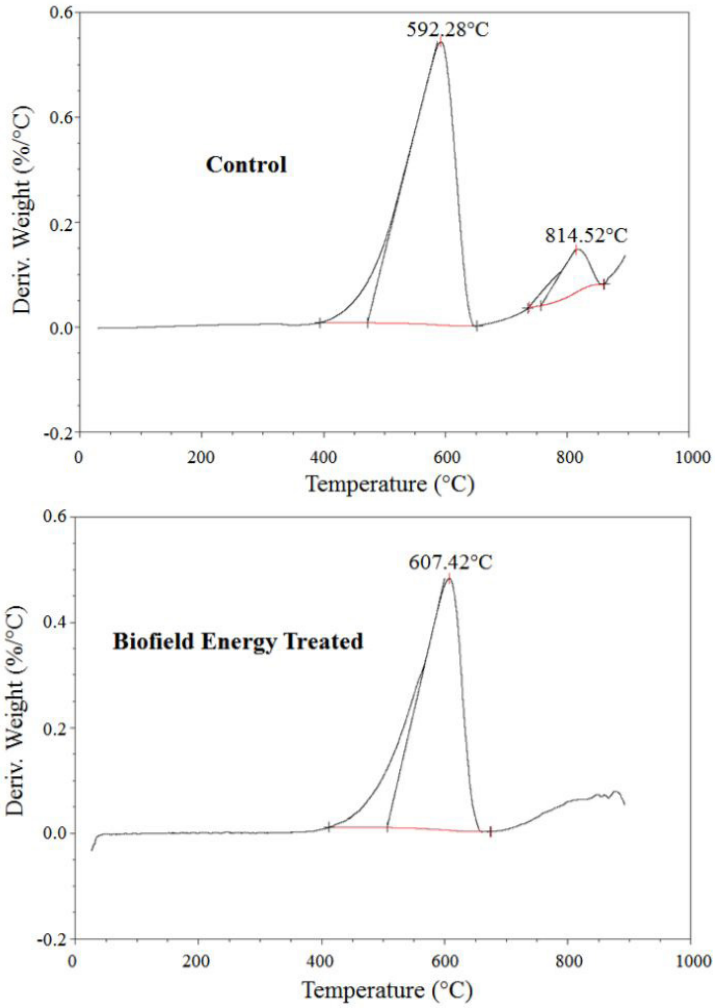

Figure 3: DTG thermograms of the control and Biofield Energy Treated tellurium

The DTG thermogram of the control sample exhibited two peaks, whereas the Biofield Energy Treated tellurium exhibited one peak (Figure 3). The T_{max} of the 1st peak in the Biofield Energy Treated sample was increased by 2.56% compared with the control sample (Table 3). Overall, TGA/DTG revealed that the thermal stability of the Biofield Energy Treated tellurium was significantly improved compared with the control sample.

Conclusion

The Trivedi Effect®-Consciousness Energy Healing Treatment showed significant effects on the peak intensities, crystallite size, particle size, surface area, and thermal properties of tellurium powder. The PXRD peak intensities and crystallite sizes of the Biofield Energy Treated tellurium were significantly altered ranging from -51.33 to 27.78% and -40.96% to 69.75%, respectively compared to the control sample. However, the average crystallite size of the treated sample was significantly decreased by 5.24% compared with the control sample. The particle size values in the Biofield Energy Treated tellurium were significantly altered by -14.1% (d_{10}),

-3.98% (d_{50}), 0.73% (d_{90}) and -1.94% {D(4,3)} compared to the control sample. Therefore, the specific surface area of the Biofield Energy Treated tellurium powder was significantly increased by 11% compared with the control sample. The total weight loss was significantly decreased by 32.28%; however, the residual amount was significantly increased by 12.23% in the Biofield Energy Treated tellurium compared with the control sample. The T_{max} of the Biofield Energy Treated sample was increased by 2.56% compared with the control sample. The Trivedi Effect®-Consciousness Energy Healing Treatment might have generated a new polymorphic form of tellurium which would be better soluble in solvents and thermally more stable compared with the untreated sample. The Trivedi Effect® Treated tellurium would be very useful for the industrial applications, i.e., metallurgy (in iron, stainless steel, copper, and lead alloys), cadmium telluride solar panels, pigments for ceramics, glass optical fibers for telecommunications, vulcanization of rubber, blasting caps, tellurite agar to identify members of the Corynebacterium genus *(Corynebacterium diphtheriae)*, catalysts for the heterogeneous reactions, production of iodine-131 by neutron bombardment, etc.

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