

Full Length Research Paper

Evaluation of The Trivedi Effect[®] - Consciousness Energy Healing Treatment on the Growth and Yield of Plant Stem Cells

Dahryn Trivedi¹, Mahendra Kumar Trivedi¹, Alice Branton¹, Gopal Nayak¹, Snehasis Jana^{2*}

¹Trivedi Global, Inc., Henderson, USA

²Trivedi Science Research Laboratory Pvt. Ltd., Bhopal, India

Corresponding Author's E-mail: publication@trivedisrl.com (S. Jana)

Accepted 1st September, 2018.

This study investigated the effect of the Consciousness Energy Healing (The Trivedi Effect[®]) Treatment on the plant stem callus of Mandukparni (*Centella asiatica*), Katsarika (*Baleria cristata*), and Amla (*Phyllanthus emblica*). Each stem cell callus and MS liquid media were divided into two parts. One part of each was denoted as control. The other part was received the Consciousness Energy Healing Treatment by a renowned Biofield Energy Healer, Dahryn Trivedi and was defined as the Biofield Energy Treated sample. The weight of mandukparni callus was significantly increased by 8.5% in Biofield Energy Treated group (304.5 mg) compared to control group (280.6 mg). Furthermore, weight of katsarika stem cell callus was significantly increased by 38.6% in Biofield Energy Treated group (448.7 mg) compared to control (323.7 mg). The weight of amla stem cell callus was significantly raised by 41.4% in the Biofield Energy Treated group (403 mg) compared to control group (285 mg). Overall, the data suggest that there was a significant growth and yields of plants callus after treatment with the Biofield Energy. Therefore, The Trivedi Effect[®] - Consciousness Energy Healing approach could be useful for the production of more active constituents present in the three plants callus in a cost-effective manner and can be useful for food and dietary supplements, flavoring and coloring agents, cosmetics and fragrance products.

Keywords: Consciousness Energy Healing, The Trivedi Effect[®], *Centella asiatica*, *Barleria cristata*, *Phyllanthus emblica*, Liquid MS media

ABBREVIATIONS

NCCIH: National Center for Complementary and Integrative Health, CAM: Complementary and Alternative Medicine, MS: Liquid Murashige and Skoog medium, NAA: α -naphthaleneacetic acid, IAA: Indole-3-acetic acid, 2,4-D: 2,4-dichlorophenoxyacetic acid, BAP: 6-benzylaminopurine, KIN: Kinetin

INTRODUCTION

The trends of utilizing natural products are increasing nowadays. The use of medicinal plants in most developing countries, for the maintenance of good health and welfare, has been widely noticed (Ji et al. 2009). Further, an increase the use of medicinal plants in the industrialized societies has been related to the development of several drugs and chemotherapeutics from plant species for rural herbal preparation. Human

beings have been utilizing plants for basic preventive and curative health care since time immemorial (Farnsworth and Soejarto, 1991). Plant stem cells may be ranked among the most important cells for human well-being. Research by many labs in the last decades has uncovered a set of independent stem cell systems that fulfill the specialized needs of plant development and growth to human skin as one of the first plant sorts,

which are used in cosmetology and esthetic dermatology (Morus et al. 2014). Considering the importance of plant stem cells callus culture for the production of more active constituents in cost-effective manner authors designed this experiment using three plant stem cells callus viz. mandukparni (*Centella asiatica*), katarsika (*Barleria cristata*) and amla (*Phyllanthus emblica*). *Centella asiatica* Linn. commonly known as mandukparni or brahmi-manduki, is a medicinal herb widely used as a brain tonic. It is also used for the treatment of asthma, bronchitis, dropsy, elephantiasis, gastric catarrh, kidney troubles, leucorrhoea, skin disease and urethritis Kakkar (1988), with antibacterial, anti-feedent, ant-filarial, anti-stress, anti-tuberculosis activities and wound healing properties (Chakraborty et al. 1996; Srivastava et al. 1997). The main active constituent of centella contains asiaticoside and madecassoside belong to triterpenoid (James and Dubery, 2011), and used against Alzheimer's disease by preventing β -amyloid induced cell death (Mathew and Subramanian, 2012). It has also antidepressant and wound healing activities (Kimura et al. 2008). *Barleria cristata* L. plants are used for boils, bee bite, and toothache Ahmed (1990). The plant also has potential antidiabetic (Suba et al. 2004), anti-inflammatory effect (Suba et al. 2002), and antibacterial activity *in vitro* (Shukla et al 2011). Amla is a nutritious and an important dietary source of vitamin C, minerals, and amino acids. A lot of products are prepared from amla fruits to exploit nutritional and medicinal qualities (Mitra and Pathak, 2008). The fruits are used for making pickles, squash, candied fruit, mouth freshener, shampoos, hair dye and hair oils etc. It also possesses antiviral (El-Mekawy et al. 1995), antimicrobial Ahmad (1998), anti-inflammatory, immunostimulant, adaptogenic, hepatoprotective, pancreas-protective and hypolipidemic properties (Nayak et al. 2010).

National Center for Complementary and Integrative Health (NCCIH), allows the use of Complementary and Alternative Medicine (CAM) therapies like Biofield Energy as an alternative treatment in the healthcare sector. About 36% of US citizens are regularly using some form of CAM (Barnes et al. 2004), in their day-to-day life. It is postulated that the Biofield can exist around the human body and evidence was found using electromyography, electrocardiography, and electroencephalogram (Movaffaghi and Farsi, 2009). Thus, a Biofield Energy Healing Practitioner has the significant ability to harness the energy from the environment and can transmit it into any object (living organism or non-living material) around the globe. The object(s) always receives the energy and responds in a useful way that is called "Biofield Energy Treatment". This process is known as "Biofield Energy Healing Treatment". Biofield Energy Healing has been approved as an alternative method that has an impact on various properties of living organisms in a cost-effective manner (Yount et al. 2013; Garland et al. 2013). The Trivedi Effect[®] - unique Biofield Energy Treatment has been

known to alter the response in a wide-spectrum field in living organisms and non-living systems viz. skin health (Meagher et al. 2017; Dodon et al. 2017; Kinney et al. 2017; Singh et al. 2017), materials science (Trivedi and Tallapragada, 2008; Trivedi et al. 2015; Dabhade et al. 2009), agriculture (Sances et al. 2013); Lenssen (2013), microbiology (Trivedi et al. 2015a,b,c) biotechnology (Patil et al. 2012; Nayak and Altekar, 2015). Based on the excellent outcome of the Biofield Energy Treatment, the authors designed this study to investigate the impact of the Biofield Energy Healing treatment on three plant cells callus viz. Centella, Katsarika, and Amla.

MATERIALS AND METHODS

Chemicals and Reagents

Liquid Murashige and Skoog medium (MS) was procured from Sigma, USA. Serological pipettes and T75 culture flask were procured from Thermo Fisher Scientific, USA. Petri dish and 200 μ L tips were purchased from Tarson, USA. All the other chemicals used in this experiment were analytical grade procured from India.

Plant Callus Suspension Culture

Healthy leaflet of the mandukparni (*Centella asiatica*), katarsika (*Baleria cristata*) and amla (*Phyllanthus emblica*) plants were collected inappropriately sized and surface sterilized. Fine cuts were made in the leaf (wound induction) and were cultured on MS (Murashige and Skoog, 1962) basal medium, gelled with agar. The cultures were incubated in a culture room at $25 \pm 2^\circ\text{C}$ with a photoperiod of 16 hours at 3000 lux light intensity provided by cool white fluorescent tubes. After some days, callus induction was observed. Suspension culture was made from the friable creamish calli and was transferred to T75 culture flasks in liquid MS media supplemented with different phytohormones like cytokines, 6-Benzylaminopurine (BAP) with 5.0 mg/L and kinetin (KIN) with 0.5 mg/L concentration) and auxins like α -naphthalene acetic acid (NAA) with 2.0 mg/L and 2,4-dichlorophenoxyacetic acid (2,4-D) with 2.0 mg/L. Following the treatment, the above T-75 flasks were incubated till day 7 in a shaking incubator (120 rpm) under the photoperiod of 16 hours at 3000 lux light intensity provided by cool white fluorescent tubes. The incubation conditions were similar to that of untreated cells. On day 7, the flasks were observed and visualized under phase contrast microscope for monitoring cell growth and photomicrographs were captured at 200X magnification. Wet weight of the callus was also taken after day 7.

Consciousness Energy Healing Treatment Strategies

The aliquots of mandukparni (*Centella asiatica*), katsarika (*Barleria cristata*) and amla (*Phyllanthus emblica*) stem cells callus were cultured in T-75 cell culture flasks and divided into two parts. The control group was treated with sham healer for comparison purpose. The sham healer did not have any knowledge about the Biofield Energy Treatment. Plant callus and MS liquid media were received Biofield Energy Treatment (known as The Trivedi Effect[®] - Energy of Consciousness Treatment) by Dahryn Trivedi under the laboratory conditions for ~5 minutes through the Healer's unique Energy Transmission process remotely. Biofield Energy Healer in this study did not visit the laboratory, nor had any contact with the plant callus and M.S. liquid media. After that, the Biofield Energy Treated and untreated samples were kept in similar conditions.

Experimental Design

The plant callus of *Centella*, *Barleria*, and *Phyllanthus* was divided into two groups. One was the control group and another group was considered as Biofield Energy Treated group. Both the groups were assessed at two-time points viz. at day 0 and day 7 and compared with respect to the respective control group.

RESULTS AND DISCUSSION

The different plant calluses were cultured and received Biofield Energy Treatment (known as The Trivedi Effect[®]). After the Biofield Energy Treatment, the effect of Biofield Energy Healing Treatment on the growth of centella, katsarika and amla callus was observed microscopically at Day 7 and compared the data with day 0, as demonstrated in Figures 1-3.

The effect of Biofield Treatment on Mandukparni (*Centella asiatica*) Callus Growth and Yield

The weight of centella callus in the control group was 280.6 mg and it was significantly increased by 8.5% in the Biofield Energy Treated group (304.5 mg), shown in Table 1. The representative photomicrographs of centella callus growth after seven days of incubation are shown in Figure 1. This improvement of callus weight in the Biofield Energy Treated group could be due to The Trivedi Effect[®] - Consciousness Energy Healing Treatment. Callus from leaf explant of *C. asiatica* is a good source for the production of antimicrobial compounds through bioreactor (Bibi et al. 2001).

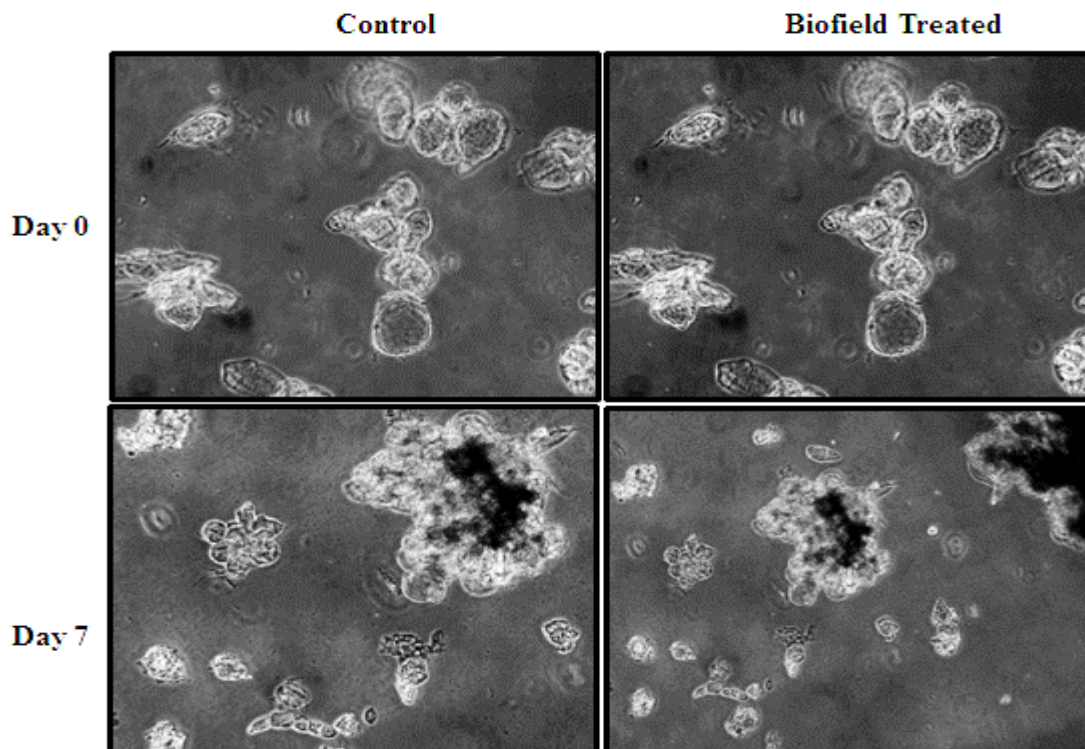


Figure 1: Representative photomicrographs (200X) of mandukparni (*Centella asiatica*) stem cell callus on day 0 and day 7 in control and Biofield Energy Treated groups

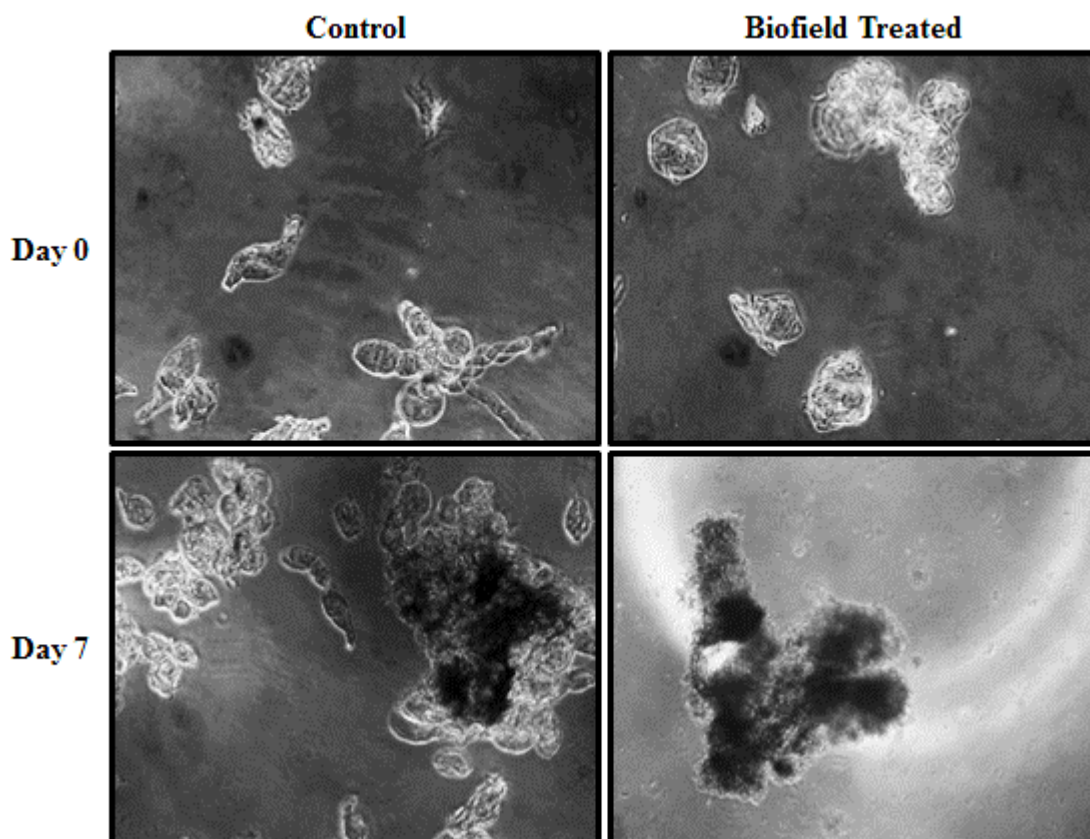


Figure 2: Representative photomicrographs (200X) of Katsarika (*Barleria cristata*) callus on day 0 and day 7 in the untreated and Biofield Energy Treated groups.

Centella asiatica-derived ingredients were used as cosmetic products to the skin and hair (Bylka et al. 2013). It is assumed that the increased callus content after consciousness energy healing treatment to the *Centella asiatica* could be a very cost-effective approach to produce more active constituents as compared to control callus.

The Effect of Biofield Treatment on Katsarika (*Barleria cristata*) Stem Cells Callus

The weight of katsarika (*Barleria cristata*) stem cells callus was significantly increased by 38.6% in the Biofield Energy Treated group (448.7 mg) compared to the control group (323.7 mg), shown in Table 1 and the representative photomicrographs are shown in Figure 2. This improvement of callus weight in the Biofield Energy Treated group might be due to The Trivedi Effect® - Biofield Energy Healing Treatment. The indigenous system of medicine, *Barleria* species is used in stomach disorders, urinary affections, ulcer, and fever (Khare et al. 2004). The leaf juice is also used against fever, toothache, piles, lacerated soles of feet and pimples, expectorant, whooping cough, and as diaphoretic. Apart from this, it has wide spectrum of pharmacological activities viz. antibacterial, antifungal, antiviral,

anthelmintic, antifertility, antioxidant, antidiabetic, anti-inflammatory, cytoprotective, hepatoprotective, and many more (Banerjee et al. 2012).

The effect of Biofield Energy Healing Treatment on Amla (*Phyllanthus emblica*)

The growth and yield of Amla (*Phyllanthus emblica*) plant callus after Biofield Energy Healing Treatment by a renowned Biofield Energy Healer, Dahryn Trivedi are presented in Figure 3. Amla callus flasks were observed and visualized under phase contrast microscope for cell growth and some representative photomicrographs were captured at 200X magnification on day 0 and day 7. The weight of amla callus in the control group was 285 mg, while it was significantly raised by 41.4% in the Biofield Energy Treated group (403 mg), shown in Table 1. Overall, the data showed 41.4% increased the growth of amla plant callus as compared to the untreated control group. Ayurveda health system in the world appreciates the uses of amla to treat a host of diseases and to promote a positive health. It has several pharmacological properties such as antioxidant, anticancer, antitumor, anti-genotoxic, and ant carcinogenic effects. It is considered to be a safe herbal medicine without any

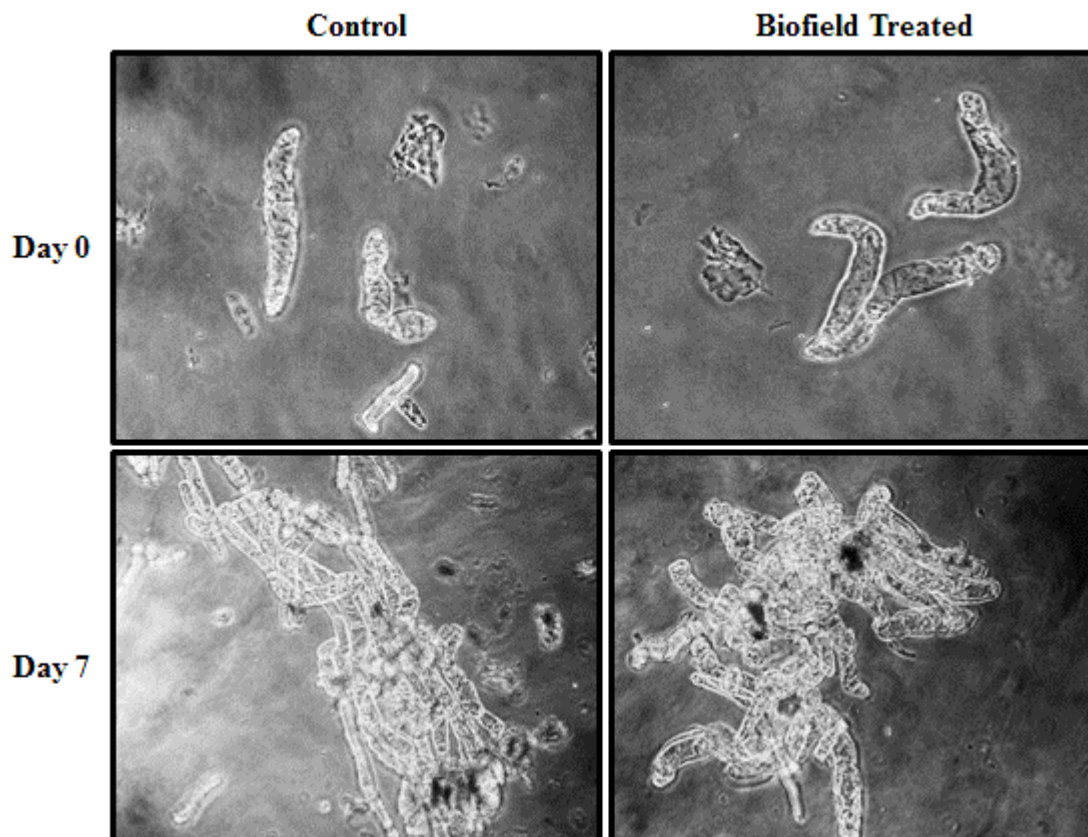


Figure 3: Representative photomicrographs (200X) of Amla (*Phyllanthus emblica*) callus on day 0 and day 7 in untreated and Biofield Energy Treated groups.

Table 1: Effect of Biofield Energy Healing Treatment on wet weight of the callus.

Callus	Treatment	Weight of callus (mg)	% Increased
Centella	Control	280.6	0.0
	Biofield Treated	304.5	8.5
Katsarika	Control	323.7	0.0
	Biofield Treated	448.7	38.6
Amla	Control	285	0.0
	Biofield Treated	403	41.4

adverse effects (Singh et al. 2011). In this experiment, after Biofield Energy Treatment, the content of amla callus was significantly increased as compared to the control group. So, it can be concluded that the Biofield Energy Treatment could be the cost-effective approach to produce more active component.

CONCLUSIONS

The experimental data showed that the Biofield Energy Healing Treatment has significantly improved the

growth rate and yield of Mandukparni, Katsarika, and Amla stem cells. The weight of mandukparni (*Centella asiatica*) stem cell callus was significantly increased by 8.5% in the Biofield Energy Treated group compared to the control group. Furthermore, the weight of katsarika (*Barleria cristata*) stem cell callus was significantly increased by 38.6% in the Biofield Energy Treated group compared to the control group. The weight of amla (*Phyllanthus emblica*) stem cell callus was also significantly increased by 41.4% in the Biofield Energy Treated group compared to the control group. Overall, the data suggest that the Consciousness Energy Healing

Treatment by a renowned Biofield Energy Healer, Dahryn Trivedi has outstanding capacity to increase the plant stem cell callus growth, which could be used to produce a very high quality and yield of the most valuable natural products from different medicinal plants, which can be useful as anti-inflammatory, immunostimulant, adaptogenic, hepatoprotective, and anticancer effects. Besides, The Trivedi Effect[®] can also be useful for several industrial applications such as cosmeceuticals, nutraceuticals, pharmaceuticals, food, dyes, and fragrances industries.

ACKNOWLEDGEMENTS

Authors are grateful to Dabur Research Foundation, Trivedi Global, Inc., Trivedi Science, Trivedi Testimonials, and Trivedi Master Wellness for their support throughout the work.

REFERENCES

- Ahmad I (1998). Screening of some Indian medicinal plants for their antimicrobial properties. *J Ethnopharmacol* 62: 183-193.
- Ahmed AS (1990) Thesis, Faculty of Pharmacy, Assiut University, Assiut, Egypt.
- Banerjee D, Maji AK, Mahapatra S, Banerji P (2012). *Barleria prionitis* Linn.: A Review of its traditional uses, phytochemistry, pharmacology and toxicity. *Research Journal of Phytochemistry* 6: 31-41.
- Barnes PM, Powell-Griner E, McFann K, Nahin RL (2004). Complementary and alternative medicine use among adults: United States, 2002. *Adv Data* 343: 1-19.
- Bibi Y, Zia M, Nisa S, Habib D, Waheed A, Chaudhary FM (2011). Regeneration of *Centella asiatica* plants from non-embryogenic cell lines and evaluation of antibacterial and antifungal properties of regenerated calli and plants. *J Biol Eng* 5: 13.
- Bylka W, Znajdek-Awizen P, Studzinska-Sroka E, Brezezinska M (2013). Review article. *Centella asiatica* in cosmetology. *Postep Derm Alergol* 1: 46-49.
- Chakraborty T, Sinha Babu SP, Sukul NC (1996). Preliminary evidence of antifilarial effect of *Centella asiatica* on canine dirofilariasis. *Fitoterapia* 67: 110-112.
- Dabhade VV, Tallapragada RR, Trivedi MK (2009). Effect of external energy on atomic, crystalline and powder characteristics of antimony and bismuth powders. *Bull Mater Sci* 32: 471-479.
- Dodon J, Trivedi MK, Branton A, Trivedi D, Nayak G, Gangwar M, Jana S (2017). The study of biofield energy treatment based herbomineral formulation in skin health and function. *American Journal of BioScience* 5: 42-53.
- EI-Mekkawy S, Meselhy MR, Kusumoto IT (1995). Inhibitory effects of Egyptian folk medicines on human immunodeficiency virus (HIV) reverse transcriptase. *Chem Pharm Bull* 43: 641-648.
- Farnsworth NR, Soejarto DD (1991). Global importance of medicinal plants. In: Akerele O, Heywood V and Syngé H (eds) Cambridge University Press, Cambridge, UK.
- Garland SN, Valentine D, Desai K, Li S, Langer C, Evans T, Mao JJ (2013). Complementary and alternative medicine use and benefit finding among cancer patients. *J Altern Complement Med* 19: 876-881.
- James J, Dubery I (2011). Identification and quantification of triterpenoid centelloids in *Centella asiatica* (L.) Urban by densitometric TLC. *J Planar Chromatogr* 24: 82-87.
- Ji H-F, Li X-J, Zhang H-Y (2009). Natural products and drug discovery. Can thousands of years of ancient medical knowledge lead us to new and powerful drug combinations in the fight against cancer and dementia? *EMBO Rep* 10: 194-200.
- Kakkar KK (1988). Mandukaparni- medicinal uses and therapeutic efficiency. *Indian Drugs* 26: 92-97.
- Khare CP (2004). *Indian Herbal Remedies: Rational Western Therapy, Ayurvedic and Other Traditional Usage*, Botany. 1st Edn., Springer, New York, pp: 93-94.
- Kimura Y, Sumiyoshi M, Samukawa K, Satake N, Sakanaka M (2008). Facilitating action of asiaticoside at low doses on burn wound repair and its mechanism. *Eur J Pharmacol* 584: 415-423.
- Kinney JP, Trivedi MK, Branton A, Trivedi D, Nayak G, Mondal SC, Jana S (2017). Overall skin health potential of the biofield energy healing based herbomineral formulation using various skin parameters. *American Journal of Life Sciences* 5: 65-74.
- Lenssen AW (2013). Biofield and fungicide seed treatment influences on soybean productivity, seed quality and weed community. *Agricultural Journal* 83: 138-143.
- Mathew M, Subramanian S (2012). Evaluation of the anti-amyloidogenic potential of nootropic herbal extracts *in vitro*. In *J Pharm Sci Res* 3: 4276-4280.
- Meagher EM, Trivedi MK, Branton A, Trivedi D, Nayak G, Gangwar G, Jana S (2017). An *in vitro* study of biofield energy healing based herbomineral formulation for skin protection. *American Journal of Laboratory Medicine* 2: 13-23.
- Mitra SK, Pathak PK (2008). Aonla (*Emblica officinalis* Gaertn.)—A unique fruit tree with rich nutritional and medicinal properties. *Acta Hort (ISHS)* 765: 173-178.

- Moruś M, Baran M, Rost-Roszkowska M, Skotnicka-Graca U (2014). Plant stem cells as innovation in cosmetics. *Acta Pol Pharm* 71: 701-707.
- Movaffaghi Z, Farsi M (2009). Biofield therapies: Biophysical basis and biological regulations. *Complement Ther Clin Pract* 15: 35-37.
- Nayak G, Altekar N (2015). Effect of biofield treatment on plant growth and adaptation. *J Environ Health Sci* 1: 1-9.
- Nayak P, Behera PR, Thirunavoukkarasu M, Chand PK (2010). High frequency plant regeneration through adventitious multiple shoot organogenesis in epicotyl explants of Indian gooseberry (*Emblica officinalis* Gaertn) *Sci Hort* 123: 473-478.
- Patil SA, 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.
- 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: 22-29.
- Shukla P, Singh A, Gawri S, Alexander A, Sonwane S (2011). *In vitro* propagation of *Barleria prionitis* linn and its antibacterial activity. *International Journal of Pharma Professional's Research* 2: 198-200.
- Singh E, Sharma S, Pareek A, Dwivedi J, Yadav S, Sharma S (2011). Phytochemistry, traditional uses and cancer chemopreventive activity of Amla (*Phyllanthus emblica*): The sustainer. *J Appl Pharm Sci* 02: 176-183.
- Singh J, Trivedi MK, Branton A, Trivedi D, Nayak G, Gangwar M, Jana S (2017). Consciousness energy healing treatment based herbomineral formulation: A safe and effective approach for skin health. *American Journal of Pharmacology and Phytotherapy* 2: 1-10.
- Srivastava R, Shukla YN, Kumar S (1997). Chemistry and pharmacology of *Centella asiatica*: A review. *Journal of Medicinal & Aromatic Plant Science* 19: 1049 -1056.
- Suba V, Murugesan T, Rao RB, Pal M, Mandal SC, Saha BP (2002). Neuropharmacological profile of *Barleria lupulina* Lindl. extract in animal models. *J Ethnopharmacol* 81: 251-255.
- Suba V, Murugesan T, Rao RB, Pal M, Mandal SC, Saha BP (2004). Anti-diabetic potential of *Barleria lupulina* extract in rats. *Phytomedicine* 11: 202.
- Trivedi MK, Nayak G, Patil S, Tallapragada RM, Latiyal O (2015). Studies of the atomic and crystalline characteristics of ceramic oxide nano powders after bio field treatment. *Ind Eng Manage* 4: 161.
- Trivedi MK, Patil S, Shettigar H, Bairwa K, Jana S (2015b). Phenotypic and biotypic characterization of *Klebsiella oxytoca*: An impact of biofield treatment. *J Microb Biochem Technol* 7: 203-206.
- Trivedi MK, Patil S, Shettigar H, Gangwar M, Jana S (2015a). Antimicrobial sensitivity pattern of *Pseudomonas fluorescens* after biofield treatment. *J Infect Dis Ther* 3: 222.
- Trivedi MK, Patil S, Shettigar H, Gangwar M, Jana S (2015c) An effect of biofield treatment on multidrug-resistant *Burkholderia cepacia*: A multihost pathogen. *J Trop Dis* 3: 167.
- Trivedi MK, Tallapragada RM (2008). A transcendental to changing metal powder characteristics. *Met Powder Rep* 63: 22-28, 31.
- Yount G, Patil S, Dave U, Alves-dos-Santos L, Gon K, Arauz R, and Rachlin K (2013). Evaluation of biofield treatment dose and distance in a model of cancer cell death. *J Altern Complement Med* 19: 124-127.