

## *In vivo* Hair Growth Promotion Efficacy of Biofield Energy Treatment in C57BL/6 Mice

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### Abstract

Hair loss directly impacts people's social interactions and also affects psychological well-being. Hair fall has been a rising trend nowadays due to dynamic lifestyle and pollution. In this context, the present study was performed to identify the potential of the Biofield Energy Healing (The Trivedi Effect<sup>®</sup>) Treated test item (mixture of herbal extracts of *Phyllanthus emblica* and *Eclipta alba* in 1:1 ratio) on the telogen skin of mice for the assessment of hair cell growth and development *in vivo*. The test item was divided into two parts. One part was denoted as the untreated test item without any Biofield Energy Treatment, while the other part was defined as the Biofield Energy Treated test item, which received the Biofield Energy Healing Treatment by renowned Biofield Energy Healer, Dahryn Trivedi. The study parameters like anagen induction and visual melanogenesis were performed using skin biopsy technique. The experimental results of the untreated and Biofield Energy Treated test item groups showed hair growth with 50% and 60%, respectively on dorsal clipped of skin after topical application. Besides, the Biofield Energy Treated test item group exhibited 60% melanogenesis after biopsy analysis in mice skin at the end of the experiment. The overall results demonstrated that the Biofield Energy Treatment has the potential for hair growth promotion as evident *via* increased hair growth and melanogenesis. Therefore, the Biofield Energy Healing (The Trivedi Effect<sup>®</sup>) Treatment could be useful as a hair growth promoter for various treatments of skin injuries and skin-related disorders like necrotizing fasciitis, actinic keratosis, sebaceous cysts, diaper rash, decubitus ulcer, etc.

**Keywords:** Biofield Energy Healing; Consciousness energy healing treatment; The Trivedi effect<sup>®</sup>; Anagen; Melanogenesis; Skin health

### Introduction

Hair growth is a complex and controlled process characterized by the production of hair fiber *i.e.*, anagen formation, a brief process of regression phase *i.e.*, catagen, and a resting period (telogen)<sup>[1-3]</sup>. A pervasive disorder related to hair growth is alopecia, a generic term for hair loss resulting in a diminution of visible hair<sup>[4,5]</sup>. Loss of hair drastically impacts on social interactions and also effects on the psychological well-being of both men and women<sup>[6,7]</sup>. Hence, recently there was an uplift of consumer cosmetics and pharmaceuticals market for hair re-growth and the protection of hair loss. From literature, it was reported that minoxidil and finasteride are widely used to treat hair loss, but finasteride is associated with adverse sexual effects<sup>[8]</sup>, hence minoxidil was chosen as a reference standard in this experiment for the assessment of hair growth. It also promotes hair growth *via* the stimulation of growth factor release from adipose-derived stem cells dermal papilla and epithelial cells<sup>[9]</sup>. Recently, natural products and plant extracts that can promote hair growth have been widely used in the hair care industry<sup>[10]</sup>. In recent years, several scientific reports and clinical trials have revealed the useful effects of Biofield Energy Treatment, which

have shown to enhance the immune function in cases of cervical cancer patients *via* therapeutic touch<sup>[11]</sup>, massage therapy<sup>[12]</sup>, etc. Complementary and Alternative Medicine (CAM) therapies are now rising as preferred models of treatment, among which Biofield Therapy (or Healing Modalities) is one approach that has been reported to have several benefits to enhance physical, mental, and emotional human wellness. However, as per the data of 2012 from the National Health Interview Survey (NHIS), which indicated that the highest percentage (about 19%) of the Americans used dietary supplements as a complementary health approach as compared with other practices in past years. The

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National Center of Complementary and Integrative Health (NC-CIH) has recognized and accepted Biofield Energy Healing as a CAM health care approach in addition to other therapies, medicines and practices such as natural products, deep breathing, yoga, Tai Chi, Qi Gong, chiropractic/osteopathic manipulation, meditation, massage, special diets, homeopathy, progressive relaxation, guided imagery, acupressure, acupuncture, relaxation techniques, hypnotherapy, healing touch, movement therapy, pilates, rolfing structural integration, mindfulness, Ayurvedic medicine, traditional Chinese herbs and medicines, naturopathy, essential oils, aromatherapy, Reiki, and cranial sacral therapy. Human Biofield Energy has subtle energy that can work efficiently<sup>[13]</sup>. CAM therapies have been practiced worldwide with reported clinical benefits in different health disease profiles<sup>[14]</sup>. This energy can be harnessed and transmitted by the experts into living and non-living things via the process of Biofield Energy Healing. Biofield Energy Treatment (The Trivedi Effect<sup>®</sup>) has been published in numerous peer-reviewed science journals with significant outcomes in many scientific fields such as cancer research<sup>[15,16]</sup>, microbiology<sup>[17-20]</sup>, biotechnology<sup>[21,22]</sup>, pharmaceutical science<sup>[23-26]</sup>, agricultural science<sup>[27-30]</sup>, materials science<sup>[31-34]</sup>, nutraceuticals<sup>[35,36]</sup>, skin health, human health and wellness.

Based on the literature information and importance of Biofield Energy Healing Treatment on various fields, the authors sought to evaluate the impact of the Biofield Energy Treatment (The Trivedi Effect<sup>®</sup>) on the test item (the mixture of herbal extracts of *Phyllanthus emblica* and *Eclipta alba* in 1:1 ratio) for hair cells growth activity with respect to the assessment of different hair growth parameters like anagen induction in terms of hair growth score and melanogenesis using standard biopsy assays in male C57BL/6 mice.

## Materials and Methods

### Chemicals and reagents

The herbal extracts of *Phyllanthus emblica* and *Eclipta alba* were procured from M/s. Sanat Products Ltd., India. Minoxidil sulphate (positive control) was purchased from Dr. Reddy's Laboratories Ltd, India. All the other chemicals used in this experiment were analytical grade procured from India.

### Experimental animals

Randomly breed male C57BL/6 mice with body weight ranges between 22 to 24 gm were used in this experiment. The animals were purchased from M/s. Vivo Bio Tech Ltd., Hyderabad, India. Animals were randomly divided into four groups based on their body weight. They were kept individually in sterilized polypropylene cages with stainless steel top grill having provision for holding pellet feed and drinking water bottle fitted with stainless steel sipper tube. The test facility was registered for breeding and experiment of animals with the Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA), Ministry of Environment and Forest, Govt. of India. The study was approved by the Institutional Animal Ethics Committee and the husbandry conditions were maintained as per CPCSEA recommendations (IAEC No.: IAEC/41/502). All the procedures and protocols related to animal experiment were approved and followed by the institutional animal ethics committee (IAEC). All the animals were housed under standard

experimental conditions, with room temperature ( $22 \pm 3^\circ\text{C}$ ), relative humidity (30% to 70%).

### Experimental design

Animals were grouped into following treatment groups. Group 1 was served as a vehicle control (Polyethylene glycol - PEG: Ethyl alcohol). Group 2 was defined as the positive control (minoxidil). Group 3 was defined as the untreated test item (mixture of herbal extracts) and group 4 defined as the Biofield Energy Treated test item (mixture of herbal extracts).

### Biofield energy healing approach

The combination of herbal extracts of *Phyllanthus emblica* and *Eclipta alba* in 1:1 ratio was used as the test item in this experiment. The test item was divided into two parts. One part was considered as the untreated test item, where no Biofield Energy Healing Treatment was provided. Further, the untreated group was treated with "sham" healer for better comparison purpose. The "sham" healer did not have any knowledge about the Biofield Energy Healing Treatment. Second part of the test item was received Biofield Energy Healing Treatment (known as The Trivedi Effect<sup>®</sup>) under laboratory conditions for ~5 minutes through the Dahryn Trivedi's unique Biofield Energy Transmission process to the test item. Biofield Energy Healer in this study did not visit the laboratory, nor had any contact with the test samples. After that, the Biofield Energy Treated and untreated test items were kept in similar sealed conditions and used for the study as per the study plan.

### Clipping of animals

The telogen skin (visually pink skin) of the test animals was exposed by gentle clipping of hair from the dorsal back (approx.  $4 \times 4\text{cm}^2$ ) using an electric clipper one day before the application with the test items/positive control/vehicle.

### Body weight

Body weight of each animal was recorded before the topical application of the test item to the animals and then body weight was taken once a week throughout the study.

### Visual melanogenesis

The animals in each group were observed by visual examination of the color of the area of dorsal skin of the animal. The skin color change was scored on a scale of 0-3 based upon the visual observations. The criterion of scoring the hair growth of animals is described in Table 1.

**Table 1:** Hair growth scoring and grading criteria

S. No.	Observation	Hair growth score
1	No hair growth, pink skin	0
2	Skin color changes from pink to gray/light gray without visible hair growth	0.5
3	Skin color changes from gray/light grey to dark gray/black without visible hair growth, indicating the onset of anagen	1
4	Sparse hair growth	1.5
5	Diffuse short hair growth	2
6	Moderate hair growth	2.5
7	Dense, normal coat hair	3

### Statistical analysis

Data were represented as mean  $\pm$  standard error of mean (SEM) and also as percentage of the respective parameters. For statistical analysis Sigma-Plot (version 11.0) was used as a statistical tool. Statistically significant values were set at the level of  $p < 0.05$ .

### Results and Discussion

#### General health status

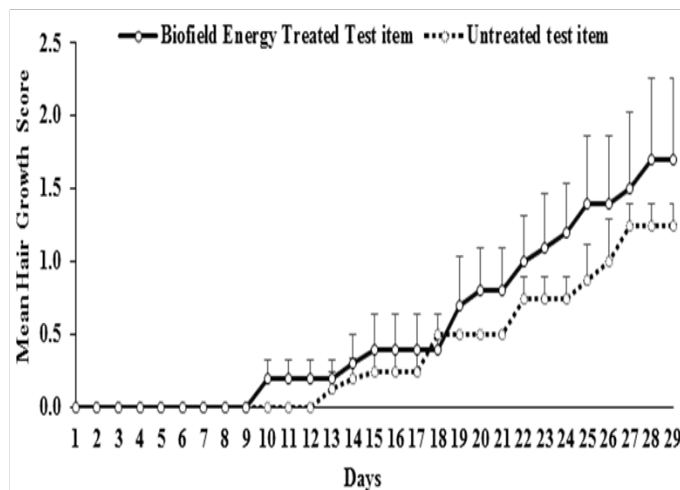
During the course of the study, there were no signs of behavioral changes, reaction to treatment or ill health observed in the animals treated with the test items.

#### Body weight

Treatment with the test items did not lead to any adverse effects on body weight in any of the animals during the study (Data not shown).

#### Anagen induction and hair growth

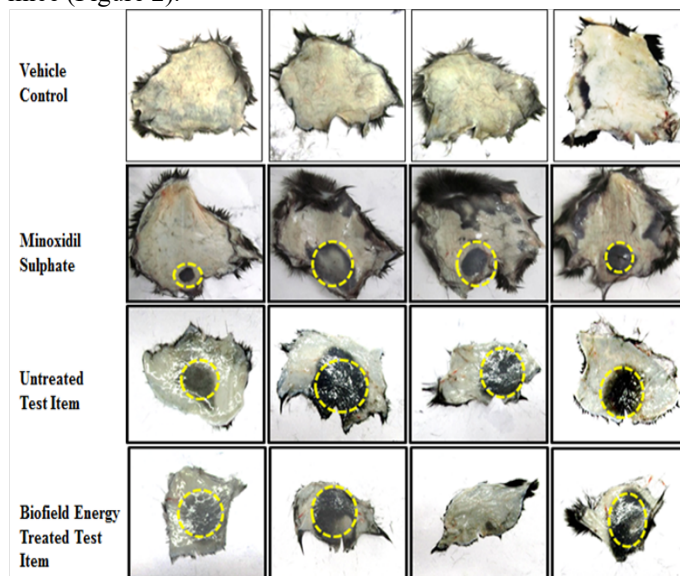
In a vehicle control group, no anagen induction or hair growth was observed in any of the animals. The percent increased of bulb thickness of the untreated and Biofield Energy Treated test items are shown in Figure 1. The positive control, minoxidil solution led to anagen induction followed by hair growth in four animals out of four *i.e.*, 100%. The results showed that the untreated test item showed a visual anagen induction on dorsal clipped of skin in four animals out of four followed by hair growth in two animals out of four *i.e.*, 50% after topical application. Moreover, the Biofield Energy Treated test item showed a visual anagen induction on dorsal clipped of the skin followed by hair growth after topical application in three mice out of five *i.e.*, 60%. From Figure 1, it was stated that the Biofield Energy Treated test item group started early hair growth (on day 9) compared to the untreated test item group (on day 12). From the literature it was reported that an *in vivo* assay which measures the induction of hair follicle growth of resting (telogen) follicles to enter active growth (anagen) in normal laboratory mice (C57 B1-6), *i.e.*, animals with a normal hair cycle<sup>[37-39]</sup>. Overall, this improvement of hair growth in the Biofield Energy Treated test item group compared to the untreated test item group might be due to the effect of Consciousness Energy Healing Treatment by a renowned Biofield Energy Healer (The Trivedi Effect®).



**Figure 1:** Assessment of mean hair growth score of the untreated and Biofield Energy Treated test item (1:1 mixture of herbal extracts of *Phyllanthus emblica* and *Eclipta alba*) in male C57BL/6 mice. All the values were expressed as mean  $\pm$  standard error of mean (SEM). n=4/5.

#### Visual melanogenesis by skin biopsy

At the end of experiment, visual melanogenesis was recorded in the peeled skin of all the groups. No visual melanogenesis was recorded in the peeled skin of animals treated with vehicle. However, in minoxidil treated group showed that the melanogenesis was observed in the peeled skin of four animals out of four animals *i.e.*, 100%. Moreover, the untreated and Biofield Energy Treated test items exhibited 100% and 60%, respectively of melanogenesis after treatment with the mixture of herbal extracts of 1:1 ratio of *Phyllanthus emblica* and *Eclipta alba* in mice (Figure 2).



**Figure 2:** Representative biopsy photomicrograph of the various treatment groups showing hair growth at the end of experiment in mice.

Overall, the Biofield Energy Treated test item significantly exhibited hair growth formation *i.e.*, promotes hair growth. Based on that it is assumed that in this experiment the improvement of hair cell growth and development was due to the impact of The Trivedi Effect® - Biofield Energy Healing Treatment.

## Conclusions

In the present study, *in vivo* hair growth promotion efficacy of the Biofield Energy Treated test item was screened using C57BL/6 mice. Animals were topically treated with the test item, positive control and vehicle. The present study revealed that after topical application of the Biofield Energy Treated test item led to faster anagen induction and faster rate of hair growth in 3/5 (60%) animals. Whereas, animal treated with untreated test item led to anagen induction followed by hair growth in 2/4 (50%) animals at a slower rate compared to the Biofield Energy Treated test item group. Hence, based on the current study it can be concluded that treatment with Biofield Energy led to faster anagen induction and faster hair growth promotion efficacy as compared to the untreated test item group. In conclusion, The Trivedi Effect® - Consciousness Energy Healing Treatment might act as an effective hair growth enhancer and it can be used as a complementary and alternative treatment for the prevention of various types of skin-related disorders *viz.* necrotizing fasciitis, actinic keratosis, sebaceous cysts, diaper rash, decubitus ulcer etc. Besides, it might be useful to improve cell-to-cell communication, normal cell growth, cell differentiation, neurotransmission, cell cycling and proliferation, hormonal balance, skin health, immune and cardiovascular functions. Besides, it can also be utilized in organ transplants (for example kidney transplants, liver transplants and heart transplants), hormonal imbalance, aging, and various immune-related disease conditions such as Ulcerative Colitis, Alzheimer's Disease, Dermatitis, Irritable Bowel Syndrome, Asthma, Hashimoto Thyroiditis, Pernicious Anemia, Sjogren Syndrome, Multiple Sclerosis, Aplastic Anemia, Hepatitis, Diverticulitis, Graves' Disease, Dermatomyositis, Diabetes, Myasthenia Gravis, Parkinson's Disease, Atherosclerosis, Systemic Lupus Erythematosus, stress, etc. with a safe therapeutic index to improve overall health, and quality of life.

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