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Hair Growth Promoting Potential of Consciousness Energy Healing Treatment in Human Dermal Papilla Cells

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Abstract- Alopecia is a common disorder related to hair fall, observed in all age's peoples around the world. Although several medical approaches are available, however those are insufficient to mitigate or symptomatic relief from these types anomalies. Hence, it is highly essential to establish an alternative treatment strategy to increase hair proliferation. For this context, the current experiment was conducted to investigate the potential of the Consciousness Energy Healing (The Trivedi Effect[®]) Treatment to the test items (DMEM) in human follicular dermal papilla culture cells for the assessment of hair cell growth and development. The test item was divided into two parts. One part was denoted as the untreated DMEM group without any Biofield Energy Treatment, while the other part was defined as the Biofield Energy Treated DMEM group, which received the Biofield Energy Healing Treatment by a renowned Biofield Energy Healer, Alice Branton. The experimental results showed that cell proliferation was significantly increased by 219.30% in the Biofield Energy Treated DMEM group as compared to the untreated DMEM group. The results demonstrated that the Biofield Energy Healing Treatment significantly increased the proliferation of human hair follicle dermal papilla cells. Therefore, the Consciousness Energy Healing (The Trivedi Effect[®]) Treatment could be useful as a hair growth enhancer against different skin injuries like actinic keratosis, necrotizing fasciitis, sebaceous cysts, diaper rash, decubitus ulcer and hair-related disorders like androgenetic alopecia, telogen effluvium, trichodystrophy, alopecia areata, etc.

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I. INTRODUCTION

The hair follicle consists of mainly two types of components such as epithelial components that included the matrix and outer root sheath, and the dermal components, which included the dermal papilla and the connective tissue sheath^[1]. There were three distinct stages of hair growth, which occurs during cellular proliferation like an active phase (anagen), an intermediate regressive (catagen), and a resting phase (telogen)^[2,3]. Literature explored that generally loss of 50-100 hairs per day considered as hair fall disorders like alopecia. Modern trends of fast globalization and indiscriminate grow of industrialization led to the

development of modern socio-cultural factors such as excessive stress, changes in social activities and lifestyle that can aggravate alopecia^[4]. The exact cause of hair fall is still unknown; however, researcher found some possible reasons those are responsible for alopecia. It may be due to genetic factors, more secretion of androgens, excessive stress, blood circulation disorders, nutrient deficiencies, diet, smoking, drinking, and endocrine disorders^[5]. From the literature, it was reported that about 30% males (age more than 30 years) and 50% males (age more than 50 years) are suffered by hair loss-related disorders^[6]. Moreover, literature also reported that females are less sufferer to this problems, however few women found with alopecia areata *i.e.*, patches of baldness^[7]. Numerous literature including United State - Food and Drug Administration (US-FDA) has been reported the hair growth promotion activity of minoxidil^[8,9]. In recent years, several scientific reports have revealed the useful effects of Energy Therapy, which have shown to enhance the immune function in cases of cervical cancer patients *via* therapeutic touch^[10], massage therapy^[11], etc. Complementary and Alternative Medicine (CAM) therapies are now accepting 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 most of the Americans have been used dietary supplements as a complementary health approach as compared with other practices in past years. The National Center of Complementary and Integrative Health (NCCIH) 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

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sacral therapy. Human Biofield Energy has subtle energy that can work effectively^[12]. CAM therapies have been practised worldwide with reported clinical benefits in different health disease profiles^[13]. This energy can be harnessed and transmitted by the experts into living and non-living things *via* the process of Biofield Energy Healing. The Trivedi Effect®- Consciousness Energy Healing Treatment has been reported with a significant revolution in the physicochemical properties of metals, chemicals, ceramics, and polymers^[14-16], improved agricultural crop yield, productivity, and quality^[17,18], transformed antimicrobial characteristics^[19-21], biotechnology^[22,23], improved bioavailability^[24-26], skin health^[27,28], nutraceuticals^[29,30], cancer research^[31,32], bone health^[33-35], human health and wellness. Considering the promising benefits of an alternative natural therapies-based 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®) on the test item (DMEM) for hair cells growth activity using standard assay in human follicular dermal papilla cells.

II. MATERIALS AND METHODS

a) Chemicals and Reagents

Dulbecco's Modified Eagle Medium (DMEM) and fetal bovine serum (FBS) were obtained from Gibco, India. Minoxidil sulphate (positive control) was purchased from Clearsynth Labs Ltd., Mumbai. Antibiotics solution (penicillin-streptomycin) was procured from HiMedia, India. Other chemicals used in this study were analytical grade obtained from India.

b) BrdU Incorporation Cell Proliferation Assay in HFDPs

The human follicular dermal papilla cells (HFDPs) in DMEM supplemented with 10% FBS were counted using a hemocytometer and a single cell suspension was prepared. The single cell suspension was seeded at a density of 800 cells/well in a fresh DMEM supplemented with 10% FBS in 96-well plates. Then, the cells were incubated in a CO₂ incubator for 24 hours at 37°C, 5%CO₂, and 95% humidity. After 24 hours of incubation, the medium was replaced with a fresh DMEM supplemented with 0.1% FBS. Further, after 24 hours, cells were treated with the test items and positive control (minoxidil sulphate). After incubation for 48 hours, the effect of the test items on cell proliferation was assessed by bromodeoxyuridine (BrdU) incorporation using colorimetric ELISA kit. For that, 10 μL of BrdU solution was added per well and the cells were incubated for 90 minutes at 37°C. After incubation, the medium was removed from each well by gentle pipetting. About 200 μL of a FixDenat solution was added to each well. After incubation, cells were incubated for 30 minutes at room temperature (RT)

(15-25°C). The FixDenat solution was removed by gentle pipetting. After incubation, 100 μL of anti-BrdU-POD (peroxidase) solution was added to each well. Then, the cells were incubated for 90 minutes at RT (15-25°C). After incubation, the anti-BrdU-POD solution was removed by gentle pipetting. Each well was washed 3 times using 200 μL of washing solution. About 100 μL of substrate solution was added to each well. Cells were incubated for 30 minutes at RT (15-25°C). After incubation, the absorbance of each well was measured at 370 nm.

Cellular proliferation was determined as following Equation (1):

$$\% \text{ Cellular proliferation} = \{(B - A)/A\} \times 100 \quad (1)$$

Where, A = OD of Untreated DMEM wells

B = OD of cells treated with the test item / positive control.

c) Experimental Design

The experimental groups composed of group 1 (G-I) with DMEM medium defined as the untreated DMEM group. Group 2 (G-II) contained positive control (minoxidil sulphate) at various concentrations. Further, group 3 (G-III) included the Biofield Energy Treated DMEM group.

d) Biofield Energy Healing Strategy

The test item, DMEM was divided into two parts. First part did not receive any sort of treatment and defined as the untreated DMEM group. The second part was treated with the Biofield Energy Treatment by a renowned Biofield Energy Healer (The Trivedi Effect®), Alice Branton remotely for ~5 minutes under laboratory conditions and coded as the Biofield Energy Treated DMEM group. Healer in this study never visited the laboratory in person, nor had any contact with the test items (DMEM medium). Further, the untreated DMEM group was treated with a "sham" healer for comparative purposes. The "sham" healer did not have any knowledge about the Biofield Energy Treatment. After that, the Biofield Energy Treated and untreated test items were kept in similar sealed conditions for experimental study.

e) Statistical Analysis

All the values were represented as Mean ± SEM (standard error of mean) of three independent experiments. The statistical analysis was performed using SigmaPlot statistical software (v11.0). For two groups comparison student's *t*-test was used. For multiple group comparison, one-way analysis of variance (ANOVA) was used followed by post-hoc analysis by Dunnett's test. Statistically significant values were set at the level of $p \leq 0.05$.

III. RESULTS AND DISCUSSION

a) *BrdU Incorporated Cell Proliferation of Dermal Papilla Cells*

The effect of the test item son Biofield Energy Treatment and the percent of cellular proliferation of DPCs is presented in Figure 1. The immortalized human follicular dermal papilla cells suspension were treated with the positive control and test item (DMEM). Topical application of minoxidil is a well-established therapeutic for various types of hair growth-related disorders like alopecia^[36]. The untreated DMEM group exhibited 100% cells proliferation of DPCs. Additionally, the positive control, minoxidil showed 68.57%, 187.14% ($p \leq 0.001$), and 230.95% ($p \leq 0.001$) increase the cellular proliferation of DPCs at 0.001, 0.01, and 0.1 μM , respectively in a concentration-dependent manner compared to the untreated DMEM group. Moreover, the percent proliferation of DPCs was significantly ($p \leq 0.001$) increased by 219.30% in the Biofield Energy Treated DMEM group with respect to the untreated

DMEM group (Figure 1). For the study of hair follicle biology, human hair growth *in vitro* model is used as a prototype^[37]. Hair follicles undergo different cycles of growth (anagen), regression (catagen), quiescence (telogen), and regeneration^[38]. The current experimental results demonstrated that Biofield Energy Treatment significantly increased the proliferation of dermal papilla cells (DPCs). Further, DPCs are responsible for the regulation of hair follicles development and periodic regeneration^[5,36,39,40]. Also, the DPCs can generate a signal that regulates the behaviour of keratinocytes in the follicle during the hair cycle^[41,42]. Apart from this, Wnt/ β -catenin signaling pathway plays a critical role to initiate generation of hair follicle *via* stimulation of keratinocytes^[43,44]. Based on the literature and findings of this study, it is assumed that the increment of DPCs due to the impact of The Trivedi Effect[®] that could be due to the activation of Wnt/ β -catenin signaling pathway and regulation of keratinocytes during hair growth and development.

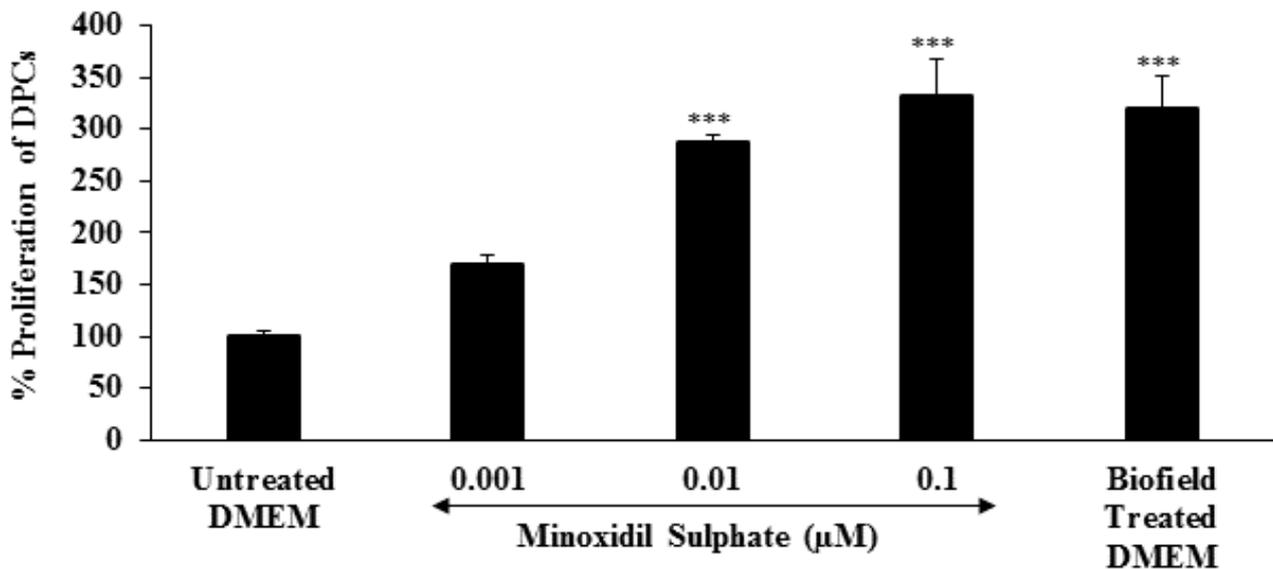


Fig. 1: Effect of the test samples on hair growth regarding dermal papilla cells (DPCs) proliferation after 48 hours of treatment in immortalized human follicular dermal papilla cell line (HFDPc). All the values are represented as mean \pm SEM of three independent experiments. *** $p \leq 0.001$ vs. untreated DMEM group.

The representative photo images signified the intensity of proliferative DPCs after treatment with the Biofield Energy Treated test item (DMEM) in HFDPcs (Figure 2). Overall, data suggested that the Biofield Energy Treatment significantly improved the growth and proliferation of human dermal papilla cells, which is due to the Biofield Energy Healing (The Trivedi Effect[®]). Based on that it is concluded that the Consciousness Energy Therapy could be beneficial to maintain a steady-state proliferation of hair follicles.

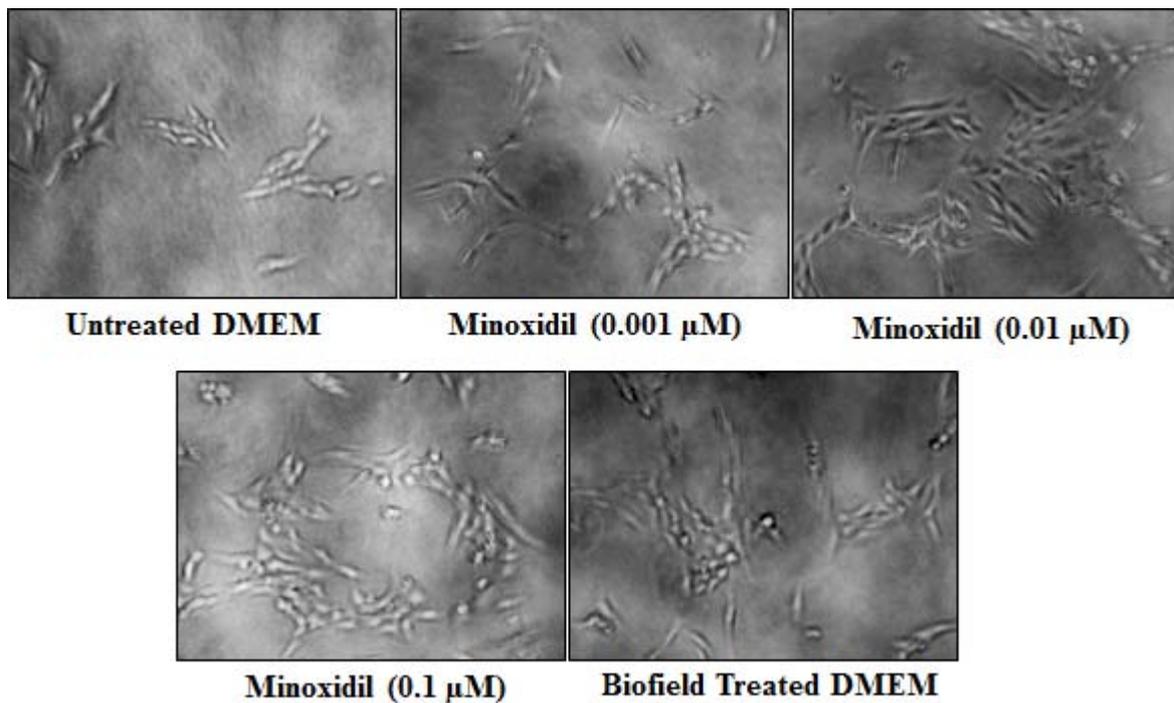


Fig. 2: Effect of Biofield Energy Treated DMEM on the proliferation of dermal papilla cells (DPCs) in human follicular dermal papilla cell line (HFDPC) and the representative images of different treatment groups.

IV. CONCLUSIONS

The study findings was observed that the Biofield Energy Treated test item (DMEM) group showed a significant ($p \leq 0.001$) increase the percent of dermal papilla cells (DPCs) by 219.30% in human follicular dermal papilla cells (HFDPCs) *in vitro*. In conclusion, The Trivedi Effect® - Consciousness Energy Healing Treatment might act as a hair growth promoter, and it can be used as a complementary and alternative treatment for the prevention of various types of skin and hair-related disorders *viz.* necrotizing fasciitis, actinic keratosis, sebaceous cysts, diaper rash, decubitus ulcer, androgenetic alopecia, telogen effluvium, trichodystrophy, alopecia areata, etc. Besides, it could 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. Moreover, it can also be utilized in organ transplants (*i.e.*, kidney transplants, liver transplants and heart transplants), hormonal imbalance, aging, and various immune-related disease conditions such as Ulcerative Colitis (UC), Alzheimer's Disease (AD), Dermatitis, Irritable Bowel Syndrome (IBS), 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 (SLE), stress, etc. with a safe therapeutic index to improve overall health and Quality of Life.

Abbreviations:

CAM: Complementary and Alternative Medicine.
 DPCs: Dermal papilla cells.
 DMEM: Dulbecco's Modified Eagle Medium.
 FBS: Fetal bovine serum.
 BrdU: Bromodeoxyuridine; POD: Peroxidase.

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