An Investigation of the Effect of Faradarmani Consciousness Field on Heart Rate Variability Parameters

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ABSTRACT

The Faradarmani Consciousness Field (CF), a complementary and alternative medicine (CAM), introduced by Mohammad Ali Taheri, is a novel qualitative field which is neither matter nor energy. This study was designed to investigate the effects of Faradarmani CF, on autonomic nervous system (ANS) functioning. For this purpose, heart rate variability (HRV) and skin conductance (SC) indices were measured as r eliable indicators of ANS changes under the influence of Faradarmani CF. 50 random volunteers (23 females, 27 males; 23 to 77 years of age) take part in this double-blinded study. In order to record a rest mode from the autonomic nervous system as a baseline, each recording was carried out 10-15 minutes after the arrival of the participant to the lab, at least 1 hour after breakfast and before lunch (10 am - 12 noon). The data was recorded in two 5-min sections under fixed environmental conditions. The first 5-min, which is considered a base situation, was recorded without Faradarmani CF. In the second 5-min, participants were under the influence of Faradarmani CF. To obtain HRV parameters, the heart rates (HR) data, derived from BVP signals, was analyzed by power spectral analyses, computed by the biofeed-back device (at the Medina Teb Company, Tehran) in both time and frequency domains. Finally, the HRV and SC data were analyzed by two-tailed statisti-cal analysis followed by Tukey post hoc test to compare Faradarmani with baseline mode. Two types of variations, (1) increasing or (2) decreasing, were observed in the studied indices under the effect of Faradarmani CF. Two-tailed statis-tical analysis of each type exhibited major alterations in HRV parameters, not SC, compared to the baseline. Comparative analysis of the frequency and time domain of HRV showed more significant changes in the frequency domain (VLF: P1=0.0016, P2=0.0147; LF: P1<0.001, P2=0.008; HF: P1=0.0338, P2=0.0086; LF/HF: P1=0.0011, P2=0.0119) compared to the time domain (PNN50: P1=0.0464). According to the results, not only Faradarmani has a significant effect on ANS functioning, but also it exerts different variations on HRV parameters indicating a kind of consciousness that considers one's condition and need.

Keywords: Faradarmani; Taheri Consciousness Fields; Heart Rate Variability; Skin Conductance; Autonomic Nervous System

Abbreviations and Acronyms

Measure	Experimental
ANS	Autonomic Nervous System
CAM	Complementary and Alternative Medicine
CCN	Cosmic Consciousness Network
CF	Consciousness Field
HF	High Frequency
HR	Heart Rate
HRV	Heart Rate Variability
LF	Low Frequency
PNN50	Percent difference between Normal to Normal intervals greater than 50 milliseconds
SC	Skin Conductance
SDNN	Standard Deviation of Normal to Normal intervals
TCFs	Taheri Consciousness Fields
VLF	Very Low Frequency

INTRODUCTION

Industrialized life has caused many health issues, such as inactivity, poor nutrition, and environmental stress, all of which cause mental and physical illnesses (Booth et al., 2011; Fang et al., 2019). The presence of the disease has caused defects in the work and behavioral systems of in-dividuals (Concha-Barrientos et al., 2004; Mols et al., 2010) and this also causes a series of abnormalities in the community (Wen et al., 2005). As problems increase and become more complex, diagnosis and treatment become more difficult as well, especially if it is hysterical, and the cause is not clear (Abse, 2013). With incurable and un-treated diseases such as Corona and the fear of becoming infected and reduced referral to doctors and psychologists, the rate of people's problems will increase (Hossain et al., 2020).

The nature of consciousness and its place in science has received much attention in the current century. Many philosophical and ries have been proposed in this area. In the1980s, Mohammad Ali Taheri introduced novel fields with a non-material/non-energetic nature named Taheri-Consciousness Fields (TCFs). In this perspective, T-Consciousness is one of the three existing elements of the universe apart from matter and energy. According to this theory, there are various TCFs with different functions, which are the subcategories of a networked universal internet called the Cosmic Consciousness Network (CCN). The major difference between the theory of TCFs and other theoretical concepts about consciousness is related to the practical application of the TCFs. TCFs can be applied to all living and non-living creatures, including plants, animals, microorganisms, materials, etc.

Mohammad Ali Taheri, the founder of Erfan Keyhani Halqeh, a school of thought, introduced a new science in 2020 as a branch of this school. He coined the term Sciencefact for this new science because it utilizes scientific investigations to

prove the existence of T-Consciousness as an irrefutable phenomenon and a fact. Although science focuses solely on the study of matter and energy and Sciencefact, by contrast, explores the effects of the [non-material/non-energetic] TCFs, Sciencefact has provided a common ground between the two by conducting reproducible laboratory experiments in various scientific fields, and it has used the scientific approach in proving TCFs.

The influence of the TCFs begins with the Connection between CCN as the Whole Taheri Consciousness of the universe and the subjects of study as a part. This Connection called "Ettesal" is established by a Faradarmangar's mind (a certified and trained individual who has been entrusted with the TCFs). The human mind has an intermediary role (Announcer) which plays a part by fleeting attention to the subject of study and then the main achievement obtained as a result of the effects of the TCFs. These fields cannot be directly measured by science, but it is possible to investigate their effects on various subjects through reproducible laboratory experiments (Taheri, 2013).

The research methodology in the study of T-Consciousness has been founded on the process of *Assumption, Argument, and Proof*, in which the basic Assumption is: The Cosmos was formed by a third element called T-Consciousness that is different from matter and energy.

The Argument: The existence of TCFs can be demonstrated by its effects on matter and energy (e.g., humans, animals, plants, microorganisms, cells, materials, etc.)

The Proof: is the scientific verification of the effects of TCFs on matter and energy (according to the Argument) through various reproducible scientific experiments.

Accordingly, to investigate and verify the existence, effects, and mechanisms of TCFs, the following five research phases (Phases 0 through 4), and the aims of each phase are outlined below.

Phase-0 studies aim to prove the existence of TCFs by observing their effects. The nature of T-Consciousness and what it is will not be addressed in this phase. Phase-1 explores the varied effects of different TCFs. Phase-2 examines the reason behind the varied effects of these fields. Phase-3 investigates the mechanism of TCFs effects on matter and energy. Finally, Phase-4 draws significant conclusions, particularly with regard to the mind and memory of matter and their relation to the T-Consciousness, etc.

In this regard, the researchers of this article investigated the effects of Faradarmani CF by scientifically measuring its effects on heart rate variability parameters. Considering that in the science approach, the probability of being random is calculated to be less than 5% and the seal of approval is put on the test result when there is a difference of more than 95% between the groups, it can be said that if the result is significant, it is valid. Meanwhile, the accuracy of this approach will be determined by statistical analysis.

According to the mentioned cases, the purpose of this study is to investigate the effect of Faradarmani on autonomic nervous system (ANS), functioning through heart rate variability (HRV) and skin conductance (SC) indices measurements.

METHODS

Faradarmani CF application

50 participants of both genders were under the influence of Faradarmani CF according to the protocols mentioned on the website of research management in the CFs (www.cosmointel.com).

Gaining an announcement is free of charge (in the "assign announcement section"). In order to study at any time and place, the researchers, after registration on the mentioned website, introduce the test to the guidance center. For example, the number of samples, controls, and their contractual names must be specified.

This study was conducted in a double-blinded manner. It means that not only the participants and recording technicians were not informed about the purpose of the research, but also the Faradarmangar did not know anyone.

Inclusion criteria were freedom from any cardiovascular disease and consuming no related medication. To achieve this, before performing the test, the volunteers were asked to fill out a questionnaire about their general health and medical history to ensure that all participants in the study have a normal healthy cardiovascular function and are not consuming an effective drug in the activity of the autonomic nervous system (Aronson et al., 2001; Bekheit et al., 1990).

Finally, HRV and SC were recorded in 50 healthy subjects (23 females, 27 males; 23 to 77 years of age; education level from bachelor to PhD), after receiving their written consents to participate in the study.

Since ANS functioning can be influenced by either the environmental conditions of experiments or the psychological conditions and even breathing mode of the participants (Stauss, 2003). It is crucial to experiment under fixed optimal conditions. To do so, all the recordings were conducted under the same environmental conditions in a specific room with certain environmental factors. Moreover, the recordings were carried out at least 1 hour after breakfast and before lunch, between 10 a.m. and 12 noon, to avoid the influences of circadian rhythm (Kleiger et al., 1991).

In order to record a rest mode from the autonomic nervous system as baseline and to avoid the influences of daily physical factors on autonomic activity (Soares-Miranda et al., 2014), not only the participants were not allowed to perform the physical exercise the day before the examination, but also they were asked to keep the body still and relaxed for 10-15 minutes after arrival to the examination lab for baseline recording in a motionless sitting position.

It should be noted that since each participant's data is compared to him/herself (before and after Faradarmani CF treatment) and not to each other, the issue of matching participants is resolved. However, the subjects were asked to breath slowly and steadily in both recording series (base and Faradarmani CF) to minimize the experiment error.

HRV-SC RECORDING

A 4-channel biofeedback device (at the Medina Teb Company, Tehran) was used for this study. Data of all 50 volunteers were recorded on 6 successive days (10 am-12 noon). Once fixing the blood volume pulsation (BVP) and SC electrodes to the fingers of the participants, the autonomic data were recorded continuously (beat-to-beat) and non-invasively in two 5-min sections.

The first 5-min, which is considered a base situation, was recorded without any intervention. In the second 5-min, Faradarmani CF treatment was administered in a double-blinded manner by a Faradarmangar from a long-distance. To obtain HRV parameters, the heart rates (HR) data, derived from BVP signals, were analyzed by power spectral analyses, computed by the biofeedback

device in both the time and frequency domains, based on the one firstly proposed by Bianchi (Bianchi et al., 1997).

STATISTICAL ANALYSES

All statistical analyses were accomplished using the GraphPad InStat 3 statistical package (GraphPad InStat Software, San Diego, CA). Data were analyzed by two-tailed statistical analysis followed by Tukey post-hoc test comparisons and stated as mean ± SEM. P-values less than 0.05 represented statistically significant differences.

RESULTS

Two types of variations, (1) increasing or (2) decreasing, were observed in the studied indices under the effect of Faradarmani CF. Two-tailed statistical analysis of each type exhibited major alterations in HRV parameters compared to the baseline.

Comparative analysis of the frequency and time domains of HRV demonstrated more significant changes in the frequency domain (VLF: P_1=0.0016, P_2=0.0147; LF: P_1<0.001, P_2=0.008; HF: P_1=0.0338, P_2=0.0086; LF/HF: P_1=0.0011, P_2=0.0119), compared to the time domain (PNN50: P_1=0.0464).

Frequency-Domain Analysis of HRV

Figure 1 (a, d, g, j) illustrates %VLF, %LF, %HF, %LF/HF of 50 participants before (red line) and after Faradarmani CF (green line). At first glance, the changes seem irregular and inconsistent. As-

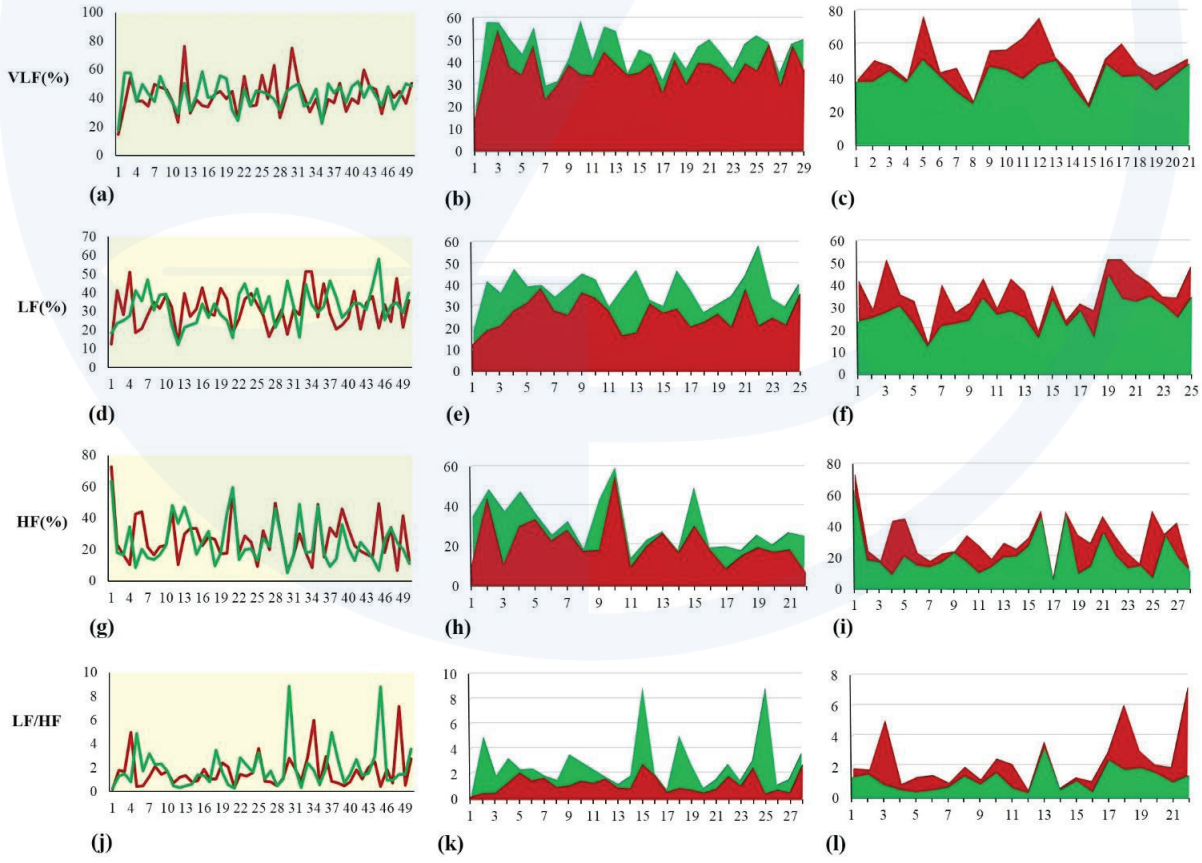

Figure 1. Comparison of frequency-domain parameters of HRV (VLF, LF, HF, LF/HF) between baseline (red) and Faradarmani CF (green) modes of each participant.

suming that the effect of the Faradarmani CF depends on a patient's needs, each chart was separated into the increased (b, e, h, k) and decreased (c, f, i, l) HRV groups. This was for each frequency-domain parameter to track the changes more clearly.

Statistical analysis of frequency-domain parameters of HRV represents significant changes in VLF (increased: P1=0.0016, decreased: P2=0.0147), LF (increased: P1<0.001, decreased: P2=0.008), HF (increased: P1=0.0338, decreased: P2=0.0086), LF/HF (increased: P1=0.0011, decreased: P2=0.0119) between Faradarmani and baseline mode (Figure 2).

Time-Domain Analysis of HRV

Figure 3 (a, d) illustrates the PNN50 and SDNN of 50 participants before (pink line) and after Faradarmani CF (green line). Separating each chart into the increased (b, e) and decreased (c, f) HRV groups for each time-domain parameter displays the changes noticeably in each person pre- and post-Faradarmani.

Figure 4. Statistical analysis of time-domain parameters between baseline (pink) and Faradarmani CF (green).

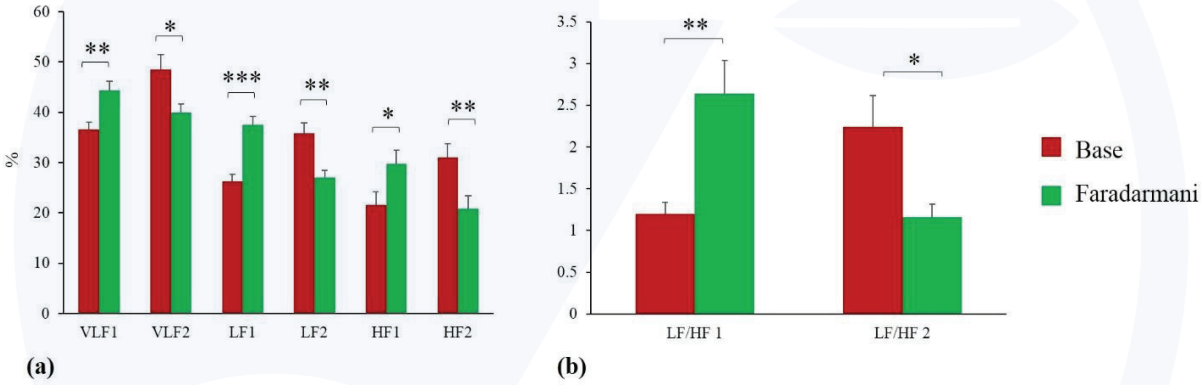

Figure 2. Statistical analysis of frequency-domain parameters of HRV between baseline (red) and Faradarmani CF (green).

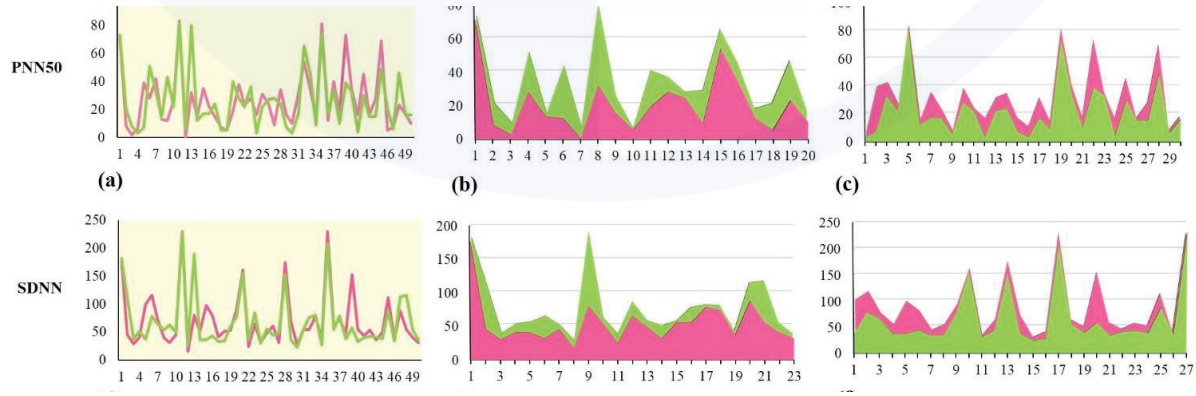

Figure 3. Comparison of time-domain parameters of HRV (PNN50, SDNN) between baseline (pink) and Faradarmani CF (green) modes of each participant.

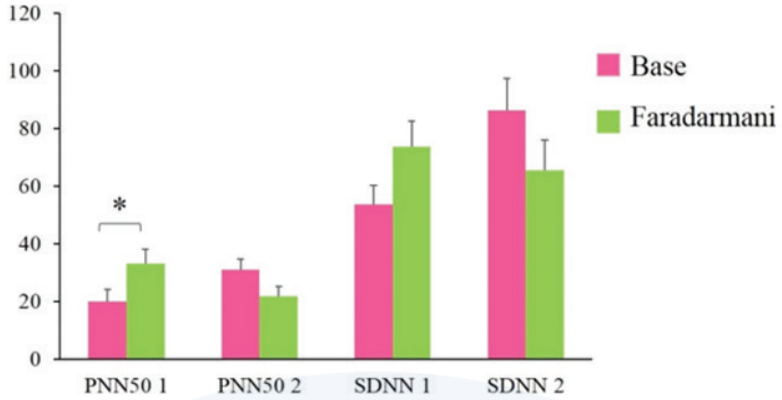

Figure 4. Statistical analysis of time-domain parameters between baseline (pink) and Faradarmani CF (green).

Table 1. Comparison of variables between baseline and Faradarmani.

Parameters	Base (mean)	± SEM	Faradarmani (mean)	± SEM	*P*-Value
VLF1	36.586	1.489	44.405	1.825	0.0016
VLF2	48.557	2.898	39.974	1.716	0.0147
LF1	26.29	1.417	37.494	1.644	0.001
LF2	35.859	1.995	27.074	1.425	0.008
HF1	21.627	2.529	29.78	2.721	0.0338
HF2	31.016	2.727	20.829	2.553	0.0086
LF/HF 1	1.2	0.1371	2.639	0.3954	0.0011
LF/HF 2	2.241	0.3792	1.156	0.1623	0.0119
PNN50 1	20.2	3.971	33.2	4.907	0.0464
PNN50 2	31.033	3.896	21.933	3.529	0.887
SDNN 1	53.652	6.806	73.739	9.002	0.0820
SDNN 2	86.333	10.979	65.519	10.633	0.1791

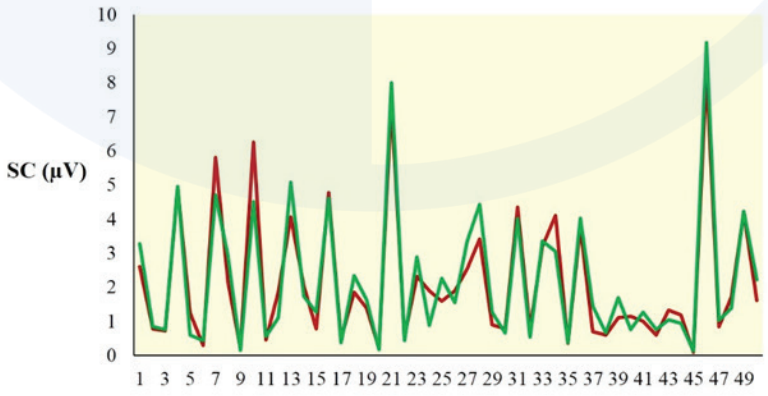

Figure 5. Comparison of SC between Baseline (red) and Faradarmani CF (green).

Analysis of frequency-domain parameters of HRV reveals statistically significant changes in PNN50 (increased: P1=0.0464) between Faradarmani CF and baseline mode (Figure 4). No significant differences were observed in SDNN pre- and post-Faradarmani CF.

As shown in Table 1, the changes in the frequency and time domains of HRV under the influence of Faradarmani CF are significant. The most major changes are in the frequency-domain parameters of HRV.

Skin Conductance

Two-tailed statistical analysis exhibited no major alterations in SC under the influence of Faradarmani CF compared to the baseline.

DISCUSSION AND CONCLUSION

The study of new treatments in the present age can be a starting point for the development or perhaps a change in the type of treatment in medical research. Many studies have been done so far on the influence of different complementary and alternative medicine (CAM) on heart rate and HRV. For example, there are studies on the effects of mindfulness (Delizonna et al., 2009; Krygier et al., 2013; Mankus et al., 2013; Shearer et al., 2016), and acupuncture (Anderson et al., 2012; Lee et al., 2010; Streitberger et al., 2008) on HRV that focus more on their effects, while their mechanisms of actions are still unclear.

It is notable that the other types of CAM, such as meditation and mindfulness, show a consistent effect in increasing HRV during the practice sessions, regardless of the person-to-person situation and need (Kirk et al., 2020; Nesvold et al., 2012). As for meditation, a meta-analysis study conducted in 2020 with participation by a group of researchers from the UK, Brazil, and the USA has systematically reviewed adverse meditation events (MAEs). According to this review of the wide literature published between 1974 and 2019, individuals with and without previous history of mental health problems may experience harmful effects, particularly anxiety and depression (with a prevalence of 8.3%), during or after meditation practices. The occurrence frequency is comparable to those reported for psychotherapy practice in general (Farias et al., 2020).

As mentioned in the introduction section, although Faradarmani CF is not measurable directly and quantitatively, it is possible to investigate its effects through various experiments. In previous studies, we observed the effects of the CF on MCF7 cancer cell line (Taheri et al., 2020), Alzheimer's disease in vivo and in vitro models (Taheri et al., 2021a), spatial memory and avoidance behavior of a rat model of Alzheimer's disease (Taheri et al., 2021b), Wheat plant (Torabi et al., 2021), Bacterial population growth (Taheri et al., 2021), Viral growth (Taheri et al., 2021c) and the electrical activity of the brain during Faradarmani in the Faradarmangars population (Taheri et al., 2020a). According to the results, not only Faradarmani CF, even from far distance, has its significant effects on ANS functioning, but also it exerts different variations on HRV parameters indicating T-Consciousness that considers one's condition and need. However, further research needs to be done in identifying the effects of the Faradarmani CF.

According to the studies on the effects of different methods of CAM on SC reactivity, it seems to need a long-time period on a time scale of several months for significant changes to be detected (Kelm et al., 2018). We suggest that the effects of

Faradarmani CF be screened in a long-time period in future studies.

CONFLICT OF INTEREST

The authors report no conflict of interest.

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