

FG Meditation as a Multidisciplinary and Holistic Approach of Meditation

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Abstract

F.G.Meditation is a new comprehensive style of meditation, which is consisted of concentrative, introspective and mindfulness techniques. It increases various sorts of awareness including sensual-bodily awareness, emotional-mental awareness and existential awareness as a holistic form of meditation. F.G.Meditation is a multidisciplinary meditation style, based on the principles of mathematics, geometry, psychology, physiology, neurosciences, cognitive sciences and philosophy of mind through which one can reduce physical, emotional and mental stress. It provides extensive realm of agendas for the scientific research around this style of meditation and its effects on the brain functions and physiology, psychosomatic disorders, psychology, medicine, cognitive sciences, fuzzy geometry, hypno-meditation, idea-motor phenomenon and also to compare its psychophysiological impacts rather than other meditations.

Meditation ameliorates stress, anxiety and worry, through the variety of focused-attention and open-monitoring techniques. New researches have confirmed positive neuro-psycho-physiological impacts of meditation during which significant neuroplasticity occurs. Through the exposure of attention into interoceptive-visceral and exteroceptive sensations in meditation sensual-body awareness and emotional-mental awareness is increased.

One of the unique features of F.G. Meditation techniques is to picture meditative process in the form of mathematical graphs and functions for the first time ever. According to the diagram for each Geometric Somatic-Breathing Based Meditation technique in F.G. Meditation, specific mathematical functions are provided with the variables of "r" for range of motion or amplitude and "t" for time and they are indicating the oscillations of the meditative curve.

Introduction

This method, abbreviated as F.G. Meditation or Geometric Meditation. It is an innovative and concrete method which is composed of 64 techniques and divided into six specific parts including: Geometric Somatic-Breathing Based Meditation (G.S.B.B.M), Geometric Introspective Based Meditation (G.I.B.M), Mindfulness Based Meditation (M.B.M), Somatic Based Meditation (S.B.M), Somatic-Breathing Based Meditation (S.B.B.M) and Mind-Body Based Meditation (M.B.B.M)(Table 1).

The general meaning of meditation in F.G. Meditation is purposeful and self-induced manipulation of attention which leads to the experience of an altered state of consciousness, concentration and mental silence¹. Attention, here, means the brain capability and tendency to deal with a single subject or a phenomenon and to ignore all other subjects and phenomena at the same time (Anderson 2004)². Concentration, in itself, means reducing the friction surface of attention to all things, phenomena or subjects and increasing the friction surface of attention

to a single phenomenon or one subject. In other words, it means to leave all and join only to the one¹.

F.G.Meditation is a new comprehensive style of meditation, which mainly consisted of concentrative, introspective and mindfulness techniques. It increases various forms of awareness including sensual-bodily awareness, emotional-mental awareness and existential awareness as a holistic form of meditation³. F.G.Meditation is a multidisciplinary meditation approach, based on the principles of mathematics, geometry, psychology, physiology, neurosciences, cognitive sciences and philosophy of mind through which one can reduce physical, emotional and mental stress⁴.

G.S.B.B.M and G.I.B.M are two main parts of F.G.Meditation. In G.S.B.B Meditation, attention is focused on subtle vibrations and effects produced by breathing process in each specific part of the body, and dismiss all other vibrations and effects from attention scope at the same time. These vibrations should be organized on various linear, surface and solid directions in the form of some geometric shapes superposing to different parts of the body with the aim of manipulating, massaging, and modulating attention in order to reach a concentrative state and mental silence as well as to experience an altered state of consciousness^{5,6,7}.

FG Meditation provides extensive realm of agendas for the scientific research around this style of meditation and its effects on the brain functions and physiology, psychosomatic disorders, psychology, medicine, cognitive sciences, fuzzy geometry, hypno-meditation, idea-motor phenomenon and also comparison of its effects rather than other meditation styles³.

Scientific research on psycho-neuro-physiological impacts of FG Meditation

An interim analysis of EEG-guided meditative training through geometrical approach in the department of neuroscience of Shiraz Medical University in Iran, suggested a pronounced deep-down relaxation response in F.G.Meditation as compared to control condition. This pilot trial and subsequent randomized clinical setup are expected to shed further light to the efficacy of F.G. meditation as a possibly preferred method in reducing stress response. In the present study by M. Torabi-Nami, F. Nazaraghaei, et al (2015), two F.G.Meditation trainers with over six months experience were enrolled each to practice four techniques from the F.G.Meditation protocol. A six-channel EEG (F3-A2, F4-A1, P3-A2 and P4-A1) montage, Galvanic Skin Conductance (GSC), Heart Rate Variability (HRV) and Pulse-Oximeter probes (Vilistus DSU, UK) were applied for real-time recording while subjects were going through five training phases in each technique. Those phases comprised the pre-test, pre technique, core technique, post- technique and post-test. Fast Fourier transform in MATLAB was employed for signal processing. Analyses of physiological recordings revealed theta/beta ratio, overall dominant frequency, theta amplitude, mean HRV, SaPO2 and GCS of 0.96, 3Hz, 5.42 μ v, 53.63, 94% and 6.91 μ v versus 0.02, 16 Hz, 0.02 μ v, 25.42, 92% and 6.98 μ v in core technique versus pre-test phases of all F.G.Meditation techniques trainings, respectively. Guided by the abundance of theta-range frequencies in real-time processing, trainers were allowed more time to remain in deep-down state for more profound meditative experience. Preliminary data of this study suggested a pronounced deep-down relaxation response in F.G.Meditation as compared to control condition⁸.

In a study regarding the suitability of F.G.Meditation for the treatment of insomnia, specific techniques in a protocol

suggested which can ameliorate stress, anxiety and worry for the enhancement of sleep quality. According to the most recent research findings, among the various non-pharmacological approaches, meditation and yoga could be assumed and implemented as drug-free alternatives or complementary and integrative interventions for insomnia. Yogic exercises can enhance the sleep hygiene, whereas meditation ameliorates stress, anxiety and worry, through the variety of focused-attention and open-monitoring techniques⁹. New experimental researches have confirmed positive neuro-psycho-physiological impacts of meditation during which significant neuroplasticity occurs¹⁰. Through the exposure of attention into interoceptive-visceral and exteroceptive sensations during meditation sensual-body awareness and emotional-mental awareness are increased. Specific yogic and geometric meditation techniques along with lifestyle modalities can be adapted as effective holistic approach for the treatment of insomnia. Some F.G.Meditation techniques are more efficient to fulfill the quoted task as Jumping Movement of Attention, Idea-Motor (supine), Unilateral Movement of Attention, Expandable Hyperbolic Angle (Leg and Arm), Horizontal Linear Concentration, Pendular Movement of Attention and Figure-Background technique⁹

In an experimental research work which carried out by F. Nazaraghaei, Sh. Farrokhi, et al (2015), in Bushehr Medical University in Iran, the synergic effects of F.G.Meditation on the pharmaceutical treatment of asthma for women between 30-40 years has been assessed which shows encouraging results¹¹.

Another study has evaluated the efficacy of mindfulness therapy for anxiety based on F.G.Meditation by M. Morabbi and Z.Towfighi (2015), which reveals the potential implementation of

F.G.Meditation for the treatment of anxiety and suggested more objective parameters for the future studies in the quoted field¹².

Phenomenology of G.S.B.B.Meditation and focused attention

G.S.B.B. Meditation is a group of techniques in which, subtle and sensible effects caused by breathing are followed in the light of form, route and direction of respiratory muscles' movements, the entry and exit of the airflow or slight vibrations produced by both processes in inhaling and exhaling stages. This process should be organized in some geometric shapes superposing to different parts of the body with the aim of manipulating, massaging, and modulating attention in order to reach the concentrative state and mental silence as well as to experience an altered state of consciousness. In this style of meditation, attention moves in accordance with the process of inspiration or expiration on one hand and with the geometric shape on the other hand⁷.

In G.S.B.B. Meditation attention scope is intermittently manipulated via two stages. In first stage it is limited to the specific part of body which leads to the contraction of attention and then in second stage it is expanded throughout the body which leads to the expansion of attention. When contraction of attention and in continuation of that expansion of attention happens it causes some modulations in the scope of attention which leads to the formation of delightful and pleasurable somatic feelings as well as experience of an altered state of consciousness³.

In Geometric meditation, attention is organized on various directions and forms including linear, surface, and solid figures, in complete overlap to different parts of the body, and is fully synchronized with inhalation or exhalation, finally, it leads to the pointed or compressive attention stage^{3,6}.

In G.S.B.B.M it should be noted that forming of geometric shapes occur simply by following the specific routes and directions, based on breathing effects and slight vibrations or simply under the effect of Idea-Motor phenomenon. To organize the figure, you need not put pressure on your mind. Once you find subtle breathing vibrations in your body, you may organize the specific geometric direction or form, with your attention and move through which easily and in harmony¹.

Mathematical logic behind FG Meditation techniques

In FG Meditation description of concentration based on figures axis is as follows; attention moves from plus infinity(+∞) to minus one(-1). If mathematical model of concentration is converted to a geometric model, a triangle will appear with a base of +∞ and an apex of "1" Therefore, the closer one goes up from the base towards the apex, the more concentration one receives. Two sides demonstrate the radius of attention¹ (Fig1,2).

One of the unique features of F.G. Meditation techniques is to present meditative process in the form of mathematical graphs and functions for the first time ever. According to the diagram for each G.S.B.B. Meditation technique, specific mathematical function is provided with the variable of "r" for range of motion and "t" for time and they are indicating the oscillation of the meditation curve.

In G.S.B.B.M, for each group of concentrative techniques, meditation process is defined through the different mathematical functions and equations. The first and simple equations are generally provided without considering the duration and the distance between inhalation and exhalation, however, all other functions are provided more slightly complicated and considering more components such as

the number of breathings or "k" and duration between one inhalation to the next inhalation or "T".

In Horizontal Linear Concentration Technique, the breathing oscillations graph is indicated on X and Y axis. X axis indicates time (t) and Y indicates amplitude of oscillation in abdominal muscles movements or range of attention oscillation(r). The amplitude of oscillation gets to zero at the end of axis. If both ends are joined there will be a triangle demonstrating the extent of attentional shift in a period of time from the triangle's base to its apex. So the more one moves from the base towards the apex the more concentration state one achieves (Fig 3).

According to the logic behind FG Meditation techniques, an absolute state of concentration does not exist; only a relative state close to the absolute concentration is approachable therefore in mathematical procedures and geometrical forms of hyperbolic concentration, asymptotes will appear, thus, two radius of a hyperbolic triangle approach to figure one but they never touch it, as if two sides of a hyperbolic triangle are the attention radiuses¹(Fig 4).

Philosophy of Mind in FG Meditation

According to the philosophical approach of Internalism mind is formed only due to the impulses originate within the brain and nervous system itself, while in Externalism, mind is also affected by other physiological functions such as circulatory, respiratory, endocrine system, as well as muscular and skeletal structure, body shape, and etc.(Noe, 2009)¹³. Therefore one reason behind the existence of hyperbolic, circular, spherical and conical techniques according to externalism, in geometric meditation may refer to the outer and inner structural form of the body due to the reciprocal interaction between body and mind.

But what exists beyond the present challenge between the thinkers of Internalism and Externalism, is the mind-body problem. How are mind and body influenced and relate to each other?

F.G. Meditation techniques, in a special perspective, disclose the unique model of relationship between mind and body through which a complete synchronization and overlap between mind, breathing, geometric forms and body happens. In this model meeting point is a specific part of the body, the vehicle is breathing, a geometric shape is the mediator of this meeting and the attention element is the driver¹⁴.

Geometric Introspective Based Meditation

Attention seems to drive to the frontal lobes in a deep meditative state. In order to have deep concentration and penetration into the dark space just behind the eyelids (Akasha) through the sight or visual essence of sense some geometric forms are used as spiral, reversed spiral, spheres, cones and circles which are formed just behind eyelids and in forehead region to accelerate the process of full immersion and deep plunge into the dark space¹⁴.

Nurturing open monitoring in FG Meditation through Detached Mindfulness Meditation and meditative metaphors

This sort of meditation is practiced via observing the flow of thoughts and

memories appear spontaneously in the mind which causes fluctuation of attention between past and future. The goal is not based on active involvement with thoughts, memories, and emotions, but observation of autonomous events or lack of such events in our awareness scope. With the help of this method, an individual knows how to face the internal events through a new meta-cognitive strategy in an effective manner.

Meditative metaphors help meditator to detach from intrusive and disturbing thoughts, emotions or external events and to realize the concept of detached mindfulness meditation in which meditator is not allowed to use any sort of cognitive and mental processes as thinking, contemplation, reasoning, inference, construe, correlation, deduction or conclusion but only to observe them in a detached state. Passing clouds, flying eagle, running train, waterfall and river, monkey, pitfall, passing moon, rainbow, peacock, ocean waves, dandelion, bird, cinema and fish metaphors are the meditative metaphors for the better understanding of detached mindfulness meditation technique¹⁴.

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Appendix

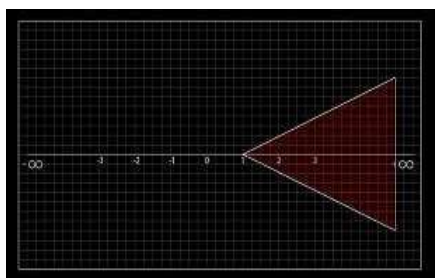


Figure1.

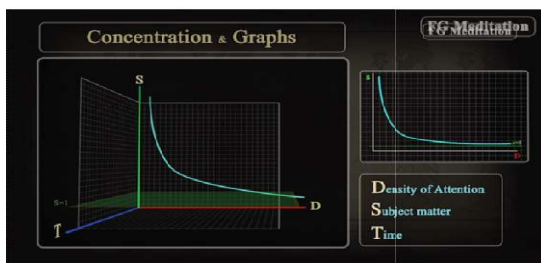


Figure2.

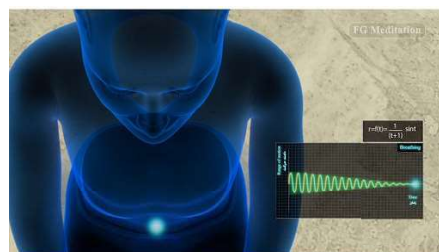


Figure3.

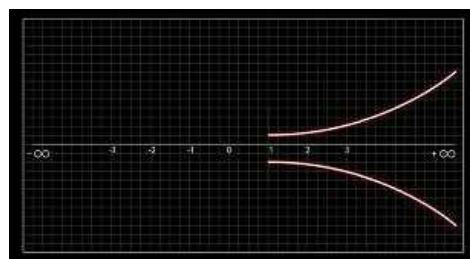


Figure4.

Geometric Somatic-Breathing Based Meditation	Linear	→	Horizontal	
			Vertical	
			Nasal Angular	
	Hyperbolic	→	Pervasive Hyperbolic Concentration	Vertical(Trunk, Neck, Head) Horizontal(Abdominal)
	Planar(Surface)	→	Expandable Hyperbolic Angle	Upward Downward Upward & Downward Forward Backward Forward & Backward Bi-Vertical(Neck-Head) Leg-Arm
	Solid(3Dimensional)	→	Horizontal	
			Vertical	
			Lateral	
	Mixed Geometric Concentration	→	Spherical	Uni- Spherical (Abdominal) Bi-Spherical(Abdominal, Head) Vertical(Sternum-Downward) Vertical(Sternum-Upward) Horizontal(Abdominal-Forward) Horizontal(Abdominal-Backward) Vertical Bi-Conical (Abdominal, Sternum, Neck, Head) Horizontal Bi-Conical (Abdominal, Head) Lateral Bi-Conical (Abdominal, Head) Vertical Bi-Conical ₂ (Sternum) Bi-Conical(Leg-Arm)
			Conical	
Geometric Introspective Based Meditation (Visual Based)	3Dimensional Expansion	→	Linear	
	Circular Expansion	→	Hyperbolic	
	Spiral Movement (Forehead, Fontanel)	→	Planar	
	Reversed Spiral Movement(Abdominal, sternum, forehead, fontanel)	→	Solid	
	Horizontal Bi-Conical Concentration(Forehead-Forward & Backward)	→	Linear-Hyperbolic	
	Bi-Spherical Expansion	→	Linear-Planar	
	Reversed Spiral Movement(Perineum, Sternum-Downward)	→	Linear-Solid	
	Reversed Spiral Movement(Neck-Upward, Downward)	→	Hyperbolic-Planar	
	Planar Spiral Movement of Attention(Abdominal-Inward, Outward)	→	Hyperbolic-Solid	
	Eccentric, Concentric	→	Planar-Solid	
Mindfulness Based Meditation	Detached Mindfulness (Meditative Metaphors)	→	Linear-Hyperbolic-Planar	
	Pendular Movement of Attention(Pervasive, Bodily & Sensual, Mind & Body, Sensual & Mental Vacillation)	→	Linear-Hyperbolic-Planar-Solid	
Somatic Based Meditation	Uni-Lateral Movement of Attention(Right, Left)	→	Pond Shaped Concentration	
	Jumping Movement of Attention (Joint to Joint)	→	Spherical-Conical	
Somatic-Breathing Based Meditation	Idea-Motor Technique (Supine, Upright Position)			
Mind-Body Based Meditation	Figure-Background Technique			

Table 1