Bioenergy and its Implication for Yoga Therapy

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Abstract

Electro photonic imaging (EPI) is being researched relative to its application for yoga therapy. Three parameters of interest in EPI measurements are as follows: Communication energy (C), integral or normalized area (IA), and Entropy (E). It is important to note that C indicates the total energy of communication for the organ system; IA is an indication of total amount of energy that is available for the organ system while entropy is an indication of the amount of coherence of the energy. Coherence and entropy are inversely related; this means less the entropy, more the coherence and vice versa. Illustrative cases of successful therapy with yoga practices in a wide variety of abnormal conditions are examined, and in every case, entropy is shown to decrease for the affected organ system while communication energy stays within stable range. Relative to the electromagnetic (Rubik) and living matrix (Oschman) models, it is suggested that the regulation of energy, its coherence in the biological system and interaction with life processes provide the basis for model building and design of health-promoting procedures. Further, this approach is examined relative to yoga theory, traditional medicine systems, and scientific developments in the field of gene expression and neuroplasticity and a generalized model that we call Unified System of Medicine is proposed. This model has direct implications on methods used to control the environmental factors to get robust results from EPI application for therapeutic purposes. Implications for furthering research in yoga therapy using EPI and implications of EPI as a translational technology between traditional medicine systems and modern medicine is discussed.

Keywords: *Bioenergy, electro photonic imaging, therapy, yoga*

Introduction

About 80 years of research mostly in Russia and Germany to study bioenergy has resulted in a number of devices[1,2] with electro photonic imaging (EPI) earlier called gas discharge visualization[3-5] being one of the recent user-friendly devices. It has the potential to serve as a translational technology between traditional systems of medicine and modern conventional medicine. Consistent with traditional medicine approaches, it measures communication in the biomeridians, but unlike the terminology of Chinese or Ayurvedic medicine systems, it produces communication energy numbers in Joules by organ systems that are known to conventional medicine, and according to Korotkov, the validated correlation with conventional diagnosis of abnormal conditions is in excess of 80%.

The modern medicine approach viewing the human system as a mechanical system has been a barrier to accept the bioenergy concept. However, the field of yoga therapy, which has yielded remarkable results from a therapeutic perspective[6] whose mechanism is being largely estimated within the paradigm of conventional medicine, is an ideal field to prove the effectiveness of bioenergy and EPI as a measurement tool and reaffirming the human system as a communicating system in the lines of the electromagnetic (Rubik[7]) and living matrix models (Oschman[8]). Further, incorporating the developments in gene expression and neuroplasticity over the last decade,[9-20] we attempt to integrate Rubik and Oschman models into a Unified System of Medicine (USM) model both for integrative understanding of conventional and traditional systems of medicine and to ensure the correct application of EPI. EPI readings are extremely sensitive to thirst, medications, thoughts, environment, etc., and the USM model guides us to understand why this should be so. We propose in the USM model that this is measuring the gene expression in action combined with neural activity and will change at least

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slightly from moment to moment, and this is validated by gene expression research.[9-22] Until now, variations in the readings within short-time intervals have been difficult for conventional medicine to understand given an orientation to view everything as physiological.

The current status of subtle energy in the body is assessed through the application of EPI to yoga therapy based on USM. When any abnormality in one or more organ systems is indicated, based on traditional and researched information on yoga practices, appropriate practices are suggested for immediate application. EPI readings are taken immediately after the practices to see the impact of practice on the organ systems. While the impact may be fleeting and not sustained after a few minutes, the effect of neuroplasticity from regular daily practice is expected to make it permanent after a few weeks of practice. We call this approach Measured Yoga Therapy (MYT) that gives the ability to predict the long-term impact of a specific yoga protocol on a specific person for a specific condition. Further, this understanding also suggests that for the application of MYT, to enable correct measurement before and after a yoga intervention, factors suggested by the USM model must be controlled through various preparatory instructions to the subject before the measurements and also by suitable environmental and behavioral management at the time of reading, as explained later.

EPI readings provide energy of communication (C) for each organ system and also total level of available energy called normalized or integral area (IA) and level of entropy (E). Entropy is inversely related to coherence as defined in communication engineering. As observed in our cases, our thesis is that coherence must increase as healing takes place while overall energy of communication (C) improves, which implies that IA must remain in a stable range, i.e., increasing or if decreasing only to the extent of not affecting improvement in C. This we demonstrate in the cases we have dealt with. Focusing on E allows us to recognize the real organ system drivers for any healing process.

Materials and Methods

The key elements for this research are three-fold: Instrument, application model, and process.

The instrument

The measurement instrument is Korotkov's EPI instrument called Bio-well. Bio-well takes a picture of the ten fingers of the hands when they are placed sequentially in an electromagnetic field. This produces an aura type image called a Biogram. Based on traditional Chinese medicine system, each segment of the Biogram is assigned to a different organ system. The light intensity of the Biogram and its pattern, compared with thousands of cases previously studied by Russian researchers to establish standards, provides a reading of energy of organ systems (in Joules) represented in the ten fingers. In a single reading, after removal of the noise and low levels of scattered light, the remaining light of the Biogram compared against the calibrated standard provides the communication energy C in Joules.

EPI communication energy (C) for organs systems of 5 J is considered normal, and range of 4–6 is considered normal zone. Less than 4 J is considered an indication of weakness. More than 6 is considered hyperactivity caused by imbalance which the system is trying to fix. If the fix happens, it would come back to normal range in due course. If the fix does not happen, it would eventually go into the weak zone. A change of 0.5 J or more is considered a significant change attributable to any intervention, provided other factors of the USM model are stable. Since C can change a little based on momentary thoughts, assessments should take into account how the patient feels in addition to the numbers and should only be used after conventional diagnosis is verified to be reasonable relative to observed C of organ systems.

Further an experienced user of EPI will realize that more important than the ranges mentioned above is the disparity between the highest and lowest organ systems' C, and their deviance from other organ systems' C.

The application model

Assessments of the lowest and highest C are taken in conjunction with conventional diagnosis of the abnormality to attempt correlation with the diagnosed condition. Based on traditional understanding of yoga, researched effective practices, and the Life in Yoga therapy model of parsing each disease in terms of root causes, a suitable yoga intervention is suggested. Immediately after the application of the intervention, EPI readings are taken again, and we look to see changes in the affected abnormal C, IA, and E values. Reduction in entropy (E), i.e., improvement in coherence, is considered the key indicator of effectiveness of intervention to overcome the abnormality once neuroplasticity sets in. (From the Biogram perspective entropy is defined as the ratio of the outer contour to the inner contour. Thus, entropy reduces when the irregular protrusions on the edges of the outer contour [like bubbles] become more regular reducing the overall outer contour length).

The Life in Yoga therapy model makes a subjective assessment based on conventional medicine knowledge of any abnormality relative to impact in five zones: musculoskeletal; biochemistry/endocrine; gene expression; immune system; and vitality. The loose correlation of practices to zone of abnormality is as follows: musculoskeletal to Asana, biochemical/endocrine to sound vibrations (related to the Yoga limb of Pratyahara); gene expression with power of intent or thought (related to Dhaarana); immune system with meditative

practices (related to Dhyaana-Samaadhi); and vitality with Pranayama practices. In practice, any abnormality is a combination of multiple zones, and it is commonly observed that improved vitality with reduced stress will improve most conditions.

The process

Subjects with abnormal conditions generally present themselves for appointments after filling an intake data form listing their medical history and lifestyle details including sleep, food, work, family, and other discretionary activities. They are also required to sign a consent form with full details as required for ethical disclosure. Preparation requirements before assessment typically relate to food and medicine to ensure that at the time of assessment, EPI does not capture their effect. On arrival for an appointment, water is offered, and about 10 min is spent with conversation that will keep the person in a neutral mood. This gives time for mental settling to avoid the impact of any stress or emotional state affecting the EPI readings. The therapists present keep a neutral intent so that the process is not affected.

After the application of therapy, if there is reduction in entropy with stable energy level, the practice is recommended for daily practice. Time is taken to discuss where it would fit within their lifestyle, and a log sheet is given for daily tracking of practice. Reduction in entropy is valid only when done just before and after treatment in one sitting. Dynamic changes within the subject over time, even a day apart, generate entropy readings that are not directly comparable. [This type of dynamic changes that prevent comparability is observed even in the use of FMRI evaluations at a later date].[23]

If EPI reading immediately after a specific yoga practice does not show improvement with reduced entropy, we test other yoga protocols in search of a solution until we find one or give up.

Case Results

The case results below are presented to demonstrate the application of MYT for a variety of abnormalities and also to verify the importance of increased coherence (reduced entropy) in affected organ systems along with stable energy for successful yoga therapy intervention.

The first two cases using deep breathing as the intervention appear similar. Yet looking deeper and correlating with entropy change, EPI reveals the differences in the two situations with respect to activated organs.

Cases C and D are, respectively, cases of diabetes and insomnia. However, the importance of entropy (or coherence) is demonstrated in the loss of weight for the case where reduction in entropy for pituitary organ system (metabolic control) was evident, but not in the pituitary communication energy; whereas in the case where the pituitary communication energy had a big increase, there was no weight loss as shown by unchanged entropy value for the pituitary organ system.

The remaining cases demonstrate a wider variety of abnormalities for which EPI and MYT have been applied.

These cases demonstrate the following:

- The importance of traditional yoga application as a customized one-on-one practice based on individual evaluation instead of a set practice for a specific condition
- That the same practice can impact two different individuals differently
- Effectiveness of EPI to track the deficiency in initial assessment and impact of any yoga intervention.

Cases A and B: Overcoming Persistent Tiredness

Case A: 49-year-old female, school teacher, mother of two children in their mid and late twenties, feeling a sense of deep tiredness requiring a late afternoon nap daily though she sleeps well at night with adequate sleep. This had been happening over the last 2 years, and she found herself unable to function and have dinner ready without the late afternoon nap. She confided that she was really worried about her older child who was 28-year-old, had completed his Bachelor's degree with difficulty, was aimless in life and had no discipline. Initially, the father had taken a strict disciplinarian attitude toward his son and later had let go. There was little communication between father and son. However, the mother was emotionally attached though she had accepted the situation. EPI readings showed overall weakness– low vitality. Slow deep breathing of 3 rounds of 20 breaths had a positive impact. She kept her daily practice and reported a month later that after initiating the practice there was no tiredness or need for the afternoon nap.

Case B: A 54-year-old male, biomedical researcher, spouse of a physician, often feeling tired. He had temporarily been on hypertension drugs and discontinued. He appeared to have a busy workaholic lifestyle, tried to get 40 min of cardiovascular exercise 3 times a week, but not always regular. Slow deep breathing of 3 rounds of 20 breaths each made him feel much better. Two months later, he reported that he had benefitted very much by daily such practice, no longer feeling tired, was sleeping better, and had a feeling of wellness.

Key organ systems C (communication energy), IA (normalized area), and E (entropy) before and after the intervention for the two cases are noted in Table 1.

Table 1 indicates that these two cases of tiredness are very different. While both have improvement in the C of Respiratory system, Thorax Zone, hypothalamus (a stress indicator), and immune system with deep breathing, Case A is an endocrine communication imbalance arising

Table 1: Change in communication energy, integral, or normalized area and entropy for Cases A and B by organ systems

	Active organ	C		IA		Change (%)	E coefficient		Change (%)
		Before	After	Before	After		Before	After	
Case A	Cardiovascular system	3.66	4.31	2.055	2.34	14	2.275	2.065	−9
	Heart	3.20	4.22	3.105	4.14	33	2.89	2.71	−6
	Respiratory system (also mammary glands for women)	3.50	5.65	3.08	4.905	59	2.345	2.66	13
	Thorax zone-respiratory	4.34	4.91	2.21	2.415	9	2.12	1.935	−9
	Endocrine system	2.79	4.44	2.48	2.84	15	3.4	2.385	−30
	Hypothalamus (stress indicator)	3.36	4.16	2.33	2.71	16	2.595	1.985	−24
	Adrenals energy	1.82	4.80	1.69	3.12	85	2.71	2.205	−19
	Nervous system	2.96	3.59	2.15	2.795	30	3.06	2.235	−27
	Immune system	2.77	3.53	1.77	2.105	19	2.02	2.03	0
Case B	Cardiovascular system	3.98	4.09	1.525	2.44	60	1.935	2.17	12
	Heart	3.36	3.94	1.61	2.985	85	2.15	2.51	17
	Respiratory system (also mammary glands for women)	2.52	4.28	1.33	3.625	173	1.895	2.545	34
	Thorax zone-respiratory	2.47	3.66	1.09	2.05	88	2.18	1.92	−12
	Endocrine system	3.51	3.65	1.265	2.22	75	2.63	2.715	3
	Hypothalamus (stress indicator)	3.52	4.05	1.585	2.2	39	2.135	2.005	−6
	Adrenals energy	3.62	3.77	1.5	2.28	52	2.085	2.2	6
	Nervous system	3.20	3.73	1.43	1.95	36	1.8	1.98	10
	Immune system	2.42	3.79	0.825	1.975	139	2.115	2.245	6

IA=Integral or normalized area, C=Communication energy, E=Entropy

from worries (mental health) while Case B is simply the case of an overworking stressed workaholic.

The last three columns confirm that the change in the respiratory system and immune systems are incidental (with increased IA or total energy) and not the active driver in both cases (since entropy does not reduce). However, change in hypothalamus, indicative of stress reduction, is a common driver for both. Further, in Case A, the endocrine and nervous systems respectively with a 30% and 27% drop in entropy (increased coherence) and increased IA are the most active drivers while the cardiovascular system also contributes similarly but with lesser impact. However, in Case B, the drop in E in the thoracic zone respiratory activation along with hypothalamus indicates that the key driver is a lack of good breathing and building of stress from a workaholic way of life.

Cases C and D: Diabetes and Insomnia Cases Compared for Weight Loss

In these cases, the data suggest that it is coherence (reduced E) for pituitary functionality that through metabolism drives weight loss.

Cases C (Diabetic going off insulin): This is a case of a 66-year-old woman who is a chronic diabetic, becoming slightly arthritic in the knee, who was asked to lose weight to help reduce weight on her knees and for overall improvement. She had been coming regularly for weekly chair-based yoga to a wellness clinic in 2015. No changes were perceptible in 2 months. On measuring with EPI, the lowest C was pancreas. She was asked to do (gentle and slow) forced exhalation (Kapalbhati) for 15 min. The C for pancreas thereafter showed significant improvement [Table 2], and the patient reported feeling very good. She continued the practice of 15 min of Kapalbhati twice a day religiously, lost 16 lbs in 6 weeks, and after 3 months, her doctor took her off Lantis (Insulin). She continued with metformin.

Her pituitary C – indicates metabolic control – had not shown any remarkable change staying in stable C zone (4.72), but she experienced remarkable weight loss. This puzzle is explained by the drop in entropy (E) for pituitary indicating increased coherence in the metabolic communication.

Case D (Insomnia): A 19-year-old female was asked to take EPI reading by her physician (who is associated with Life in Yoga Institute) because she was seriously overweight at 278 lbs with 5’ 6’ height (body mass index = 44.9) and in suboptimal health condition. Her chief complaint was inability to sleep at night – and even when she falls asleep, she never had sound sleep and barely slept for two hours each night.

EPI showed very low C in all organ systems and the lowest was the nervous system at 0.5. Consistent with the protocol, we have developed, the exercise for the weakest system – nervous system – was recommended. After 6 restrictive throat breaths for vagal stimulation she began to feel better and being new to the practice found it difficult to do more. There was much improvement in C for epiphysis (pineal gland and melatonin) and nervous System [Table 2]. She continued doing this practice three times a

Table 2: Change in communication energy, integral or normalized area and entropy for Cases 3 and 4 by organ systems

Case	Active organ	C		IA		Change (%)	E coefficient		Change (%)
		Before	After	Before	After		Before	After	
Case C: Diabetes	Endocrine	4.88	5.07	3.63	3.45	−5	4.59	4.69	2
	Epiphysis	5.07	4.98	1.675	1.745	4	1.585	1.9	20
	Pituitary	5.2	4.72	1.705	1.465	−14	2.225	1.81	−19
	Pancreas	3.03	4.11	1.445	1.415	−2	3.3	1.91	−42
	Coccyx	10	9.08	3.305	3.18	−4	2.285	2.21	−3
	Nervous system	4.47	5.23	1.83	1.915	5	2.06	2.81	36
	Immune system	5.99	5.17	2.215	1.875	−15	2.595	1.895	−27
Case D: Insomnia	Endocrine	1.70	1.43	1.32	1.57	19	2.6	2.305	−11
	Epiphysis	2.05	3.26	1.205	1.09	−10	2.15	2.045	−5
	Pituitary	0.87	1.89	0.465	0.93	100	1.765	2.355	33
	Pancreas	2.05	0.44	1.01	0.335	−67	2.765	1.805	−35
	Coccyx	4.28	8.54	2.32	2.28	−2	2.125	1.33	−37
	Nervous system	0.5	0.73	0.29	0.4	38	2.04	1.73	−15
	Immune system	1.38	1.86	1.345	0.57	−58	2.15	1.535	−29

IA=Integral or normalized area, C=Communication energy, E=Entropy

day with around 20 breaths each time, with the last session every night before going to sleep, and thereafter, she has had no problem of insomnia and has experienced higher level of wellness.

The readings also showed substantial increase in Pituitary C, but she had no weight loss. The puzzle is resolved by looking at the 33% increased E (reduced coherence) for Pituitary.

Table 2 comparing C (communication energy), IA (total energy), and E (entropy) for the two cases explains more than the weight loss phenomenon.

- Endocrine versus nervous system drivers – Case C diabetic is narrowly endocrine-related to metabolic elements indicated by pituitary and pancreases activation – the drop in E is much larger than drop in IA while C is in normal zone ensuring increased coherent energy. However, Case D's problem of insomnia is primarily nervous system driven where C and IA increase and E drops ensuring increased coherence. Milder impact in coherence is observed in epiphysis and some other aspects of the endocrine system
- Immune System – Both the cases involve the immune system as indicated in the reduced entropy numbers. Although the drop in IA is much larger for Case D than the drop in E, the improvement in C indicates the overall coherent energy has improved. In Case C, even as both drop, the drop in E is much less than drop in IA while C remains in stable zone
- Coccyx essentially indicates communication to the knees and legs. Here, the communication energy, C and IA need to be understood with clarity along with E. In Case C of diabetes, C drops from 10 to 9.08 (correct direction of moving towards lesser hyper-activation), IA drops by 4% while coherence increases by 3% (drop of E by 3%). This indicates that as pituitary activity induces weight reduction, the heightened communication of coccyx reduces while coherence increases. In Case D of insomnia, coccyx communication is impacted by the improved nervous system since its coherence increases by 37% (drop of E by 37%) while IA falls by 2%, but C increases from 4.28 to 8.54 – indicating that more coherent communication is available to the legs to relieve the pressure of overweight.

The cases above illustrate the effectiveness of EPI in parsing the communication impact of yoga intervention in organ systems. They point to coherence as the indicator of changes in the quality of energy, but both quality (indicated by E) and quantity (indicated by IA) constitutes coherent energy, but excessive energy outside stable range is a different matter.

The following three cases presented briefly illustrate the application in a wider variety of conditions

Case E (Overcoming plantar fasciitis): A 42-year-old female, who as a practicing veterinarian mostly standing on her feet all day, was diagnosed with plantar fasciitis. She felt slight sensation most of the time, but it was really bad at night preventing her from a good night's sleep. The C for the nervous system was the weakest. Accordingly, she was asked to do the vagal stimulation practice of yoga that we have observed to stimulate the peripheral nervous system. At the time of her assessment, she had very mild sensations and at the end of 15 min of practice, the sensations fully disappeared. The nervous system C moved up from 3.07 to 3.75 while E drops by 7% [Table 3]. In addition the coccyx, pelvis minor zone C reduced from 8.00 to 7.25 with E dropping by 9%, and that area of the spine as noted earlier represents the nervous connection to the legs. Within a week, she found she had fully overcome the sensations.

Case F (Addressing idiopathic persistent headache): A44-year-old male, developing persistent headache that usually increases through the day, with MRI and other tests showing no identifiable diagnosis, on pain-killers, presented after suffering for 6 months. His daily pattern was such that the pain while being slight all the time, would increase after 11 am and become unbearable in the afternoon when he would need his pain-killing medications. At the time of his initial assessment, it was a weekend when he was off from work and his pain level was at 2 out of 10, 10 being the maximum pain; he has experienced on weekday afternoons and 0 being without pain. EPI assessment indicated suboptimal C in the nervous system and the spine (musculoskeletal energy). He was recommended gentle spinal alignment (through yoga practice), after which his pain level came down to 0 and the nervous and spine communication became normal with fall in entropy [Table 4]. After 1 week, he never had the pain again.

Case G (Arresting vitiligo): A 50-year-old male, suffering from vitiligo for 40 years with Ayurvedic medications used to contain it, also diagnosed with hypothyroidism 9 months ago and taking 25 mcg of Levothyroxine, was presented to us. His reason for yoga therapy consultation was that in the last 3 months his Vitiligo, especially on the face had begun increasing.

EPI readings indicated his liver had the lowest C. Accordingly, we prescribed yoga exercises that have an effect on massaging the abdominal area. His liver C increased from 1.5 to 3.93 J with 34% fall in entropy in the pre-post-readings presented in Table 5. Months later, he reported that the increased activation of the vitiligo had fully subsided after he began this practice and had stayed so ever since.

The cases above demonstrate the points noted in the beginning of this section: traditional yoga therapy is customized, one-on-one, with differing impact of same exercise on different people, and EPI is an effective technology to track this, but has to be applied with careful understanding of the outcome of measurements.

It should be noted here that Korotkov in his earlier works[3,4] had developed Bio-well as an early health assessment tool and used C (communication energy) as the determinant of changes in organ systems. While in an absolute sense, this would be correct, ability to predict from a single intervention is a different matter. These findings advance the understanding of the successful usage of EPI as a predictive therapeutic tool as opposed to usage only as a health assessment tool.

Discussion

The variety of cases presented above should provide credible basis to understand the body as an energy communicating system that goes beyond conventional medicine view. Further, in every case, a sustained healing outcome is observed without ingesting any type of medication. In most of these cases, the subjects chose to try yoga therapy only because there was no reasonable alternative from conventional medicine. All of these observations should make us seek a better answer for the human system model.

Yoga philosophy, associated lifestyle practices, approach of Ayurveda (which has a basis in yoga) and observations from physical and life sciences including the reviews of Rubik and Oschman provide insights.

The Yoga Sutras (YS) of Patanjali[24] view all of creation as cosmically connected planned dynamics, thus

Table 3: Case E (Overcoming plantar fasciitis)

Active organ	C		IA		Change (%)	E coefficient		Change (%)
	Before	After	Before	After		Before	After	
Coccyx	8	7.25	2.035	1.6	−21	2.175	1.975	−9
Nervous system	3.07	3.75	1.295	1.68	30	1.945	1.805	−7

IA=Integral or normalized area, C=Communication energy, E=Entropy

Table 4: Case F (Addressing idiopathic persistent headache)

Active organ	C		IA		Change (%)	E coefficient		Change (%)
	Before	After	Before	After		Before	After	
Musculoskeletal spine	3.86	4.91	1.975	2.115	7	2.525	2.3	−9
Nervous system	3.11	4.46	1.11	1.72	55	2.18	1.92	−12

IA=Integral or normalized area, C=Communication energy, E=Entropy

Table 5: Case G (Arresting vitiligo)

Active organ	C		IA		Change (%)	E coefficient		Change (%)
	Before	After	Before	After		Before	After	
Liver	1.5	3.93	0.965	2.15	123	3.255	2.14	−34

IA=Integral or normalized area, C=Communication energy, E=Entropy

making all of existence a distributed computing system connected wirelessly. Thus, there is a cosmic plan for each entity – the notion of individual duty or one's Dharma – which if violated has consequences. This is expressed in the idea of Yama in YS, whose five elements interpreted in an integral fashion suggests one should live true to ones conscience without any internal conflicts. In the field of Ayurveda, one is said to live in good health when one is true to one's own Prakriti. When one deviates, called Vikriti in Ayurveda, one is said to gravitate toward ill-health. The goal of Ayurveda to restore health is to move a person back to one's Prakriti.

This is further expressed in the Niyama concept in YS. Summarized, it can be understood as being in sync with ones biorhythm with regular habits, mentally contented and seeking to further understand the cosmic existence – essentially the pursuit of yoga to become self-realized. In the context of Yama and Niyama, it is easy to see why in traditional living of Indian society Hatha Yoga Asanas were not the focus, but rather regular, duty-focused living, with rituals that seek to promote meditation and spiritual understanding.

Sushruta Samhita, the surgery textbook of Ayurveda, notes 107 Marma points[25] where incision should be avoided since they are very sensitive and can have severe consequences. Joshi[25] claims a method of healing by careful sensitization of specific Marma points for specific conditions. The field of Reflexology[26,27] has a similar approach. This suggests an internal communication system, called Naadis in Yoga, which appears similar to the concept of bio-meridians of the Chinese Acupuncture system, and the more recent discovery of anatomical channels called primovascular system (PVS).[28,29] In Yoga and Ayurveda, Naadis are considered the regulatory system of the body.

Voll, using electrical conductance as a measure, developed the concept of universal standard of health of 50% conductance for organ systems measured in the acupuncture points of fingers and toes.[2]

Noncontact healing is verified[30] and is in the same category of blessings, prayers, and various religious rituals. The power of intent (placebo and nocebo effect[31-34]) is also validated by research. This is expressed as Dhaarana in YS – the power of intent fruitions through a process called Samyama in Yoga when intent is integrated into Dhyaana and then cosmic connectivity is established in Samaadhi. This yogic understanding also explains why placebo effects and healing intents of others works for some and not for others – when intent cannot transcend into cosmic connectivity or put differently, coherence is not adequate. In other words, the suggestion here is again that coherence is what enables this communication. Thus, yoga can be thought of as building coherence within the body and the cosmic system that allows for the intelligence in the body and the cosmos to complete the healing.

Sleep and its impact on the immune system are known,[35-38] and sleep has special reference in YS. Integrating the research on sleep with the philosophy of YS, we can suggest that as cosmically connected beings participating in a single cosmic dynamic flow, in deep sleep or in deep meditation of Samaadhi we get our daily downloads of antivirus and program updates to keep our program in sync with the cosmic objective and thus keep our immune system in good health allowing for resilience in a changing environment. YS also clarifies that the Samaadhi state leads to intuitive understanding (Prajnya) from the cosmic connection. This idea of intuitive revelation is also evoking creative insight that is well documented as happening in meditation.[39]

The research findings on the fleeting spiritual experiences from psychedelic drugs[40] that transforms attitudes toward life is also validated by YS (4:1).

There is recognition from the research of the last two decades that gene expression changes in response to epigenetic factors, and on a moment by moment basis our body lives as an integration of gene expression and the program of the neural-brain system.[9-20] Yoga and similar practices are known to impact gene expression.[12-15]

Thus, our thesis of USM is as follows:

The body's regulatory system lies in the biomeridians, called Naadis in Yoga and possibly the recently discovered PVS, which takes input through four sources and the output comes through extracellular matrix (ECM) as gene transcription, which working with the neural system maintains health of the being at each moment. The four sources of input are as follows: (a) ECM – the interaction between the cellular spaces which is the sum total of everything consumed or injected into the body, (b) direct contact into the Naadis such as through acupuncture or marma points, (c) power of the mind (intent), such as "placebo-effect" or "nocebo-effect," and (d) wireless communication as in deep sleep, noncontact healing, etc. Thus, the human system is anchored in a communication system within and outside the body that enables it to adapt as necessary to be in good health and perform its cosmic purpose. Any therapeutic mechanism must, therefore, aid in increasing energy coherence and improve the communication system.

Corollary 1: Considering various sources of input into the Naadis, efforts should be made to neutralize the effects of temporary reactions from the subject and the environment, to permit reasonably accurate EPI readings. (These factors are normally not taken into account in conventional medicine).

Corollary 2: EPI measurements in terms of Joules of energy for organ systems establish an objective way to connect conventional medicine to philosophy and approaches of traditional systems making it a translational technology.

Corollary 3: The output of the Naadi system that results in gene expression is carried through ECM. Thus, any intervention through ECM that stabilizes the system is reflected back as output into ECM as optimality in the system. Therefore, for chronic conditions that are dependent on regular drugs, such as diabetes, working through ECM alone may only manage the disease, instead of curing. Thus, the role of EPI as a translational technology to actively assess and help in implementing non-ECM-based stimulation into the Naadi system to reverse disease conditions is very important.

Corollary 4: The role of ECM as the conduit for changed gene expression also provides the understanding for withdrawal syndrome from various addictive drugs. Cases of steroids and antidepression drugs requiring slow withdrawal can be thus understood.

Conclusion

The logical next step in research is to correlate gene expression and neural activity with EPI based on the USM model. This should enable true integration of nonconventional therapies in medicine while allowing for immediate measurement of the effectiveness of drugs – both desired effect and side effects. In addition, in the future, we can conceive of using artificial intelligence to learn success probability of specific interventions for diagnosed conditions and EPI readings and thus automatically recommend specific interventions for input of diagnosed conditions and EPI readings.

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Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understand that name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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