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Review of EPI papers on medicine and psychophysiology published in 2008-2018

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1. Abstract

Objectives: The objective of this study was to evaluate the scale and scope of implementing Electrophotonic Imaging (EPI) analysis based on gas discharge visualization (GDV) technique in diverse medical applications and psychophysiology; to identify the range of applications in medicine; and to show in which areas the procedure can be useful to health professionals.

Design: The design of the study is a systematic review. **Methods**: The database included articles published in peer-reviewed journals and proceedings of the international scientific congresses. Search restrictions were human subjects, English or Russian language, and publication date from 2008 to 2018. All studies were evaluated using Scottish Intercollegiate Guidelines Network. **Results**: The search yielded 74 articles addressing medical and psychophysiologic applications of EPC/GDV technology. Among them were 13 SRR, 19 RCT, 23 cohort studies and 19 case reports or case series. **Conclusions**: The EPI/GDV software and equipment is a convenient and easy-to-use, which allows examination of patients with various pathologies and, therefore, offers a wide range of applications. The investigations showed that the GDV method delivers valuable diagnostic information on the functional state of patients, allows their state to be monitored, and constitutes a convenient and easy method for conducting preventive examinations of individuals and control in various areas of application. No negative or undesirable characteristics identified for the EPI/GDV method in all reviewed articles was found. Also, there were no contraindications to application of the EPI/GDV technique.

2. **Keyword**s: Electrophotonic Imaging, gas discharge visualization, medicine, psychophysiology, clinical study, review

3. Introduction

The Electrophotonic Imaging or Gas Discharge Visualization technology (EPI/GDV) is based on computer image analysis of photons, emitted by a subject in strong impulse electromagnetic field. Several companies in different countries produce various types of devices based on GDV technology, the latest being Bio-Well camera (www.bio-well.com). This instrument is being used in a wide range of scientific and practical applications in more than 65 countries. Bio-Well camera has CE, EU and FDA certifications. In 2010 we published review of papers on application of GDV/EPI technology in medicine and psychophysiology published before 2007 [1].

EPI/GDV technique have found a wide range of appplications: first of all in medical practice, both conventional and complementary; in analyzing sport activity; research on water and materials; etc.[2,3]. More than 2000 professionals are using EPI/GDV instruments on 65 countries. A lot of books in different languages may be found at www.Amazon.com. In this paper we review articles dedicated to clinical and psychophysiological studies published in 2008-2018.

4. Methods

4.1. Article selection

The literature search yielded 98 papers published in peer-reviewed journals, and proceedings of scientific conferences. In all these papers GDV technique was being used in clinical and psychophysiologic investigations. Some papers were presented at the international conference called ‘‘Science, Information, Spirit,’’ held in Saint-Petersburg, Russia, under the guidance of the International Union of Medical and Applied Bioelectrography (IUMAB). Applying the exclusion criteria listed below reduced this amount to 74 papers. 11847 people participated in the research.

Search restrictions were human subjects and articles presenting original data or an analysis of original data related to medicine and psychophysiology.

4.2. Evaluation procedures.

Papers have been classified as follows [4]:

- Randomized controlled trial (RCT): studies using random assignment to treatment group and making between-group comparisons of an intervention or treatment. This class includes studies using comparison of placebo and experimental groups as well as those using comparisons of different treatments.

- Systematic research report (SRR): papers with statistical analysis of the results of research over a long period of time by one group.
- Cohort studies (CO): small studies for the explicit purpose of developing protocols or feasibility; or studies that were defined by their authors as ‘‘pilot studies’’. Single group interventions: pre-experimental studies performed under controlled conditions;
- Case series (CS): articles reporting more than 2 cases observed in clinical practice.
- Case reports (CR): articles describing interesting clinical cases.

4.3. Quality rating

RCT and SRR articles were evaluated for quality using the Scottish Intercollegiate Guidelines Network (SIGN)[4] which allows quite precise expert evaluation of published paper based on strict criteria (Table 1). All papers evaluated as low were excluded from this review.

5. Results

Table 2 summarize classification of papers presented in this review. Tables 3 and 4 give the outline these articles with the number of patients involved in each study.

6. Discussion

It is interesting, that the amount and types of papers published in the last 10 years was practically the same as published in previous period (compare Tables 2 and 5), while the amount of GDV/EPI instruments being in use increased threefold. This may be explained by the fact, that most of GDV/EPI users are doctors and practitioners, who are using instruments in their everyday practice and have no time for research. Research projects with published results, be it clinical studies or psychophysiologic studies are conducted in research institutions or universities. This creates limitation to this study. We attempted to avoid the bias in evaluating the studies by using evaluation of all papers by several experts.

7. Conclusions

Based on the presented data we can make several conclusions:

1. There are constant interest between researchers in testing possible areas for EPI/GDV technique application in medicine and psychophysiology.
2. Results of these research allowed to create several new algorithms of data processing, implemented in the cloud-based Bio-Well software complex[5].
3. We pay attention to several papers on comparing groups of oncological patients with control groups published by different research teams. In all these papers significant statistical difference of EPI/GDV parameters between groups was found. It opens up an interesting perspectives for further implementation of the EPI/GDV technology in clinical practice.
4. Psychophysiological studies revealed a lot of correlations between EPI/GDV indexes and psychological features of people evaluated by conventional methods. Based on these results, as well as data published in previous periods, we may conclude that EPI/GDV method is one of the few objective evaluations of the personality dimensions.
5. Important area of the EPI/GDV method application is the evaluation of the influence of different interventions or treatment. This allows to make quantitative analysis of the individual response of the patient’s organism both to conventional and complementary methods of treatment and psychophysiological corrections.
6. The overall conclusion is that EPI/GDV technology is non-invasive, easy to use, quick method for evaluation psychophysiological condition of people and their response to interventions both in clinical practice and under the influence of different environmental factors.
7. We did not find published papers with negative results of EPI/GDV technology application or contraindications for using this method.

8. **Funding details:** No funding agency

9 Conflict of interests: Author declares that there is no conflict of interest

Table 1. SIGN Checklist

1.1 Study addresses appropriate, clearly focused question.
1.2 Treatment group assignment is randomized.
1.3 Adequate concealment method is used.
1.4 Subjects and investigators are kept ‘‘blind’’ about treatment allocation.
1.5 Treatment and control groups are similar at the start of the trial.
1.6 Only difference between groups is the treatment under investigation.
1.7 Outcomes are measured in a standard, valid, and reliable way.
1.8 What percentage of subjects in each treatment arm dropped out before the study was completed?
1.9 How well was the study done to minimize bias? How valid is the study?

Table 2 Summary of papers published in 2008-2018

Field of Study and reference	Type of paper					
	RCT	SRR	CO	CS	CR	Total
Clinical studies [6-49]	16	12	12	4		44
Psychophysiology [50-78]	3	1	11	5	10	30
Total	19	13	23	9	10	74

Table 3. Summary of papers in clinical studies

Citation	N of patients	Type	Summary
[6] Aleksandrova EV	603 Control group – 136 patients – 467	RCT	All people were divided into groups according to arterial hypertension (AH) degree and stage and degree of cardio-vascular complications risk in the nearest 10 years. Groups were divided as follows: Experimental group was in its turn divided in different ways according to the degree , stage of AH and the risk of cardio-vascular complications. Reliable differences between the control group of healthy patients and groups with various AH degrees and stages were calculated with sufficiently high degree of accuracy which allows to include GDV technique into the population screening.
[7] Bhat RK	102 29 control, 13 prediabetic, and 60 diabetic.	RCT	Fasting blood sugar (FBS) correlates differently in the contol, prediabetic, and diabetic groups. In the prediabetic group, correlation of FBS with EPI parameters pancreas and right kidney is noteworthy and in line with latest findings in medical research.
[8] Ciesielska I.L	126 96 patients with coronary heart disease and the control group composed of 30 healthy persons	RCT	Age, gender, temperature in examination rooms as well as frame of mind of the study population exerted a similar effect on EPI in both groups. Heart rate, blood pressure and the pattern of coronary heart disease exerted varied effects on the patients' EPI parameters in the study group. Conclusions: The analysis of changes in EPI may be a source of information about the effect of physiological and pathophysiological changes in the human health state, physical as well as mental.
[9] Gedevanishvili E.	1210 control – 450, breast cancer – 210, lung cancer – 350, other nosology – 200.	RCT	Sensitivity of GDV analysis was 85% for all pathologies. GDV method allows to follow up progress of oncological treatment.
[10] Gagua R.	16 8 patients with malignant tumors and 8 patients with non manifested chronic diseases	RCT	We had visualized urine droplets with GDV technique. Some of parameters of urine droplet GDV-image fractality can allow us to characterize dynamics of appearance of organic free radicals.
[11] Korobka I.E.	138 32 healthy and 106 patients with hypertension	RCT	GDV and HRV analysis of the data revealed statistically significantly different EPI/GDV parameters in patients with arterial hypertension and healthy subjects. The values of the medians of parameters indicated the activity of the right hemisphere of the brain in patients with hypertension, most pronounced in individuals with the II degree of the disease. The comparison also revealed statistically significant difference in the index of stress of regulatory systems, while in patients with arterial hypertension it was much higher than normal.
[12] Korobka I.E.	175 138 patients with hypertension and 37 healthy.	RCT	HRV and EPI methods. The difference in parameters was not due to hyperactivity of sympathetic center, but due to a lower parasympathetic function.
[13] Kumar S. K	200 80 healthy, 120 diabetics	RCT	Diabetic condition have significant effect on EPI parameters. The impacted parameters have logical link with corresponding organs and organ systems. The meridian theory and Chakra theory appear to have a scientific significance.
[14] Polushin J	132 36 healthy people and 96 patients with chronic	RCT	Groups had statistically significant EPI parameters. The parameters of the EPI-grams reliably changed in response to operative trauma and their dynamics depended on the severity of the of the somatic state of

	surgical pathology in the abdominal organs		patient, which allowed to use GDV technique to follow up patients in postoperative period.
[15] Kumar S.K.	200 120 diabetic, 80 control	RCT	The classification accuracy of the neural network classifier was in the range of 80% to 100% for classifying diabetic and non-diabetic subjects. Meditation was found to have a significant impact on EPI parameters. Further, neural network was able to classify pre and post meditative population using EPI data with an accuracy ranging from 84% to 100%. Electro Photonic Imaging combined with neural network works as a good framework for intervention recognition.
[16] Sharma B	147 90 diabetics, 57 healthy	RCT	Statistically significant difference of GDV parameters both between apparently healthy population and diabetes groups and between groups with different levels of diabetes was found.
[17] Strukov EU	122 47 healthy people, 50 patients operated on the abdominal organs. 25 patients treated at the clinic of psychiatry with the abstinent syndrome in pre- and delirious state.	RCT	GDV-grams were recorded in all the group before surgery and during the next five days postoperatively. Dynamics of the glow area parameter of patients, whose postoperative period is complicated by the development of delirium, is different from the normal distribution and was characterized by high amplitude of the GDV area. Dynamic changes in the glow area were similar to the dynamics of GDV images of patients with psychiatric profile. However, these changes in the operated patients may be revealed 10-12 hours prior to the development of the clinical picture of delirium. As the delirious syndrome subsided, the parameter of GDV area comes-back to the original data and fits into the standard distribution.
[18] Usubov R	139 74 chronic tonsillitis and 65 control	RCT	Children 10-14 years were tested with GDV before and after 21 days of treatment. Significant statistical difference between groups was found in both measurements.
19 Yakovleva E G.	78 56 patients with colon tumors, 22 control.	RCT	There were a significant number of differences between the control group and the group of patients with colon tumors. We examined the dynamic of the parameters as the level of tumor dysplasia (neoplasia) varied.
[20] Yakovleva E.G	137 82 patients with colon tumors, 55 control.	RCT	Based on the identified indicators decision rules to determine the patients with tumors of the colon were constructed. The specificity of the resulting function was 80.0% and sensitivity 75.6%. Decision rule was built as well with logistic regression. The specificity of the resulting function was 78.2% and sensitivity 90.0%. The accuracy of this approach was higher than using discriminant analysis.
21 Banupriya D	135 (45 in every group)	RCT	People were divided to 3 groups: Belladonna – 6C, Belladonna – 200C and the placebo group. Analysis showed a statistically significant difference in eight GDV parameters with the trend: Belladonna 6C > Belladonna200C > Placebo.
[22] Gimbut VS	226	SRR	The aim of the study was to evaluate informative diagnostic criteria of normal and pathological flow of pregnancy in I and II trimesters. High level of correlation between GDV parameters and disturbed blood circulation of the "mother – placenta – fetus" system was found. This allows to use GDV method for prognosis of potential miscarriage for pregnant women.
[23] Korotkov K	118	SRR	Two types of positive effects for participants during Reconnection Healing sessions were recorded: increase in Area and decrease in Form Coefficient (FC). In most cases either one effect or another was recorded. At some sessions Area of EF was increasing for most of the participants; while in LA 2008 session it was practically no changes of Area, but very significant changes of the FC. No difference between women and men responses was found.

[24] Korotkov K	100	SRR	Before and after the massage participants filled in a special Mood Mapping Evaluation questionnaire. GDV measurements was administered to the panelists before (baseline) and immediately after massage. It was shown that for the Energy Massage with essential oils statistically significant changes in GDV indexes were recorded for most of the panellists. For Energy Massage without oils effect was less, but the group effect was statistically significant.
[25] Korotkov	15	SRR	Different types of healing have positive effect on Human Energy Field.
[26] Korotkov	225	SRR	Review of EPI/GDV patents an d their applications.
[27] Korotkov K	49	SRR	Participants apparently healthy adults were measured with EPI before, after and 30 min later osteopathy treatment. Overall the recipients had decreases in their GDV activation coefficient levels. In addition, the levels stayed stable, as shown by the readings done thirty minutes later. Such data can be interpreted as especially meaningful, when even the sympathetic system parameters hold in a relaxed pattern for a length of time.
[28] Kostyuk N	32	SRR	The autistic children in this study were previously diagnosed with mild autism and/or Asperger's Syndrome. Results revealed heterogeneity and unique features in the participants with ASD and their parents. GDV method is a promising step towards creating autism profile and identifying unique signatures pertaining to the parents and their siblings.
[29] Pesotskaya LA	77 13 patients with genital organ dysfunction, 60 people - chronic prostatitis, 16 people - a benign tumor of the prostate.	SRR	Patients were men with urological disorders. In some patients were on two of these pathologies.GDV advantage over other instrumental methods in medicine is its ability to determine the irregularities in the cell for up to nosological level, regardless of the results of standard clinical and laboratory studies.
[30] Pesotskaya LA	86 31 patients, 55 control	SRR	31 children from Chernobil zone with thyroid dysfunctions have been treated with homeopathy, while 55 children with the same diagnosis served as control. Significant difference in GDV parameters was found in treatment group compared with control.
[31] Sorokin O.V.	26	SRR	The GDV area of the fifth finger of the right hand positively correlates with the cardiac fraction of creatine phosphokinase (CPK), as well as the blood content of total protein, direct bilirubin and glucose concentration. CPK is an early marker of myocardial necrosis. From the point of view of traditional Chinese medicine, the fifth finger is a projection of the acupuncture Meridian of the heart. An increase in the level of centralization of heart rate control with the transition to an energy-consuming and low-efficient variant of regulation is associated with a decrease in the area of illumination. The increase in the total power of the spectrum of neurohumoral regulation is positively correlated with the average intensity of luminescence.
[32] Sorokin O.V.	32	SRR	Demonstrated that one of the physiological mechanisms affecting the oscillations of the primary photoelectron avalanche initiating the gas discharge and which basically determines the rest of the phenomenology of GDV emission, is connected with the peculiarities of the microcirculatory pulse fluctuations.
[33] Tumanova A.L.	150	SRR	Retrospect study of population of Cyprus statistically demonstrated that GDV technique may serve as method for early diagnosis of risk of thalassemia.
[34] Augner Chr.,	24	CO	EPI method is efficient tool to detect Stress Reactions and Energetic Weaknesses

[35] Berne S.	28	CO	EPI data was correlated with HRV for a group of athletes, Finnish healers and massage therapists. During the healing simulation EPI parameters changed in all groups, however more pronounced changes was found among healers.
[36] Bhargav H,	25	CO	Studies have recorded acute effects of Mobile Phone Electromagnetic Fields using EPI and found quantifiable effects on human field. Present manuscript reviews evidences of altered brain physiology and stem cell functioning due to mobile phone/cell tower radiations, its association with increased cancer risk and explores early diagnostic value of EPI imaging in detecting EMF induced changes on human bio-electromagnetic field.
[37] Bhargav P	30	CO	After mobile phone influence, different subtle energy variables showed reduction in energy levels as compared to control. Adding simultaneous practice of *Nadishuddhi* Yoga did not enhance subtle energy in any of the organs.
[38] Buck KH	26	CO	Results demonstrate the efficiency of GDV for follow up dynamics of cancer treatment.
[39] Cohly H.	130	CO	We used bio-electrographic methods to collect the base values of study participants and establish possible deviation from the standard norms. Bio-electrographic method was recognized and successfully implemented into preventive health care systems. We developed the bio-electrographic dataset of residents of Mississippi, mainly of African-American origin of average age of 25. We found our results corresponding to the standard norms of bioelectrographic parameters. Therapies like far infrared treatment have been shown to improve functional state as observed by recordings of bioelectrography.
[40] Deshpande P. B	Review	CO	Unlike a routine medical diagnostic device such as an MRI or a CT-Scan, the Bio-Well analysis relies on statistical inference at a high level of confidence but the possibility of outliers (false positive or false negative indication of the physiological/psychoemotional state) cannot be ruled out.
[41] Garinov G.	100	CO	Patients diagnosed with prostate cancer (PC) with conventional means including biopsy; and having conventional treatment have been selected for the study. Based on the results of the PSA analysis and clinical observations participants were distributed to three groups: "negative prognosis", "positive prognosis" and "intermediate prognosis". Statistically significant difference between GDV parameters of patients with positive and negative prognosis of prostate cancer was found.
[42] Kushwah KK	1297	CO	As the data were not normally distributed, quartile based statistics were used for setting the norms. 25^{th} and 75^{th} percentile were calculated and they were further verified using bootstrap procedure. Uniquely, the results showed a clear difference in integral area parameters among the Indian and the European population. Although other parameters were found almost similar to the European population, inter quartile ranges were narrower in the Indian population as comparison to the European values. Similar trends were observed in the sub group analyses: i.e., male versus female genders, and age range 18 to 40 versus 41 to 60.
[43] Narajanan R	12	CO	GDV is very useful in following diabetic patients treatment with Yoga therapy
[44] Naranjan R	12	CO	Diabetic patients treatment with Yoga therapy. EPI measures Naadi, the underlying Information Management system that regulates the body at a given instant. The immediate impact on the EPI readings from yoga interventions suggests that EPI could be an valuable tool for effective yoga therapy.
[45] Narayanan RC	12	CO	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. 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.
[46] Gedevanishvili E.	30 20 patients on chemotherapy and 10 patients on radiotherapy with cancer of different localization.	CS	After completion of main course of therapy patients received the rehabilitation course of Singlet Oxygen therapy. Our results showed that after main courses of therapy all GDV parameters was worsened and after rehabilitation course the main part of this parameters became better.
[47] Kostuk N	120	CS	Pilot study of simultaneous influence of FIR and mechanical oscillatory vibration (SOQI) using the GDV showed that FIR had stabilizing effect on tested individuals. The data obtained from the GDV were confirmed by the testimonies of the participants about the general improvement of their functional state.
48 Krashenyuk A.I.	12	CS	Diagnostic ultrasound had a pronounced impact on a person. HRV data showed a shift of indexes to sympathicotonia, while EPI dynamics allowed to follow up parametric shift for 40 min after the ultrasound application.
[49] Naranjan R	5	CS	3 Cases of Pain, 1 Depression and 1 of Mild Sleep Apnea. Stress/relaxation and balance appear to change the instantaneous readings of the organ system with perceptive improvement in pain condition.

Table 4. Summary of papers in psychophysiological studies

Citation	N of patients	Type	Summary
[50] Deo G.	432 220 long-term meditators and 212 short-term meditators	RCT	In both groups, lower values of stress (activation coefficient) were found in woman meditators as compared to men. In both groups, highly significant gender-related differences were observed in integral area para- meter, which measures the overall health of an individual. Both groups showed cumulative health-related improvement. Moreover, in gender-related analysis woman meditators exhibited more positive improvement in EPI parameters than men.
[51] Deo G.	309 180 long-term meditators and 129 naive meditators	RCT	Comparison between groups yielded - less disorderliness at the psychophysiological level in naive meditators (NM) group. The gender related results showed highly significant improvements in the health related parameter at the physiological and psychophysiological level in females compared to males.
[52] Dobson P	82 67 people with types of mental training, 15 control	RCT	Authors that have investigated the psychological correlates of the GDV technique. All people volunteered to have their GDV image taken before and after a three hour interval. Significant relationships between GDV parameters and State anxiety and less significant relationships with Trait anxiety and Neuroticism. Significant relationships are also found for the personality dimensions of Openness and Agreeableness. These results point to a central role for cognition in determining the nature of the GDV image.
[53] Kushwah KK	1297 1000 yoga, 297 control	CRR	Some of the EPI norms for Indian population were found different from European norms. Both groups Yoga interventions have demonstrated effectiveness in reducing stress level and improvement in health indices.
[54] Bulatova TE	1676	CO	Children from the 5^{th} to 10^{th} grade were studied with GDV during a year. Results allowed to define psychophysiological conditions of children, distribute them in groups in accordance with health risks and follow up their progress during the year.

[55] Dobson P	77	CO	A strong relationship (R = .69, p < .000) was found between the GDV parameters and one of the “Big Five" personality dimensions, namely, Openness to Experience. Some significant results for Extraversion was found as well.
[56] Drozdovski A	18	CO	It was found that the higher the level of Energy Potential achieved by the athlete in the training period, the lower the Stress Level (SL) in the competition time. The SL of an athlete recorded in the training period significantly correlates with the SL both before and at the time of competition. SL before the World Cup was negatively correlated to the results of skiing competitions.
[57] Kolosova O.	121	CO	Psychological parameters like will, good mood and positive attitude to others increase GDV parameters, while aggression, envy, anxiety decrease it.
[58] Korotkov	113	CO	During Joe Dispensa workshop measurements with Sputnik sensor in the process of collective meditation was performed. Decrease in the signal in the process of meditation for all 4 days of the workshop was observed. During the break, the signal level increased. There was also an increase in the signal from day to day.
[59] Kushwah KK	66	CO	Cyclic Meditation has produced a highly significant reduction in stress level, whereas this reduction was not found significant within Supine Rest group.
[60] Kumar S. K.	51	CO	Meditation was found to have a significant impact on EPI parameters. Neural network was able to classify pre and post meditative population using EPI data with an accuracy ranging from 84% to 100%. The receiver operating characteristics was captured for each of the classification and the area under the curve was close to unity.
[61] Kushwah K K,	152	CO	The parameters considered for analysis were activation coefficient (ac), Integral area (Ia) and Integral Entropy (IE). Reduction in stress levels (ac), increase in general health index (Ia) and decrease in disorderliness (IE) on the left side parameters were found reproducible in all four experiments. The results also revealed a highly significant reduction in stress levels and highly significant improvement in the health indices at the psycho-physiological level. baseline comparisons between males and females showed significant difference in general health index at both psychophysiological and physiological levels. In conclusion. The EPI outcomes are reproducible. Study also found that the energy pattern differs with gender. Hence, it is suggested that studies with male and female participants may be conducted separately.
[62] Semenichin EE.	15	CO	The following strong correlations between GDV indexes and psychological parameters were found: positive – concise and GDV Intensity; friendliness and GDV Area; negative – extraversion and entropy.
[63] Semenikhin E.E.	120	CO	GDV method gives the possibility to reveal patterns of influence of music on a human body and on this basis to write out «musical prescriptions».
[64] Vasilenko N	112	CO	The aim of the research project was evaluation of possible correlations between results of psychological testing and GDV indexes. This approach allowed to calculate 63 correlation prognostic models with correlation coefficients 0.91 – 0.99 and statistical value 0,05-0,00001. Models were tested on independent group of people and demonstrated very high prognostic value. Simple direct correlations may be efficient only in cases of very strong inner bonding, but in most cases, we should use multiple regression analysis.
[65] Boulter C	39	CS	A pre-test GDV was conducted at the Movenpick Hotel in Giza. Special permission was granted by the Supreme Council of Antiquities for private entry into the Great Pyramid for 2 hours beginning at sunrise on

			10-10-10. People entered the Kings Chamber one by one, they stepped into the granite coffer with 4-inch stone walls and laid down for 2 minutes immediately after being tested on the GDV/EPI. The data showed that mean Chakra values were positive approaching 0.00 balance Inside the Pyramid. Before and After mean values show a greater range with both positive and negative values indicating less balance. On the Area of Energy Field 3 people demonstrated increase of Energy Field inside the Pyramid compared with Before data, 2 people did not change, and 25 people demonstrated decrease of Energy Field inside the Pyramid compared with Before data.
[66] Ciesielska I.L	20	CS	There were significant statistical differences between parameters of EPI recorded during contact with knitted acrylic fabric and knitted viscose fabric, knitted acrylic fabric and knitted wool fabric, knitted acrylic fabric and lack of any fabric (bare arm) as well as during contact with knitted wool and viscose fabrics, viscose and lack of any fabric and wool and lack of any fabric. Menstrual cycle of female volunteers; the later the day of the cycle, the higher the value of standard deviation from the mean EPI parameters.
[67] Ciesielska L.L.	20	C S	Statistically significant differences were stated between the mean values of parameters during volnteers' contact with lack of sleeve and acrylic, coarse wool, and viscose sleeve, between acrylic sleeve and coarse wool and viscose sleeve, and between viscose and coarse wool sleeve. There is a correlation between the mood of the volunteers described by them by the means of a questionnaire and some parameters, such as: the average radius, and the number of free fragments. The higher value of these parameters, the higher level of stress. There is an influence of the female menstrual cycle on female parameters. At the beginning and at the end of the cycle the parameters achieved higher values of their standard deviations than in the middle of the cycles.
[68] Osmanagich S	65	CS	Positive effect of Bosnian tunnels was demonstrated by GDV measurements.
[69] Erdinatujaa C.	150	CR	The Area of GDV-grams has positive correlation with the altitude of their living place
[70] Hassan M.	15	CR	Significant change of the human GDV indexes detected at different sacred locations in Egypt was found. After visiting the Great pyramid – Queen Chamber most of the subjects had significant increase of their energy biofield, best energy balance and alignment of the chakras.
[71] Kostyuk N,	4	CR	Our pilot data confirms the recent findings of correlation of right hemisphere involvement in second language acquisition at the level of language proficiency. Thus, computational biometrics based GDV tool may be used to evaluate and potentially identify anxiety present in ESL learners.
[72] Rabe L.	10	CR	The goal of the study was to verify whether or not the training of the EMF Balancing Technique leads to measurable effects on the student's energy field properties. This study clearly shows that the GDV/EPI Technology is well suited to measure and analyze the changes in Human Energy Field properties during client and practitioner sessions that involve mainly Human-to-Human energy work.
[73] Rao I.T.	29	CR	Both the interventions showed significant effect on GDV parameters. But, there was a significant difference in the effect between the two types of intervention. It appears that silent music intervention lead to boredom compared to active music intervention.
[74] Rao I.T.	35	CR	listening to a 2.5 hrs program of Indian devotional music increased the EPI parameters. Singing and playing the instruments did not show significant changes.

[75] Rao I.T.	51	CR	Results show significant changes in EPI parameter integral area after meditation.
[76] Rgeusskaja G.V.	31	CR	Testing the effectiveness of treatment of chronic pain syndrome and anxiety-depression disorders. Correlations between indexes of volunteer attention, logic memory and speed of thinking with EPC parameters of both thumbs was found.
[77] Sushrutha S	18	CR	The result shows that P-value is statistically different when two groups are compared to each other. Mean and standard deviation of Activation Coefficient changed more in Yajña session indicating the influence of reduction in stress level during Yajña.
[78] Sushrutha S ,	40	CR	The results indicate that Yajna improves Area and Average Intensity of the EPI images denoting high metabolic rate in human systems; reduction of Entropy in 2013 is higher than in 2014.

Table 5 Summary of Papers published in 2008-2018

Field of Study and reference	Type of paper					
	RCT	SRR	CO	CS	CR	Total
Clinical studies	15	13	10	7	4	49
Psychophysiology	4	13	3	2	1	23
Total	19	26	13	9	5	72

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