Clinical Outcomes of a Diagnostic and Treatment Protocol in Allergy/Sensitivity Patients

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Abstract

OBJECTIVES: This level II outcome study was conducted to examine the efficacy and toxicity of a diagnostic and treatment protocol using electrodermal screening (EDS) in allergy/sensitivity patients. METHODS: Ninety-six patients with a diagnosis of allergy or sensitivity entered the study between 1994 and 1998; 90 participants completed the study. All participants followed the same protocol, and all interactions were with a single clinician at a single site. The Allergy Symptom Severity Index (ASSI) was developed to record symptomatic information. EDS – conductance measurement 1/Ω – of specific acupuncture points was used as an objective endpoint (indicator of outcome) and for identification of antigens, according to Voll criteria. All measurements were taken before and after treatment, and EDS was carried out at all treatment sessions. Outcome criteria suggesting efficacy were reduction in ASSI score, reduction in number of items testing positive, and normalization of conductance measurements. A statistical analysis of the outcomes was performed using the student's paired t-test. RESULTS: There was a statistically significant change in pre- and post-treatment measurements of the ASSI. The conductance measurements normalized and the number of items testing positive decreased compared to pre-treatment testing. In addition to these parameters, 87.2 percent of subjects rated efficacy as good to excellent, and less than one-percent rated the outcome as poor. The outcome demonstrated longevity, meaning that people who had their post-treatment evaluation up to three years after primary treatment were still showing minimal ASSI scores, with no additional treatment. The treatment appeared to work equally well across age groups and gender. Forty-eight percent of participants had an aggravation of symptoms after treatment, lasting an average of 10 hours, with reactions described as mild to moderate. Average cost of the desensitization protocol (all costs included) was $822.16. CONCLUSIONS: This protocol demonstrated efficacy without serious toxicity and no long-term adverse effects. It is natural, non-invasive, and does not require long periods of avoidance of offending foods or environmental stimuli. The desensitization protocol is a low-cost, effective therapy for the treatment of patients suffering from symptoms of allergy/sensitivity disease.

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Introduction

The conductance (1/Ω) of acupuncture points varies and correlates with physiological change and pathogenesis. The fact that change in the electrical field precedes morphologic change, and manipulation of the electrical field can affect the change, may shed light on the diagnosis and treatment of many diseases.[1]

Studies have shown that a weak electrical DC stimulus evokes three mechanisms in the body: electrical conduction, dielectric polarization, and self-regulation by an organic defense system. The first two are physical; the third is biological. When a direct current of one volt is applied to the skin with electrodermal screening (EDS), electrons and ions propelled by the circuit begin to move through the body. The mobility of electrons is influenced by cellular metabolism and the concentration of charged particles suspended in body fluid. The net effect can be described using a resistance function of time. A constant, swift change takes place from the moment the circuit is closed until it reaches a final, steady state. In addition to electrical conduction, the cells are polarized by the force of applied voltage. The charge on the cellular membrane will cause displacement in such a way as to produce an opposing field. There is a slight separation between the positive and negative charges, causing a small electric dipole in each cell. All dipoles are aligned along the force lines of external voltage. This alignment results in a dielectric polarization potential against the voltage.

Every living organism has defense mechanisms to protect itself from disturbance. Polarization induced by an external voltage will provoke the cellular immune system. The immune system responds with an opposing behavior, a net electric energy gradient or electromotive force (emf), which is brought about by complicated intracellular processes. These processes convert chemical energy (stored within the cells in the form of biomass) into electrical energy. It could be said the body functions as a resistor during the first 50 milliseconds following the closing of the circuit, then as a semi-dielectric.[2]

The effect of these properties is that meridians have a smaller dielectric constant than neighboring tissue. Because of this, electromagnetic waves move faster through meridians than through non-meridian tissue. It is this combination of higher conductivity with lower polarizability that makes the meridian system an efficient bio-information communication network. That communication appears to be transmitted into the tissues through meridian branches via the movement of ions, resulting in an electric current flowing between the tissues and through the cellular membrane gap junctions, a pathway of lower resistance.[3]

The meridian system and the regulative physiological systems supplement and complement one another. Neither can be damaged without affecting the other. In a histological comparison, the meridians are more primary and flexible than the differentiated systems, and can adjust more quickly to external forces. Though the meridian system itself does not have a definite physiological structure, it creates and maintains structure, a role it plays for the entire life of the organism. These findings agree completely with the rules of chi circulation in traditional Chinese medicine, including those expressed in *The Yellow Emperor's Classic of Medicine* (circa 100 BC also referred to as the Neijing).

In the 1950s, electrodermal screening methodologies were developed by acupuncturists in various countries in an effort to find inexpensive objective measurement of the changes observed in patients receiving acupuncture therapies. Electroacupuncture according to Voll (EAV) is the most versatile, precise, codified, and studied of the methods developed. Dr. Voll and others have gathered clinical data suggesting that electrical conductance measurements taken at low resistance points on the body can be correlated

to the bio-energetic functional status of specific organs and tissue systems.[4] Many of the low resistance measurement points correlate with classical acupuncture points. It has been observed that pathological disturbances of organ function established by conventional medical diagnostic procedures are frequently reflected by disturbed skin conduction values at corresponding points suggested by acupuncture theory.[5-7] An abnormal measurement at a point should therefore be suggestive of a functional disturbance associated with its corresponding organ or system.

The electrodermal screening device (EDSD) is an ohmmeter designed to deliver approximately 10-12 μa DC at 1-1.25 v, through a probe or electromagnetic coil. The signal is below the level of human sensation. On the majority of devices the meter is calibrated to read from 0-100, such that the standard skin resistance of 100 mΩ reads 50. The minimum value of zero represents infinite resistance (no electrical conductivity), and the maximum value of 100, zero resistance at the given voltage and current.[8]

A reading taken with the EDSD is usually described using two values, the initial reading (peak) and the indicator drop (ID). A peak reading of about 50 with ID<2 is considered to be balanced. When an indicator drop is present, it is considered the most significant part of the reading. The peak reading is primarily an expression of energy, while the ID and its manipulation through medicine testing is primarily an expression of bio-information.

Electron populations are dynamic, not static. The oscillatory behavior of electrons is a basic characteristic of matter and is the result of continuous interaction with the matter that surrounds them. Therefore the corresponding potential of a given type of matter oscillates according to the atomic characteristics of its components, creating the substance's electromagnetic spectrum which is discrete and, "like a fingerprint," unique to that substance. In a modern electrical system, such as a computer, energy is used to carry information, the information representing a choice between two or more possibilities. Any information that can be reduced to a choice between two or more possibilities can be expressed using bits. In fact, virtually any information can be stored in a binary system as a code.[9] Complex graphics, speech, and even live broadcasts can be generated and stored by computers.

Molecular configurations (electromagnetic spectrum) can be captured as an analog signal, then digitalized and stored in a computer through use of an analog-to-digital converter. That molecular configuration can then be stored and later recalled in its analog form and put out through the EDSD probe as a challenge to a specific acupuncture point to generate a response that can be read by the device. When a substance, such as a medicine sample, is put on the aluminum plate in the EDSD circuit, the electron waves passing through the plate will be phase-modulated. When the waves later pass through the patient's body, a given signal is transported to the proper organ or tissue by resonant absorption. The signal waves mix with the local electron waves resident in organs or tissues according to the principle of superposition. Both the phase-modulated electron waves emitted by the EDSD and the electron-distribution waves existing within the body must have similar and approximately equal phase spectra, excluding their DC component.[10]

This is quasi-phase matching between two electron wave groups. It is impossible to find a medicine which has a phase characteristic spectrum identical to the disease, only similar ones. This principle holds true for all types of medicine: botanical, nutritional, chemical, natural, or allopathic. The basis has been established for a challenge mechanism where specific remedies can be tested against specific acupuncture points. The challenge will

elicit findings to show that the energy of some substances will balance the energy of the acupuncture point (therapeutic), and the energy of other substances will imbalance the energy of the acupuncture point (adverse). Administering an EDSD energy challenge of specific antigenic allergens to acupuncture points and recording the energy response is completely analogous to the challenge and response seen in skin and/or RAST testing.

The use of EDS to diagnose allergies and sensitivities has been studied. In one study 30 volunteers were analyzed for food intolerance using five standard diagnostic methods (history, skin test, RAST test, IgE, and food challenge) compared to EDS. EDS results correlated strongly with the results of the other five methods. EDS showed the closest correlation with food challenge (considered by allergists to be the most reliable).[11] When EDS is used for sensitivity diagnosis, a peak reading of 58 or less with an indicator drop of >2 when challenged with a substance is considered positive (a reacting substance).

Hypothesis

People become sensitized to substances due to a breakdown in barrier functions (skin, mucus membranes, and digestion), which allows larger molecules into the bloodstream than would normally appear there, thus triggering a sensitivity response which causes inflammatory chemical release and resulting allergic symptoms. Sensitivity is diagnosed by demonstrating that the energy replication of a specific substance causes a drop in electrical conductance at specific acupuncture points. A homeopathic remedy of the substances to which the subject was found to be sensitive can be electromagnetically created to serve as the stimulus to the subject. Desensitization of the subject can be achieved by: (1) stimulating the subject with the homeopathic remedy causing the subject's brain to identify the offending energies and attack them; (2) balancing the energy using a specific acupressure therapy, which causes the brain to stop attacking because the energy has become normalized; and (3) maintaining the new energy state for a critical period (24 hours), creating a new "default setting" for the brain, which no longer sees the antigens as a threat and stops future attacks, as long as barrier functions are repaired and maintained.

Research Objectives

1. To demonstrate that desensitization treatment results in a significant lessening of symptoms in subjects with allergy/sensitivity diagnoses as shown by subjective evaluation using the Allergy Symptom Severity Index (ASSI).

2. To demonstrate that desensitization treatment results in a reduction of antigens found to be positive on objective sensitivity screening using the EDS system.

3. To demonstrate that desensitization treatment results in normalization of electrodermal screening (conductance) measurements.

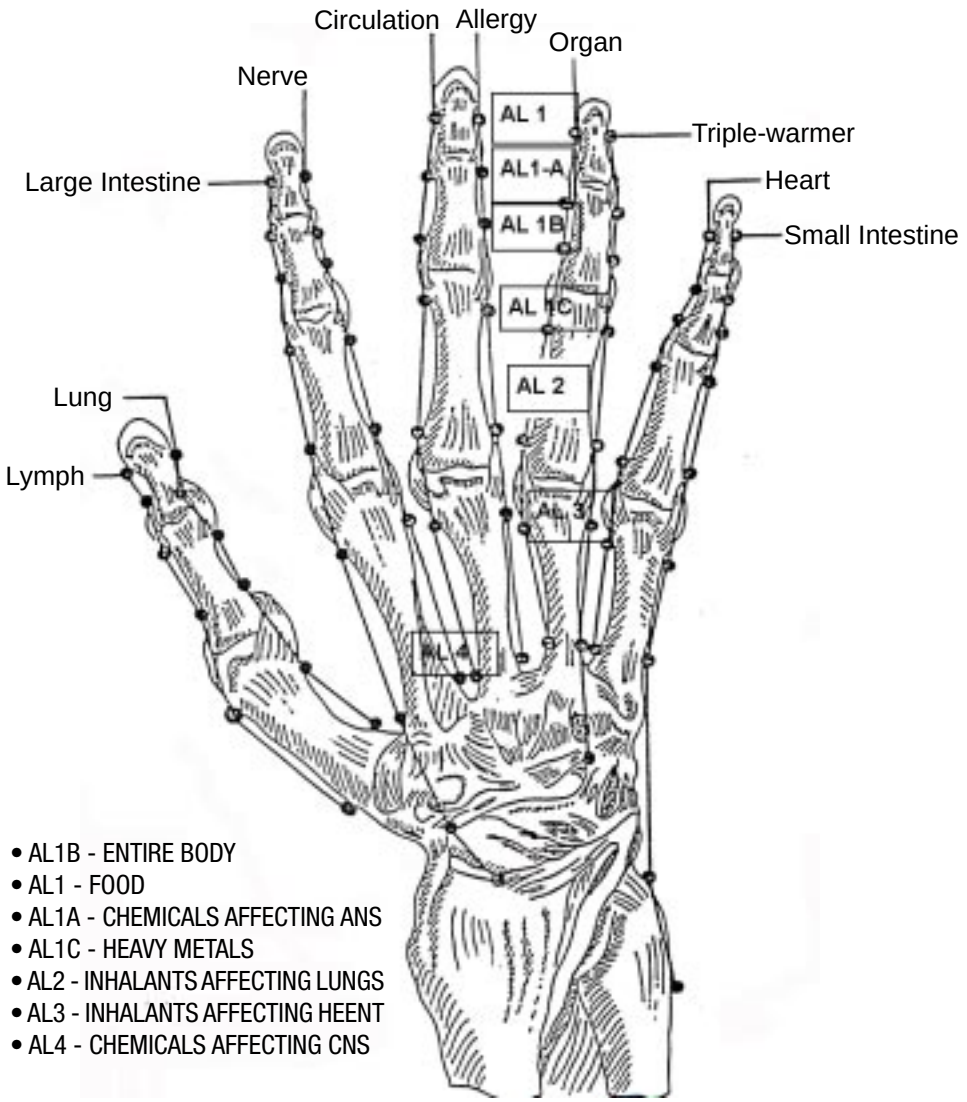
Materials and Methods

Entry Criteria: any age, gender, or severity with an established diagnosis of allergy/sensitivity disease. Ninety-six patients entered the study between 1994 and 1998. All were surveyed, and 90 participants completed the study with full data sets. All participants followed the same protocol, and all interactions were with a single clinician, at a single site. Informed consent was given by all participants.

Testing and Treatment Procedure

The ASSI was developed to record symptomatic information. It is a listing of 41 allergy/sensitivity symptoms obtained from the medical literature. Each symptom is graded on a scale from 1-5, with 1 representing no symptoms and 5 representing severe or constant symptoms. (see page 201 for ASSI questionnaire)

Figure 1: Location of Treatment Points



Electrodermal screening (conductance measurement 1/Ω) of specific acupuncture points was used as an objective endpoint (indicator of outcome) and for identification of antigens, according to Voll criteria. All measurements were taken before and after treatment; and EDS was carried out at all treatment sessions. The EDSD used was the Computron manufactured by Computronix (Synergy Health Systems, 1223 Wilshire Blvd. #321, Santa Monica, CA 90403) with the Acupro II software package. This device (and several others) performed according to parameters established by Dr. Voll.[12]

Desensitization Protocol

This system uses change in electrical conductance measurements as the indicator of negative body response or sensitivity, in order to determine to which antigens the subject is reacting. The energetic replications of those antigens can then be "imprinted" through an electromagnetic coil onto lactose pellets, which is much like charging a battery. This creates an "all-C potency"(contained all the c potencies 1c, 2c, 3c, etc.) homeopathic remedy of the offending substances.

By having the subject hold the remedy, the homeopathic medicine is then used to stimulate a response in the subject. Since energy is not a physical substance but a field, it goes beyond the bounds of the physical container. (Consider Kirlian photographs and other demonstrations of energy fields.) The substance and the subject's energy fields interact, which upsets the energy in the subject, creating an alarm message in the brain, which then initiates a response to attack the offending agent. In order to attack something, biological systems must somehow identify the invader (the brain knows specifically what substances are represented by the energy). The attack response often causes aggravating symptoms in the subject, usually manifesting as mild to moderate worsening of the allergy/

sensitivity symptoms the subject was already experiencing and typically lasting 6-24 hours.

Demonstration that a response has been initiated is achieved by showing muscle weakness in the subject while holding the homeopathic remedy. Standard acupressure is then applied to specific acupuncture points along the bladder and Huatuo Jiagi meridians, which balances or corrects the energy of the system. This is demonstrated by a return of muscle strength to the subject, even though contact is still maintained with the homeopathic remedy. This indicates that a new response to the substances represented in the homeopathic remedy has been achieved.

A series of four treatments (one/week) is performed: the first for inhalants (pollens, danders, smoke, smog, etc.); the second for contact allergens (mostly chemicals); a third for foods, and a fourth treatment when all items are retested to "clean-up" anything remaining. There are over 1,500 generic items tested, as well as actual items sampled from the home/work environment.

Research Procedure

After obtaining a signed informed consent form and completion of an ASSI questionnaire, the desensitization protocol was carried out. At the initial evaluation, a medical history was taken and the following data was gathered: symptom surveys, a first morning urine specimen, basal body temperatures, and a transit time. At the second visit a regional physical exam was performed and findings were reported. Therapy for support and repair of barrier (gut, mucus membranes, and skin) and associated organ dysfunctions was given.

On the third visit electrodermal screening for allergy/sensitivity was performed. Infants and small children were tested through a surrogate (usually a parent). Figure 1 illustrates location of allergy/sensitivity meridian points.

Sensitivity testing of inhalant allergens was performed, as well as sensitivity testing of dirt samples from the home/work environment. A homeopathic remedy (all-C) of items testing positive was prepared. Strength testing of the anterior head of the deltoid – null state – was performed. Administration (holding) of the homeopathic remedy by the subject serves as a stimulus, which is seen by the subject's brain and immune system as an adverse event, influencing the system response. Evidence of this adverse effect is seen by weakening of the deltoid muscle on repeat strength testing.

A standard acupressure treatment was then performed to balance specific meridians using the following points:

- To balance the left lung: bladder 11, Yishu, bladder 23, bladder 26
- To balance the right lung: bladder 12, bladder 18, bladder 24, bladder 26
- To balance the spleen: bladder 11, bladder 15, bladder 18
- To balance the stomach: Yishu, bladder 19, bladder 20
- Huatuo Jiagi points overlapping the spinal segments balance the energy in specific meridians.

According to Voll, balance is a reading of 50 on the meter.

The acupuncture treatment resulted in balancing the energy of the entire system around the offending energies (the homeopathic remedy) the subject was holding. Evidence of a therapeutic effect can be seen by strengthening of the deltoid muscle on repeat muscle testing. The remedy was then kept in contact with the subject's skin for 15 minutes to preserve the new energy state. It is necessary to avoid all contact with items found to be positive on sensitivity testing and any extreme that may upset the subject's energy dramatically for one cycle of the horary clock (24 hours) in order for the new energy state to be maintained.

On the fourth visit, electrodermal screening was performed for sensitivity to phenolics, heavy metals, pesticides, herbicides, antibiotics and other conventional medications, vaccinations, dental materials, cosmetics, cleaning supplies, paints, and other items found in the home environment. Otherwise treatment was performed as in the third visit.

On the fifth visit, electrodermal screening was performed for sensitivity testing of foods. Otherwise treatment was performed as in the third visit.

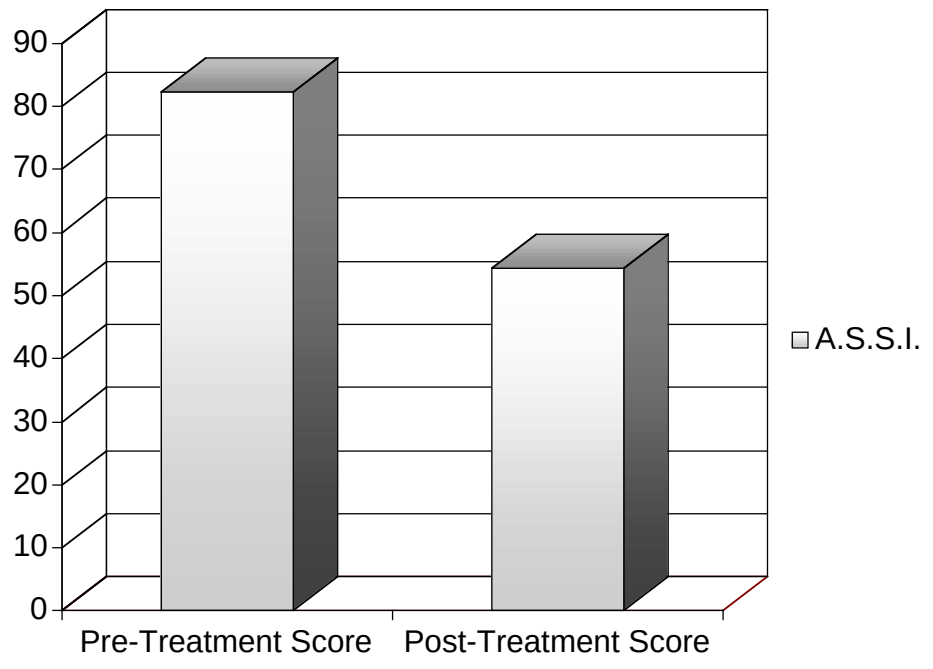
On the sixth visit, electrodermal screening was performed for retesting of sensitivity to all previously tested items, as well as sensitivity testing of other items from the home environment (hats, sunglasses, pillows, stuffed animals, toys, etc.). Otherwise treatment was performed as in the third visit. Subsequent evaluations were on a demand basis and were carried out as in the sixth visit.

The outcomes evaluation was performed by a re-administration of the ASSI questionnaire and a final EDS (conductance) measurement. The data were then evaluated by a statistician.

Table 1: Study Demographics

DEMOGRAPHICS						
CAUCASIAN	97%					
HISPANIC	1.5%					
ASIAN	1.5%					
MALE				FEMALE		
<35	35-54	>55		<35	35-54	>55
3.0%	13.6%	4.5%		19.7%	51.5%	7.6%

Figure 2: Median Pre- and Post-desensitization Scores on ASSI.

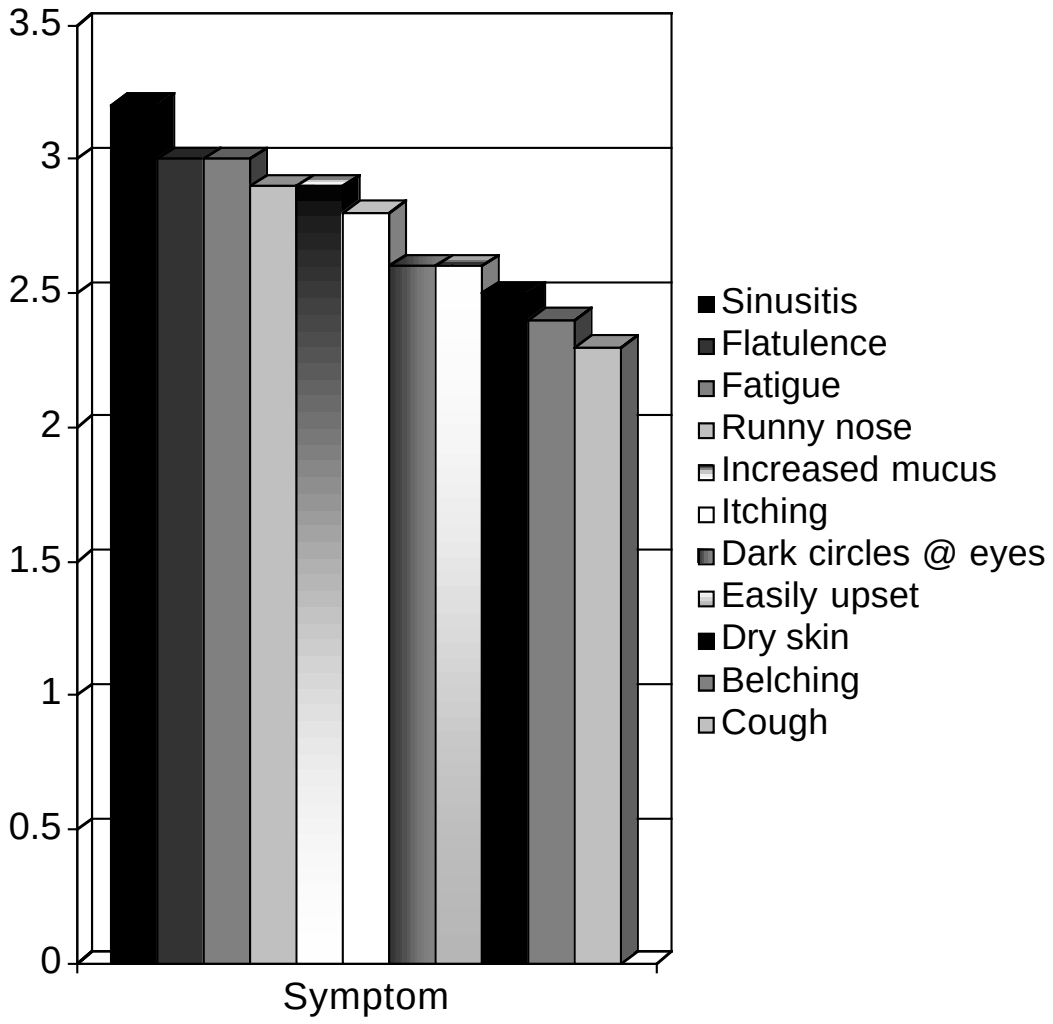


Results

Subjective

Forty-one allergy/sensitivity symptoms were recorded, using ASSI before and after treatment with the desensitization protocol. Ninety-six patients participated with 90 completing the study. See Table 1 for demographics. A student's paired t-test was used on the data with the 95-percent confidence limit ($p=0.05$). Thirty-nine of the 41 symptoms showed a statistically significant drop in severity with most (36/41) having a statistical

Figure 3: Relative Severity of the Worst Allergy Symptom Scores on ASSI



significance ($p<0.01$). The total ASSI score showed a decrease in total allergy symptom severity. Median score was 82.32 before treatment with the desensitization protocol and 54.25 after treatment, a statistically significant change ($p< 0.01$) (Figure 2). A score of 41 on the scale represents an asymptomatic patient. A score of 65 is significant for allergy/sensitivity symptoms. The higher the score, the worse the symptoms. Figure 3 depicts the relative severity of the most severe symptoms according to the ASSI.

ASSI scores were compared by season. It was found that participants responded to the desensitization protocol about the same, regardless of season, although the summer months showed the worst symptoms (Figure 4).

The symptom reduction achieved by patients who followed the desensitization protocol seemed to exhibit longevity. Patients who were surveyed up to three years after their initial treatment were still maintaining their reduction in symptoms, as shown in Figure 5.

Figure 4: Pre- and Post-treatment Scores by Season

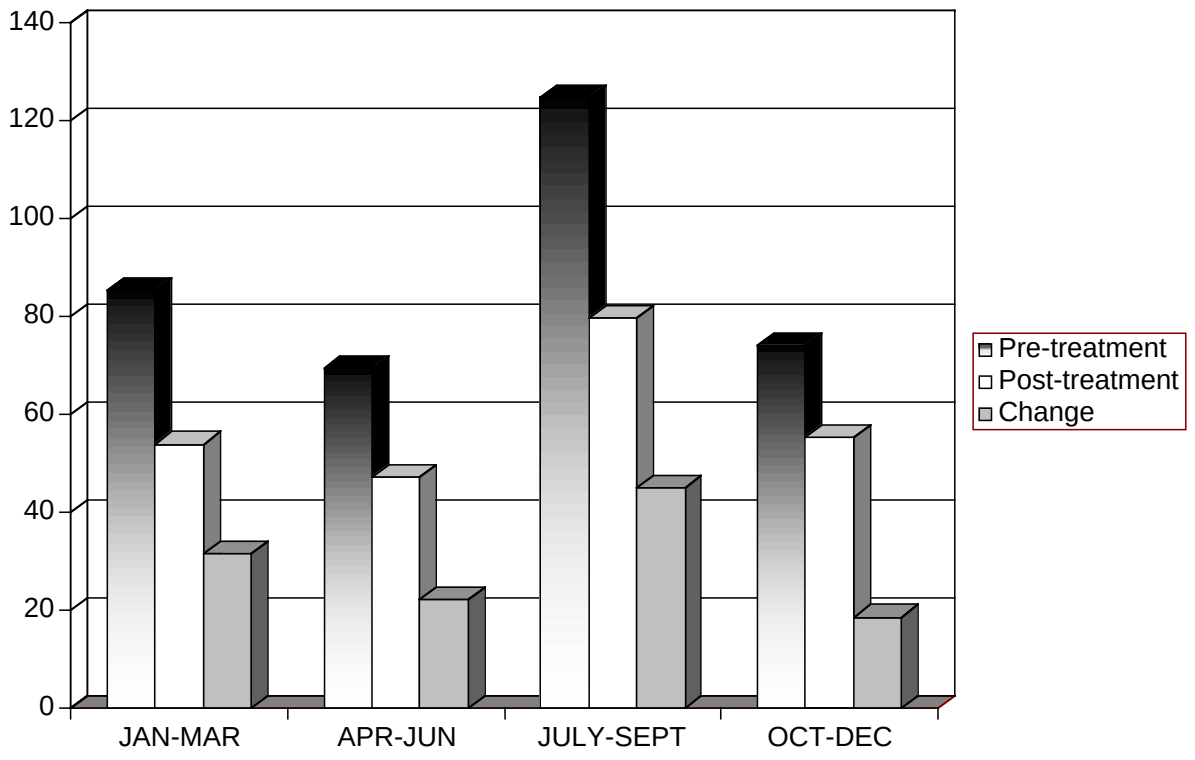


Figure 5: Average ASSI Scores Following Initial Treatment

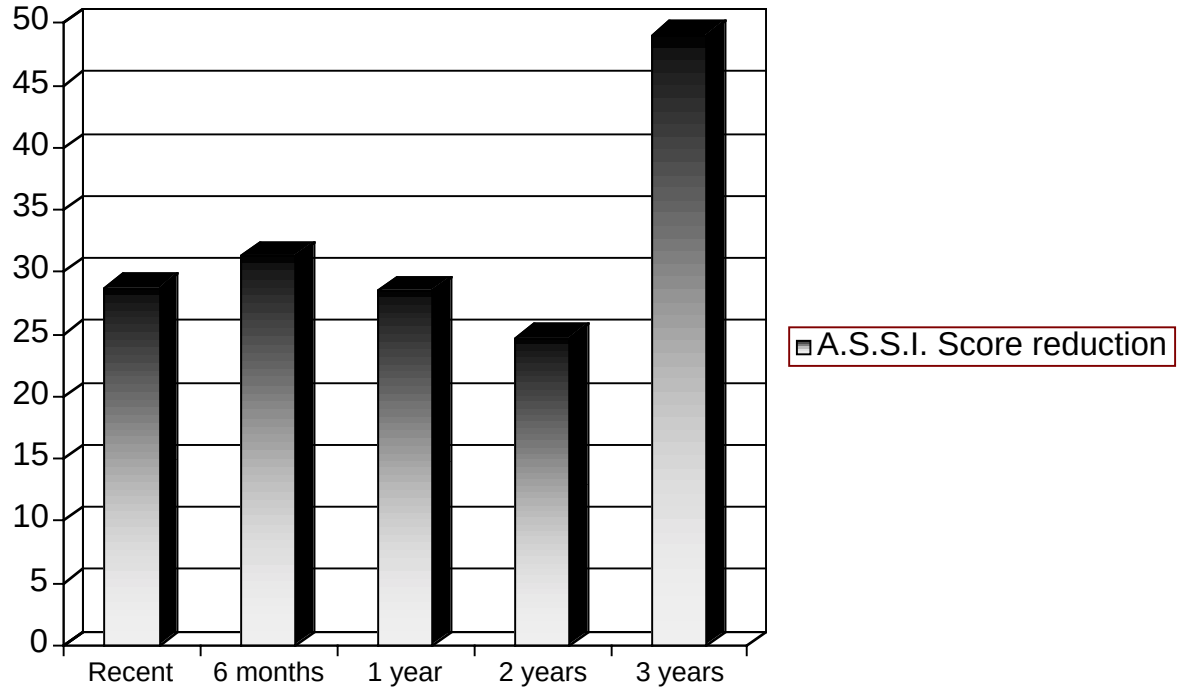
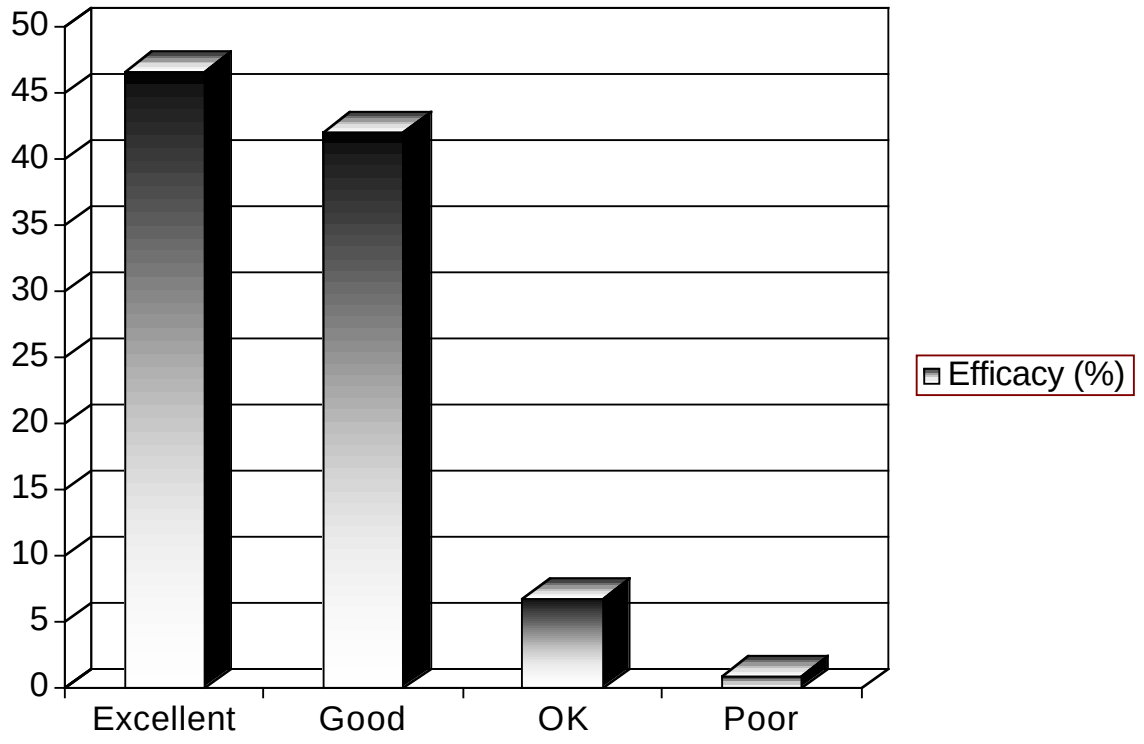


Figure 6: Patient Rating of Desensitization Efficacy



Including the basic series and all subsequent treatments, the average number of treatments was 10.52, with an average of 3.62 visits/year, including the four to five initial screening visits; therefore, subsequent years involved fewer visits. It took an average of 2.6 treatments before the patient started to experience relief of symptoms.

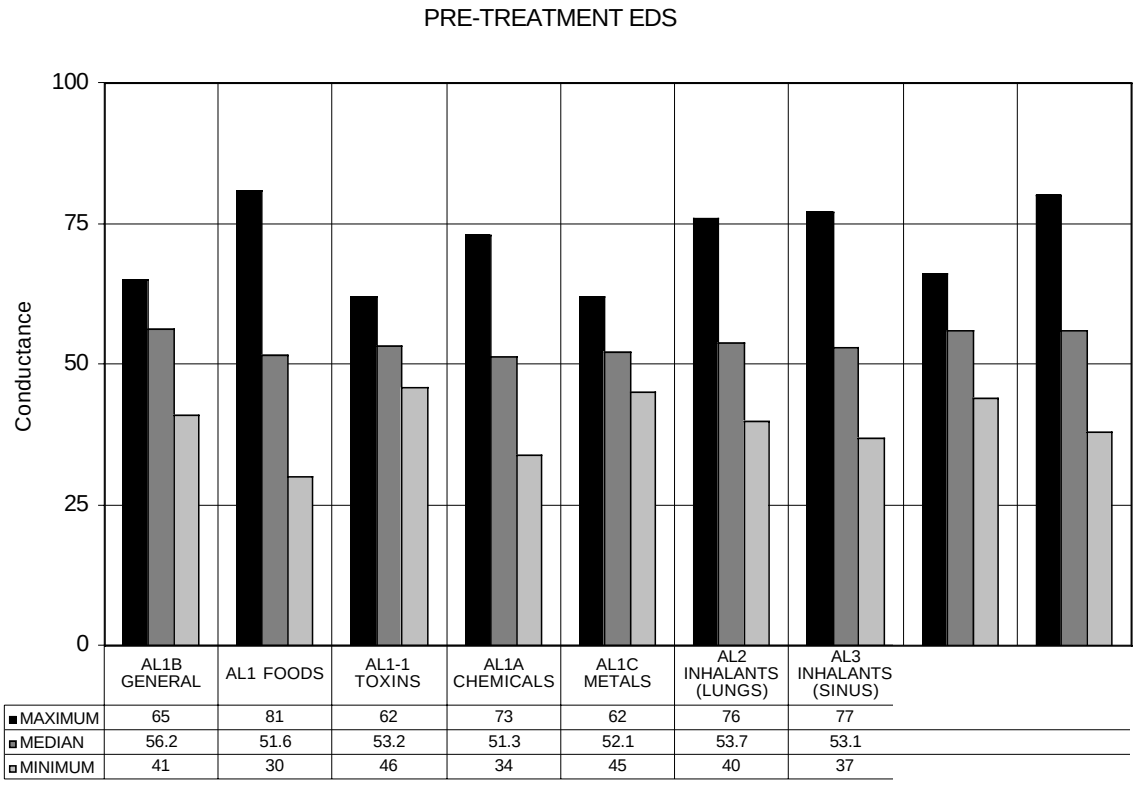
Patients reported an average level of compliance with the protocol as 1.60 with scores of 1=excellent, 2=good, 3=OK, 4=poor, and 5=non-compliant. Using the same rating scale, the patients rated the success of the protocol at 1.67. Efficacy of the protocol was rated as excellent by 46.7 percent of patients, good by 42.1 percent, OK by 6.8 percent, and poor by one percent (Figure 6).

Objective

Initial pre-treatment EDS conductance measurements are shown in Figure 7. Maximum, minimum, and median values are shown. The normal range is 50-65, with 50 representing balance of the point/meridian. The following EAV points were used: AL1B was the control measurement point for measuring a general reaction; the point AL1 was for measuring food reactions; AL1-1 point was used to measure toxic foci; the AL1A point measured contacted chemicals; AL1C measured metals; AL2 point was used to measure inhalants affecting the lungs; the AL3 point measured inhalants affecting the nose and sinuses; AL3A point measured autoimmune responses; and the AL4 point measured cerebral reactions.

The pre-treatment conductance measurements of participants showed significant variation among points. The balance point is 50. Higher conductance measurements reflect increasing inflammatory response (excess energy) in the point/meridian.

Figure 7: Pre-treatment Conductance Measurements



Lower conductance measurements reflect an exhausted (deficient energy) point/meridian; both are undesirable.

The post-treatment conductance measurements of participants showed a balancing of the energies in the acupuncture points, indicating a return to normal or less reaction to antigens. There is less variation point to point and the conductance measurements are closer to 50 as shown in Figure 8.

Indicator drop is a measure of chronicity or degenerative change. In Figure 9 indicator drop stabilizes as treatment progresses. The cleanup and post-treatment values were measured weeks to months later and show stabilization at a low-level indicator drop. This is postulated to be due to short-term sensitivities that come and go related to digestive and other transitory problems like infections.

Changes in conductance measurement at AL1B after the desensitization procedure were approximately the same in all ages and for both genders.

The number of antigens, divided by type of allergen, testing positive on initial EDS measurements is shown in Figure 10. Initially, the total number of antigens testing positive was a maximum of 322, a minimum of 22, with an average of 164. The post-treatment antigens testing positive ranged from a maximum of 26, to a minimum of 1 with an average of 12.9 – a greater than 10-fold change as depicted in Figure 11.

Figure 8: Post-treatment Conductance Measurements

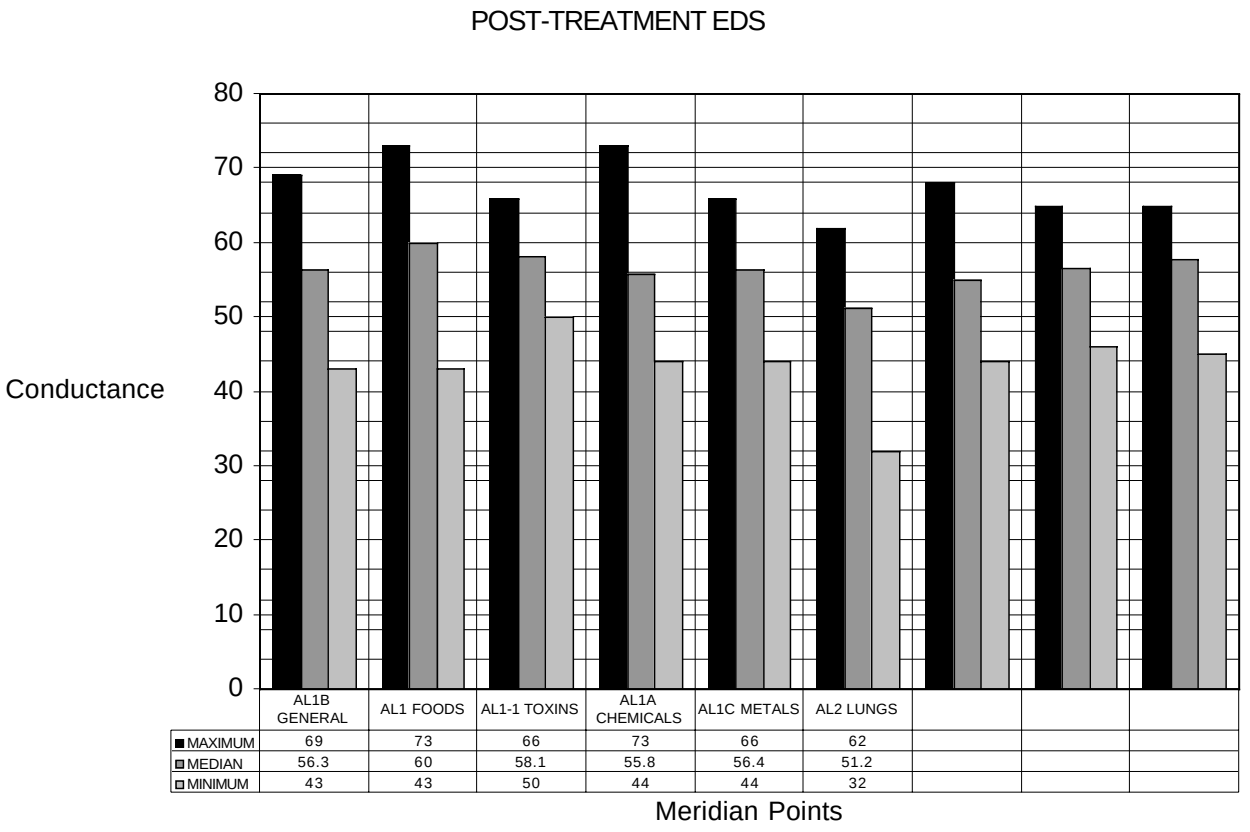


Figure 9: Indicator Drop as Treatment Progresses

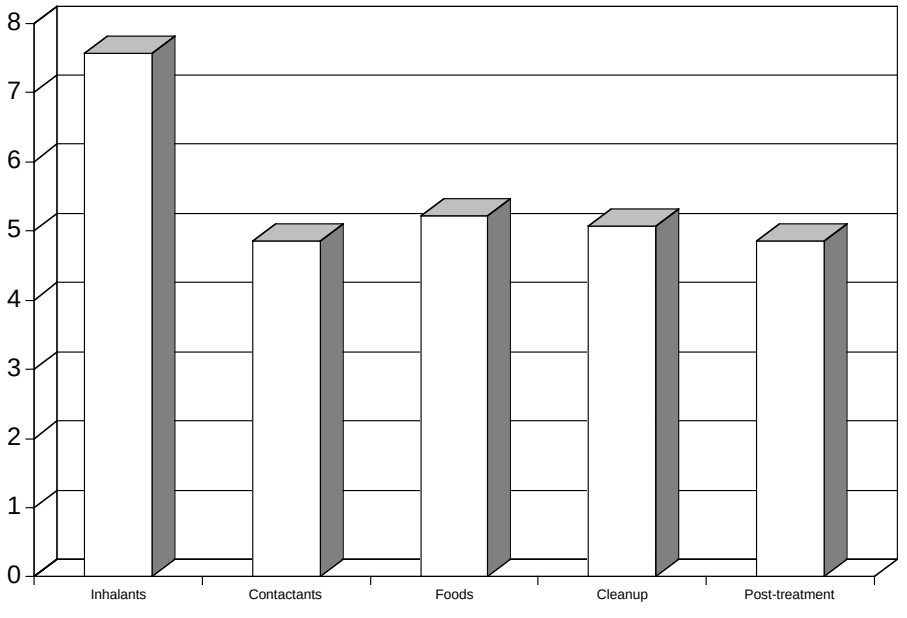


Figure 10: Pre-treatment Antigens Testing Positive Divided by Type of Allergen

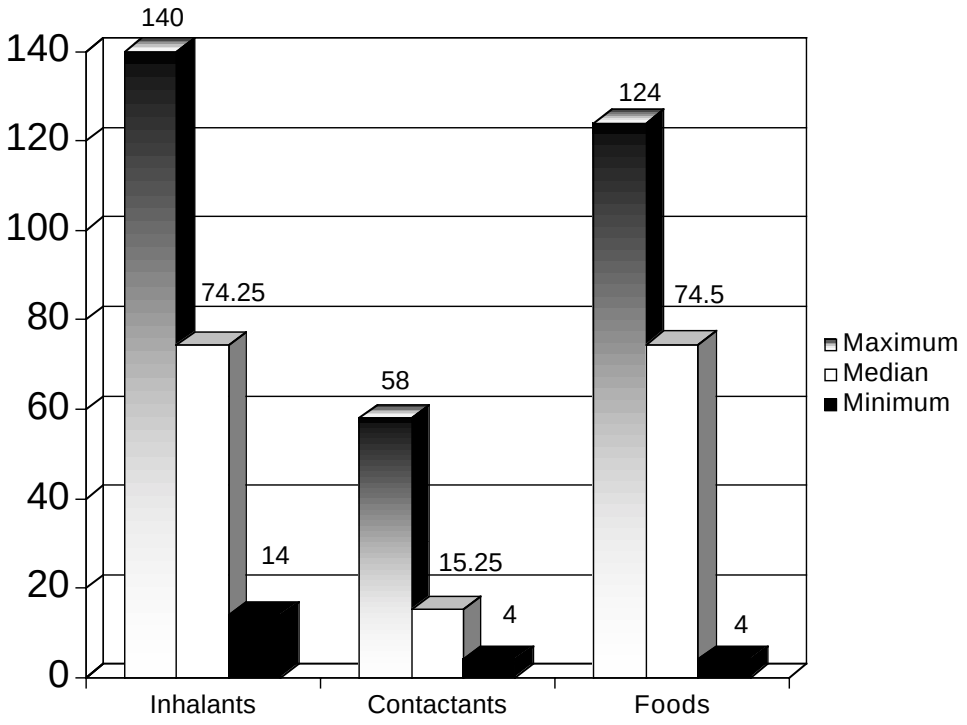
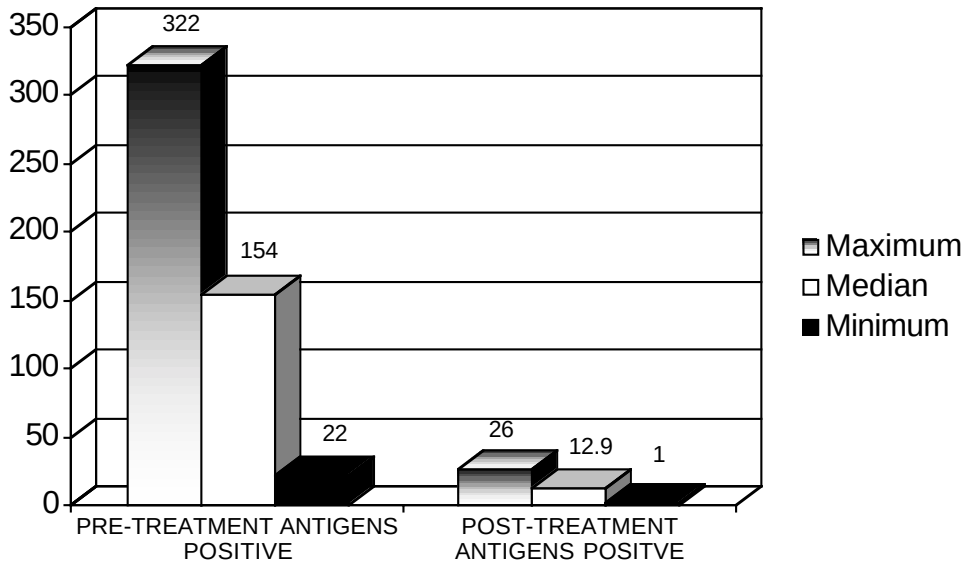


Figure 11: A Comparison Between Number of Positive Antigens Pre- and Post-treatment



Safety and Cost Effectiveness

Patients experienced an aggravation of their symptoms after treatments on the average 54.2 percent of the time. Typical symptoms included fatigue, itching, congestion, sneezing, headache, upper respiratory problems, sinus pain, and wheezing. The severity of symptoms was described as mild (57.8%), moderate (33.3%), or severe (8.9%). All reactions were treated at home with previously prescribed agents and none required physician intervention. The average length of aggravation was 33.6 hours. Some people could not maintain the energy correction and had to have a treatment repeated; this occurred in 48.2 percent of cases.

The average total cost (visits, testing, support supplements, and treatment) was $822.16. This included a statistical anomaly of one person who had many more treatments than average. Patients reported discontinuing

Natural Elimination of Allergy Therapy
Allergy Symptom Severity Index
(A.S.S.I.)

Name: _____ Date: _____

Grade the level of symptom severity that you are currently experiencing according to the following system:

1 = NO PROBLEM
2 = RARELY (ONCE A MONTH) OR MINIMAL
3 = OCCASIONAL (ONCE A WEEK) OR MILD
4 = FREQUENT (SEVERAL TIMES A WEEK) OR MODERATE
5 = DAILY OR SEVERE

INTEGUMENT-MUSCULOSKELETAL

_____ Dark circles around eyes
_____ Itching, burning, painful skin
_____ Flaking skin
_____ Dry skin
_____ Skin rash
_____ Oozing or crust formation
_____ Hair loss
_____ Muscle cramps
_____ Painful, stiff or swollen joints
_____ Migraines
_____ **Total for section**

CARDIOVASCULAR-GASTROINTESTINAL

_____ Heart racing
_____ Palpitations (skipped beats)
_____ Upper bowel gas (belching)
_____ Lower bowel gas (flatulence)
_____ Reflux (heartburn)
_____ Bloating; abdominal distention
_____ Liquid stools
_____ Greasy stools
_____ Mucus in stools
_____ More than 3 stools per day
_____ **Total for section**

EYE, EAR, NOSE, THROAT-RESPIRATORY

_____ Itching, burning, red, or watery eyes
_____ Runny nose
_____ Increased mucus production
_____ Sinus congestion or headache
_____ Scratchy or sore throat
_____ Itchy ears, snapping, popping, pain
_____ Cough
_____ Frequent colds or ear infections
_____ Shortness of breath
_____ Wheezing or coughing in fits
_____ **Total for section**

MENTAL-EMOTIONAL

_____ Difficulty remembering
_____ Blackouts
_____ Numbness or tingling
_____ Want to be alone
_____ Don't care about appearance
_____ Fatigue, no energy
_____ Easily upset
_____ Inappropriate anger
_____ Undue fears
_____ Problems with appetite or sleep
_____ **Total for section**

A.S.S.I. TOTAL SCORE _____

or decreasing pharmaceutical medication 52.2 percent of the time, and 69.3 percent were able to suspend office visits after treatment. Positive side effects (something improved that wasn't anticipated or explained by the therapy) occurred 42.1 percent of the time. For example, people had a lot more energy after treatment. Alleviation of fatigue was an unexpected positive effect, as most people don't equate fatigue as being due to allergy.

Conclusions

There was a statistically significant change in ASSI scores, EDS conductance measurements, and number of items testing positive after treatment, suggesting efficacy of the desensitization protocol. The procedure is natural, noninvasive, does not require long periods of abstinence, is safe, and free from long-term side effects. Perhaps the most interesting finding is that these changes were accomplished with the application of acupressure, and use of homeopathic remedies which were never ingested by the participants. All changes occurred purely from an energy therapy. The only medications given were to support gut barrier integrity, digestive function, mucus membrane integrity, skin health, and organ balancing, in order to prevent resensitization. The desensitization protocol is a low cost, effective therapy for the treatment of patients suffering allergies and sensitivities.

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