

Electrically-activated oxygen ("Vitamin O") supplementation selectively improves energy efficiency in hutterites demonstrating classic symptoms of chronic fatigue syndrome.

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ABSTRACT

Preliminary Background: Geological evidence and old historical records indicate that at some time in earth's primordial past, the oxygen content of both breathable air and drinkable water were much higher in oxygen values than they presently are. Which may account for the remarkable stamina and incredible longevity assigned to various ancient human and animal life forms. But with the Biblically-mandated Noah's Flood, drastic changes occurred in the atmosphere and oceans which significantly dropped this oxygen content to the more modest levels seen at present.

Ethnological Evaluation: Montana and Dakota Hutterites were enlisted as willing participants in this first-ever trial with a form of supplemental oxygen properly known as electrically-activated oxygen or by its more formal name of "Vitamin O". Hutterites are part of the Anabaptist movement that includes Amish and Mennonites, all of which have Old World origins. These isolated, communal living people were chosen because of the researcher's lengthy acquaintance with them and their confidence in him.

Introductory Remarks: Chronic fatigue syndrome (CFS) was selected as the disease model on which to test electrically-activated oxygen ("Vitamin O"), since an astonishing number of Hutterites seem to have it. CFS has always been somewhat difficult to correctly diagnose because many of its symptoms are disturbingly similar to a number of other diseases: fever, sore throat, pain in the lymph nodes, muscles, and joints, muscle weakness, prolonged fatigue, generalized headaches, sleep interruptions, and certain neuropsychological complaints.

Experimental Approach: The three key features of this approach in assessing the efficacy of natural man-made substance were employed here: randomization, blindedness, and measurement of predetermined outcomes.

Research Methodology: A total of 21 individual ranging in age from 26 to 67 from various Hutterite colonies were selected for this study project. For 15 weeks these subjects consisting of 11 males and 10 females were divided into a therapy group (13 participants) and a control group (8 participants) receiving a matched placebo. Random blood sampling, periodic pulse oximeter monitoring, printed questionnaires, written weekly snack reports, and oral interviews were all employed with good effect throughout this highly interesting trail.

Results: The therapy group experienced greater reductions in prolonged fatigued, migratory joint pain, neuropsychological complaints, sore throat, and mild fever than did those in the control group. Also 4 previously detected cases of hidden anemia in the therapy group posted significant improvements after finishing self-administered therapy with electrically-activated oxygen in liquid form. The sole anemia case in the control group showed no discernible changes in his condition, though.

Discussion: This decisive study validates the anecdotal evidence in favor of electrically-activated oxygen's energy-yielding properties. Its health-giving activities begin in the red blood cells and are passed elsewhere into the body from there. The electrically-charged molecules of this supplemental oxygen accounts for much of its revivifying qualities. The legitimacy and safety of this particular substance ("Vitamin O") is validated through this short-term, somewhat limiting randomized and blinded scientific evaluation. Hopefully, a longer-term and expanded version involving other health problems can be made with this exceptional and trustworthy natural substance.

Preliminary Background

This report concerns recent research done on a *type* (electrically-activated) oxygen in liquid form ("Vitamin O"). A brief overview of this gaseous element in general may be helpful here. Oxygen makes up 90 percent of water, almost 67 percent of the human body, and one fifth by volume of air. It is also found in the sun in great abundance. A person may go weeks without food, days without water, but can only survive just a few *minutes* without oxygen. It is, indeed, the ultimate nutrient.

Geologists have determined that the air during Earth's Cretaceous Period of 65 to 144 million years ago was considerably higher in oxygen content than in today's air. Robert Berner of Yale University and Gary Landis of the U.S. Geological Survey in Denver reported at the Geological Society of America's annual meeting held in Phoenix, Arizona in late October 1987, that they had crushed ancient amber in a vacuum system in order to release the gases trapped in bubbles as small as 10 micrometers. Analysis of the gases by quadrupole mass spectrometry revealed that 80-million-year-old amber had trapped air that contained roughly 35% oxygen compared with a meager 21% oxygen content of air in modern times. (Amber is the fossilized tree sap that's hard as plastic, and translucent as glass, and in which very ancient insects have frequently become entrapped and perfectly preserved for tens of millions of years.)

Further along in our planet's history, when it eventually became populated with people in a period known Biblically as the Antediluvian Era (or that which was before the Great Flood of Noah), there appears also to have been a somewhat higher oxygen level in both the air and water which they then breathed and drank. The evidence for this comes not from amber, but rather from ancient recorded histories, which have been remarkably preserved and published for our time. Flavius Josephus (37-100 A.D.), a renowned Jewish historian, wrote a treatise on the *Antiquity of the Jews* almost 1,900 years ago. Having access to even more ancient documents back then (which no longer survive), he was able to reconstruct a fairly decent history of the world before the Flood. In *The Works of Josephus* (London: Thomas Fabian, 1676; Book I, Chapter III, p. 32), translated by the French scholar Arnauld D'Andilly, is found this singular statement offered up as the most likely explanation for the incredible life spans of the Antediluvians: "...They used also a kind of nutriment both in the air and water agreeing with their natures, and proper to prolong their lives... [I] do declare, that they of the first World lived *one thousand years*." What's even more interesting is that following the Flood, Noah and his kind "had the times of their lives abridged, so that they lived not any more so long as they were wont [to before], but only attained the term of sixscore [120] years." Josephus attributes this drastic reduction in mortal life spans to the Great Flood itself and certain physiological changes, which occurred in the air and water afterwards. We may conclude from his inference here that the oxygen contents in the atmosphere and oceans experienced substantial declines.

Another reliable reference from ancient times is *The Works of Philo* (Peabody, MA: Hendrickson Publishers, 1993; pp. 5;153). Philo Judaeus, or Philo the Jew (20 B.C.-50 A.D.) was a contemporary of both Jesus and Paul. Like Josephus who followed him, he, too, was a historian but also a philosopher as well. He wrote extensively on the Pentateuch (the first five books of Moses comprising the Old Testament). In his treatise, "De Opificio Mundi" (VIII:30), the assertion is made that the air *before* the Flood containing a greater amount of an unspecified "life-giving" element than afterwards. And further along in another treatise, "De Gigantibus" covering the giants who lived in those times, he made reference to "a third element" being found in the air above and in the water below which them their incredible strength and remarkable life spans, but *after* the Flood was withdrawn to some extent by God.

Thus, the geological evidence from prehistoric amber and the records of two ancient historians do testify that oxygen, "the element of life" was in far greater abundance a long, long time ago in air and water than it presently is. The exuberance and stamina of the Antediluvians, spoken frequently of in ancient records that have survived and been translated in our time, may be largely attributed to the oxygen-rich air they breathed, the oxygen-potent water they drank, and the oxygen-loaded foods they consumed.

This report, therefore, investigates a particular *type* of oxygen that is created through means of electrical activation and dispensed in liquid form under the trade name of "Vitamin O." It is the belief of this research investigator that this kind of oxygen very closely approximates the ultra-pure oxygen found in great abundance in the times of the dinosaurs and the later Antediluvians, but which has become insufficient today due to many *man-made pollutants which have poisoned our atmosphere and environment to a large extent.*

Ethnological Evaluation

The research project of which this paper is the focus was conducted among, several different Hutterite colonies scattered throughout Montana and the Dakotas. The Hutterites are communal-living people and part of the Anabaptist movement that had its beginnings in the early Protestant Reformation that swept Europe in the 16th century. Along with the Mennonites and Amish, they rejected infant baptism and allegiance to a state church (Catholicism), hence the given name of Anabaptist. They believed faith was a matter of voluntary commitment and

could not be imposed upon an unknowing baby or required by the state. Their views were considered heretical by both religious and state authorities. Agents and informants collected bounty for every Anabaptist they turned in. Many Hutterites suffered severe persecution for their beliefs and communal practices, including torture and death in many cases. They take their name from Jakob Hutter, a vigorous, gifted early leader, who was burned alive at the stake in Innsbruck, Austria on February 25, 1536.

For several hundred years Hutterian history alternated between brief periods of extreme prosperity and expansion to much longer terms of intense persecutions and excruciating suffering. They relocated a number of times over the next few centuries, always hoping to find lasting peace, which proved to be somewhat elusive for them. They left Moravia, now part of the Czech Republic, and moved to Russia at the invitation of Catherine the Great. They were on the move again a century later and found a new home for themselves in the untamed Dakota Territory in the mid-1870s. Following the outbreak of World War I, however, they were again harassed because of their conscientious objector status and their German heritage. This sent them en masse into Canada for several decades. But when bitter opposition towards them arose in that country, quite a few emigrated back across the border into Montana and the Dakotas after World War II where they currently thrive in great numbers.

As the sociological work, *Hutterites of Montana* (New Haven, CT: Yale University Press, 2000; p. 20) observes: "When the Hutterites arrived on the prairies of the Dakota Territory in 1874, eight other communal societies flourished in America, the best known being the Shakers, the Oneida Perfectionists, and the Amana Society. Today all eight have declined or vanished, whereas the Hutterites have grown from about four hundred people to more than forty thousand. With colonies in the Dakotas, Montana, Minnesota, and Washington, and in Alberta, Saskatchewan, Manitoba, and British Columbia, the Hutterites now form the largest communal group in the Western Hemisphere."

There are three classes of Hutterites: Lehrleut (*who* are the most conservative of the three groups), Dariusleut (*who*, by comparison, are more moderate in their views), and the Schmiedeleut (*who* are, by far, the most liberal of the bunch). The testing of electrically-activated oxygen ("Vitamin O") was conducted among colonies from each of these different groups. This researcher has enjoyed unprecedented interactions with many Hutterites for over three decades and has earned their trust and confidence. Each colony is governed by a board of seven elders, chosen from among its baptized and married male population by the casting of lots. Two of the seven are always the minister and assistant minister, whose words and influence carry considerable weight. It was necessary to obtain their permission before this study got underway.

Introductory Remarks

Chronic fatigue syndrome (CFS) was chosen as the disease model on which to test electrically-activated oxygen ("Vitamin O"). It is found among the Hutterites to a surprising extent and seemed the most logical choice due to the energy-draining activity regularly associated with CFS, which electrically-activated oxygen ("Vitamin O") appears to reverse.

Chronic fatigue syndrome has been an elusive and difficult-to-diagnose but not fatal malady going back to at least the 18th century. An English physician by the name of Sir Richard Manningham wrote a little textbook entitled, *The Symptoms, Nature, Causes and Cure of The Febricula, or Little Fever*. The symptom which he mentioned for this strange ailment bear a strikingly similarity to those which have been assigned to chronic fatigue syndrome (CFS): mild fever, sore throat, painful lymph nodes, unexplained generalized muscle weakness, muscle pain, prolonged fatigue, generalized headaches, migratory joint pain not accompanied by inflammation or redness, sleep disturbances, and certain neuropsychological complaints (forgetfulness, excessive irritability, mental confusion, inability to focus).

In 1871 doctors began diagnosing exhaustion in soldiers following the stress of battle. This version of CFS became known as "soldier's heart", or "the effort syndrome." During World War I some 60,000 of the British forces were diagnosed with the problem and 44,000 of these were discharged from the military because they could no longer function in combat. In World War II there appeared in the medical literature from different countries, reports on both the Axis (Germany-Italy-Japan) and Allied (America and her friends) sides indicated that certain numbers of their troops experienced unexplained fevers, sore throats, arm pit pains, general muscle weaknesses, continued fatigue, migratory joint and muscle pains, inability to follow commands, and breakdowns in morale. Doctors on both sides were baffled by such symptoms and at a loss to know just what to do to alleviate them. Some of these same things manifested themselves again in American soldiers fighting in the Korean and Vietnam Wars.

In 1934 an American doctor, Alice Evans, suggested that CFS was induced by a bacterial infection transmitted through farm animals. She referred to the illness as "chronic brucellosis." In that same year, there was an outbreak of a strange malady called "benign myalgic encephalitis", so named because it involved impairment in both brain function and muscle pain.

Scientists at the Centers for Disease Control (CDC) in Atlanta, GA became involved with CFS in the mid-1950s, when some of them were called to Florida to examine what first appeared to be a cluster of atypical

polio cases. In the mid-1980's epidemiologists from CDC also investigated a similar mysterious outbreak in Incline Village, Nevada. There local doctors had reported that a large proportion of people with extreme fatigue and antibodies to the Epstein-Barr virus (EBV), the agent responsible for infectious mononucleosis. This finding prompted media speculation that EBV was "the cause," but this was later proven to be erroneous.

The operation of the Incline Village investigation – reacting, to potential Clues unearthed by others, raising the hopes of patients and researchers, and finding that the suspected agent-either was common in the population or couldn't be isolated at all – typified much of the CDC's early involvement with CFS.

Partly as a result of this pattern of "putting out brush fires," there was some initial resistance to validating CFS as an illness, recalled epidemiologist Walter Gunn in an interview some years ago. At one time he headed the Atlanta agency's first investigative effort. They worried that they might be seen as legitimizing something flaky. One of his first steps was to ask doctors in four cities to refer patients who fit certain guidelines to CDS for diagnosis by stricter standards. As the early results of this surveillance system were tabulated, skepticism began to fade. Although some scientists had predicted that only about 5% of people with severe fatigue would match the CDC's stringent criteria for CFS, about 26% of fatigue patients seen in the four cities fit the description exactly. And an additional 14% were only one or two symptoms short. "People were startled that the numbers were so high," Dr. Gunn stated in his interview. "CDC officials then began to take CFS more seriously."

One main thrust is defining the epidemiology of the syndrome. The four-city surveillance project suggests that at least two to seven per 100,000 people in these locales were affected. Dr. Gunn believed that these numbers were undoubtedly low and cautioned his interviewer that they only applied to the cities involved in the research. In the study white females bore the brunt of the disease: 10-26 per 100,000 of them, were affected. On average, CFS patients became sick at age 30 and had been ill for 7 ½ years. In time with more research these numbers escalated to 67 to 85 per 100,000 thus afflicted.

During, the 1970s CFS was often equated with hypoglycemia since a number of symptoms attributed to the former also are known to be manifested with the latter. The fact remains, however, that CFS victims do not typically have low blood sugar. Throughout much of the 1990s, CFS dominated news headlines. It became in the words of one medical journalist "the disease of the nineties." Estimates ranging from one to ten million cases have been bandied about in the lay press and medical literature, but epidemiologists at the CDC have projected a more conservative figure of around 500,000.

Even with what is currently known about this disease, it still defies accurate diagnosis. One reason is that CFS is a collage of debilitating symptoms that mimic those of other illnesses such as hypoglycemia. Furthermore, some of these symptoms can show wide variance in different patients, making verification that much more difficult. The thing that most perplexes medical wisdom, though, is that patients afflicted with this condition *do not* look sick.

A number of different theories have circulated within the medical community regarding the possible origin for this strange malady. The viral theory has received the strongest support by far. In this hypothesis a common form of herpes virus is thought to be the chief culprit. An immune system connection of some kind occupies a strong second place. An unusually high percentage of CFS patients have respiratory allergies predating their illness - some 50 to 80 percent versus just 17 percent in the general population. The immune system may overreact to harmless substances due to such allergic sensitivities. Finally, the role of the mind and its subtle influence on disease as a whole remains a likely but controversial contender. Some epidemiologists hold to the likely notion that virtually all cases of unexplained CFS can be traced to emotional problems. Perhaps, it could be a combination of *all three* factors that is responsible for this most distressing ailment.

Experimental Approach

The key features of the experimental approach to assessing the efficacy of a natural man-made substance such as electrically-activated oxygen ("Vitamin O"), are randomization, blindedness, and measurement of predetermined outcomes. The purpose of randomization is to maximize the likelihood that the groups being compared will differ only as to the testing they receive.

Thirty-five men and women between the ages of 26 and 67, who had received previous medical confirmation of CFS, were randomly selected from several Hutterite colonies in Montana and the Dakotas. Fourteen were eventually excluded for medical (pregnancy, impending surgery, conflicting medications) and cultural (lack of cooperation, ministerial opposition, community jealousy) reasons. The final 21 actual participants were carefully screened using several different parameters to verify their CFS. A number of participants obtained photocopies of those portions of their medical records from local doctors in nearby towns or cities who had formerly diagnosed them with CFS and gave these to the researcher. Everyone also was given a list of twenty questions that identified specific symptoms for CFS that has been established by the Centers for Disease Control (CDC) in Atlanta, and asked to answer each of them according to the best of their given abilities. The questionnaire was so designed as to eliminate any possibility for the overlapping some symptoms (fatigue, excessive irritability, sleep deprivation) common to other problems (depression, bipolar disorder) that could have mimicked CFS.

Blood sampling was done at the commencement of the study (which began in September 2000), again in about the middle of it (around the first part of November), and at the conclusion (middle of December) as well. It was discovered that five of the 21 subjects had some mild form of hidden anemia, while mild viral infections of herpes simplex showed up in three. In spite of these findings, however, they remained in the project. It should be noted, though, in passing that prolonged fatigue, unexplained muscle weakness, and mental confusion, are also symptomatic of anemia and herpes infection sometimes.

The blood sugar levels of all the subjects enrolled in the research experiment were also tested. Now there are three basic ways of monitoring for blood glucose levels: A random blood glucose in which a sample is taken when the subject has been eating or is on his or her regular schedule; a fasting glucose test that utilizes a blood sample taken when the individual has not had anything to eat or drink (except water) for a minimum of 8 hours; and the more familiar glucose tolerance test which begins with a fasting glucose test after which the person being tested is given a measured amount of glucose in a sweet drink and that glucose then measured in several more blood withdrawals at specific time intervals. A random blood glucose test was chosen as the way to identify any potential hypoglycemics within the study group, since it is the easiest of the three and also fits in well with the regular meal schedules of those colonies involved in the study. It was found that only two of the participants had hypoglycemia, which did not bar them from the study, however. None of the remaining 19 subjects showed any indication of having low blood sugar.

The next important feature of the experimental method is blindedness. Its chief purpose is to minimize bias by both test volunteer and investigator. The subjects who know which substance they are receiving may develop and report benefits or side effects based on preconceived expectations. Unblinded investigators may unconsciously alter their interpretations of participants' symptoms or change their testing strategies. Either response may distort the study results. Therefore, a concerted effort was made by those assisting this project investigator to make sure that he never knew which samples were actual substance and which were placebos.

While certainly very necessary to maintain for the study's integrity, yet this same blindedness produced a wholly unexpected event that no one had foreseen. Some of those receiving what they presumed to be electrically-activated oxygen ("Vitamin O") began noticing specific improvements in their individual conditions and reported these to other relatives and acquaintances within their colony as well as others elsewhere. This soon generated a groundswell of interest from others outside the project who wanted some of the same things for themselves. Because of the way such closed societies operate and human nature being what it is, the investigator found it difficult to deny these other requests. So they were given test samples to use as they deemed fit, but without themselves or the researcher himself ever knowing which ones were the actual product and which were placebos. The last part of this experimental procedure is the measurement of predetermined outcomes. It not only belongs to the randomized controlled trial (such as this here), but is also a property of good observational studies as well. Outcome assessment should be as nearly complete, closely appropriate, and most accurate as what human endeavors will allow. This 15-week study involving 11 men and 10 women, were divided between a study group (13 participants) using the electrically-activated oxygen ("Vitamin O") and a control group (8 participants) receiving a matched placebo. Every effort was made to insure thoroughness, suitability, and preciseness. But bear in mind that this project resembled pioneering efforts in a research landscape never previously explored. It broke new ground in two different but very important areas. To begin with, it was the first scientific attempt ever made to actually test electrically-activated oxygen ("Vitamin O") on human volunteers. And secondly, the *only* time ever that an outsider or non-Hutterite has been permitted such free study access within closed societies like this by their controlling ministers.

Permission and access were granted the investigator because of his longstanding - connection and good reputation with many Hutterite colonies spanning a thirty-year period. By the same token, though, colonies' suspicions towards outsiders in general sometimes interfered with what could have been a smoother, less problematic study. Still, given all of the positive ups and minor downs that such a medical investigation would naturally generate, it can be safely assumed that nearly all of the protocols demanded for a randomized controlled trial such as this, were closely followed and adhered to as much as what human circumstances and social consideration's would permit.

Research Methodology

The 21 project participants received either electrically-activated oxygen ("Vitamin O") in liquid units (2 fl. oz) or a comparable placebo (2 fl. oz.). each subject was instructed to take the liquid sublingually (beneath the tongue) in doses of 15 drops twice daily for 15 weeks, commencing in mid-September and concluding in mid-December 2000. There were no mandated food restrictions during the testing phase itself. All participants were told to consume the foods and beverages normally served in the colonies' central kitchens morning, noon, and night. Meal and drink intakes were monitored different ways. Copies of monthly menus were obtained from the various head cooks of each study site. Participants were invited to keep written weekly records of what they snacked on

outside of the regular kitchen meals. None of the subjects were taking any kind of health food supplements during the research period.

Breakfast usually consisted of fried eggs, bacon or ham or sausage, cold or cooked cereal, white bread, milk, and coffee. Lunch was always the biggest meal of the day and included meat and potatoes, a cooked vegetable, salad, fresh baked white bread, some kind of dessert, milk, and coffee. Dinner would then be typically a lighter meal composed of some kind of noodle soup, a piece of meat (chicken or pork usually), some cheese, sliced bread, sometimes dessert (Jell-o or pie), milk, and, of course, the ever-present freshly brewed black coffee.

Sunday noon-time dinner follows church services was always the meal highlight of the day. After the kitchen bell or buzzer sounded, the adults quietly filed into the communal dining room, with men seated at long tables on one side and the women at long tables on the other. Children under the age of fourteen would sit down together when the adults were finished and watched over by the colony German school teacher to prevent misbehavior. Duck or goose or beef or pork would be served with mashed potatoes, gravy, two vegetables, homemade bread, jam and jelly, desserts (pie ala mode, strawberries and whipped cream), milk, and coffee.

The average eating time is 15 minutes, though some colonies manage to accomplish this in under 10 minutes. Another brief prayer is said and then the men get their hats and leave while the women stay to clear the tables and clean up the central kitchen.

The weekly snack records kept by all participants prove without a doubt that nearly all Hutterites easily succumb to the temptations of junk food. It was not uncommon to find routinely listed such things as Oreo cookies, potato chips, canned soda pop and colas, Cheez Whiz spread, Jiffy brand peanut butter, hard candies, and various flavors of commercial ice cream purchased by every colony several times a year and then divvied up equally among all families. It is very apparent that the majority of Hutterites like sugary, salty and greasy snack foods and sugary beverages even when some of their outside doctors try to dissuade them otherwise.

Both the monthly menus from the different colonies in which participants resided as well as their own weekly snack records provided this investigator with a good overview of the foods being consumed during the initial test period itself. Additionally, each subject was provided sufficient quantities of a simple form that asked them to fill out how they felt on a weekly basis while using the electrically-activated oxygen ("Vitamin O") or placebo. These were collected by the investigator during frequent visits to each colony involved in the study. After reviewing some of the accumulated forms on the spot per individual, he would then conduct a brief oral interview with each participant, asking a different set of predetermined questions regarding overall health status as a cross-verification to the written information. These two sources of frequent data from each test subject were a means of indicating some physical improvement or lack thereof either with the genuine therapy or its placebo counter, even in spite of a diet not always conducive to general well being.

A medical device known as a finger pulse oximeter (Healthdyne Technologies, Model 950, Marietta, GA) was also periodically employed by this investigator to measure the arterial oxygen saturation levels of functional hemoglobin in both groups.

The apparatus was activated when a subject's forefinger was inserted into the oximeter until the very tip of it touched the built-in step guide. The artifact would then shine a red and infrared light through skin tissue in order to detect the fluctuating signals induced by arterial blood pulses. The device automatically calculated the ratio of the fluctuation between both light signals which determined the oxygen saturation content of each subject at that particular moment.

Pulse oximetry was introduced into clinical medicine almost two decades ago with a great deal of fanfare and excitement. Its impact has been unprecedented as a noninvasive monitor, being especially ubiquitous in acute care settings. But from its very inception, the slightest, background noise has been a major bugaboo of an otherwise fabulous detection device. In the last decade, clinical enthusiasm for this monitor has waned abit due to several published reports in leading medical journals questioning its accuracy and precision: *Journal of Clinical Monitoring* 5:72-81 (1989); *European Respiratory Journal* 4:115-119 (1991); and *Critical Care Medicine* 28:1684-1685 (2000).

Knowing, this about pulse oximetry's extreme sensitivity to environmental sounds, including any physical movements of the individual being monitored, this investigator took extreme precautions to try and prevent both from happening while using such a device. He would select the quietest room in each subject's house, usually a downstairs bedroom with the door closed, to conduct his monitoring. A request would be made for some family member to remain upstairs and make sure no one walked over the floor area above to prevent even any creaking of floor joists or polished wood covering as well as the opening or closing of entrance doors. In this almost perfectly silent environment would he then conduct his monitoring with every test subject remaining as motionless as possible for the brief moment that such an activity took. It is his belief, therefore, that given the controversy of accuracy surrounding pulse oximetry in general, he was able, nevertheless, to get fairly precise readings of arterial hemoglobin-oxygen saturation from each subject.

Each person involved in the study project received a complete blood count (CBC), which is one of the most common blood tests and generally taken as part of a routine physical check-up. In a typical CBC test, the different

types of cells in the blood are counted and examined by a machine. The six tests that comprise a CBC are: Red blood cell (RBC) count; hematocrit; hemoglobin; white blood cell (WBC) count; differential blood count (Diff); and platelet count. Blood samples were drawn three different times during the course of the study once in the beginning, in the middle and again at the end. Anemia was detected in 5 of the 21 subjects and herpes simplex infection in 3 others. (Further data garnered through this test procedure is mentioned more fully in the next section.)

Results

A total of 21 Hutterites from colonies in Montana and the Dakotas participated in a 15-week period over the last four months of 2000, using either electrically-activated oxygen liquid ("Vitamin O") or an equivalent placebo liquid. They were divided into two groups: 13 received the test product and 8 received the matched substitute. They were instructed to take the liquids sublingually (beneath the tongue) in two doses of 15 drops each following morning breakfast (around 7:30 a.m.) and evening dinner (sometime after 5:00 p.m. church services). In the first half of this evaluation study, 9 of those receiving the electrically-activated oxygen ("Vitamin O") reported experiencing improvements in a number of their CFS symptoms; another 3 of the same group began receiving benefits to some of their symptoms midway through and to its conclusion. Just 1 person of the 13 comprising this group reported nothing happening. The placebo group started out with just 2 noticing any kind of modest changes in several of their symptoms, but by the study's end this had increased to 5 in number out of a total 8 subjects. Consequently, the statistical data shown in Table I factors in these various early-to-late changes of both groups.

Those symptoms showing the greatest gains in improvement using electrically-activated oxygen ("Vitamin O") were for prolonged fatigue, migratory joint pain, neuropsychological complaints, sore throat and mild fever. Those in the placebo group garnered the greatest numbers for prolonged fatigue and neuropsychological complaints, with none of the 8 reporting any changes for five symptoms: lymph node pain, muscle weakness, muscle pain, generalized headache, and sleep disturbances. Four out of five of these same symptoms also posted low numbers for the test product.

Table I. Observed Reductions in CFS Symptoms

CFS Symptoms	"Vitamin O" Group Reductions	Control Group Reductions
Mild fever	50%	20%
Sore throat	58%	40%
Lymph node pain	25%	—
Muscle weakness	25%	—
Muscle pain	33%	—
Prolonged fatigue	92%	60%
Generalized headache	17%	—
Migratory joint pain	75%	40%
Sleep disturbances	42%	—
Neuropsychological complaints	67%	60%

Those symptoms showing the greatest gains in improvement using electrically-activated oxygen ("Vitamin O") were for prolonged fatigue, migratory joint pain, neuropsychological complaints, sore throat, and mild fever. Those in the placebo group garnered the greatest numbers for prolonged fatigue and neuropsychological complaints, with none of the 8 reporting any changes for five symptoms: lymph node pain, muscle weakness, muscle pain, generalized headache, and sleep disturbances. Four out of the five of the same symptoms also posted low numbers for the test product.

More Hutterite women than men receiving the electrically-activated oxygen ("Vitamin O") expressed getting greater positive reactions to it overall. This may be in keeping with national statistics showing that a larger percentage of adult women suffer from CFS than the adult male population does. And women tend to respond more favorably to conventional therapies for CFS in general than men do anyway

Blood sampling was done at the onset of the study, again midway through it, and for a third time at its conclusion. The first blood draw showed abnormal hematocrit values and low hemoglobin levels for five of the test subjects, indicative of hidden anemia. A second blood sampling about 10 weeks into the project revealed somewhat of an improvement in hematocrit values and slightly elevated hemoglobin levels in four of the subjects who were being treated with electrically-activated oxygen ("Vitamin O"), while no changes were evident for the other anemic

case in the control group. The final blood work conducted around the middle of December when the study ended, showed even greater normalization of hematocrit values and much higher elevations of hemoglobin in the first 4, but nothing evident for the last anemic individual using the placebo. As a result of the 15-week electrically-activated oxygen ("Vitamin O") therapy, the first four anemia-prone subjects registered higher red blood cell counts, higher hematocrits, and more red-colored blood than the lone anemic taking the placebo. No apparent changes in blood status were noticed in the three subjects with mild herpes simplex infections.

Pulse oximeter readings were taken periodically throughout the course of the experiment by the investigator and a temporary record kept of the different readings for each participant by a research assistant. After the study ended and comparisons made between both rest groups, it was discovered that all 13 of those receiving the therapy ("Vitamin O") showed varying elevations of arterial hemoglobin-oxygen saturation. Only 3 of the 8 in the control group demonstrated slight surges followed a little bit later by minor declines in the same thing. There were no statistically significant changes in the arterial hemoglobin-oxygen saturation for the remaining 5 controls. Some interesting side-bar results outside the scope of this study should be mentioned here in passing. A number of other non-participating Hutterites insisted on receiving some of the blinded test samples for themselves after hearing about it from some of those already enrolled in the experiment. With some reluctance this researcher acceded to their pleas in order to preserve social harmony and his goodwill with them. A few of them later reported to him that they had experienced varying degrees of improvement in their labor-induced fatigue, general allergies, and arthritic joint pain, the latter two of which seem to warrant further investigation in an impending follow-up study that would validate or disprove such claims.

Discussion

This landmark study is the first of its kind to examine physiological benefits for a specific malady (CFS) employing a unique kind of oxygen-rich substance ("Vitamin O") self-administered in liquid form. This popular nutritional supplement is produced through the simple process of electrolysis using a solution of North Atlantic sea salt intermixed with deionized or distilled water. Pulsated electrical currents are passed through copper wires attached to metal rods made out of titanium, platinum, and stainless steel which are immersed in the salt water for a period of three days. By means of this electrical activation all hydrogen molecules are knocked off water molecules leaving a "heavy water" consisting exclusively of O_2 and O_3 molecules; hence the name of "electrically-activated oxygen" (commercially known and legally registered as "Vitamin O"). While nearly a million consumers have already tried and regularly use this naturally-produced liquid, still the blood-enrichment of supplemental oxygen hasn't been without its share of problems. The continuing controversy swirling around it can be traced to three fundamental problems: (1) Bad marketing advice due to junk science claims; (2) Anecdotal hyperbole spread by over-confident consumerism; and (3) Governmental agency prejudice and narrow-mindedness. The three of them eventually collided at the corner of naivete and jealousy, resulting in a combined media effort of sabotage. The final outcome of such negative press led to a paid hefty fine and sincere changes in marketing strategies without admission or denial of culpability, while at the same time seeing an even greater increased demand for this product due to all of the widespread publicity surrounding it.

The determination and integrity of the distribution company which handles "Vitamin O" to not submit again to similar future adversities, resulted in a "no strings attached" grant being given in order to fund this first-ever randomized and blinded trial study of their product with a subject population never before explored for such a scientific evaluation as this. All of the preceding information given in this final report has pretty well established the background setting for oxygen in general and the research methodology involved in the testing of electrically-activated oxygen ("Vitamin O") in liquid form, in particular, among various isolated groups belonging to a novel social order of practiced communalism. The question that everything ultimately comes down to in this study discussion here is, "What if any discernible actions can be expected from the oral intake of electrically-activated oxygen?" The final results *do* indicate that some kinds of *positive* activity are obviously taking place within the human system, but as to just where the majority is occurring is the principal focus of this commentary.

One has to look at the body's liquid connective tissue known as blood in order to more fully understand how something so remarkable as electrically-activated oxygen ("Vitamin O") in liquid form can be of definite health benefit. Whole blood is composed of two portions: on the average, 55% is blood plasma, a watery liquid containing dissolved substances, and 45% is formed elements, which are cells and cell fragments. When the formed elements are removed from blood, a straw-colored liquid called blood plasma or simply plasma is left. Plasma is about 91.5% water and 8.5% solutes, most of which by weight (7%) are proteins. Now the vital nutrient oxygen under normal conditions and along with hydrogen are the two main elements comprising most of plasma. Unfortunately because of city air pollution and hydrogenated foods, there appears to be a further preponderance of hydrogen over oxygen beyond what already exists in the H_2O equation for water itself. Although the explicit health disadvantages which such top-heavy concentrations of hydrogen can effect within the body have never been fully investigated, yet what clinical evidence does exist shows a greater reduction in wall tissue oxygenation. This invariably leads to an

underperformance of muscles, organs and glands, which is manifested in physical fatigue, mental fogginess, deprived vitality, and compromised immunity.

While oxygen-deprivation has never been officially linked to suspected causes of CFS, yet this investigator believes it should be. Intermittent pulse oximeter readings of CFS-identified subjects receiving therapy solution showed consistent increases in their arterial hemoglobin-oxygen saturations though at different levels. These were the same ones reporting enhanced stamina and elevated energy as a result of electrically-activated oxygen ("Vitamin O") usage. Whereas the control group getting the placebo showed only slight but temporary elevations in their arterial hemoglobin-oxygen saturations when measured with the oximeter and demonstrated only moderate improvements in their prolonged fatigue. Therefore, oxygen (or the sufficient lack thereof) *does* play some integral role with regard to CFS manifestations.

Ideally, oxygen supply should always be equally matched with its physical demand. This requires the existence of a mechanism within the tissue capable of both sensing tissue oxygen need and inducing alterations in vascular perfusion necessary to meet that requirement. Within the last decade, a number of studies have focused on the red blood cells, the efficient carrier of elemental oxygen, as a possible candidate for this. The red blood cell is clearly capable of sensing oxygen levels, as its extent of hemoglobin desaturation (decrease in oxygen content) is intimately tied with tissue oxygen-demand.

The human red blood cell is a small, anucleated cell which serves a vital role as an oxygen carrier. While there is little doubt that its role is pivotal in supplying tissue with oxygen, a further role for it as a *sensor* of tissue oxygen need and affecter of alterations in vascular perfusion would make it even more central to appropriate oxygen delivery. Recently published research (*Acta Physiologica Scandinavica*. 168(4):551-59, January 16, 2001) to this effect handily supports this idea. This sensory capability of the red blood cell is, in fact, the mechanism which couples aspects of cellular energy metabolism that determine tissue oxygen *utilization* with those aspects of vascular function which determine tissue oxygen *supply*.

It has already been shown through pulse oximetric measuring that when electrically-activated oxygen ("Vitamin O") is taken into the system, arterial hemoglobin-saturation automatically increases. The mobile red blood cells are awash in this introduced substance and take full advantage of its complete O₂ and O₃ contents. Since these cells have no nuclei, all of their internal space is available for oxygen transport. Moreover, since they lack mitochondria and generate biological energy (ATP) independent of oxygen, they do not consume any of the oxygen being transported. It is believed that this additional *supplemented* oxygen is readily combined with normally inhaled *atmospheric* oxygen within blood plasma. From there this admixture is then carried by red blood cells into different parts of the body. During the transport hemoglobin inside red blood cells combines with both types of oxygen to form oxyhemoglobin. This iron-bound oxygen is taken to numerous tissue sites where a reverse reaction occurs, causing a hemoglobin-release of this oxygen mixture, which quickly diffuses into the interstitial fluid and from there into cells.

There is also the matter of *charge* involved in the creation of supplemented oxygen such as this. Through electrical pulsation such oxygen molecules become fairly "charged" in much the same way that atmospheric oxygen is during repeated lightning flashes. And just as those airborne, negatively-charged oxygen molecules induce biological reinvigoration when inhaled, so do electrically-activated oxygen ("Vitamin O") molecules perform in similar fashion when taken sublingually. As a matter of fact, a current hypothesis suggests that it is the electrically-derived *charge* accompanying supplemental oxygen molecules that so thoroughly revives biological systems which have been overwhelmed with *stupefying*, positive charged hydrogen molecules.

Since the ordinary lifespan of red blood cells is only about 120 days and their production levels tend to drop as aging sets in, it makes sense to take appropriate action to insure that the body will always be able to manufacture adequate amounts of them as it gets older. Oxygen is the vital nutrient needed for this biochemical event, which starts in red bone marrow then passes through the endothelial cells of blood capillaries before entering the bloodstream. Physically-active individuals and those living in mountainous terrain always have higher-than-average hematocrit than do indolent folks or people residing at sea level. Periodic blood sampling of Hutterite test subjects receiving electrically-activated oxygen (Vitamin, O."). clearly demonstrated higher percentages of red blood cells (hematocrits) over those receiving, a substitute liquid placebo. And with substantial arterial hemoglobin-oxygen saturations such as this, there would obviously be significant improvement in prolonged fatigue, one of the major and most consistent symptoms identified in all CFS cases.

This precedent-setting study, while somewhat limited by its sampling size and unexpected cultural drawbacks, still managed to accomplish those several goals for which it was intended. First and foremost electrically-activated oxygen ("Vitamin O") when administered sublingually as a liquid in 15-drop dosages twice daily for an interval of 15 weeks, did indeed elevate arterial hemoglobin oxygen levels in those who took it. Secondly, certain readily-identifiable CFS symptoms - prolonged fatigue, migratory joint pain, neuropsychological complaints, sore throat, and mild fever - were noticeably reduced in the therapy group. Both of these achievements establish medical relevancy for electrically-activated oxygen ("Vitamin O") through scientific validation of at least one of the anecdotal claims routinely made it for as an efficient energy booster.

Finally, the initial trial established the product's legitimacy and safety in a marketplace glutted with many less efficient, more expensive supplements of questionable value and uncertain safety. And while it is true that one study does not entirely vindicate a product such as this of all its surrounding controversies, yet it is a beginning, hopefully to be expanded upon sometime soon in an enlarged study involving a greater number of participants with a wider range of health needs.

Clearly then, this study gives evidence that electrically-activated oxygen ("Vitamin O") therapy provides energy-inducement, fever- and pain-reductions, and neuropsychologically uplifting benefits in validated cases of chronic fatigue syndrome with no adverse effects.

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