DRAFT DOCUMENT

Research Report

RELAPSE PREVENTION IN OUTPATIENTS AS A FUNCTION OF AMINO ACID THERAPY

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ABSTRACT

An amino acid, vitamin, and mineral formulation, was designed to restore catecholaminergic, opioidergic, GABAergic, and serotonergic deficits observed in individuals suffering from long-term, moderate-to-high emotional stressors. Researchers under the direction of Dr. Neher, examined the effects such a stress formulation might have on the stressors associated with the outpatient in alcohol and other chemical addiction recovery. Two hundred eighty-five (285) self admitted outpatients were involved in a two year long controlled study. During this period, 100 patients began the program who did not take any amino acid supplements. Nine (9) of this "control" group dropped out before the program was completed. Of the 91 non-amino acid patients remaining, 78 reported 1 to 5 incidents of alcohol or drug use. An additional 185 patients regularly consumed an amino acid supplement designed for those in high stress situations. All but 3 of these remained in the program and NONE reported relapses. Thus the control group reported a 9% drop out rate and an 86% relapse rate compared to the experimental groups 1.6% drop out and 0% relapse. The only factor common to all who reported relapses, was NOT using the amino acid supplements.

INTRODUCTION

Professionals in the field of Chemical Dependency realize addiction has little to do with will power or moral character. Until recently, however, we have not had the advantage of research that is now clarifying susceptibility factors leading to dependencies.

We have known that abnormal neurochemistries occur as a result of genetic factors and we are being shown more definitely just what they might be. We now realize that environmental stressors, dysfunctional family stressors, and unhealthy behaviors, also, result in neurochemical alterations and depletions. These altered chemical states are the antecedents or factors necessary for a person to receive positive reinforcement through the use of chemicals.

The way we think, feel, and act all happen because of chemical reactions and interactions in our brains. These chemical reactions are dependent upon balanced levels of many separate chemical molecules working together with specialized brain cells to produce thoughts, feelings and actions. For every thought, feeling, and behavior there exists a neurochemical equivalent in the brain. A person who uses external source chemistries to gain desired thoughts, feelings, or behaviors, becomes "chemically dependent." In other words, for a person to become dependent on an external source chemical to produce desired results, there must first exist or be developed, a deficiency of a chemical component in the brain. Initially then, abstinence results in a dramatically curtailed brain chemistry, and consequently the person experiences impaired thinking, irrational feelings, and unacceptable behaviors as he/she attempts to interact in society with diminished neurochemical availability.

These altered states DO NOT automatically or quickly readjust or repair without neuronutrient intervention. The use of antidepressants, for instance, may be ineffective due to a lack of neurotransmitter availability upon which to act.

Neurochemical alteration is the rationale for physiologic stabilization as the necessary starting focus for recovery. This has also been lacking in many treatment modalities until recently. In 1989, we suggested to a patient in the chronic stage of alcoholism that he use certain "health food" products in an attempt to relieve the anxiety and depression he was experiencing as a result of stopping the daily use of alcohol. Within 5 days he was less anxious and less depressed, and sensed no imperative to change the way he felt. On numerous occasions this individual had gone without alcohol for 7 to 10 days, but suffered continued anxiety and always returned to drinking. Today he has been sober 4 years without a single reported relapse.

So impressive was this demonstration that we quickly expanded the approach to more patients. All reported similar results. At about the same time Blum and associates, in a series of papers, reported their findings involving utilization of neuronutrient combinations for precursor loading to enhance neurotransmitter availability (Blum, 1989). Because the combination of ingredients made it possible to purchase the desired amino acids in a single bottle, the researchers felt the patients would be more apt to utilize them. This proved to be true. (Structure in early recovery is not an easy task.)

We were very encouraged with the rapidity of stabilization taking place in our patients. It suddenly became much more simple to build trust, discuss issues, and apply solutions. Apparently their brains were beginning to function once again. These open trial results begged further study.

SUBJECTS AND METHOD

The effort that followed was not originally organized as a scientific study. By happenstance, however, a control group quickly emerged from those patients who chose not to use the suggested amino acid regimen. The patients involved consisted of approximately 90% alcoholics and 10% cocaine and other drug dependent subjects attending a one-year outpatient treatment programs at the Colonial Clinic, Spokane,

Washington. For the most part these outpatients were self-referred and had a wide variety of socio-economic backgrounds. All patients received education concerning the potential benefits of amino-acid therapy. Selection of amino-acids appeared to be economic rather than any other criteria. As we watched these two groups of outpatients, it became obvious that the alcoholics using the neuronutrient stabilized within 3 days to a level of calmness they had not experienced in years, if ever. Those cocaine addicts using the neuronutrient were able to get past their usual days of purchase without significant anxiety induced stress -- and this was in outpatient treatment!

We decided to follow our entire patient population and attempt to extract significant relapse information over a 2-year period. We chose 4 factors as significant in relapse prevention:

1. Had the patient developed and utilized a daily recovery plan?
2. Was the patient utilizing amino acid supplements as suggested?
3. Was the patients' family involved in recovery?
4. Was the patient attending outside support group?

As shown in Figure 1, we followed 260 patients in an outpatient modality for 730 days. During this period, out of 91 patients who were not taking any amino acid supplements, 78 reported one to five incidents of alcohol or drug use; the 182 patients on amino acid supplements reported NO relapses. *The relapse rates were estimated to be 86% for the non-amino acid therapy group compared to 0% for the amino acid therapy group.*

The only factor common to all who left the program or reported relapses was that the patient was NOT using the recommended amino acid supplements. These supplements were, of course, designed to provide precursor building blocks for the neurotransmitters most effected by the stress of recovery. We further interpreted this to mean: No one using amino acid supplements, as suggested, had relapsed in a two year period.

Colonial Clinic continues to use the same amino acid regimen today[1] with very similar results. The rationale for the use of carefully formulated supplements is logical and, based on our experience, should become the standard for stabilization and early recovery (at least one year.) Patients want to feel positive, calm and complete WITHOUT the use of drugs. Supplementation with neuronutrients for precursor loading allows this to happen naturally, encouraging normal brain function and involving the patient in a healthy way in his/her recovery.

FORMULAS (per capsule) USED:

Item	Neher Study 6 capsules/day	Ferrell Study 4 capsules/day
d/l-phenylalanine	460 mg.	400 mg.
l-glutamine	50 mg.	50 mg.
l-tryptophane	25 mg.	
Calcium		50 mg.
Magnesium		25 mg.
Chromium (picolinate)		0.01 mg.
Vitamin B_6*	1 mg.	1 mg.
Vitamin A*		1000 IU

* The vitamins selected were used to promote metabolism of the amino acids.

CONCLUSIONS

Scientific evidence in the field has provided us with significant insight into neurotransmitter availability and function. Table I, lists the neurotransmitters most frequent effects and mechanisms. Table II, provides the reader with more complete information concerning clinical trials utilizing amino acid precursor loading with enkephalinase inhibition.

The stress related survival instincts of fleeing or fighting diminish in priority for the recovering person

when disease management begins with effective stabilization. As the unreal sense of threat to survival, caused by neurotransmitter unavailability, is stabilized, the patient becomes able to begin to relax and to feel "safe".

When neurotransmitter availability is increased, the person can begin to "feel", as the limbic system is spared the sedating or toxic effect of drugs, including alcohol. He or she is able to follow the logic of staying in the program rather than to give in to the desire of sedating the pain of stressors -- as he or she always did while practicing his or her addiction. The patient can now be allowed to express what he or she is beginning to feel. Negative reinforcement can be dropped and instead the patient can successfully be given encouragement and support. As a result, the patient's sense of security and belonging increase at a much earlier stage.

[1] The original formulation contained l-tryptophane. Due to the current ban on the use of manufactured l-tryptophane, calcium, magnesium, and chromium are being used in its place. These trace metals aid in the utilization of the natural l-tryptophane found in most U.S. diets. Subsequent tests (Ferrell 1991) have shown this replacement to be a valid substitution.

Only when sufficient dopamine and enkephalin have been made available, can the patient begin to sense the serene feelings, e.g. love, belonging without control, etc. This is a process, however, that requires time and specific focus of acceptance and encouragement by counselor and peer.

When the brain becomes capable of rational thought and is helped to do so by therapy, the patient is only then able to balance feelings with thinking and produce assertive behavior.

One cannot use a hit and miss approach in building toward effective self actualization . **If we demand behavioral change from our patients without allowing them to bring their brain chemistry back into balance, we simply set them up for failure.**

In persons with strong family histories of dependencies and/or persons who have significantly altered their brain chemistry via unmanaged stress, it appears necessary to immediately impact the neurotransmitter deficiencies research is telling us exist.

The use of appropriate amino acid/vitamin/mineral combinations which have been carefully developed and tested is the most effective and least threatening method to enhance brain function for heavily stressed persons (Ferrell 1991.) We owe our patients the most effective treatment available (Blum 1991.) In that light, we believe supplementation should be tried on any patient suffering the stressors of outpatient recovery.

In view of the significant departure our research and that of Blum and Ferrell suggests, let me end with a quotation by Herbert Spencer: *"There is a principle which is a bar against all information, which is proof against all arguments and which cannot fail to keep man in everlasting ignorance -- that principle is contempt prior to investigation."*

BIBLIOGRAPHY

1. Ferrell, B. *Reduction of the effects of prolonged stress during a 13 week study using the dietary supplement beCALM'd.* Research Report: NNN., 1991

2. Blum, I. *A commentary on neurotransmitter restoration as a common model of treatment for alcohol, cocaine and opiate abuse.* Integr. Psychiatry 6:199-204

3. Blum, K. and Payne, J.E., *Alcohol and the Addictive Brain*. New York: Macmillan, 1991.

Relapse In Outpatients

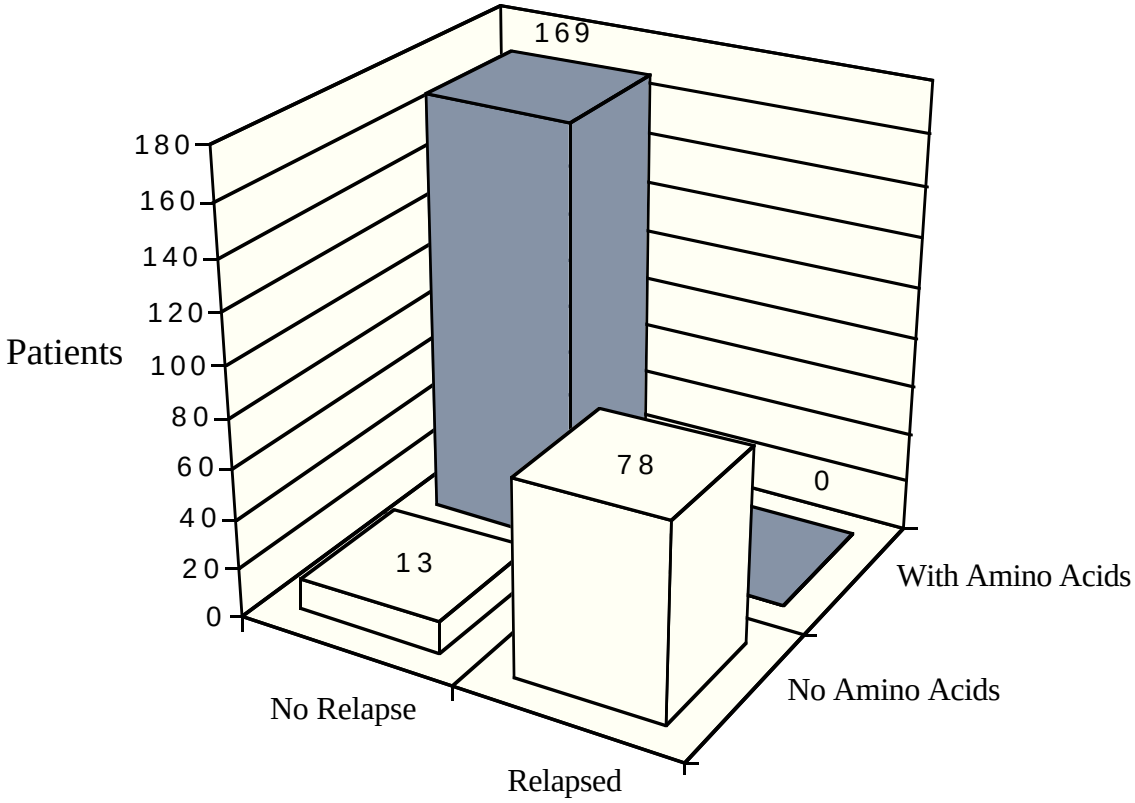

Figure 1

Table 1

Composition and Rationalle For Use

Ingredient			
d-phenylalanine	Enkephalins	Enzyme inhibition	Anticraving, Antidepression
l-phenylalanine	Dopamine, Norepinephrine	Precursor loading	Reward, Antidepression
Pyridoxal-5-Phosphate (Vitamin B_6)	Neurotransitter Synthesis	Enzyme cofactors in transmitter synthesis, promotes GI absorption of amino acids	Facilitates action of neurotransmitters
Calcium(chelate	Neurotransmitter promoter	Enzyme cofactor	Facilitates action of neurotransmitters
Magnesium (oxide)	Neurotransmitter promoter	Regulates transmitter release	Calmative
Vitamin A (betacaratene)	Enhances immune response and reduces stress response	Promotes proper structure and function of the adrenal gland	Assists in the fight or flight syndrome
Chromium (picolinate)	Amino acid uptake promoter	Stimulates insulin and increases muscle utiliaztion of valine and isolucine reducing carrier competition for l-phenylalanine and l-tryptophan	Increases blood-brain passage of neurotransmitter presursors

Table 2

Summary of Completed Clinical Studies With Amino Acid Supplementation

Drug abused:	Supplement	No. of patients	No. of days	Study type	Significant results	Reference
Alcohol	Table 1 + l-tryptophan w/o metals	22	28	DB, IP	100% decrease in BUD score. Detox measures: reduction in benzodiazepine requirement; reduction of withdrawal tremors after 72 hrs; reduction in depression as measured by MMPI.	Blum & Trachtenberg, 1988. Neurogenetic deficits caused by alcoholism: Restoration...J. Psychoactive Drugs 20:297
Alcohol + poly-drugs	Table 1 + numerous vitamins	62	21	DBPC IP	Reduced stress as measured by SCL, reduced BESS score; improved physical score; six-fold decreased likelihood for leaving AMA after 5 days.	Blum et al., 1989. Enkephalinase inhibition and precursor amino acid. . .Alcohol 5:481
Cocaine	Table 1 + l-tyrosine, metals, and vitamins	54	30	OT, IP	Reduction of drug hunger compared to controls and AAA group (AAAg.) AMA rate for Controls = 37%,, AAAg w/o l-tyrosine = 28%, AAAg with l-tyrosine = 4.2%.	Blum et al., 1988 Reduction of both drug hunger and. . . Current Ther. Res.43:1204
Alcohol & Cocaine	Table 1 + l-tryptophan w/o metals	60	379	OT,OP	At 2 yrs craving and binge eating were reduced 1/3rd in AAA group compared to controls. AAA group regained 13.5% of their lost weight companer to 51% in controls.	Garcia-Swain,
Stress is often predicessor of chem abuse	Table 1	33	98	DBPC CXO,BSL	14 week study showed highly significant reduction in stress effects oin middle school teachers.	Ferrell et al., 1991,
Alcohol and other sleep inducing drugs.	Table 1	13	30	OT, OP	Desert Storm air crews significantly reduced alcohol and drug intake while improving performance in battle	Dorrington et al.

Abbreviations Used:

BUD = Building up to drink
MMPI = Minnesota Multiphasic Personality Inventory
SCL = Skin Conductance Level
BESS = Behavioral, Emotional, Social, Spiritual
AMA = Withdrawal Against Medical Advise
DB = Double Blind
DBPC = Double Blind Placebo-contolled
OT = Open Trial
AAA = Amino Acid Adjunct to therapy
OP = Outpatient
IP = Inpatient
DUI = Driving Under the Influence
CXO = Cross over
BSL = Base Line established homogenaity of population

Notes: