A Parker House Book * ISBN 0-939764-00-6

NEW BREAKTHROUGH TO CRIME CONTROL

DIET, CRIME AND DELINQUENCY

by Alexander Schauss

INTRODUCTION BY MICHAEL LESSER, M.D.

An internationally known criminologist presents
the first clear guide to correcting behavior
through diet which explains how
food and environment can
promote or prevent crime and delinquency

Dr. Robert Forman, a sociologist, provides a similar list in *How To Control Your Allergies* of those mental-behavioral symptoms that have been found to be caused in at least some cases by allergy, as indicated by the fact that they had successfully responded to treatment after detecting and managing their allergies.[21] Dr. Forman asks the question "whether some social deviates-people who cannot hold a job, who get into fights and social scrapes regularly and are difficult to live with, and perhaps who are even legal offenders-have allergy as a contributing cause."[22]

In a 1975 article in *Psychology Today,* The Physiology of Violence Allergy and Aggression, Dr. K.E. Moyer, describes an uncontrollable five-year-old boy.[23] This child had aphasia (poor speech development), an abnormal EEG (brain wave test), and a temper out of control. The child was found to be allergic to chocolate, milk and cola. Seven and a half months after eliminating the incriminating foods from the boy's diet, he showed a normal EEG and his behavior had markedly improved. During a one week period the allergic foods were returned to his diet and his EEG was once again abnormal and his behavior had worsened.

Dr. Alan Cott, a New York psychiatrist, has found many foods to be the major cause of children's behavior problems. In a report to the Huxley Institute for Biosocial Research, Dr. Cott stated that, "The first thing I do with a hyperactive child is remove all soft drinks, cake, cookies, candy, ice cream and sugared cereals from his diet. In nearly every instance, the child is markedly calmer within a very short time."[24] Dr. Lendon Smith, a Portland, Oregon, pediatrician, has reported similar results in his book *Improving Your Child's Behavior Chemistry.*[25]

Recent Scientific Studies Confirm The Food Allergy - Behavior Link

Most articles concerning allergy and learning or behavior problems have been anecdotal, meaning they were not scientifically documented. By the late 1970's, a number of studies had been published scientifically attesting to the food allergy-behavior link.

Drs. David S. King and Marshall Mandell reported in 1978 on a double-blind study of 30 adults tested with 12 allergens and 6 placebos.[26] Patients reported significantly more nervous system complaints (cognitive-emotional symptoms) when exposed to the allergens than the placebo solutions (p values ranged from .002 to .004). Patient complaints included depression, inability to concentrate, anger, irritability and headaches.

Dr. John O'Shea completed a double-blind cross-over study of 15 school-aged hyperactive children.[27] In his study, parents were able to differentiate food extracts from placebo solutions by observing their children's behavior. Dr. J.B. Miller reported similar results in another double-blind cross-over study.[28] Again parents were able to accurately perceive when the children were given the offending foods or received the placebos.

Doris J. Rapp, M.D., reports on a double-blind study in the *Journal of Learning Disabilities.*[29] One uncooperative patient, a young man whose mother continued to provide him with the incriminated foods, against Dr. Rapp's advice, had a history of stealing prior to the onset of the study. During the nine months the physician provided either a restricted diet or treated the allergies his stealing stopped. When therapy was discontinued because of the mother's uncooperativeness, stealing resumed. "Within three weeks, five teachers went to the guidance counselor to determine why he was suddenly unable to behave and why he was stealing." Three other patients in Dr. Rapp's study had a recurrence of stealing when therapy was discontinued.

Recently, other researchers suggested that stealing and violence might be food allergy reactions.[30-32] Dr. Richard MacKarness treated a woman in England who had been hospitalized 13 times for violent behavior and depression.[33] She would demonstrate her anxieties by slashing her arm. On one occasion she had thrown her daughter out of her house through a closed window and knocked her three-and-a-half-year-old son unconscious. She was recommended for a lobotomy, a surgical procedure on the brain. At Dr. Mackarness' intervention, she was tested for food reactions and a number of allergic foods were discovered. After being placed on a restricted diet she became content, found employment, and was no longer violent. This case illustrates the possible role of food allergy in some cases of child abuse and neglect. In 1980 it is estimated over one-and-a-half million children will be victims of child abuse or neglect in the United States. One wonders how many children and adults have been drugged and placed in institutions because of violent behavior related to adverse food reactions.

Charles T. McGee, a California physician, has documented numerous cases of children responding adversely to foods and other substances. In his book, *How To Survive Modern Technology,* he describes in detail case after case of children reacting to such substances as corn, cigarette smoke, chlorine, or plastics.[34] Using a number of tests to determine adverse reactions, Dr. McGee has found that most reactions to foods and chemicals are subtle. He has observed reactions occurring at any time, from a few minutes to 72 hours following exposure.

72 hrs

In 1979, I followed Dr. Theron Randolph's treatment of a patient at American International Hospital in Zion, Illinois. She had come to Dr. Randolph because of chronic depression which had not responded to medication or shock therapy. After isolating a number of foods she was reacting to and eliminating them, her condition improved markedly for the first time in years, as evidenced by her energetic and jovial disposition. Dr. Randolph has treated over ten thousand such patients since the 1940's. He was one of the first to relate commonly eaten foods with chronic allergic syndromes often marked by pronounced behavioral changes.[35-38]

In some patients, foods rarely eaten can provoke violently acute reactions. This was first demonstrated clinically in the early 1930's by Dr. H.J. Rinkel.[39] Dr. Rinkel referred to such discoveries as "unmasked food sensitization."

Masked food allergies or food addictions then became related to those foods commonly eaten and producing some adverse reaction when withdrawn.[40] To discover if a person has a masked food addiction, clinical ecologists will subject a person to a three to twelve-day fast. If the person experiences withdrawal reactions, food allergy is suspected. Once the fast is completed, suspected foods are given in separate feedings to discover which food(s) caused the withdrawal symptoms.

Food Allergy and Criminal Behavior

Allergic reactions to foods may be a factor in criminal behavior. Professor Moyer believes food allergies directly affect the body's nervous system by causing a noninflammatory swelling of the brain which can trigger aggression. "The pressure of the swelling may make nerve areas, that normally produce aggression, more sensitive or deactivate areas that normally inhibit aggressive behavior", says Dr. Moyer.[41] He further explains that "the intensity of the symptoms varies from a mild irritable reaction, in which the person is a little more easily annoyed than usual, to the psychotic reaction."

The discovery that allergic reactions can cause violent behavior is considered a recent phenomena, related to our highly processed modern diet. The late Dr. Weston Price, in his classic study, *Nutrition and Physical Degeneration,* notes that allergies are almost never seen in peoples living a primitive lifestyle, eating a natural diet.[42] Dr. Price felt the typical modern diet, high in nonnutritive sugar and refined foods, does not provide optimal nutrition and therefore lowers resistance to allergies. Dr. Carl Pfeiffer, director and chief neuropharmacologist at the Brain Bio Center in Princeton, New Jersey, theorizes that the susceptibility to allergies may be due to a lack of an adequate supply of Vitamin B_6 and zinc in the diet while in utero.[45] Refined carbohydrates, such as white flour and sugar, tend

to be practically devoid of eitl
F.M. Pottenger reported the fi
classic study of the relationshi
hundred cats were divided int
Each group of cats was given t
was given a diet primarily cc
However, cats that were prov
cooked meat and pasteurized
medical problems, including a
and a diet consisting of raw
remained perfectly healthy. In
diets of chronic offenders, the
for some offenders seems plau

A Delinquent Suffering Fr

One of the sadest cases in
desk in 1979. A youth witl
numerous allergies had his
described as follows:

"Prenatal history--mother gai
control weight gain...she hac
two months of pregnancy...t
delivery...the mother very an
mother had died in childbir
induced a month later at 1
before delivery occurred...s
mother) and has no memor
for three or four days...labor
intravenous glucose for sever

"First Three Months---Allerg
lamb-based formula...jello w
hold down food...had consid
cried constantly...continual r
infection many times...on se
he had stopped breathing
breathing started again...he
severe asthamatic attacks.

"Later History---Lots of to
aggressive...frequent sore m
physician...ear starts to blee
find *that he is allergic to* featl
ragweed, sage, bermuda, g
very susceptible to colds.

"School---When reading he skips over words...has short attention span...has a small motor coordination problem that effects his writing...is clumsy.

"Physical Condition as Youth--Suffers many headaches, colds, stomach aches, bone aches, insomnia, swollen neck glands, nervousness, lower back pains, stuffy nose, depression, hot flashes with profuse sweating, canker sores in mouth, hay fever, and early morning and late evening coughing...it frequently takes him several hours to find a position in bed in which he can breath and fall asleep...eyes very sensitive to light.

"Diet---Eats mostly TV dinners in evening...eggs and sausage every day with lots of white bread...lots of milk...lots of canned fruit...no vegetables...gets sick when he eats chocolate, candy, cookies, cake, soda, hot dogs, dates, clams and some cheeses... feels better after he has stopped eating candy for many days."[43]

The probation department that sent this case history was nutritionally oriented. They indicated that, after only three weeks of encouraging the family to make radical improvements in their diet, all of this youth's symptoms were reduced for the first time in his life! One has to wonder why probation officers should be the first professionals to recommend nutritional changes in such a case in the 13 years he had been alive. As Dr. Leonard Hippchen, professor of criminology at Virginia Commonwealth University, has said, "Whereas in the past the role of biological factors in crime largely has been rejected by criminologists, it now appears to be time to work out a new partnership with the nutrition researcher and physician."[44]

Food Allergy Factors

According to Dr. Frederic Speer, a Kansas clinical ecologist, the more common offending foods are:

- Cow's milk
- Chocolate and cola (the Kula nut family)
- Corn (i.e., Cracker Jacks, tortillas, fritos, burritos, bourbon whiskey, many beers, etc.)
- Eggs (i.e., mayonnaise, breaded foods, noodles, icing, etc.)
- Pea family [chiefly the peanut] (i.e., snap beans, dry peas, etcc.)
- Citrus fruits (oranges, lemons, limes, grapefruits, tangerines)
- Tomatoes
- Wheat and other small grains (i.e., rice, barley, oats, wild rice, millet, rye. etc.)
- Cinnamon (i.e., catsup, gum, candy, chili, wieners, etc.)
- Artificial food colors (i.e., Hi-C, Tang, Kool-Aid, popsicles, jello, heavy antibiotic syrups, soda, etc.)

Other less common foods include:

pork	fish
beef	coffee
onions	shirmp
garlic	bananas
white potatoes	walnuts and pecans

Any food can cause an adverse reaction. Even foods that are rarely known to cause allergic responses.

According to Dr. Charles T. McGee, M.D., dietary malnutrition is an underlying cause of food allergy, superimposed on a hereditary tendency. Evidence for this theory is that people conquer their allergies through good nutrition. Animals develop allergies when malnourished.

People develop allergies to the foods they consume most frequently. *You are allergic to what you are addicted to.* People crave these foods and frequently turn off symptoms by eating them. Avoiding the incriminating food(s) throws them into withdrawal for three or four days. This is not unlike the heroin addict who experiences withdrawal symptoms--achy joints and muscles, stuffy nose, cramps--when off heroin for three or four days. They frequently get high or feel good after eating suspected food(s). Frequent physical complaints are running nose, post-nasal drip, pale complexion, dark circles under eyes, poor concentration, fatigue, insomnia and headaches.

Now return to the previously described case history and review how many of these symptoms were associated with the youth. In this way you are getting a feel for how a counselor or parent can ask about a client or child's history and determine whether a dietary change is adviseable.

It would seem imperative that the corrections system institute programs to screen chronic juvenile and adult offenders for food allergies and poor nutrition. For large institutions it would be practical and beneficial to establish a clinical ecology wing at either the major state reception/diagnostic center or the state's largest institutions and jails. This type of thorough evaluation and screening has the potential for identifying foods or environmental factors contributing to an inmates' impulsive, often unprovoked, periods of aggression or violence. Certainly, the taxpayer has nothing to lose from such a program. If only 5 percent of the 1979 U.S. inmate population were to benefit from clinical ecology, that would represent over 15,000 prisoners. If a diet-behavior connection is clinically established, an education program can teach the offender how his sensitivity is related to his unruly or antisocial behavior. Then, if the offender continues to consume the "offending" food on the "outside", it will be no one's fault but his own. In the meantime, many offenders remain naive about their possible problems.

According to Wendy Weir, program nutrition consultant, all of the first 15 juveniles handled by the program had significant body chemistry imbalances. The children were subject to environmental and food allergies which were negatively affecting their physiological and psychological processes. "These problems were approached through dietary change", stated former program director, Ken Schmidt.

Besides family nutrition education classes, visits were made to each child's home in order to individually identify and eliminate dietary allergens (i.e., food chemical additives and specific foods) and environmental chemical hazards (i.e., detergents, cleaning agents, sprays, inhalants, perfumes, etc.). Family members were taught how to read and interpret package labels. A trip was also made with the family to their grocery store to teach them how to identify safer and more nutritious foods. If requested, recipes and cooking instructions were provided.

The program interwove nutrition education sessions and Parent and Youth Effectiveness Training (PET/YET) by utlizing a licensed PET/YET instructor and the nutrition consultant. In his report to the Law Enforcement Assistance Administration, U.S. Department of Justice, Ken Schmidt states, "This family approach promises to be very successful in providing improved communication and problem-solving skills which can then be applied to the difficult task of making significant nutritional/dietary changes in the family." He further notes, "in this type of supportive family environment, teenagers are much more likely to be able to make the long-term dietary changes necessary to act as a foundation for the establishment of more acceptable behavioral patterns."[21]

Of the first 20 juveniles in the program given a glucose tolerance test (GTT) for possible blood sugar imbalances, 16 were clinically shown to be hypoglycemic and one was pre-diabetic. One boy refused to be tested but exhibited all the symptoms associated with low blood sugar, while one girl was not given the GTT because she had a seizure disorder.

A typical case was one 14-year-old boy referred to the San Luis Obispo program after being expelled from school for among other things attacking a school official. His behavior fluctuated; usually violent and disobedient, but sometimes well enough to be awarded "school student of the month." He was bright but nonverbal.

Because of frequent petit mal seizures, he was considered "strange" by classmates. Medication controlled his grand mal seizures, but his petit mal continued in the form of sleepiness,

"spaced-out" feelings, and occasional black-outs. He reported several stress-related seizures at school. When these occured, he became violent. Testing revealed a markedly elevated aluminum level, which some researchers report is related to certain seizure disorders. The program worked with the youth to eliminate all sources of aluminum, (soft-weave aluminum cookware, deodorants, soda cans, etc.).

His diet also revealed a high consumption of milk (48 to 56 ounces per day) and milk allergy was suspected. After removing him from all dairy products for two weeks, he was seizure-free for a week. At that time he consumed a half gallon of milk and had four seizures that afternoon. This sequence was repeated several times with the same results until he became convinced that milk triggered his seizures and he stopped all dairy products. This reduced the frequency of his seizures to one every two or three weeks.

Another case, a fifteen year old delinquent girl entered the program after a year's hospitalization for extremely violent behavior and seizures, requiring continual medication. Under the careful supervision of a physician, she was placed on the program's corrective diet. Rarely before in her troubled life had she eaten fresh fruits and vegetables. Over several weeks, her violence and seizures subsided until she was able to function completely without medication.

The teenagers participating in the Clinical Ecology Treatment Program had a very high incidence of medical problems during their childhood, supporting the notion that a "bad" child is often a "sick" child.

Excessive Milk Consumption

In 1978, Dr. Clifford E. Simonsen, criminologist at the University of Washington, and I completed a study of the dietary habits of chronic juvenile offenders. Assited by Dr. Jeffrey Bland, biochemist at the University of Puget Sound in Tacoma, the dietary intake of 30 chronic juvenile offenders was evaluated and compared to that of a group of behaviorally disordered children from the local school district. The moderate to severly behaviorally disordered children were the same age as the delinquents, lived in the same geographical area and had similar socio-economic profiles.

Would their diets reveal any significant differences? Might such a study provide a clue as to why one group of youths was constantly in trouble with the law and not the other, even though the non-offenders had chronic behavior problems? (See nutritional data for both groups in Appendix II.)

After analysis of the data, the one factor found to be statistically different between the two groups, was their milk consumption (the p value for the data was .0001)[22] The male offenders consumed an average of 64 ounces of milk a day, while their comparison group only drank an average of 30 ounces daily. Similarly, the delinquent females drank an average of 35 ounces of milk a day, while the comparison group of non-delinquent girls consumed only 17 ounces daily. Among the delinquent boys, two reported drinking more than 113 ounces of milk or over 14 eight ounce glasses a day.[23] In all cases, the milk consumed was of the processed homogenized/pasteurized type. It's possible that the milk processing itself may be a significant factor. We have not yet analyzed whether unfortified pasteurized/homogenized milk, certified raw milk, powdered milk, or goat's milk would similarly be consumed in considerable quantities by delinquents.

In some situations, eliminating milk from the diet can result in dramatic improvements in behavior, especially in hyperactive children. Dr. Doris Rapp, clinical professor of pediatrics at the State University of New York at Buffalo, completed double-blind trials involving milk and other foods with hyperactive children. In four out of five children, aged 6 to 15, found to be sensitive to milk, all reported "markedly positive" improvements when milk was completely eliminated from the diet.[25] The fifth child reported "moderately positive" results.

Of course milk should still be considered a nutritious source of protein for children. Since the non-offender behaviorally disordered group in our study consumed an average of 27 ounces of milk a day, we do not suggest that delinquent children shouldn't drink milk. But our finding is surprising and calls for further study of a possible link between overconsumption of milk and delinquency. Research reported in the March, 1981, *Journal of Behavioral Ecology*, by the Law Enforcement Assistance Administration, U.S. Department of Justice, corroborates our discovered concern for milk consumption. In a program conducted by the San Luis Obispo (California) County Probation Department, juvenile offender's pre-natal, post-natal, and early childhood development were evaluated. Nearly 90 percent of the offenders had a symptom history associated with milk intolerance or allergy. Further physical examination and biochemical testing revealed 88 percent had evidence of milk allergy. One group of researchers reporting in the *Journal of Biological Chemistry* does suggest that a behavior disturbance might be manifested by milk due to some people's inability to break down the opoid peptides found in milk. Although unconfirmed and untested, such theoretical suggestions do point out the complexity of this issue.

B-1 Deficiency in Hostile Youths

Many juvenile offenders display the following personality traits: poor impulse control; easily angered; sensitive to criticism; easily irritated; and, usually hostile and aggressive. Correctional personnel know the difficulty of working with such youths. In February, 1980, Drs. Lonsdale and Shamberger reported in the *American Journal of Clinical Nutrition*, that such youths were found to be deficient in thiamine (Vitamin B-1), referring to this condition as sub-clinical beri-beri. These youths were found to overconsume high caloric junk foods rich in refined carbohydrates (sugar and white flour) missing such essential nutrients as thiamine. Thiamine is essential in breaking down carbohydrates so that we can benefit from the calories carbohydrates provide. The more carbohydrates one eats the more thiamine is required to metabolize it. When eating whole unprocessed carbohydrates nature provides the necessary thiamine in the right quantities to assist the body. Eating a diet rich in nutrient poor refined carbohydates places extra demands on the body to

provide t
over tim
Althou
(set by t
evaluatin
Shamber
correct t
thiamine
levels in
thiamine
of the 6
youths h
nutrition
offender

Lack of Training

When I spoke before both the
Association and the California L
and Violence Prevention, membe
criminal justice officials and sch
children and youths who have
They are correct. Through 1981 v
exists in any English speaking c
and scientific information potent
the exception of our American I
Chemistry and Behavior, offerec
train and expose criminal justice
offender rehabilitation or crime
overcome in time, hundreds of
and the public, must wait until c

Since 1978, thousands of he
completed the American Institut
begun to generate numerous p
many problems discussed in thi

Ms. Lynne M. Stout, a Californi
work in Body Chemistry and Be
points of such training:

"The body does not stop at the r
the brain. The brain is the center
seems reasonable that anything
have some influence on his beh
Our body chemistry is affected b
but not limited to, what we eat,
light to which we are exposed, th
various stresses induced or infl
et us examine some of those fa
behavior, in the ensuing chapte

*American Institute for Biosocial R

V
ALCOHOLISM, ADDICTION AND DIET

Alcoholism and Diet

In the Danish dependency of Greenland, each Greenlander over age 14 consumes an average of 6 gallons of alcohol per year- the highest per capita rate in the world. Greenland police report that 9 out of 10 crimes on the island take place under the influence of alcohol.[1]

It's conservatively estimated that over 10 million Americans drink excessively; endangering their own health and the safety of others. Extremely complex and pervasive, alcoholism impacts on such other major social problems as traffic safety and child abuse. Since 1971, per capita alcohol consumption has been the highest recorded since 1850, averaging 2.6 gallons of absolute ethanol per person 14 years of age and older.

It is estimated by the National Institute of Alcohol Abuse and Alcoholism that between 29 to 40 percent of all deaths from accidents, homicides, and suicides, are indirectly caused by alcohol. Alcohol abuse and alcoholism cost the United States nearly 43 billion dollars in 1975 according to a recent study.[2] The economic costs associated with alcohol related motor vehicle accidents were estimated at over five billion dollars in 1975.[3] Although probably underestimated, a cost of nearly 3 billion dollars has been estimated for violent crimes-homicide, forcible rape, and aggravated assault related to alcohol.[4] No studies have yet determined the cost of property damage from vandalism, arson, burglary, or other crimes caused by persons under the influence of alcohol. It has been estimated that the net cost of alcohol related fires in 1975 was nearly 500 million dollars.

Few readers are ignorant of the nation's problems with juvenile alcoholism. Estimates exceed three million children.[5] From my own experience in working with over 1,000 juvenile offenders, more than half were arrested while intoxicated by alcohol. A 1979 survey of "typical" young drinkers in one East Texas county indicates they take their first drink at age ten and five years thereafter have consumed alcohol on at least eight occassions.[6] Seventy-one percent of the 700 students polled responded that they had taken their first drink before age 12. The National Institute on Alcohol Abuse and Alcoholism (NIAAA) indicates this is typical of most of America's children.

Diet can have a significant impact on preventing alcoholism. While acknowledging the importance of genetics, the eminent biochemist, Dr. Roger J. Williams, maintains that "no one who follows good nutritional practices will ever become an alcoholic."[7]

In 1973, a research team began a study of 200 alcoholics, aged 13 to 82.[8] Ninety-seven percent showed low blood sugar or hypoglycemia. Remembering that hypoglycemia might better be defined as nutritionally induced chronic endocrinopathy, this is most significant. Among a control population, only 18 percent had hypoglycemia. If there had been no organic damage, the alcoholics' hypoglycemia disappeared once their diet was corrected. This suggests their hypoglycemia should be classified as dietary induced. If they did not remain on their diets and abstain from drinking they reverted to their former hypoglycemic state. The study also revealed that coffee and spices increased the alcoholic's desire for alcohol. This information has apparently not been well circulated to Alcoholics Anonymous (AA) which generally serves copious amounts of coffee and sweets during meetings.

Chronic drinkers have a very inadequate nutritional intake. As the alcoholic's calories come from alcohol rather than food. This results in numerous vitamin and mineral deficiencies, especially of thiamine, iron and Vitamin B_{12}.[9]

Nutrition And Vitamin Therapy Effective For Alcoholism.

Dr. Russell E. Smith reported in 1974 on his work with 507 hardcore alcoholics at Brighton Hospital, Detroit, Michigan, over three-years.[10] During a one-year treatment period each alcoholic received daily spaced dosages of Vitamin B_3 (niacin) in quantities of three to five grams. A follow-up evaluation of treated patients showed a 71 percent recovery rate (sobriety). Dr. Smith commented that niacin therapy along with a hypoglycemic diet resulted in "unprecedented changes among alcoholics who otherwise would have a very poor prognosis." Similar results using niacin therapy and a special diet to control hypoglycemia have been reported by Guest House, a treatment center for rehabilitating priests near Lake Orion, Michigan. They maintain an 82 percent recovery rate over several years of follow-up.

Dr. Abram Hoffer, an internationally recognized authority on nutrition and mental illness[11], investigated the nutritional needs of serious offenders and alcoholics. He found that both groups required

large dosages of Vitamin B_3 and B_6.[12] This was confirmed by Dr. R. J. Green, who found that the majority of inmates at the Saskatchewan Penitentiary in Prince Albert, Canada, were suffering from various forms of special vitamin need. One third of the inmates experienced perceptual distortions, believed related to a Vitamin B_6 deficiency.[13]

Employing a similar nutrition and vitamin therapy approach, Dr. David Hawkins, of the North Nassau Mental Health Center in Long Island, one of the nation's largest alcoholism treatment programs, reports a 71 percent success rate. This contrasts with an estimated national alcoholism rehabilitation success rate 25 percent, as reported by NIAAA.

Dr. Hagop S. Mekhjian, Professor of Medicine at Ohio State University, found consistent evidence that the heavy drinker develops nutrient deficiencies.[14] He investigated the effects of drinking on the human intestine of six or seven drinks a day for a period as short as two weeks. This can throw the digestive system literally into *reverse.* The experimental subjects, while fed a balanced nutritious meal, actually had their small intestines pour out fluids that flushed food from the body before it could be absorbed.[15] This prevented the digestive system from absorbing the vitamins, minerals and trace nutrients it required. An alcoholic who does not eat an adequate diet obviously compounds these effects. Once the intestine is in reverse, Mekhjian found that supplemental doses of folic acid could partially correct the disordered digestion. If the person abstained from all alcohol, the abnormalities were completely reversed.

The American Dietetic Association's *Guidelines for Nutritional Care of Alcoholics During Rehabilitation*[16] finds alcoholics are deficient in Vitamins B_1, B_2, B_3, B_6, and folic acid. Dr. Nathan Brody, a physician who treated alcoholics for 23 years, "found very few alcoholics who were not zinc deficient."[17] The likelihood of vitamin and mineral deficiencies in alcoholics must be recognized in any alcoholism rehabilitation program. Coffee consumption should also be examined.

The Department of Health at Loma Linda University in southern California, estimates that every 24 hours American's consume over 400,000,000 cups of coffee containing over 50 tons of caffeine. This amounts to at least 137 billion cups of coffee for the United States in one year. At the 1979 World Congress on Alcoholism Prevention, Dr. Patricia Mutch, head of the nutrition department at Andrews University in Berien Springs, Michigan, reported on animal experiments that led her to conclude that coffee, the drink served so frequently at Alcoholics Anonymous meetings, may actually promote alcoholism if drunk in large quantities (nine cups or more of coffee a day). Dr. Mutch speculates that people may reach for a drink of alcohol to control the shakiness caused by so much coffee.[57]

Heroin, Methadone and Diet

Dr. Nils Bejerot, Research Fellow in Drug Dependence at the Karolinska Institutet in Stockholm, Sweden, points out that addiction functions as an artifically induced drive, both in its psychological and physiological aspects, in which the pleasure and pain principle is the motivating force in both instances.[18] Dr. William H. Philpott, Oklahoma City psychiatrist, agrees that "the personal and/or social factors shaping the introduction to an addictive substance are quite separate facts from the addiction itself. Once the addictive state is established, it functions as a separate morbid state with its own set of dynamics. Treating the social or personal factors shaping toward addiction has no effect on changing the physiological (evoked symptoms on avoidance and relief on exposure) and psychological (obsessive-compulsive neurosis to continue the addiction and narcissrstic neurosis for the continued seeking of pleasure) aspects of addiction."[19] In summary, the pleasure-pain principle is the motivating force behind the unreasonable obsessive-compulsive behavior of pleasure seeking. Therefore, treatment must respond to the biological needs of the person as well as provide alternatives to the obsessive-compulsive behavior of pleasure seeking.

In 1972, Vic Pawlek, then director of a drug treatment center in Phoenix, reported positive results treating heroin and methadone addicts with three grams of Vitamin C and Vitamin B_3 (niacin) a day.[20]

In 1972, Jordan Scher, M.D., with the National Council on Drug Abuse and the Methadone Maintenance Institute in Chicago, began work with Vitamin C in alcoholism. His first study involved alcoholics. He found large doses of Vitamin C were effective in resisting the effects of alcohol withdrawal, reducing hangover symptoms and speeding recovery from the acute and chronic stages of alcoholism. His successful experience was reported in an international meeting on alcholism in Liverpool, England, in 1973.

Dr. Scher next investigated the ability of Vitamin C to relieve the withdrawal symptoms of narcotic addiction. Patients in a state of narcotic withdrawal often experience muscular pains, cramps, cold

limps, vasoconstriction, constipation, muscular tension and fatigue. His research team set up a double-blind study with the use of placebos. Their findings were that Vitamin C "seems to have a moderating and tranquilizing influence on behavior and emotional states so that it is of great assistance in the management of patients who are in the process of detoxification."[21] He concluded, "Vitamin C represented a clear addition to the armamentarium of narcotic addiction treatment on a clinical and statistical basis."[22] Similar results were reported by the San Francisco Drug Treatment Program. Using a total of 227 subjects, this program concluded that "megavitamin therapy using sodium ascorbate (a salt of Vitamin C that has a pH similar to the blood and is therefore not as acid as regular Vitamin C), calcium and other mineral supplements was seen as a cost-effective convenient *safe* way to detoxify narcotic addicts, and is also a way to address the poor nutritional habits of our client population.[23]

I vividly recall that those addicts I have worked with in the corrections system have atrocious diets and are addicted to sweets. They would constantly hunger for donuts, sweetened sodas, chocolates and candy. Their diets are very lacking in vitamins, minerals and fiber. In over ten years, I have not worked with one addict, whether juvenile or adult, who has consumed even a marginally nutritious diet.

Vitamin C and Treatment

Since the early 1930's, when Vitamin C (ascorbic acid) was first synthesized, medical research has been carried out on the physiologic effects of this substance. [24-44] The application of Vitamin C to the detoxification of narcotic addicts was made popular by Drs. Alfred Libby and Irwin Stone in California.

The Journal of Orthomolecular Psychiatry published a report from Drs. Libby and Stone in 1977 on the use of large doses of Vitamin C in the successful detoxification of heroin addicts.[45] They reported on 100 cases in which they detoxified heroin addicts. Besides providing large doses of Vitamin C, they provided their patients with high levels of multivitamins and minerals and a predigested protein solution. They based their approach on the theory that addicts are malnourished in general, protein deficient in particular, and virtually deficient in Vitamin C. This condition they called the "Hypoascorbemia-Kwashiokor Syndrome." In Drs. Libby and Stone's research, all patients reported a loss of craving for drugs while taking large doses of Vitamin C, (between 25 and 85 grams per day) during detoxification. Of the first 30 carefully monitored heroin addicts, 30 successfully withdrew from their addiction with no more than minor discomfort. None of the 30 were reported to have relapsed to their former addictive state. Similar results have been reported by other doctors in the United States and two Australian physicians, Drs. Archie Kalokerinos and Glen Dettman.[46]

Loss of craving

A Seattle physician, Dr. Janice Keller Phelps, former Medical Director of the King County (Washington) Center for Addiction Services, has successfully utilized this approach in the treatment of heroin and methadone addicts under carefully supervised conditions. Dr. Phelps reported on her studies to an invitational conference on the treatment of criminal offenders in the fall of 1979 in Oakland, California.[47]

The correlation between near deficiency levels of Vitamin C and behaviors common to addicts was determined nearly a dozen years ago. A study completed by the Department of Internal Medicine at the University of Iowa, and partially funded by the U.S. Army Medical Research and Development Command, in 1970, evaluated a broad range of human behavior during controlled Vitamin C deprivation.[48] The study, done with Iowa State Penitentary inmates, showed that decreasing quantities of Vitamin C increased fatigue, lassitude, depression, and reduced energy. This corresponded with the classical "neurotic triad" of the Minnesota Multiphasic Personality Inventory (MMPI) psychological test, namely, hypochondriasis, depression and hysteria. This triad usually indicates a depressed and withdrawn individual who is concerned with his bodily state. These personality changes occur at a stage of Vitamin C depletion well before obvious clinical scurvy is evident. The same study was completed by the researchers on another set of prisoners from the same population under identical conditions with similar results. In view of this study and numerous others [49-53] the use of Vitamin C in the treatment of addicts, along with an improved diet and other supplements, is suggested. However, once the detoxification program is concluded, it is still very necessary that the ex-addict's psychological, economic and social needs be met. It is at this point that conventional treatment approaches might become more effective.

Diet for Substance Abusers

Mark Worden and Gayle Rosellini described a recommended diet for substance abusers at the Fifth National Drug Abuse Conference in Seattle in 1978. Their work with substance abusers at the Douglas County Council on Alcoholism (Oregon) indicated that diet is an "indispensible part of a biosocial framework for treatment."[54]

As counselors, they found it "frequently difficult for the client to believe that his drinking and emotional discomfort may be related to his eating patterns. Before most clients are willing to alter strongly entrenched dietary habits, they must be convinced that the change will be worth the effort. During the initial sessions, it is the counselor's role to explore the possibility that there may be a connection between the client's eating habits and his life problems."

They found that alcohol and drug-misusing clients usually reported the following symptoms:

Depression
Nervousness
Anxiety
Craving for sweets
Craving for alcohol
Irritability
Rages
Feelings of doom
Headaches
Weight problems
Tiredness, weakness
Dizziness, faintness
Morning nausea
Blurred vision
Transient muscle aches
Transient joint pain
Insomnia, nightmares

They found that these same clients' typical diets consisted of the following:

No breakfast or a high Sugar Breakfast
Skipped Meals
Light eating during day
Heavy eating at night
Refined carboyhdrate snacks

Heavy consumption of:

Sugar
White flour
Caffeine
Salt
Alcohol
Tobacco
Junk food
Packaged food

In light of this study, it seems clear that dietary counseling become a mandatory part of any substance abuser's rehabilitation program.

Worden and Rosellini developed a "recommended diet for substance abusers."[55] its basic rules are as follows:

1) Eat at least three evenly spaced well-balanced meals per day.
2) Consume adequate protein daily. (Rule of thumb to determine protein needs: desired body weight divided by 2 - grams of protein daily.) Protein may be of animal or vegetable origin.
3) Consume fresh fruits and vegetables daily.
4) Use only whole grains.
5) Include legumes and nuts.
6) Use salt, dried fruit, coffee, tea or tobacco sparingly.
7) Suggested: fruit, vegetable or protein snack between meals or before bedtime.

Common sense suggestions to their clients were:

1) Overweight? Follow basic rules, but limit fat intake and portion size.
2) Balance meals with protein foods, fruits, vegetables and unrefined starches.
3) Observe how you feel. Don't eat anything that later makes you feel bad.

They were also told to completely eliminate the following foods:

Sugar--white, brown, turbinado, raw
Honey molasses
Corn syrup
White flour
White bread
All soft drinks
Ice cream
Canned fruit
Canned vegetables
Processed or prepacked food
Cakes, cookies, pies, pastries, candy, doughnuts
Breakfast cereals, commercially made granola
Fruit-flavored drinks
Flavored yogurt
Coffee
Tea
Alcohol

These are excellent dietary suggestions. They reduce or eliminate most additives described earlier, reduce consumption of refined carbohydrates and provide far more vitamins and minerals. Their experience was that, if substance abusers followed the recommended diet, they would generally quit all substance abuse.

"If one uses nutrition as an adjunct to counseling", pointed out Worden and Rosellini, one should keep in mind that there is no simple, quick, magic nutritional cure for alcoholism, drug abuse and emotional problems. However, there is much evidence to suggest that attention to dietary factors may help the client more adequately deal with problems and render the counseling process more efficient, productive and rewarding. As one client said, 'I used to feel crazy all the time. Now I only feel that way when I cheat on my diet. I know how to control that. It sure makes it a whole lot easier to stay sober."[56]