FOOD HABITS OF ALCOHOLICS IN THE SAN FERNANDO VALLEY AND DOWNTOWN LOS ANGELES

A thesis submitted in partial satisfaction of the requirements for the degree of Master of Science in Home Economics by Patricia N. Amuzie-Okobi

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DEDICATION

To my mother Ann Okobi and the entire Okobi family for their moral support and faith in my potential, and to my niece Ifeoma Odiachi for providing me with the help I needed during most of the data collecting period.
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ABSTRACT

FOOD HABITS OF ALCOHOLICS IN THE SAN FERNANDO VALLEY AND DOWNTOWN LOS ANGELES

by

Patricia N. Amuzie-Okobi

Master of Science in Home Economics

The dietary habits of alcoholics in downtown Los Angeles were compared to those of alcoholics in the San Fernando Valley. The study involved used a questionnaire and three-day food record. Meal patterns of both groups showed that about forty percent of the group in San Fernando compared to forty-seven percent of the group in downtown Los Angeles ate three meals per day.

About ninety percent of the downtown group versus fifty percent of the San Fernando Valley group had their meals prepared by people different from family members. Thirty percent of the San Fernando Valley group and seven percent of the downtown Los Angeles group prepared their own meals. Eighty percent of the downtown group of alcoholics believed their meals to be balanced and
nutritious while sixty-seven percent of the San Fernando Valley group of alcoholics thought so.

Eight nutrients were analyzed using chi-square statistical analysis. A significant different between sexes was found with regard to intake of protein, vitamin B₆, vitamin B₁₂, thiamin and riboflavin. There were no significant differences with regard to intakes of folic acid, sodium, potassium and iron.

There was no significance difference in adequacy of diet of the alcoholics in this study. Both groups of alcoholics were deficient in vitamin B₁₂. Analysis of the average three-day record of food intake for nutrients showed that intake of most of the nutrients was above the RDA.
Alcoholism has been recognized as one of the major diseases of man and a challenge to our society. It is frequently associated with poor nutrition. The alcoholic's health is damaged since he/she receives from alcohol the calories required for direct energy expenditure and he/she then neglects to eat a proper diet that would supply the many other nutrients that his/her body needs and malnutrition results. If a wage-earner is addicted, he/she may spend a great portion of the family income for alcohol, resulting in inadequate funds for feeding the family (Williams, 1969). Both the addict and his/her family may be adversely affected.

Nutritional deficiencies are commonly found in the alcoholic patient and these may interact with alcohol to produce liver damage, the most common medical complication of alcoholism. Liver changes in the alcoholic begin as fatty liver and progress to hepatitis, and ultimately, to cirrhosis. Hepatic encephalopathy may accompany cirrhosis. The liver is the central organ in the metabolism of most nutrients. Damage to the liver may profoundly alter its metabolic capability which, in turn, alters the metabolism of almost every essential nutrient. Altered
nutrient metabolism may lead to deficiency states, reduced tolerance to dietary constituents, or changed dietary requirements. Notable examples of altered nutrient metabolism are decreased tolerance to dietary protein and the tendency towards sodium and water retention observed in alcoholics with severe liver disease (Liebes, 1975).

Malnutrition has been proposed as the predominant factor in the pathogenesis of alcoholic liver disease because of the frequent observation of the poor nutritional status of hospitalized alcoholics with liver diseases. The observation of fatty liver in patients with kwashiorkor (clinical protein malnutrition), similar to that seen in alcoholics, and the progression of fatty liver to cirrhosis in obese patients who have undergone intestinal bypass operations have led some to suggest that the liver disease seen in alcoholics is due to dietary protein deficiency (Shaw and Lieber, 1978). The alcoholic gets a large percentage of his/her daily caloric intake from alcohol and consequently has a much reduced demand for other foods to fulfill caloric needs. For example, alcohol (ethanol) provides 7 kilocalories per gm.: thus 600 ml (20 oz) of 86-proof liquor represents about 1,500 kilocalories, or approximately one-half to two-thirds of normal daily caloric requirement (Liebes, 1975). Adequacy of dietary intake is recognized as the most significant factor affecting the rate of metabolism in alcoholic
people. Alcoholics may learn to abstain from eating to produce a greater effect from alcohol intake; that is, to enable them to consume more alcohol in place of food (Mendelson, 1972).

Since it is becoming apparent that the problem of alcoholism is associated with nutrition, it is important that those who study the subject should be aware of this relationship.

**Justification**

The result of this study should be important for the following reasons:

1. To provide institutions, hospitals, care units and all those who deal with alcoholics a better view of the alcoholic and his/her lack of appetite.

2. To provide background material to encourage sound nutrition teaching for the alcoholic.

**Objectives**

The objectives of the study were:

1. To gather information on and compare the eating habits of alcoholics in the San Fernando Valley and Downtown Los Angeles.

2. To determine any differences between the sexes with regard to eating habits.

3. To evaluate the adequacy of the typical diet of the alcoholic.
Assumptions

The following assumptions were made:

1. A questionnaire was an adequate method in collecting data to be used in reaching the objective of this study.

2. Subjects would tell the truth rather than what they thought the researcher would like to hear.

Limitation

The study was limited because of the following:

1. Among the many hospitals, care units and rehabilitation centers in the Los Angeles Areas that the researcher contacted only three centers were willing to have the researcher use volunteer subjects from their facilities.

2. A typical picture of the alcoholics in downtown Los Angeles is not usually observed in rehabilitation centers, but on the streets in the downtown area.

Hypothesis

1. There will be a significant difference between the food habits of alcoholics in San Fernando Valley and in downtown Los Angeles.

2. There will be a significant difference between male and female alcoholics with regard to their eating habits.
Null Hypothesis

1. There will be no significant difference between the dietary habits of alcoholics in the San Fernando Valley and in downtown Los Angeles.
2. There will be no significant difference between male and female alcoholics with regard to their eating habits.

Glossary

Alcoholism: A disease condition due to over-indulgence of alcohol.
Anomaly: Marked deviation from the normal standard.
Ascites: Effusion and accumulation of serious fluid into abdominal cavity.
Cirrhosis: A disease of the liver, marked by progressive destruction of liver cells, accompanied by regeneration of the liver substance and increase of connective tissue, chronic interstitial inflammation of any organ.
Contraindication: Rendering any particular line of treatment improper or undesirable.
Delirium Tremens: A variety of acute mental disturbance marked by delirium with trembling and great excitement, and attended by anxiety, mental distress, sweating and pain. It is one of the forms
of alcoholic psychosis, but is also seen in opium addiction.

**Dysphagia:** Impairment of speech, consisting in lack of coordination and failure to arrange words in their proper order, due to a central lesion.

**Edema:** The presence of abnormally large amounts of fluid in the intercellular tissue spaces of the body.

**Esophagus:** The musculomembranous passage extending from the pharynx to the stomach.

**Erythroblast:** An immature cell from which a red corpuscle develops.

**Gastritis:** Inflammation of the stomach.

**Girth:** The measure around the abdomen.

**Hallucinatory:** Characterized by hallucinations.

**Hallucinosis:** A psychosis marked by hallucinations.

**Hemorrhage:** A copious escape of blood from the vessels; bleeding.

**Hepatic Encephalopathy:** Liver and brain degeneration disease.

**Hepatitis:** Inflammation of the liver.

**Hypalgesia:** Diminished sensitiveness to pain.

**Hyperbilirubinemia:** An excess of bilirubin in the blood.

**Hyperlipidemia:** An abnormally high concentration of lipids in the blood.

**Hypocalcemia:** Reduction of the blood calcium below normal.
Hypoglycemia: Low blood glucose.

Kwashiorkor: A syndrome produced by severe protein deficiency with characteristic changes in pigmentation of the skin and hair, first reported from Africa.

Macrocythemia: A condition in which the erythrocytes are larger than normal.

Malnutrition: Any disorder of nutrition.

Megaloblast: A primitive red blood corpuscle of large size.

Microphthalmia: Abnormal smallness of the eye.

Neuroencephalomyelopathy: Disease involving the brain, spinal cord and nerves.

Occipital: Pertaining to the back part of the head.

Ocular: Pertaining to the eye.

Palpebral: Pertaining to an eyelid.

Pancreatitis: Inflammation of the pancreas.

Pathogenesis: The development of morbid conditions or of disease.

Pathophysiology: The physiology of disordered function.

Pellagra: A clinical deficiency syndrome, manifested in the skin, alimentary tract and nervous system, due to a deficiency of niacin.

Pleural Effusion: The presence of fluid in the pleural space.

Pneumoenteritis: Pneumonia complicated by enteritis.
**Polyneuropathy**: A disease which involves several nerves.

**Portal System**: An arrangement of vessels whereby blood collected from one set of capillaries passes through a large vessel or vessels and then through a second set of capillaries before it returns to the systemic circulation. Such an arrangement occurs in the hypophysis and the liver.
CHAPTER 2

REVIEW OF LITERATURE

What is Alcoholism?

Alcoholism is a disease condition due to over-indulgence in alcohol. It is a chronic behavioral disorder manifested by repeated drinking of alcoholic beverages in excess of the dietary and social uses common to the community and to an extent that interferes with the drinker's health or his/her social or economic functioning.

Many public facilities, such as state hospitals and mental health centers, are developing programs for patients with alcoholism. Industry and business, both management and labor, are paying increased attention to the problem.

Much of this change reflects a growing demand by the public that "something be done" to cure these people who, as they suffer, drain so much from those around them.

Is Alcoholism Really an Illness?

The American Medical Association defines alcoholism as an illness characterized by significant impairment that is directly associated with persistent
and excessive use of alcohol. Impairment may involve physiological, psychological or social dysfunction. The alcoholic usually drinks heavily and gets drunk often. But quantity and frequency are only one sign. The key factor is loss of control and craving for the drug—alcohol (Malanga, S. C., 1977).

**Treatment of Alcoholics**

Alcoholics can be treated, but because their illness is on-going or chronic, control short of cure is an acceptable criterion for success. Although total abstinence is a desirable aim, improvement in social or occupational adjustments may be far better guides in determining whether a treatment effort is succeeding or failing. The alcoholic who suffers a temporary relapse during treatment is no more a failure than the diabetic who occasionally strays from his diet (Malanga, 1977). The growing concern about drug use has focussed attention on abuse of alcohol. The National Commission on Marijuana and Drug Abuse reported that alcoholism is, without question, the most serious drug problem in this country today (Shropshire, 1975).

Alcoholism is called a "disease" by the American Medical Association (AMA), the World Health Organization (WHO), The U.S. Department of Health and Human Services (HHS), The American Psychiatric Association (APA), The
American Hospital Association and other groups. Alcoholism is the third most common cause of death after heart disease and cancer (Alcoholism Fact Sheet, 1979). Alcoholism is a progressive disease in which the use of alcohol interferes with health, social and economic functioning. Untreated alcoholism results in physical incapacity, permanent mental damage and/or premature death (Facts on Alcoholism, 1979). There is no "typical" person with alcoholism. Among men, drinking problems occur most frequently in the early 20's and among women, most frequently in the early 30's and 40's. The number of known women alcoholics has doubled since World War Two. Less than three percent of the people with alcoholism are found on skid row (Facts on Alcoholism, 1979). There are ten million adult (18 years of age and over) alcoholics in the U.S., which is about seven percent of the one hundred and forty-five million adults. One out of every ten who drinks develops alcoholism. There are approximately one million, two hundred and fifty thousand alcoholics in California, with about five-hundred thousand alcoholics in Los Angeles County. There are about three million, three hundred thousand problem teenage drinkers ranging in age from fourteen to seventeen years in the U.S. (Alcoholism Fact Sheet, 1979).

About ten percent of elderly males and two percent of elderly females are problem drinkers. The
greatest problem in the treatment of senior citizens is the failure to diagnose drinking as a medical factor. About two million, two hundred and fifty thousand women are known to be problem drinkers. Alcoholism has been observed to be increasing among women, therefore it is no longer a "Man's disease" (Alcoholism Fact Sheet, 1979).

**Why Women Develop Drinking Problem**

There is no single cause of alcoholism for either women or men. One's psychological makeup, environment, and physical factors probably all interact to contribute to the development of an alcohol problem. Professionals in the field agree, however, that most of the alcoholic people they work with suffer an unusual amount of stress and deprivation in their lives. From childhood, women have been taught that as the "second sex," they are expected to derive their sense of self-worth primarily through relationship with men, rather than through achievements and activities of their own. This is not to say that women's drinking problems stem entirely from their role in society. But regardless of what women do with their lives, they cannot escape society's judgement that, on some very basic level, they are inadequate because they are women.
Alcoholism Among Minorities

Alcoholism has grown to be the number one health and social problem in minority communities. The unemployed alcoholic (that is, the alcoholic with low degree of stability in employment) is frequently a member of the group of visible alcoholics seen on street corners, stoops, alleyways, and rooftops in large urban communities. The etiquette of drinking demands that he share the bottle with associates and that he also share the cost of the bottle by what is called "patching" or pooling of monies (Davis, 1973). He may choose to spend his last penny on purchase of more alcohol rather than food.

Alcohol and Driving

Many motorists think they have a method of determining how much they can drink and still drive safely. "I know my limit," they say. "I have never been stopped by the police," they go on to add, almost as though they were offering proof. "It is the 'other guy' who does not know his limit that I worry about." "Ironically," says Inspector Tom Jones of the Los Angeles Police Department's Traffic Bureau, "the 'other guy' says the same thing about you" (Ditzel, Paul, Pamphet on Alcohol and Driving).

Drinking also brings on 'tunnel vision', says Dr. Khoury, Chairman of the California and Los Angeles County Medical Associations'
Committees on Alcoholism . . . with peripheral vision impaired, your chances of being able to see the approach of cars or pedestrians from the side are substantially decreased . . . Many authorities compare alcohol's effect on vision to wearing sunglasses in twilight or nighttime hours. Dimly lit objects will not be seen. "It is like looking through unfocussed binoculars," says Dr. Bemis, a Westchester Psychiatrist specializing in delinquency control (Pamphlet on Alcohol and Driving).

Accidents in Alcoholism

Of all fatal accidents occurring on the highway today, fifty percent involve alcohol. Over eighty percent of fire deaths, sixty-five percent of drownings, twenty-two percent of home accidents, seventy-seven percent of falls, thirty-six percent of pedestrian accidents and fifty-five percent of arrests are linked to the use of alcohol. Up to forty-four percent of pilots involved in accidents have been drinking (Facts on Alcoholism, 1979).

Crime in Alcoholism

Violent behavior attributed to alcohol use accounts for approximately sixty-five percent of murders, forty percent of assaults, thirty-five percent of rapes, thirty percent of other sex crimes, thirty percent of suicides, fifty-five percent of fights or assaults in the home and sixty percent of the cases of child abuse. When alcoholism is treated, associated violent behavior is known to decrease (Facts of Alcoholism, 1979).
Alcoholism in the U.S. Economy

Between five and ten percent of the workforce has a problem with alcohol. Alcohol abuse and alcoholism cost the nation forty-three billion dollars in 1975 (Alcoholism Facts Sheet, 1979). This breaks down to nineteen billion, twenty four million dollars in health and medical cost; five billion, two hundred and fifty million dollars in motor vehicle accidents; etc. The total cost of alcoholism to Los Angeles County Industry is about two hundred and fifty million dollars yearly (Alcoholism Fact Sheet, 1979).

Alcoholism in Pregnancy

Drinking during pregnancy is the cause of fetal alcohol syndrome (FAS). This is the third leading cause of mental retardation in children and a cause of other birth defects also (Alcoholism Fact Sheet, 1979).

In a study by Jones, et al (1973), two newborn babies born of alcoholic mothers were described. Both infants had serious problems of respiratory adaptation, and one of them had a problem with biochemical adaptation, as shown by hypoglycemia, hypocalcemia, and hyperbilirubinemia. The observation of milk microphthalmia in both newborn babies agreed with a suggestion that the consistently short palpebral fissures seen in this syndrome
were secondary to reduced ocular growth. In addition to these characteristics, there were alterations in joint mobility and positioning of hands, elbows, hips and feet. Both infants were below normal newborn size and showed no growth response to high caloric feeding, providing further evidence for a prenatal effect on growth rate in this disorder (Jones, et al., 1973).

Another study by Jones, et al. (1973) evaluated data from a previous perinatal collaborative project at twelve hospitals across the United States using a sample of sixty thousand pregnancies and including follow-up studies on offspring. The extent of alcoholism was not completely known; however, twenty-three women were labeled as chronic alcoholics. Results showed that the offspring of alcoholic mothers had a seventeen percent prenatal mortality rate, compared to two percent of the matched controls.

According to Chernoff (1977), mice with fetal alcohol syndrome showed an increase in prenatal death and maldevelopment corresponding to an increase in the level of alcohol intake. Deficient occipital ossification, neural anomalies, and low fetal weight occurred with a low ethanol diet; this means that even with low ethanol diet, deficiencies still occur, and with high ethanol diets cardiac and eye-lid dysmorphology occurred.
Abnormalities in Alcoholism

The more prevalent deficiency diseases in alcoholics were those of the B-complex, particularly thiamin, riboflavin, niacin, pyridoxine, and folic acid (Goodhart and Shils, 1973).

Several abnormalities of intestinal absorption of thiamin, vitamin B-12, folic acid, ascorbic acid, and dietary fat were found in some chronic alcoholics. Ethanol has been shown, also, to affect the ATP content in several tissues and to inhibit the active transport of Na+ and k+ (Krasner, 1976).

Thiamin Deficiency

Thiamin deficiency syndrome in the United States occurs almost exclusively in alcoholic patients and can usually be attributed to poor dietary intake of the vitamin. Some alcoholics may manifest thiamin deficiency while consuming apparently adequate quantities of thiamin containing foods (Tomasulo, et al., 1968).

Highly significant impairment of thiamin absorption was found in twenty alcoholics as compared with ten non-alcoholic controls studied by Tomasula, et al. (1968). "There is impressive evidence that certain neuroencephalopathies occurring in alcoholics are the result of thiamin deficiency," according to Marjot (1970). Marjot
(1970) studied three hundred and eighty-seven alcoholic patients admitted to a military psychiatric hospital during the years 1973 to 1977. One hundred and two patients of this group developed a hallucinatory reaction, thirty-five patients had typical delirium tremens, eighty-eight patients had sub-acute hallucinatory reactions, twenty-nine patients had typical alcoholic hallucinosis and twenty-eight had thiamin deficiency neuro-encephalopathy. In addition, five of the latter twenty-eight also had cardiac failure attributed to thiamin deficiency.

**B Complex**

Clinical stigmata of B-complex vitamin deficiency (abnormal vitamin levels in biological fluids and tissues, and decreased conversion of free vitamins into active coenzymes) were often present in malnourished alcoholics with liver disease (Leevy, et al., 1965).

The B-vitamin status of fifty-nine patients from lower socio-economic classes in Bombay, India, with a history of chronic malnutrition and of alcoholism of 1, 5 or 20 years duration, was studied before and during treatment, in relation to their clinical (especially neurological) condition by Dastur, et al. (1976). Categories of patients studied were:

1. Those with peripheral neuropathy (mainly sensory and distal) alone, and
2. Those with mental changes (mainly confusion). Values for blood concentrations of seven B-vitamins in the control subjects were significantly higher than those in the patients with peripheral neuropathy. Patients in both categories were deficient in B-vitamins. Alcohol increases the body's requirements for B-vitamins, which are needed to metabolize alcohol (Kruse and Mahan, 1979).

Folic Acid Deficiency

Folic acid is one of the newer vitamins, yet it has attracted intensive study in the fifty years since its identification by Dr. Lucy Wills in Bombay, India in 1931 (Schneider, et al., 1977).

Clinical and laboratory observations of folic acid deficiency were made on eighty-four patients regularly taking more than eighty grams of alcohol daily (Rosenberg, 1976). Macrocytosis was present in eighty-five percent, but only thirteen percent were anemic. Twenty-seven of fifty-seven bone marrow samples were abnormal, twenty of these showing megaloblastic changes, mostly mild in degree. Serum, red cell, and liver folate levels were reduced in twenty percent, thirty-five percent and thirty-one percent of patients, respectively (Wu, 1975). The amount of alcohol consumption and the extent of liver damage did not affect folate status (Wu, 1975). Wu's findings suggest that folate deficiency is fairly
common among alcoholics in this country. More frequently, however, patients had macrocytosis, sometimes with megaloblastosis, in the absence of folate deficiency, emphasizing the direct toxic effect of alcohol on the developing erythroblasts (Wu, 1975).

During 1972 and 1973, thirty-three alcoholic in-patients, representing alcoholism of more than three years duration in a predominately urban population (310,000) were investigated by Carney and Sheffield (1978). Data relating to serum folate and B-12 values, and hemoglobin concentrations were obtained and compared with similar findings from 239 patients with other psychiatric conditions during the same period. The groups did not differ significantly with respect to mean serum folate or B-12 values, but there were significantly more higher folate values among the alcoholics than among other patients. Twenty-four percent of alcoholic patients were malnourished. According to Carney and Sheffield (1978) there is an increase of serum folate in alcoholics over non alcoholics. This seems to suggest that alcohol increases blood folate, and that the level is better in well-nourished alcoholics than in poorly-nourished alcoholics. Carney's report is contrary to the general belief that alcohol affects serum folate. The minimal daily requirement for folate is in the range of 50 micrograms for adults. The recommended daily allowance for folate
differs from person to person. Health and age are determining factors. Alcohol interferes with folate utilization, and thereby increases requirement.

**Impairment of Fat Soluble Vitamins**

Among alcoholics, vitamin A is the most common of the fat soluble vitamin deficiencies. Night blindness secondary to vitamin A deficiency has long been identified as a frequent development in alcoholics. Depletion of minerals like zinc due to alcohol consumption and or liver disease may impair the function of vitamins like Vitamin A and result in, or potentiate, deficiencies (Tamburro, 1979).

The occurrence of osteoporosis in the alcoholic with severe hepatic disease and the role of vitamin D in the maintenance of normal calcium and phosphorus levels required for bone mineralization involve an interlocking relationship between activation of vitamin D by the liver and kidney and intestinal calcium absorption. Chronic alcohol or drug injury to the liver can interfere with the biological conversion of vitamin D to its active form. This leads to gradual bone mineral imbalances and to the bone diseases commonly seen in alcoholics (Tamburro, 1979).
Diseases in Alcoholism

Diseases such as pneumonitis, pancreatitis, and gastritis were common to both acute, and chronic alcoholics. There are three phases of alcoholism, namely, subacute, acute and chronic. Pathophysiologically, the acute alcoholic patient has a rapidly reversible brain syndrome. The person who consumes two to six drinks every day can be classified as a subacute alcoholic. He seldom presents either as acute or classic chronic alcoholic but often manifests pharmacologic results of his daily ethanol intake. Such patients have a slowly reversible brain syndrome. The chronic alcoholic has a long history of a large intake of alcohol. Malnutrition is seldom considered in relation to alcoholism because the patients do not appear malnourished. Alcohol provide calories without nutrition and chronic alcoholics may use it as their only source of calories for a long period of time (Shrophire, 1975). Alcoholics generally look fat from all the calories from alcohol they consume and pale from malnutrition.

Uric Acid in Alcoholics

Elevation of the serum uric-acid level (SUAl) is most commonly attributed to gout, but has also been associated with fasting, renal damage, drugs, diabetic acidosi and alcohol intoxication. Alcohol can cause an
increase in SUAL. Lieber, et al. (1962) observed that after drinking alcohol the SUAL increased significantly. In a study of 157 subjects, Saker, et al. (1967) found that the mean SUAL in gouty subjects was 7.70 mg per 100 ml, in nongouty drinkers, 6.79 mg per 100 ml and in nongouty abstainers, 5.87 mg per 100 ml. It was reported in a study by Delbarre (1966) that in healthy subjects the mean SUAL increased from 6.1 to 8.04 mg per 100 ml after drinking 100 ml of alcohol daily for 8 days, whereas in gouty subjects the increase was from 7.6 to 11.4 mg per 100 ml.

**Alcohol and The Gastrointestinal Tract**

**Esophagus**

Alcohol can damage the esophagus by direct chemical irritation to its mucosa (interior lining), by inducing severe vomiting that tears the mucosa, or by interfering with normal motor functions, thereby causing an upward movement of stomach acid into the esophagus where it can erode the tissue. The major complication in these processes is hemorrhage, accompanied or preceded by dysphagia, local pain, and difficulty in swallowing (Noble, 1978).

**Stomach**

Bleeding from eroded areas of the stomach and duodenum has been reported to result from acute alcohol
intake. The degree of alcohol damage to the stomach lining appears to be related to alcohol concentration. Damage to cells of the gastric mucosa occurs rapidly after alcohol ingestion (Noble, 1978).

Small Intestine

Digestive disturbance in the small intestine are common in alcoholics. In both healthy volunteers and alcoholics, acute administration of alcohol leads to changes in intestinal motility, whether the drug is given orally or intravenously. In the small intestine, as in the stomach, alcohol damages cells and deranges cellular metabolism. Intestinal malabsorption also may result from alcohol administration, but the degree is determined by the amount of alcohol, and the method of alcohol administration (Noble, 1978).

Human Nutritional Needs

Human nutritional needs may be listed under four headings: fuel, minerals, vitamins and amino acids derived from proteins. It is important that we recognize the need, not only for some of each of these nutritional items, but for enough of every one. In some cases, "enough" is a very small amount, but half enough is too little and lack of the full amount may be almost as serious as a total lack (Williams, 1969).
The General Alcoholic Problem

Recent studies by Edwards (1979) have shown that the problem of alcoholism is not a unique problem of the developed countries. Its impact in Africa, Asia, the Pacific Regions, South and Central America, and the Caribbean has seldom been allotted more than a footnote except in World Health Organization Publications. More attention should be given to many alcohol-related disabilities like physical, medical, social and nutritional diseases.

The effect of alcohol-related problems in the third world was discussed at a recent meeting in Geneva with delegates from Africa, South and Central America, Asia, Pacific Islands, Alaska and the Caribbean (Edwards, 1979). Generally, excessive drinking has the same results anywhere in the world, but its impact on developing countries has had some special features, such as vulnerability of the young, excessive crime and strain on health resources, as well as its effect on nutrition.

It is possible that borderline nutritional states which would not otherwise have shown themselves in physical or mental illness may do so in excessive drinkers. Excessive alcohol intake seems to precipitate organic psychosis, pellagra, spontaneous hypoglycemia and liver cirrhosis (Edwards, 1979).

Alcoholics remain one of the few patient groups in the United States to have nutritional deficiency
syndromes, and the most dramatic of these syndromes involves the neurologic manifestations (Shaw and Lieber, 1977). The interaction of diet and alcohol in producing these deficiencies remains to be explored. Administration of carbohydrates such as intravenous glucose to a marginally vitamin depleted alcoholic may precipitate a bright reddish complexion if supplementary vitamins are not provided.

Polyneuropathy in alcoholics is a syndrome characterized by generalized symmetric involvement of peripheral nerves and spreads proximally. It is usually followed by weakness in ankles and decreased fine movements and vibratory sense. Finally, glove and stocking hypalgesia, and severe weakness may result (Shaw and Lieber, 1977).

The deficiency diseases to which alcoholics are most prone are those of protein, water-soluble vitamins, magnesium, potassium, zinc and other minerals. The deficiencies occur for many reasons, such as impaired appetite and reduced food intake, poor absorption, reduced storage and increased requirements (Stone, 1978). Recent newspaper and other popular communication media have pointed out that there is a considerable amount of protein malnutrition in the United States, particularly in certain segments of the population (Chopra, et al., 1978).
Alcoholics appear in many cases to be good examples of protein malnutrition in this country.

**Protein Deficiency**

Management of protein deficiency is a key element in treatment of severe alcoholism and chronic drug abuse associated nutritional disorders. Protein deficiency is defined as an impairment in either the availability or the utilization of essential amino acids at the subcellular, cellular, physiological or clinical levels. Alcohol and dietary deficiency both have effects on the intestinal absorption of protein (Tomburro, 1979). With chronic alcohol ingestion, intracellular proteins can be degraded or changed so that they are no longer recognized as normal body constituents, thus causing the immunological system to destroy its own tissues.

Alcohol injury to the protein synthesizing capability of body cells plays a vital role in the development of complications such as increased difficulty with fluid, electrolyte, and acid base balance, prolonged use of critical care facilities, delayed discharge, and the inability to return to work (Tamburro, 1979).

The effect of dietary protein intake on abnormal endocrine pancreatic function was studied in five male chronic alcoholic patients with a recent history of heavy alcohol consumption and poor dietary intake. The study
showed that the transient dysfunction of the exocrine pancreas frequently observed in actively drinking alcoholic patients was caused by deficient dietary protein intake (Mezey and Potter, 1976).

Dietary protein has little or no effect on the initial stages of liver disease such as cirrhosis, but, as liver disease progresses, metabolic intolerance to protein may result in hepatic encephalopathy and coma. Hepatic encephalopathy is a neuropsychiatric syndrome secondary to liver disease. The precise mechanism of hepatic encephalopathy is not clear but hepatic dysfunction leads to less tolerance to dietary protein.

**Vitamin Deficiency**

Vitamin metabolism demonstrates the many levels at which alcohol may impair nutrition. Vitamin deficiencies have been proposed as causes of alcoholism and vitamin therapy as a cure. The clinical induction of vitamin deficiency disease occurs most rapidly when the caloric/vitamin ratio is high. This form of asymmetric malnutrition is encouraged in alcoholics who may ingest up to 2400 kcal daily from ethanol with little or no intake of vitamins. Since the fat-soluble vitamins, are stored somewhat better than the water-soluble vitamins, the alcoholic is likely to develop biochemical evidence of unsaturation and deficiency diseases (Goodhart and Shills,
1973). Trace elements such as zinc and magnesium play a role in the function of some water-soluble vitamins and alcohol-related deficiencies of these elements may further exacerbate borderline insufficiencies (Shaw and Lieber, 1977).

Vitamin deficiency is frequently seen in alcoholics with liver disease, such as Wernick's encephalopathy due to thiamin deficiency, and megaloblastic anemia due to folic acid deficiency. If hepatic function is also altered at this stage, it may lead to many deficiencies. The ability of the damaged liver to store vitamins may be impaired. According to Shaw and Lieber (1978), patients with ocular manifestations of Wernick's encephalopathy have delayed response to thiamin administration if cirrhosis is present. This reaction is due to impaired conversion of thiamine to thiamin pyrophosphate, which is the active coenzyme form of the vitamin. Urinary excretion of B-12 is decreased while that of magnesium and zinc are increased after alcohol consumption. This is why alcoholics are usually deficient in thiamin, folic acid, and other B-vitamins (Krause and Mahan, 1979).

**Steatorrhea in Alcoholism**

Steatorrhea is encountered occasionally in alcoholics. If present, alterations in bile salt metabolism due to liver disease may be contributory. Studies by
Shaw and Lieber (1978) showed that chronic alcohol consumption decreases the daily excretion of bile salts. In patients with cirrhosis, the deoxycholic acid content of bile may be markedly reduced, possibly because the gastrointestinal flora are altered in such patients. The administration of ethanol to humans results consistently in hyperlipidemia with major elevations occurring in the serum triglycerides. Hyperlipidemia is usually absent in patients with severe liver damage such as cirrhosis and in these cases, hypolipidemia generally results (Shaw and Lieber, 1978).

**Glucose Tolerance in Alcoholism**

Chronic alcohol consumption results in impaired glucose tolerance, elevated insulin levels, and abnormal responses to glucagon. These effects are noted in alcoholics with fatty liver as well as cirrhosis. Glycogen stores are lowered, and gluconeogenesis is impaired, which may lead to hypoglycemia seen in alcoholics (Shaw and Lieber, 1978).

**Mineral Deficiency**

Sodium and water retention are common in patients with advanced liver disease. This may manifest itself as ascites, pleural effusions, and edema. Increasing abdominal girth, weight gain, a dragging sensation in the
abdomen, shortness of breath, and swelling of the ankles may be typical signs of fluid retention (Shaw and Lieber, 1977).

**Alcohol Absorption in the Body**

Alcohol is absorbed directly and fairly rapidly into the blood from the stomach and intestines. It is carried to the liver, then to the heart, and is then distributed throughout the body tissues. The rate of absorption varies in the same person at different times. It depends largely on the amount of alcohol in the drink, how fast it is consumed, and how quickly it leaves the stomach. Fasting or any other condition that causes rapid emptying of the stomach will bring about an increase in the absorption rate. Anything that delays emptying of the stomach, such as the presence of solid food, will retard absorption (Malanga, 1977).

Krasner, et al. (1976) studied alcohol absorption by the small intestine. Ten chronic alcoholic patients were studied. Patients with acute or chronic alcoholism may have a functional impairment of water and electrolyte absorption from the jejunum, which may account for some of the nutritional deficiencies in such patients.
Alcoholic Injury

Shaw and Lieber (1978) showed that alcoholics may be prone to hepatic injury because of excess iron, and that alcoholic beverages may contain some iron. Increased absorption may be caused also by cirrhosis and portal-systemic shunting. The routine giving of iron supplements to patients with severe liver disease is contraindicated because of the propensity of iron injury to the liver.

Alcohol can damage the esophagus by direct chemical irritation of the mucosa (interior lining), by inducing severe vomiting that tears the mucosa, or by interfering with normal motor functions, thereby causing an upward movement of stomach acid into the esophagus where it can erode the tissue. The major complication in these processes is hemorrhage, accompanied by, or preceded by dysphagia, local pain and difficulty in swallowing. Cancer of the esophagus also occurs more frequently in alcoholics than in the general population (Noble, 1978).

Bleeding from eroded areas of the stomach and duodenum has been reported to result from acute alcohol intake. The degree of alcohol damage to the stomach lining appears to be related to alcohol concentration (Noble, 1978).

The consumption of alcohol causes inflammation of the stomach, pancreas and intestine. Alcohol interferes
with the normal processes of digestion and absorption leading to malabsorption of nutrients and secondary malnutrition (Noble, 1978).

**Nutritional Status of Alcoholics**

Nutritional deficiency disease, particularly that caused by the deficiencies of the B-vitamins and protein, has been additionally associated with chronic alcoholism (Neville, et al., 1968). Several reports in the literature reported the physical condition of alcoholics and information of their food habits. In the group studied by Neville, et al. (1968), signs of deficiency disease were high and were associated with histories of irregular food habits and consumption of diets low in vitamin content. Changes in the nutrient composition of food and improvement in food availability and in the economic status of the population could reasonably be expected to affect nutritional status (Neville, et al., 1968). The method of food preparation and the type of food would affect nutritional state.

**Effects of Alcohol on Nutritional Status**

Nearly all alcoholics have diminished food intake while drinking. Alcohol suppresses appetite (causing anorexia nervosa), usually irritates the gastric mucosa, and promotes euphoria, none of which is conducive to
proper eating habits. Many alcoholics live lonely lives and soon run out of money. All of these things set the stage for malnutrition. Changes in electrolyte balance are affected by alcohol because it influences movement of hydrogen ions out of the stomach and sodium and potassium ions into it. Alcoholics have a diminished ability to make glucose from fat or protein as normal persons do, this is why fasting for such a brief time as eight hours may produce hypoglycemia sufficient to produce coma in the alcoholic (Garber, 1974).
Sample Selection

Data were collected from two alcoholism hospital units and one residence for alcoholics in Los Angeles County. The two hospital units were from the San Fernando Valley, while the residence was in downtown Los Angeles.

The hospitals and the residence gave written permission for the researcher to use volunteers in their facilities for this study. The facilities were as follows:

1. Alcoholism Services Volunteers of America, located at 611 East 5th Street, Los Angeles.
2. Valley Presbyterian Hospital Pathway Alcohol Rehabilitation Program, located at 15107 Vanowen Avenue, Van Nuys.
3. Parkwood Community Hospital (Care Unit), located at 7011 Shoup Avenue, Canoga Park.

The survey was conducted using a sample consisting of thirty men and women alcoholics of various ages currently residing in and receiving treatment at the facilities.
The researcher was introduced by the coordinator of each facility during one of the usual group meetings with a brief description of what the researcher was doing. The researcher, in turn, talked about the study and what was required of the volunteers to ensure the success of the study. The data collecting method was explained. Food models from The California Dairy Council and standard household measures were introduced for clarification of amount of food consumed. Oral instructions were given regarding the importance of writing down everything and the specific amount eaten.

The questionnaire was in two parts. The first part dealt with demographic data of the individual. The second part was a complete three day food record.

**Procedure**

The researcher preferred to go directly to these facilities to help anyone that needed help with writing out all the food intake for the previous day, but the volunteers decided that they would rather keep the record by themselves. The group coordinators agreed with them and went on to say that it would not be practical to work the extra time of the researcher's visits into their schedule, and that the volunteers needed to feel that they were responsible for their own work. The personnel at all three facilities felt that the researcher's daily visits
would affect their therapy time and other planned projects. The food records were collected from the group coordinators at the end of the three day period. Data from the three day record were analyzed to determine the intake of nutrients by the subjects. The analyzed data were compared with the RDA. Demographic data of the two groups were compared.

Statistical Analysis of Data

Data from the questionnaires and dietary records were transferred to cards for computer analysis at California State University, Northridge. Data were analyzed for statistical significance using the Statistical Package for the Social Science (SPSS). Analysis was based on .05 level of significance using chi square. Chi square was calculated to determine the difference in eating habits of the alcoholic group in downtown Los Angeles and the alcoholic group in San Fernando Valley. Computer analysis was also used to determine the percent of the nutrients from the meals consumed from a three day record, based on RDA.
CHAPTER 4

RESULTS AND DISCUSSION

The dietary habits of alcoholics in San Fernando Valley and downtown Los Angeles were investigated. Information was gathered through a questionnaire and a 24-hour dietary record method. The difference between sexes with regard to their eating habit was investigated.

A total of seventy questionnaires was distributed, but only thirty subjects participated with full cooperation. Of the returned questionnaires from both facilities in the San Fernando Valley, about twenty were correctly completed; fifteen were completed correctly from the group in downtown Los Angeles. Because the researcher chose to work with an equal number, fifteen subjects were arbitrarily selected out of the twenty subjects from the San Fernando Valley area. This brought the figure to a total of thirty participants, with fifteen representing each group.

On the demography of the respondents (see Appendix A) there were a total of seventy-three percent male subjects from the San Fernando Valley group and eighty percent male subjects from the Los Angeles group. The percent of the female subjects were twenty-seven percent for
the San Fernando Valley group and twenty percent for the downtown Los Angeles group.

In the two groups, there were eight married subjects, approximately fifty-three percent of the total population from the San Fernando Valley group, and two married subjects, about thirteen percent of the total population from the Los Angeles group in downtown. Percent of divorced subjects from the Los Angeles area was fifty-three, while percent for divorced subjects among the San Fernando area was twenty-seven. The single members of the groups comprised twenty percent for the San Fernando Valley area and thirty-three percent for the Los Angeles area (see Appendix A).

Forty-seven percent of the downtown Los Angeles alcoholics ate only two meals per day, while thirteen percent of the same group ate more than three meals per day. Among the group in San Fernando Valley, forty percent ate three meals but thirty-three percent ate more than three meals per day. Twenty-seven percent of that group ate only two meals per day (see Appendix B). There was a significant difference (.05 level) between the meal patterns of the groups.

Sixty-seven percent of the alcoholics in downtown Los Angeles and forty-seven percent of the San Fernando Valley group skipped breakfast (see Appendix B). Thirty-three percent of the San Fernando group and thirteen
percent of the group in downtown Los Angeles ate all meals served. There was a significant difference with regard to skipping meals as determined by chi square at the .05 level. There was also a significant difference in percentage with regard to reasons for skipping meals (see Appendix B). When asked to give reasons for skipping meals, about sixty-seven percent of the downtown group compared to twenty percent of the San Fernando group stated that they were not hungry. Fifty-three percent of the alcoholics in San Fernando compared to thirty-three percent of the alcoholics in downtown Los Angeles gave no specific reasons for skipping meals.

Ninety percent of the alcoholics in downtown and fifty percent of the alcoholics in San Fernando ate meals prepared by people other than family. Thirty percent of the alcoholic group in San Fernando Valley fixed their own meals, whereas only seven percent of the group of alcoholics in downtown did (see Appendix C). There was a significant difference with regard to who prepared meals.

Most of the downtown alcoholics believed their meals to be balanced and nutritious. Sixty-seven percent of the alcoholics in San Fernando thought that their meals were nutritious (see Appendix D). There was a significant difference at the .05 level.

It should be pointed out that in both the downtown and San Fernando groups of alcoholics, the
number of the female subjects was less than the number of the male subjects. Because the researcher preferred to work with equal numbers, three male subjects were hand picked from each group of both the San Fernando and Downtown alcoholics to compare with three hand picked females from each group.

Using the computer analysis of their three day food records, some of the nutrients that are usually affected by alcohol consumption were compared. A total of eight nutrients were used: protein, vitamin B, thiamin, riboflavin, folic acid, sodium, potassium, and iron. Based on chi square analysis, a significant difference was noted between the sexes with regard to protein, vitamin B, thiamin, and riboflavin contents of the food consumed in three days. Protein was higher than most of the other nutrients. There was no significant difference between the sexes with regard to folic acid, potassium and iron. Thiamin, vitamin B-12 and folic acid were compared for adequacy because these are common nutrients affected by alcohol. There was no significant difference in the adequacy of diet between the two groups.

**Nutrient Intake of Both San Fernando and Downtown Alcoholic Groups Based on a Three Day Food Intake Record**

Three day dietary records were used to evaluate the adequacy of intakes of the following nutrients:
calories, protein, sodium, potassium, thiamin, vitamin B-12, folic acid, vitamin C, iron and riboflavin. The percentage of the recommended dietary allowance (1974) met by each group for the above nutrients were calculated and graphed (see Appendix F[la and lb]). An intake equal to or greater than two-thirds of the recommended allowance for a nutrient was considered to be "adequate."

Nutrient intakes were compared according to the downtown Los Angeles group of alcoholics, San Fernando group of alcoholics and sex. The graphs in Appendix F indicate the average nutrient intake of the group. Average intake of protein, iron and sodium were high for both groups. Average intake of thiamin was higher for the downtown Los Angeles group, while intake of vitamin A, riboflavin, vitamin C, and vitamin B-12 were higher in the San Fernando group.

Neville, et al. (1968) suggested that signs of deficiency were associated with a history of irregular food habits. This statement appears to be true for this study. Both the San Fernando group and the downtown Los Angeles group had a history of irregular eating habits. The San Fernando and downtown groups both were deficient in vitamin B-6 and folic acid as their dietary intakes were below RDA (Recommended Dietary Allowance). The downtown group was slightly below the RDA in riboflavin intake and was deficient in potassium, vitamin A, vitamin C,
vitamin B-6 and B-12. Neville, et al. (1968) in their study, suggested that female alcoholics had a lower level of thiamin saturation than healthy females. In this study, most of the female population met the RDA for thiamin. Only about twenty-eight percent of the female population was below the one hundred percent level.

Tomasula, et al. (1968) suggested that thiamin deficiency syndromes in the United States occurred almost exclusively in alcoholic patients and could usually be attributed to poor dietary intake of the vitamin and that some alcoholics may manifest thiamin containing foods. Interestingly, the diet of the groups in the study, on the average, met their RDA for thiamin. Whether it was metabolized properly was beyond the scope of this study.
CHAPTER 5

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

The eating habits of the San Fernando Valley and downtown Los Angeles group of alcoholics were investigated using a questionnaire and a three day food record. The sample was made up of thirty alcoholics from three different treatment facilities. Fifteen were from San Fernando Valley and were volunteers from two different care units in the valley. The other fifteen were volunteers from an alcoholic residence in downtown Los Angeles.

Conclusions

Study of their meal patterns showed that forty percent of the total population ate three meals per day, thirty-seven percent ate two meals per day, while about twenty-three percent ate about four meals per day. Lack of appetite seems to be the most common reason for skipping meals. More than half the population indicated that breakfast was the meal that was usually skipped.

With regard to their diet, more than seventy percent thought that their meals were balanced and nutritious. The majority of this sample responded that
nutrition was important in food selections. Support for the importance of nutrition was demonstrated by the results of nutrient intake of the two groups. Most of the population was above twenty-six years of age. Results of this study were evaluated in terms of the previously formulated hypothesis.

Hypothesis One

There will be a significant difference between the food habits of alcoholics in San Fernando Valley and alcoholics in downtown Los Angeles. The hypothesis was accepted as follows:

1. Forty-seven percent of the downtown Los Angeles alcoholics ate only two meals per day, while thirteen percent of the same group ate more than three meals per day. Forty percent of the San Fernando group ate three meals but thirty-three percent of the same group ate more than three meals per day.

2. Sixty-seven percent of the alcoholics in downtown Los Angeles skipped breakfast, while forty-seven percent of the San Fernando Valley group skipped breakfast.

3. Thirty-three percent of the San Fernando group ate all meals served per day. Thirteen percent of the group in downtown Los Angeles ate all meals served.
Hypothesis Two

There will be a significant difference between male and female alcoholics with regard to their eating habits. The hypothesis was accepted as follow:

1. The intake of protein, vitamin A, vitamin C, and vitamin B-12 is greater in the female population than in male population.

Null Hypothesis One

There will be no significant difference between the dietary habits of alcoholics in the San Fernando Valley and alcoholics in downtown Los Angeles. The null hypothesis is rejected because of the above reasons cited in alternate hypothesis one.

Null Hypothesis Two

There will be no significant difference between male and female alcoholics with regard to their eating habits. The null hypothesis is rejected because of the reason cited in alternate hypothesis two.

Recommendations

1. Do a 24-hour food recall using a larger population of alcoholics from many care units in Los Angeles County.
2. Compare alcoholics receiving treatments against alcoholics not receiving any form of help, that is alcoholics found on street corners.
3. Do a nutritional analysis of food recall before and after treatment, that is a pre- and post-test of 24-hour food record, and compare results.
BIBLIOGRAPHY


APPENDIX A

TABLE 1

DEMOGRAPHY OF RESPONDENTS
APPENDIX A

TABLE 1

DEMOGRAPHY OF RESPONDENTS

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APPENDIX B

TABLE 2

MEAL PATTERNS, MEALS SKIPPED AND REASONS
APPENDIX B

TABLE 2

MEAL PATTERNS, MEALS SKIPPED AND REASONS

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</table>
APPENDIX C

TABLE 3

PERSON WHO PREPARES THE MEALS
APPENDIX C

TABLE 3

PERSON WHO PREPARES THE MEALS

<table>
<thead>
<tr>
<th>Person who prepares the meals</th>
<th>San Fernando Group (n = 15)</th>
<th>Downtown Group (n = 15)</th>
<th>Total (n = 30)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Mother or spouse</td>
<td>2</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>Relative, friend</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Self</td>
<td>5</td>
<td>33</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>8</td>
<td>53</td>
<td>14</td>
</tr>
</tbody>
</table>

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APPENDIX D

TABLE 4

BALANCED NUTRITION OF DAILY MEALS
APPENDIX D

TABLE 4

BALANCED NUTRITION OF DAILY MEALS

<table>
<thead>
<tr>
<th>Response</th>
<th>San Fernando Group (n = 15)</th>
<th>Downtown Group (n = 15)</th>
<th>Total (n = 30)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Yes</td>
<td>10</td>
<td>67</td>
<td>12</td>
</tr>
<tr>
<td>No</td>
<td>5</td>
<td>33</td>
<td>0</td>
</tr>
<tr>
<td>Don't know</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>
APPENDIX E

TABLE 5

IMPORTANCE OF NUTRITION IN FOOD SELECTION
APPENDIX E

TABLE 5

IMPORTANCE OF NUTRITION IN FOOD SELECTION

<table>
<thead>
<tr>
<th>Response</th>
<th>San Fernando Group (n = 15)</th>
<th>Downtown Group (n = 15)</th>
<th>Total (n = 30)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Yes</td>
<td>14</td>
<td>93</td>
<td>15</td>
</tr>
<tr>
<td>No</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Don't know</td>
<td>1</td>
<td>7</td>
<td>0</td>
</tr>
</tbody>
</table>
APPENDIX F

FIGURE 1a: DIETARY INTAKES OF ALCOHOLICS ON 3 DAY RECORD

FIGURE 1b: DIETARY INTAKES OF ALCOHOLICS ON 3 DAY RECORD
Figure la: Dietary Intakes of Alcoholics on 3 Day Record

- San Fernando Valley Male
- San Fernando Valley Female
- Downtown Los Angeles Male
- Downtown Los Angeles Female
Figure 1b: Dietary Intakes of Alcoholics on 3 Day Record

- San Fernando Valley Male
- San Fernando Valley Female
- Downtown Los Angeles Male
- Downtown Los Angeles Female
APPENDIX G

QUESTIONNAIRE
APPENDIX G

QUESTIONNAIRE

1. Sex:  
   a. ___ Male  
   b. ___ Female

2. Age:  
   a. ___ 15 to 18  
   c. ___ 23 to 26  
   b. ___ 19 to 22  
   d. ___ over 26

3. Marital Status:  
   a. ___ Single  
   b. ___ Married  
   c. ___ Divorce

4. How many times do you eat per day?  
   a. ___ 1 time  
   b. ___ 2 times  
   c. ___ 3 times  
   d. ___ More than 3 times

5. If you skip a meal or meals, which meals do you usually skip?  
   a. ___ breakfast  
   b. ___ lunch  
   c. ___ supper  
   d. ___ none

6. Why do you skip meals?  
   a. ___ not hungry  
   b. ___ do not have time  
   c. ___ no one to fix it  
   d. ___ other

7. Who prepares the meals when you eat?  
   a. ___ mother or spouse  
   b. ___ relative or friend  
   c. ___ self  
   d. ___ other

8. Do you think that the food you eat each day gives you a nutritionally balance diet?  
   a. ___ Yes  
   b. ___ No  
   c. ___ don't know
9. Do you think that nutrition is important and should be considered in food selection?

a. _____ Yes

b. _____ No

c. _____ don't know
APPENDIX H

FOOD INTAKE RECORD X 3 DAYS
APPENDIX H

FOOD INTAKE RECORD X 3 DAYS

<table>
<thead>
<tr>
<th></th>
<th>BREAKFAST</th>
<th>LUNCH</th>
<th>DINNER</th>
<th>SNACKS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DAY 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DAY 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DAY 3</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Amount of each food consumed will be recorded during the interview.