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A COMPARISON OF THE GENEALOGY OF HOSPITALIZED WHITE MALES
WITH A PRIMARY DIAGNOSIS OF SUBSTANCE ABUSE AND
A CONTROL GROUP OF HOSPITALIZED WHITE MALES
WITH A PRIMARY DIAGNOSIS OF A MEDICAL-SURGICAL CONDITION
AND NO HISTORY OF SUBSTANCE ABUSE

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ABSTRACT

The purpose of the study was to compare the genealogy of hospitalized white males with a primary diagnosis of substance abuse with a control group of hospitalized white males with a primary diagnosis of a medical-surgical condition and no history of substance abuse. Substance abuse was defined as the abuse of either drugs or alcohol. The study included private interviews with thirty-five 30-65 year old white males hospitalized at St. Mary's Medical Center with no history of personal substance abuse to determine the existence of substance abuse in the primary and secondary relatives of this group with a comparable age group of white males hospitalized at St. Mary's and Peninsula Hospitals for substance abuse. Additional demographic information such as age, religion, marital status, birth order, occupation and educational level was used in comparing the two groups.

During the personal interviews each participant had a family tree diagram of primary relatives and a list of clues that if present could be indicative of substance abuse for that relative. A uniform question was asked of each participant regarding the perception of substance abuse in each relative. Answers regarding substance abuse of a relative were categorized as yes, no, uncertain or no knowledge.

Theoretical perspectives of Minuchin, Selye and Neuman were used to provide a frame of reference for the research. Alcoholism whether treated as a symptom or an illness is a family disease. The role of stress in substance abuse is not clearly identified at this point, but the

best approach to treatment seems to be a holistic one that includes the family and environmental factors.

Chi-square was used to analyze the data. The null hypotheses compared the relatives, education, marital status, age, birth order, socioeconomic status (SES) and religion of the hospitalized abuser and hospitalized nonabuser.

The study revealed that alcoholism occurs more often in individuals who have family histories of the disease. First- and second-degree relatives of abusers had a higher incidence of abuse than relatives of nonabusers. The male relatives of both groups were more often affected than the female members.

Marriages were found to be less stable in the patients who were abusers. The age of the substance abuser was slightly younger at the time of admission to the hospital than the nonabuser. The socioeconomic status for the groups did not vary significantly, but using Hollingshead's classification system of education and occupation most patients in both groups were in the two lower socioeconomic groups. Birth order or education did not make a statistically significant difference with either group. As would be expected in this geographic region, most patients were Protestant and more specifically Baptist, but religion did not appear to be an important part of either group's lives.

Nursing implications of the study include greater emphasis on a holistic approach to care of the substance abuser while being aware of the important demographics and familial dynamics related to the disease of substance abuse.

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CHAPTER I

INTRODUCTION

Substance abuse includes the harmful use of alcohol or prescription and nonprescription drugs. Substance abuse and chemical dependency are fairly new terms and most of the early literature dealt entirely with the problems related to alcoholism. Although drug abuse may have been as prevalent, it has only recently received the same attention as alcoholism. Substance abuse in our society is widespread and has serious implications for the health practitioner, but empirical research examining the origins, causes, and development of substance abuse is a relatively new phenomenon. Previously, we have dealt with assumptions, prejudices, and myths (Milt, 1976). Substance abuse in most health care circles at least has been moved from a sin to an illness.

Records related to the extent of the substance abuse problem among the population are anecdotal, but most figures show a high incidence of abuse. The effect of substance abuse on health and the attendant economic cost to the public have commanded increasing attention. The creation of federal agencies such as the National Institute on Alcoholism and Alcohol Abuse has contributed a great deal to advancing the knowledge of substance abuse and its consequences. While this bureaucracy has grown in the interest of health and has facilitated the support of scientific studies, others have viewed it as a control measure, personal invasion of privacy and having echoes of the temperance movement (Mendelson & Mello, 1985).

Statement of Problem

The purpose of this study was to compare the family histories of patients who are known substance abusers with those patients hospitalized in a general hospital who have never received treatment for substance abuse and deny having a substance abuse problem.

Additionally, the two groups were compared in terms of age, birth order, religion, marital status, education and socioeconomic status (SES). The ultimate goal was to determine patterns in family histories that would help to identify individuals who are at "high risk" for becoming substance abusers. Such individuals could then receive preventive education, and/or early intervention.

Nominal Definitions

Substance Abuse: The use of alcohol or drugs to the extent that they adversely interfere with one's life.

Primary Relatives: Parents or siblings, sometimes referred to as first-degree relatives.

Secondary Relatives: Grandparents, uncles and aunts, sometimes referred to as second-degree relatives.

Inebriate: An individual who is drunk.

Inebriety: A state of intoxication.

Proband: Refers to the alcoholic subject used in studies.

Assumptions

The researcher assumed the patients were cooperative and honest to the best of their abilities in answering the questions regarding their own problems or lack of problems related to substance abuse and in identifying relatives with substance abuse problems.

Limitations

The study had two major limitations. The first limitation was the difficulty in defining substance abuse adequately so that patients would be able to make decisions regarding relatives. The difficulty in making decisions regarding relatives existed even though all patients were given a list of clues to help determine substance abuse. The patients admitted for treatment of substance abuse were the most informed and perhaps even more likely to recognize the disease in a relative or to answer more honestly.

The second limitation was that all data were collected from patients, requiring memory and judgment on their part; no attempt was made to validate data through a secondary source. However, the majority of studies which examined family histories of substance abusers relied on self-report data. These data have been demonstrated to be reliable by several researchers (see pp. 34-37 for further discussion).

Historical Perspective

The ambivalence about the good and dangerous effects of alcohol has persisted in art, literature, science and philosophy throughout the

ages (Mendelson & Mello, 1985). We celebrate many of the best events in life such as births, weddings, and good fortune with a drink as a toast. Inconsistent and contradictory effects of intoxication have been chronicled in many legends both as a benefactor and malefactor (Mendelson & Mello, 1985).

The use of alcohol goes back almost to the beginning of recorded history. The brewing of beer was described in ancient Babylonian tablets. The Egyptians were known to be consumers of wine and the Chinese were adept at distilling (Halpern & Davis, 1983). Actually people realized a practical value from the use of fermented juices. Fermented juices would keep where others would not, and people suffered fewer illnesses if they drank more of the fermented juices and less water or other beverages.

The extent of alcoholism is unknown in colonial America, but it is known that beer accompanied the pilgrims who sailed on the Mayflower and remained a favorite beverage of the colonists. Cider, wine and beer also became favorite drinks and required the growth of apples, grapes and hops as well as the production of sugar which was beneficial to the early economy. The religious Puritans believed alcohol was God's gift to man, because it was used in so many medicinal ways. The many virtues of alcohol were accepted on biblical authority, while the evils of inebriety (drunkenness) were deplored by the clergy and penalized by the law (Mendelson & Mello, 1985).

Despite the use of alcohol related to celebrations and happy times, it also has been recognized as a substance that is likely to be abused

by some individuals for reasons that have not always been understood. Despite early acceptance by the Puritans, studies show that they made an important distinction between drinking and drunkenness. Increase Mather's succinct pronouncement: "The wine is from the Devil" echoes the ambivalence expressed by the early colonists (Mendelson & Mello, 1985). Early on punishments were announced and actually inflicted on individuals for drunkenness. The strict sanction on intoxication was controlled in some early colonies by having a tithingman who was commissioned to oversee approximately ten families and to report any liquor infractions to the minister. Other measures used to control alcohol were the hours of sale. Liquor could not be sold after 9:00 p.m., during the hours of worship or during the entire Sabbath. Additionally, many legislatures prohibited the sale of intoxicants to special groups such as servants, apprentices, slaves, American Indians, debtors and habitual drunkards (Mendelson & Mello, 1985). Certainly the control of the use of alcohol for economics, as well as moral purposes, was an early and pervasive concern. Licensing was soon adopted as a means of control, and many statutes were clearly intended to encourage innkeeping, brewing and distilling. This blatant method incurred increased revenue, encouraged travel and allowed prominent citizens to be involved in the productive business. Tavern owners were socially prominent members of their communities often securing a license to run a public house at the end of a long career in public services.

The Revolutionary War helped to popularize another distilled spirit, whiskey. The commercial value of whiskey as a competitor of rum was

realized and in the Appalachian areas whiskey became a preferred way to use surplus grain. The mountaineers found that whiskey traveled well over the rough mountain roads and could be bartered much easier than grain. An account of a voyage of the USS Constitution in August 1779 which set sail from Boston illustrates some prevailing patterns of alcohol use:

She left with 475 officers and men, 48,600 gallons of fresh water, 7,400 cannon shot, 11,600 pounds of black powder, and 79,400 gallons of rum on board. Her mission was to destroy and harass the English shipping. (Mendelson & Mello, 1985, p. 16)

By 1790, colonial America seemed to have lost its innocence. Alcohol consumption had increased for each adult to nearly six gallons a year, which is more than twice the estimated level of consumption in America today. Alcohol abuse began to be denounced as a cause of poverty and disease. Benjamin Rush, an American physician educated at Princeton, London and Paris, was considered the father of the American Temperance Movement. He was one of the first to label alcoholism a disease and enumerate the symptoms of tolerance and alcohol withdrawal that form the basis of the syndrome of alcohol dependence (Mendelson & Mello, 1985).

Following the Civil War, opium addiction was identified as a major problem. Synthetic morphine was developed in 1832 and was used extensively for relief of pain both during the war and for many other ailments like diarrhea, dysmenorrhea, and even as an additive to the afternoon tea. It also became part of tonics, elixirs and patent medicines combined with alcohol and cocaine. Until 1903, cocaine was an

active ingredient in Coca-Cola. Cocaine was recommended for gastric distress, cachexia, asthma, as an aphrodisiac and a local anesthetic.

According to Mendelson and Mello (1985), the majority of the opiate addicts in the nineteenth century were women between the ages of twenty-five and forty-five. The female addicts included domestics, teachers, actresses, prostitutes, nurses, doctors' wives and society ladies. The explanation for this special vulnerability of these women was their frequent treatment by a physician for a "female complaint" like dysmenorrhea or other gynecological disorders. Early addiction among women may have been higher than in men due to their preference of drugs over alcohol related to the social taboos.

The history of the study of alcoholism or the broader subject, substance abuse, is rather short. Perhaps the greatest impetus was given with the establishment in the early 1940's of the Yale Center of Alcohol Studies and the Quarterly Journal of Studies on Alcohol (Milt, 1976). Prior to this time little was known about alcoholism and there were many assumptions and myths. With the advent of some scientific investigations, alcoholism would eventually be taken out of the realm of morality and placed in the realm of medicine. In 1960, Dr. E. M. Jellinek, a leader and one of the founders of the Yale Center, conceived the idea of the disease concept of alcoholism which he attempted to document through the available scientific evidence that alcoholism was not only a physical illness but also a physical addiction (Milt, 1976). An important facet in documenting alcoholism as a disease was that it would no longer be labeled a moral sin. Progress had been slow in

coming and only in 1956 did the American Medical Association classify alcoholism as an illness (Milt, 1976).

Where does substance abuse start? Many people have said with the first drink or the first use of drugs. Other arguments would attribute the problem totally to lack of a strong moral character while another group believes there is a hereditary predisposition to substance abuse. Certainly, it has become increasingly evident that the substance abuse problem has crossed all geographic and socioeconomic boundaries, reaching the very affluent and very young. It is no longer viewed as a problem of the deprived nonwhite ghetto resident but as a problem of society as a whole (National Institute on Alcohol Abuse and Alcoholism, 1983).

The etiology of substance abuse is complex and continues to be debated. Both Vaillant (1986) and Babor (1986) have pointed out cultural differences in substance abuse patterns, but both concede that the concept of culture may have many definitions and is therefore difficult to operationally define and research. Work by Cotton (1979) has given much credence to substance abuse being a familial disease. Schuckit (1982b) would like to go a step further and isolate a genetic marker that would identify substance abusers or those people who are at high risk. Kaiz (1960) who pioneered in twin studies provided some of the best evidence for the importance of environment on drinking behaviors. In his estimation, all the genetic influences fell far short of explaining all the variances in the studies. Cook and Winokur (1985) who studied the familial background of alcoholics, found differences in

the behavior of alcoholics with a positive and negative background and concluded that the familial differences in alcoholism rest with a family history of antisocial personality disorder.

Importance of Study

This study was important because substance abuse is a major social and health problem in our society today. The abuse of legal as well as illicit drugs and alcohol is extensive in the United States. According to the National Institute on Alcohol Abuse and Alcoholism, approximately 9.3 to 10 million adults or 7% of the total adult population in the United States have an alcohol problem (National Institute on Alcohol Abuse and Alcoholism, 1983). Approximately two out of every three Americans over 21 years of age drink (68%), and about one out of three abstain. More men drink than women. The percentage of drinkers is highest for those in the highest socioeconomic bracket (83%) and lowest for those in the lowest bracket (52%) (Milt, 1976). The National Institute on Drug Abuse estimates that during 1977 almost 5 million Americans used cocaine and one-half million used heroin for nonmedical reasons. The nonmedical use of stimulants, tranquilizers and sedatives by young adults aged 18-25 has been estimated to be 18%. No group has escaped the disease of alcoholism and certainly not the health professionals. Alcoholism is the most common serious illness likely to affect a professional in the first fifteen years after completing graduate education. Assuming that professionals are at the same risk as other Americans who drink, roughly one in ten males and one in twenty females will be

alcoholics or experience serious drinking problems (Bissell & Haberman, 1984). In an eight-year study of disciplinary actions of registered nurses by the Tennessee Board of Nursing, 93% involved substance abuse (Elliott & Heins, 1984).

Alcoholism is present in one-fourth of the patients admitted to general hospital medical services, and the estimated costs of alcoholism in the United States are greater than costs from all cancers and respiratory diseases combined. Like all chronic diseases, alcoholism leads to multiple problems such as hospitalization for this and associated problems and often leads to premature deaths. The untold and unmeasured suffering and loss of productivity to society is perhaps unmeasurable. But alcoholism does differ from most chronic illnesses in that it has a largely uncharted course and much remains to be learned (Vaillant, Clark, Cyrus, Milofsky, Kapp, Wulsin, & Mogiednicki, 1983).

Uniqueness of the Study

This study was unique in that substance abuse was defined as the abuse of any drug and in the inclusion of both abusers and nonabusers in the sample. In the early literature, the problem focused entirely on alcoholism, and virtually all studies of familial tendencies were done on alcoholics. These studies did not compare the family genealogy of a hospitalized abuser with the genealogy of a hospitalized nonabuser. Very little research has been done with substance abuse patients by nurses, and none was identified that looked at hospitalized non-substance abusers as a control group. To make any generalizations

regarding the importance of the family history of substance abusers, data must be available to compare the family history of individuals who, for whatever reason, have not become substance abusers. This study was also unique in the fact that it included a group of nonabusers who had potentially experienced significant stress since they were all hospitalized on medical-surgical units, many for chronic debilitating illnesses.

Theoretical Framework

Theoretical perspectives of Minuchin, Selye and Neuman were used to provide a reference for the research (Jones, 1980; Neuman, 1980; Selye, 1976). Alcoholism, whether treated as a symptom or a disease, has long been considered by both researchers and clinicians to be a familial disorder. Minuchin would avoid the linear model which links the individual's life situations to his bodily illness in a causal chain with the illness construed as within the individual. In such a linear model, treatment centers totally on the individual. Work by Minuchin and others has focused on the family in an open system model, so that the patient can be treated in the broader context of a family (Minuchin, Baker, Rosman, Liebman, Milman, & Todd, 1979). A family approach to assessment and treatment seems essential in alcoholism.

The role that stress plays in alcoholism is unknown, but it certainly can be considered as significant in this condition, as in all other situations where the body is in a continuous state of adapting. Selye's (1975) General Adaptation Syndrome indicates that stress is ever-present and is reflected by the rate of wear and tear caused by daily

living. Certainly the abuse of any chemical substance has the potential of producing or increasing stress in the individual as well as the family.

Betty Neuman (1980), a nurse theorist, uses a Gestalt approach in considering individuals and their relationship to their environment, recognizing the individual as an open system readily influenced by stress. The individual is not seen as an isolate but as part of a total family system, both affecting the system and being affected by the system. Certainly all of this is consistent with the unquestionable statistics that indicate a familial relationship in alcoholism. Neuman believes stressors can be intrapersonal, interpersonal and extrapersonal environmental forces that disrupt a system's stability. People do develop protective mechanisms, therefore adapting or reacting to stress differently. This protective mechanism may help to explain some of the variabilities in alcoholics. Neuman's lines of defense may be useful in examining who develops the disease and who does not.

CHAPTER II

REVIEW OF THE LITERATURE

Definition of Substance Abuse

Substance abuse takes many forms and the origin of the problem remains obscure. No single factor has been found to predict why some people develop abuse problems and others do not. Alcoholism and drug abuse are not unique in posing difficulties for identifying critical antecedents. To date psychiatric research has not been able to identify a single cause, either external or internal, that can explain the process of disordered behaviors (Mendelson & Mello, 1985). The search for a cause or causes of substance abuse continues in order to predict who is at high risk for developing the problem. Certainly the identification of a predisposing factor or an "at risk population" could lead to more effective techniques for prevention or treatment (Mendelson & Mello, 1985). If the discovery of a single biological factor or a pattern of disruptive early life experiences were found to predict the risk for substance abuse, then efforts could be made to modify these targeted areas. Knowledge of cause of substance abuse could give more specific direction for treatment.

The emphasis of theorists is frequently dependent on their scientific training. For instance, some authorities believe substance abuse reflects characteristics that are unique to the individual or a genetic disposition to abuse. Others take a more global approach and give social factors primary importance (Mendelson & Mello, 1985).

During the past generation, much effort has been committed to questioning or proving the safety and/or dangers of certain substances in regard to the individual directly or society indirectly. Einstein (1985) makes the following assumptions:

Genetic aspects of drug abuse is a specious, limited, and limiting combination of concepts and words. It is specious in that it seductively permits professionals and the public at large to focus only upon certain substances (dangerous drugs) used in certain ways (illegally/nonmedically), by certain types of people (drug users/addict personalities). (Einstein, 1985, p. 771)

Einstein believes the concern is with the implications of the interface of drugs, genetics and man. These implications include such areas as ethics, policies, treatment, prevention, research, training and politicalization. This broad approach probably carries much merit and is more recently being given consideration.

The behavioral diagnosis of alcoholism, developed over the past 20 years by faculty at Washington University in St. Louis, is the concept that alcoholism, or alcohol abuse, is characterized by the appearance of adverse consequences or problems directly related to the elective use of alcohol; these consequences are evident in multiple areas of a person's life. In their paper on psychiatric diagnosis, alcoholism was defined as involving a problem in two or more of four natural groupings of symptoms which constitute four different life areas:

1. biomedical complications
2. control, or loss of control, of the use of substance abuse drugs
3. psychological complications

4. subjective opinions of significant others

The diagnosis of alcoholism has not been easy, and many different methods have been used. The most recent attempts to provide reliable and valid means of clinically separating alcohol abuse from alcohol dependence have resulted in the DSM-III diagnostic criteria (American Psychiatric Association, 1980). The DSM-III diagnosis of alcohol dependence requires either a pattern of pathological alcohol use (inability to stop, binges or blackouts) or impairment of social or occupational functioning and either development of tolerance to increasing amounts of alcohol or withdrawal symptoms after drinking.

Another problem in the study of alcoholism is that the definition varies among investigators. Some investigators have limited their studies to primary alcoholism for fear that secondary alcoholism results from psychiatric problems which may be genetically and behaviorally heterogeneous, making it more difficult to discern any genetic pattern that might be present.

Half of the alcohol drunk in America annually is consumed by 10% of the population, and these heavy drinkers have a high risk of social and medical complications. Psychiatric disorders often precede the onset of alcohol abuse, but such secondary alcoholism differs in its clinical picture from primary alcoholism, which occurs in the absence of preexisting psychiatric illness. For example, alcohol abuse in antisocial personality begins in the teenage years, but nevertheless progresses less often to physical dependent with signs of withdrawal than does

adult-onset of primary alcoholism (Schuckit, Li, Cloninger & Dietrich, 1985).

The Question of Etiology

In an early anecdotal study (1873), medical temperance writer Auguste-Henri Forel, a professor of Mental Disease at the University of Zurich, reported that the majority of men were ignorant of the simple truth that alcohol in any form is a poison and causes pathological changes in the body tissues, primarily in the reproductive system. He speculated that the offspring of alcoholics were especially disposed to mental degeneration and excessive drinking. He did not consider natural selection as did Darwin but attributed the damage to the injured germ cell (Crowe, 1985). Forel was also known for the theory that alcohol use transmitted an "irresistible craving" for alcohol to the progeny (Crowe, 1985). Forel was not alone in his belief in the nineteenth century but was supported by Benedict Augustin Morel and Dom. Bezella, a Swiss physician (Crowe, 1985). In England the Society for the Study of Inebriety continued to turn to the debate on heredity, and Dr. Archdall Rein made the radical suggestion that the congenital inebriate should not be encouraged to drink himself to death, but rather should eliminate himself by not marrying (Alcoholism, Genetics and Society, 1984).

A number of early American authors also supported the hereditary theory. F. C. Meyers in 1898 wrote that heredity is the cause of the disease "alcoholism" and that derangements of the brain, nervous

system, morals and willpower, and organs such as the liver and stomach will be transmitted to offspring (Crowe, 1985). This was a period of moralism, and very little evidence was ever offered to support these beliefs. Occasionally some anecdotal records were used in the reports. Eventually the inconclusiveness of the studies and the advancement of genetic knowledge allowed for the consideration of other hypotheses.

Research into alcoholism has been historically limited by the impression of both the general public and scientists that alcoholism is an "undesirable" subject for study. Twenty years ago the theory that alcoholism might be genetically influenced was likely to be met with ridicule, and few scientific studies were being done to search for genetic factors that would increase the risk of alcoholism. But the pendulum has swung again and the 1970's and 1980's have seen an explosion of twin studies in Finland and Sweden, nontwin and adoption studies being reported in the literature. According to Murray, Clifford, and Curling (1983), research in this area is still in its infancy, and studies have suffered from limitations in methodology. At present there are 18 laboratories studying some type of population at high risk for alcoholism (Schuckit, 1985b). The search for genetically influenced vulnerabilities to behavior problems is a major task. This is especially true for behavioral characteristics where there is usually an exceptionally long time between gene action and a subsequent illness which may eventually interact with environmental factors (Schuckit, 1985). The complex interaction between genotype and environment makes it difficult to determine cause and effect. Certainly for many years associations

between alcoholism and such factors as a broken home and child abuse have been explored, based on the assumption that adult drinking problems were a consequence of the childhood environment.

Recently new studies have asked whether both childhood environmental problems and alcoholism might be related to a third factor (Schuckit, 1985a). The consistent result has been that both relate to the presence of an alcoholic biological parent whose active drinking increases the likelihood of a marital breakup, enhances the possibility of early parental death from alcohol-related problems, may increase the likelihood of physical abuse in childhood, and markedly enhances the risk of future alcoholism.

Evidences of a Familial Disease

There is little dispute that substance abuse runs in families (Finley, 1983; Francis, Bucky & Alexopoulos, 1984; Mendelson & Mello, 1985; Milt, 1976; Vaillant & Milofsky, 1982). One parent with a substance abuse problem increases the risk in the child for substance abuse, and this risk is increased significantly if both parents are abusers. Cotton (1979) found that alcoholics were six times more likely to have alcoholic parents than were members of the general population. In 1945, Dr. Jellinek summarized the results of studies which included 40,000 alcoholics and found that 52% of these subjects had one or two alcoholic parents (Milt, 1976).

As early as 1944, E. M. Jellinek was asked the following question, "Sir, you referred to a sample of over 4300 inebriates of whom 52% came

from alcoholic parents. What was the extent of alcoholism of the parents?" Replied Jellinek, "The alcoholism of those parents was real honest to goodness inebriety, but this does not mean the alcoholism was transmitted biologically. It was transmitted socially" (Goodwin, 1983). Even very early Jellinek recognized that alcoholism ran in families, but he was equally as impressed by how many families in which it did not occur. Even with the fashionable concept for a while that alcoholism was hereditary, Jellinek remained ambivalent. A later significant statement made by Jellinek,

the only permissible conclusion is that not a disposition toward alcoholism is inherited but rather a constitution involving such instability as does not offer sufficient resistance to the social risk of inebriety. (Goodwin, 1983, p. 60)

Of course the debate has continued and many studies have been conducted with both human and animal subjects to attempt to determine the etiology of substance abuse. But in most every case reported in the literature, the studies have dealt with alcoholism as the substance abuse drug. Numerous studies indicate the increased vulnerability of offspring of alcoholics to also become alcoholics.

The most striking findings in a study conducted by Bissell and Haberman (1984) of alcoholic and nonalcoholic health professionals showed that the alcoholics were more likely than nonalcoholics to have an alcoholic father, mother, sibling or distant relative. Alcoholism was more prevalent in male relatives, in the families of female alcoholics, and in near relatives than in distant relatives.

Cotton's (1979) review of studies over a 40-year period led her to conclude that an average of almost one-third of any sample of alcoholics

had at least one parent who was an alcoholic and that the incidence of problem drinking was much higher in the families of alcoholics than in those of nonalcoholics. Although this alone is not sufficient to determine whether alcoholism is of a genetic or environmental etiology, the presence of familial drinking may be useful to identify individuals at risk for early development of alcohol abuse. This information could be useful in early detection or prevention programs.

Twin and Adoptee Studies

Schuckit (1985a) reported that family studies showed an alcoholic parent for 31% of the alcoholics versus 12% for other psychiatric patients, 7% for schizophrenics and 5% for controls. In twin studies, concordance for alcoholism is usually 55% or more for monozygotic twins and 28% for dizygotic twins. Adoption studies show alcoholism is four times higher in adopted-out sons and daughters of alcoholics than controls.

According to Schuckit (1985a) the genetic vulnerability toward alcoholism is supported by evidence from family, twin and adoption studies. Schuckit reports from his and other studies that the familial nature of alcoholism has been documented for the past 100 years. It has been demonstrated that the risk does increase with the number of relatives and the genetic closeness of those relatives. However, familial tendencies do not prove that the condition is genetically influenced.

Several studies of twins and adopted children have been conducted in an effort to show a genetic as well as a familial predisposition to

individuals who have primary or secondary relatives who are alcoholics (Cook & Winokur, 1985; Cotton, 1979; Goodwin, 1984; Schuckit, 1985b). Studies have shown that adopted away children of alcoholics to nonalcoholic families are at a four times higher risk for alcoholism than a controlled population. Twin studies indicate that identical twins of alcoholic parents have a 60% chance of becoming alcoholics compared to a 30% chance of fraternal twins with alcoholic relatives (Schuckit, 1985). Schuckit considers both familial and genetic factors of importance in the development of alcoholism. He also contends that the genetic or familial relationship is more important than living in close proximity to the alcoholic.

Comparing the lifelong prevalence of alcoholism in the relatives of alcoholics to that of the general population, the risk is decreased twofold in second-degree relatives, fourfold in first-degree relatives and tenfold in monozygotic twins (Schuckit et al., 1985). The close association between degree of genetic relationship and concordance for alcoholism suggests the importance of genetic factors in the etiology of alcoholism.

The Stockholm Adoption Studies provided a well-defined population in which there has been no selection among adoptees for particular types of parents of children. The subjects were 862 men and 913 women of well-known paternity who were adopted at an early age by nonrelatives. The average placement age was eight months with all final placements by three years. By Swedish practice at that time neither the adoptee nor the adoptive parents were informed about the

identity or behavior of the biological parents. Alcoholism was significantly higher in the 268 adopted-out sons of alcoholics (22.8%) than for the 571 sons of nonalcoholic parents (14.7%). In addition, twice as many of the 32 adopted-out sons of alcoholics' biological mothers were alcohol abusers as were the 571 sons of nonalcoholic parents. The only significant risk that seemed to occur from adoptive parents was low occupational status of the adoptive fathers. Adoptive fathers with unskilled occupations provided a milieu associated with a genetic risk of alcohol abuse for both their sons and daughters (Schuckit et al., 1985).

Others doing studies of twins and adoptees suggest that genetic factors are at least, in part, responsible for some familial resemblances in drinking behavior. Gabrielli and Plomin (1985) studied 346 adult subjects in Colorado made up of twins, nontwin sibling pairs and pairs of unrelated adoptees reared together. The analyses suggest that some alcohol-drinking behaviors may be genetically influenced. According to the conclusion of this study for both amount and rate of alcohol consumption, genetic variance appears to be important although it probably operates in a nonadditive manner so that it contributes more to differences than similarities between first-degree relatives. The researcher suggested that, although it appears unlikely, there may be a special common environment for identical twins that is not present for fraternal twins, nontwin siblings or unrelated adoptees reared together.

Goodwin (1984) discusses his own Danish adoption studies in relation to familial and nonfamilial alcoholism. The results of his studies

showed sons of alcoholics were about four times more likely to be alcoholics than were sons of nonalcoholics regardless of whether they were raised by nonalcoholic foster parents or their biological parents. Goodwin believes "familial alcoholism" may be a valid diagnostic category and should include at least three of the following features:

1. A family history of alcoholism. If an alcoholic reports having one close relative who is an alcoholic, he usually reports two or more.
2. Early onset of alcoholism. Five separate studies have reported that younger alcoholics more often have alcoholic relatives than do older alcoholics.
3. Severe symptoms, requiring treatment at an early age. In Kaij's (1960) study of identical twins in Sweden, he found the concordance rate for alcoholism in the subjects rose as a function of the severity of the alcoholism. Several studies indicate a more severe increase in familial alcoholism and a worse prognosis following treatment.
4. Presence of conspicuous psychopathology. Hyperactivity and conduct disorders appear more in familial alcoholics than in nonfamilial alcoholics.

Even though all these data regarding twin and adoption studies tend to suggest that familial alcoholism represents a separate diagnostic entity, in Schuckit's (1985b) opinion the results are not conclusive. In a great majority of the cases where there was an alcoholic father, one cannot be certain that the enhanced alcoholism risk in the offspring came from the

passage of genetic material. In most cases it is difficult to separate the effects of genetics and environment. Others have considered assortative mating as a contributing factor magnifying the psychosocial problems that may exist with alcoholics. A study by Kaij and Dock (1975) demonstrated that men with alcoholism are more likely to marry women with psychiatric disorders and that most alcoholic women marry male alcoholics.

Animal Studies

Even in twin and adoptee studies, many variables cannot be controlled. The number and complexity of the environmental and genetic influences in response to ethanol make it difficult to use human volunteers in studying the acute and chronic actions of alcohol. Additionally, there are many ethical considerations in conducting human research. Consequently, primates and rodents are being employed extensively due to better control and more accurate assessment of alcohol-related phenotypes. Certainly, for awhile the animal model will play a major role in the genetic research due to the ability to control the variables (Peterson, 1983). The goal from animal studies is to discover markers for prediction of which individuals are likely to be severely affected by acute doses of alcohol or are likely to become alcoholics. A study by Erwin (1985) using rats concluded that the acquisition of tolerance to alcohol is subject to both environmental and genetic influences and that the acquisition of acute tolerance is phenotypically

correlated with voluntary ethanol consumption in mice, but the extent to which tolerance is genetically influenced remains to be determined.

A Search for a Genetic Basis

Schuckit's (1985b) study described a search for genetically mediated biological factors that contribute to a predisposition toward alcoholism. Healthy nonalcoholic men aged 21-25 with a familial alcohol history (FHP+) were matched with a lower risk control family history negative (FHN-) on demography, drinking and smoking history, and height and weight ratio. A comparison of the higher and lower risk populations revealed no significant difference on selected personality attributes. Despite the same intake of alcohol, the FHP+ developed higher levels of the first breakdown product of ethanol, acetaldehyde, but demonstrated less signs of intoxication than the FHN- controls despite identical blood alcohol concentration. In this same study, Schuckit identified some possible markers for study in populations at high risk for future development of alcoholism. These are: (1) altered brain functioning, (2) vulnerability toward psychiatric illness, (3) personality style, (4) ethanol metabolism, (5) reaction to ethanol and (6) predisposition to identifiable consequences. While high-risk studies are in their formative years and no definitive traits or vulnerability markers have yet been established, studies are being conducted in all of these areas and have a unique pattern of assets and liabilities.

In a study by O'Malley and Maisto (1985), the effects of family drinking history and expectancies on responses to alcohol were studied

in male nonproblem drinkers. A total of 24 subjects with a positive family history of parental alcoholism (FH+) were compared with a matched controlled group with negative family history of alcoholism (FH-) on their responses to drinking either a placebo beverage, a low dose of alcohol or a high dose of alcohol. The results of this study extended previous research by Schuckit (1982b) and showed the FH+ subjects felt less intoxicated than the FH- subjects despite comparable blood alcohol levels. The FH+ perceived their level of intoxication to be less, and this factor may indicate that they do not receive the same danger warnings as the FH- of being intoxicated and therefore continue to drink more.

As early as 1975, Kaiz and Dock studied the occurrence of alcoholism and alcohol abuse in the grandsons of alcoholic men as compared with those of alcoholic women. With alcoholism and alcohol abuse 5-30 times as common in men as women, the hypothesis in the study was that grandchildren of an alcoholic man who carry his X chromosomes, i.e., the sons of his daughters, would show a higher frequency of alcohol addiction and alcoholism than those who carry his Y chromosomes, i.e., the sons of his sons. The results indicated a threefold risk through the fifth decade of life for grandchildren of alcoholics to be identified for alcohol abuse at least once. These results are incompatible with the assumption of a recessive gene being of decisive importance in the transmission of alcohol abuse and alcoholism as defined for this study. On the other hand it is compatible with the assumption of a dominant gene. This study did not uphold the hypothesis of a sex-linked gene.

Primary and secondary alcoholism were differentiated by Schuckit (1984) in order to improve the methodology in a study of the relationship between the course of primary alcoholism in men and family history. Four hundred fifty-three subjects were interviewed regarding family history of alcoholism, and each gave two relatives who could also speak to the family history. These identified relatives were either interviewed in person or by telephone. After secondary alcoholics were excluded, the data still revealed more early life problems and alcohol-related difficulties in patients with first-degree alcoholic relatives. However, it was not proven that sons of alcoholic mothers might carry a greater risk for alcohol-related problems or psychiatric symptoms than sons of alcoholic fathers. The only apparent unique attribute of the sons of alcoholic mothers was their significantly elevated rate of drug use. One explanation for the increased rate of drug use comes to mind. Other studies have demonstrated that women alcoholics may be more likely than their male counterparts to misuse antianxiety medication, hypnotics and stimulants, perhaps because these drugs are frequently prescribed for alcohol-related complaints of anxiety, insomnia and lethargy. The rate of alcoholism among patient siblings indicates that the risk of alcoholism in children of two alcoholic parents is higher than the risk in children of one alcoholic parent. The alcoholism rate for brothers increases if the father is an alcoholic, but the sister's chances of being an alcoholic do not vary with the sex of the alcoholic parent. More than 25% of the men who reported no alcoholic parent or sibling did have an alcoholic second-degree relative. This finding may

indicate a genetic relationship since the absence of alcoholism in the first-degree relative does not guarantee that the subject is without a genetic predisposition for the disorder.

Environmental and Psychosocial Factors

The evidence that the etiology of alcoholism is directly related to genetics or familial history has not been totally accepted by everyone. Vaillant and Milofsky (1982b) in studying the cultural factors in etiology of alcoholism did a follow-up of the original sample of 456 early adolescents studied by Glueck between 1940-1963 as a control group for their study of juvenile delinquents. Of the 400 surviving to the age of 40, Vaillant and Milofsky found that 110 met the criteria for alcohol abuse. Seventy-one (18%) of the original 400 met the DSM-III criteria for alcohol dependence, and 70 men manifested seven or more problems on a more sociologically oriented test to identify problem drinkers. Vaillant made an interesting comment that it was the childhood variables to which Freud, not Marx, would have us take notice, meaning that family social class did not correlate as directly with alcoholism as success at working, the absence of emotional problems, and the presence of strengths rather than weaknesses in the childhood environment. But as might be expected, alcoholism was most highly correlated with ethnicity and alcoholism in relatives. Ethnicity was numerically ranked according to the degree to which the parental culture sanctioned drinking and proscribed drunkenness (Vaillant, 1986). Early family use of alcohol, particularly associated with meals and teaching children responsible

drinking habits, generally reduced the incidence of alcoholism, but this is not true in all cultures. Italy which treats wine as a dinner beverage, unlike Ireland, does have a drinking problem with the children.

When 190 male alcoholics with and without family history were compared by Latcham (1985), differences were found in age of onset, ages of presentation and severity of self-reported antisocial behaviors. Patients who had a positive family history (FH+) have been shown to have a younger age of onset, a more severe illness and a poorer prognosis. Latcham considered the limitation of his study to be the self-reporting of family history information from the patient.

Cook and Winokur (1985) compared alcoholics with positive and negative familial alcoholism. Conceding the point that more alcoholism exists in family members of alcoholic probands (individuals) than in nonalcoholics, the study concentrated on the difference in the course of the disease for those persons with a positive familial history (FH+). As in other studies, individuals with positive familial primary alcoholism tended to have an earlier onset, more malignant course and a less favorable outcome.

Stabenau (1985) attempted to generate genetic typologies of alcoholism based on sex, family history of alcoholism and antisocial personality diagnosis of the alcoholic in his or her family. Frequencies of alcoholism were 16-48% for fathers and brothers and 3-20% for mothers and sisters. Antisocial personality in fathers and brothers with alcoholism is present 6% of the time if on one side of the family and 10% if both sides of the family are involved. In this study, as in others,

family data indicated that the familial positive group had family histories more likely to contain relatives with antisocial personality disorders (Merikangas, Lechman, Brigitte, Prusoff, Paula, & Weissman, 1985).

Hennecke (1984) studied stimulus augmenting and field dependence in children of alcoholic fathers. This study of 30 children did confirm that the incidence of stimulus augmenting was higher in the children of alcoholic fathers than in those of nonalcoholic parents. This is important because the augments perceives the stimulus to be of greater magnitude than it really is and is thus highly sensitive to pain. It has been proposed that alcoholics have a biochemical defect in the brain even prior to the use of any sedatives. The reducing effect of alcohol in augments and the consequent relief of discomfort could then be seen as an initiator of an alcoholic's compulsive drinking. Hennecke (1984) found no gender difference in augmentation. If augmentation is found to be premorbid to alcoholism, then further studies are needed to see if women have some kind of protection. The latest figures quote a ratio of 3:1 of alcoholism in men to women (Hennecke, 1984).

A study by Cloninger, Bohman and Sigvardssen (1981) found a gene-environment interaction in alcoholism. They concluded that certain environments tended to promote mild and severe alcoholism in those that were biologically vulnerable, while moderate alcoholism was found to be determined by heredity alone. Less work has been done in comparing demographic characteristics of alcoholics and treatment prognosis, which was the basis for the Frances, Bucky and Alexopoulos (1984) study. This study included 2,215 Navy enlisted men admitted to alcohol

treatment centers between 1972 and 1978. All patients were men and were referred for an evaluation because alcohol abuse had interfered with their work performance, health or conduct. The project intended to discriminate between groups of patients that had no family history related to drinking, had one member of the family who had a drinking problem and a third group which had more than one family member with a drinking problem. Characteristics used to identify relatives with drinking problems were similar to those used by this researcher: (1) marital separation or divorce, (2) being laid off or fired from work, (3) two or more drunk driving arrests, (4) two or more arrests for disorderly conduct or abuse, (5) a physician's statement that alcohol had harmed the person's health. The patient's family history was collected from a self-reported biographical questionnaire. Treatment results were measured on several behaviors over a two-year period. It was found that recovery outcomes worsened with increasing numbers of alcoholic first-degree relatives. The study concludes that familial alcoholism not only predicts a poorer outcome, but also the greater the number of first-degree relatives, the worse the prognosis.

Stabenau (1984) studied 154 male and 54 female volunteer alcoholic patients between January 1979 and June 1981. The study attempted to look at the mechanism by which sex, childhood and adult antisocial behaviors and difference in family history of alcoholism influence the course and consequence of alcoholism. He reported that women begin alcoholic abuse later than men but reached the late stages of alcoholism at about the same age as men. Antisocial personality was significantly

associated with an earlier onset of the disease, but family history did not seem to differentiate between the sexes. It was significant that alcohol use began later in individuals who had a uniliner family history of alcoholism than it did in patients with alcoholism on both sides of the family. In the same context, Lewis, Rice and Helzer (1983) in studying sex, antisocial behavior and family history, found that all of these variables increased the risk of alcoholism, but the presence of antisocial personality increased the risk more than the presence of a family history of alcoholism.

According to Tarter, Alterman and Edwards (1985) hyperactive adolescents are more prone than their nonhyperactive peers to misuse alcohol. In addition, adults in treatment for alcoholism have a higher than expected incidence of documented hyperactivity and minimal brain dysfunction in childhood and adolescence. In tracking the outcome of a college sample of cohorts, Vaillant, Clark, Cyrus, Milofsky, Kapp, Wulsin and Mogiednicki (1983) also found evidence for a rapid tempo in individuals who later became problem drinkers. There is evidence of high sociability as a risk factor for alcoholism. Prealcoholics outwardly appeared aggressive and self-confident. They were also reported to be talkative, expressive, and prone to initiating humor in interpersonal situations. The capacity of the temperament perspective to accommodate as well as to establish vulnerability into a coherent framework to predict alcoholism is not available. How the temperament perspective fits into a framework with other variables to identify high-risk people is lacking at this time.

Hesselbrock, Hesselbrock and Stebanau (1985) examined the effects of antisocial personality (ASP) as a variable that could contribute to the development of alcoholism. In the study, it was found that individuals with ASP had an earlier onset of drinking, became intoxicated at an earlier age and recognized their problem with alcohol sooner than non-ASP subjects. These findings prevailed regardless of family history type. The authors suggested further studies to determine if the increased vulnerability to alcoholism is due to genetic, cultural or both factors.

Schuckit, Li, Cloninger and Dietrich (1985) reported in their studies that sons of alcoholics and controls show no significant difference on the Eysenck Personality Inventory of extroversion and neuroticism. Established alcoholics tend to show distinct patterns on the Minnesota Multiphasic Personality Inventory (MMPI). They are reported to have higher levels of anxiety and tend to feel their lives are managed by more external loci of control. However, prospective studies of men who later became alcoholics have not presented convincing evidence on the MMPI of preexisting abnormalities. Overall, the studies of high-risk groups reveal few differences on personality variables, and there are few generalizable findings on neuropsychological test scores when sons of alcoholics are compared to controls.

The Schaeffer, Parson and Bohman (1984) study attempted to ascertain the neuropsychological differences between alcoholics who have first-degree relatives who are alcoholics (FH+) and alcoholics who have no family history (FH-). FH+ subjects performed significantly more

poorly than FH- subjects on the abstracting/problem solving and perceptual motor tasks, and the difference approached significance on the verbal and learning memory measure. The author reports only three other studies conducted which compared these groups on neuropsychological tasks. Results were similar, with the exception of females. These studies led Tarter, Goodwin and Jones-Sauntty to suggest that the hereditary factor in female alcoholism may not be as high as that in males.

As Cloninger, Bohman, Sigvardsson and Von Knorring (1985) have pointed out, the inheritance of susceptibility to alcohol-related problems imply only that there is a resemblance between parents and their offsprings, not that the underlying mechanism involves genetic or social processes. There appears to be support for the hypothesis derived from the research by Cloninger, Bohman and Sigvardsson (1981) that having both heavy-drinking parents (whether biological or adoptive) and low occupational status places adult children at elevated risk for alcohol-related problems. A milieu that was associated with a greater risk for alcohol abuse for sons and daughters was adoptive fathers with less-skilled occupations. Subjects in blue-collar occupations have a higher percentage of dependent problem drinking than those in white-collar occupations (Parker & Hartford, 1987).

Reliability of Self Reports

Most studies looking at family histories of alcoholics used direct reporting by the subjects, as did this researcher. In several family

studies listed, reporting of alcoholism has had a better reliability than the reporting of other health disorders. Reliability of family history of alcoholism was documented by Hesselbrock, Hesselbrock and Stabenau (1985) with 53 subjects whose reports were compared with information obtained through a direct interview with a family member, using the National Institute of Mental Health Diagnostic Interview Schedule (NIMH-DIS). The test concordance Kappa was found to be .72 for accuracy regarding alcoholism.

In a study by Vogel-Sprott, Chipperfield and Hart (1985), the Family Tree Questionnaire appeared to be a reliable tool for assessing the incidence of problem drinkers within families of young male social drinkers. A sample of 60 male volunteer university undergraduates was examined with a group questionnaire and retested four months later on an individual basis. Test-retest scores of the number of problem drinkers reported by a subject were significantly correlated for first-degree and for second-degree relatives. The reliability of this method of classification of an individual family member was found to be satisfactory.

Mann, Sobell, Sobell, and Pavan (1985) also devised a questionnaire in which subjects identified problem drinking family members on a family tree diagram. The questionnaire included first- and second-degree relatives and provided the subjects with a set of clues for identifying a relative with a drinking problem using the family tree diagram. The study collected data about first-degree relatives identified as siblings and parents and second-degree relatives identified as

grandparents, uncles and aunts. The authors concluded that the test-retest reliability of the family tree method of assessing family history for drinking problems was satisfactory for both clinical and research purposes.

Most studies of familial alcoholism have relied heavily on the self-report of the subject. Sher and Decutner (1986) reported a review of 39 studies of familial incidence of alcoholism by Cotton, showing that 26 relied on data from the patient only. Cotton (1979) concluded that the report of the presence of alcoholism in the family rarely tended to carry a false positive account but a more likely tendency was to under report alcohol problems. Sher and Decutner (1986) examined the reliability of reports of parental drinking in a sample of 88 sibling pairs on a version of the Short Michigan Screening Test (SMAST). Judgment of paternal alcoholism and overall scores on the SMAST for the father showed adequate levels of reliability. Maternal scores were not used due to the relatively infrequent reporting of alcoholism on the part of the mother. Whether this represents less maternal alcoholism or the often suspected fact that women in the past have tended to conceal their drinking habits better than men is not clear.

A study by Winokur, Clayton and Reicht (1969) found that in 63 persons with affective disorders diagnosed by direct interview, only 43% could be diagnosed by information from relatives. However this figure was found to increase considerably if treatment with hospital admission had occurred or major symptoms were present. Koston, Rounsaville and Klebeu (1985) obtained the history by asking the addict if alcoholism

was present in parents, or grandparents, aunts and uncles. The nature of alcoholism was summarized for the addict by the interviewer, and the addict was then asked whether each of the identified family members had ever had alcoholism or been hospitalized for it.

CHAPTER III

METHOD

This chapter consists of six sections. In the first section, the hypotheses of the study are presented. Subsequent sections discuss the facilities used, the subjects, data collection procedures, instruments, and analyses selected for the study.

Null Hypotheses

1. There will be no significant difference in the incidence of substance abuse in the parents of hospitalized abusers and hospitalized nonabusers ($\underline{p} \leq .05$).
2. There will be no significant difference in the incidence of substance abuse in the siblings of hospitalized abusers and hospitalized nonabusers ($\underline{p} \leq .05$).
3. There will be no significant difference in the incidence of substance abuse in the paternal and maternal grandparents of hospitalized abusers and hospitalized nonabusers ($\underline{p} \leq .05$).
4. There will be no significant difference in the incidence of substance abuse in uncles and aunts of the hospitalized abuser and hospitalized nonabuser ($\underline{p} \leq .05$).
5. There will be no significant difference between the educational levels of hospitalized abusers and hospitalized nonabusers ($\underline{p} \leq .05$).

6. There will be no significant difference between the current marital status of hospitalized abusers and hospitalized nonabusers ($\underline{p} \leq .05$).
7. There will be no significant difference in the ages of the hospitalized substance abusers and the hospitalized nonabusers ($\underline{p} \leq .05$).
8. There will be no significant difference in the birth order of the hospitalized abusers and the hospitalized nonabusers ($\underline{p} \leq .05$).
9. There will be no significant difference in the socioeconomic status (SES) of the hospitalized abuser and the hospitalized nonabuser ($\underline{p} \leq .05$).
10. There will be no significant difference in the religious affiliation of the hospitalized abuser and hospitalized nonabuser ($\underline{p} \leq .05$).

Facilities

The study was conducted in two local hospitals in the Knoxville, Tennessee, area. One hospital (Hospital A) is a 500-bed private, non-profit general hospital with a connected but specially designated 34-bed unit for substance abuse patients (Hospital A-ATU). The second hospital (Hospital B) is a small, private proprietary hospital devoted totally to the care of both adolescent and adult patients with mental illnesses or substance abuse. Only the substance abuse unit was used for the study.

Subjects

Participants in the study were 70 white male patients between the ages of 30-65 years. The control sample (nonabusers) included 35 patients chosen from the medical-surgical floors of Hospital A. These patients, according to their own reports, had never been substance abusers, had never been treated for substance abuse, or had never been recommended for substance abuse treatment. A negative answer to any of these questions eliminated a subject from the study.

The second sample of patients consisted of 35 white males within the 30-65 age group who had been admitted to either Hospital A-ATU or Hospital B with a diagnosis of substance abuse, which could be either dependence on drugs or alcohol or a combination. Twenty-six of these patients were chosen from Hospital A-ATU with 14 chosen from Hospital B. This difference in numbers related to the availability of patients.

Males rather than females or a mixture were chosen for the study because the incidence of alcoholism as well as the abuse of drugs is much more common among men than women. From childhood to old age, many more men than women use and abuse alcohol. Like alcohol abuse, abuse of illicit drugs is more common among men. Approximately twice as many men as women use marijuana and other illicit drugs regularly (Issues Related to Alcohol and Drug Abuse and the Mental Health of Women: Executive Summary, 1985). Additionally, patients hospitalized

for substance abuse at both Hospitals A-ATU and B are predominantly white males.

The second reason the 30-65 year old white male sample was chosen was due to accessibility. There is a minimal number of black patients admitted to any of these hospitals, a proportionately smaller number of females admitted to substance abuse hospitals than males, and a general medical-surgical hospital has a minimal number of males under 30 years of age.

Data Collection

An informed consent agreement was signed by each patient (Appendix C) who participated in the study. The study was explained to each patient, and patients had the option of refusing to participate or to discontinue involvement at any point during the interview.

Each patient had a private interview with the researcher which usually averaged 20-30 minutes. Patient information was treated confidentially with all data being coded and the patient's name only appearing on the consent form which was kept in a locked file. Patients in both the medical-surgical units and the substance abuse treatment centers were chosen consecutively from a computer printout list of admissions. The only patients not used in the study were those patients deemed too ill, which occurred more often in the medical-surgical units, or those patients who refused to participate. Those patients eliminated because they were too ill often were immediate

postoperative patients, individuals with severe respiratory problems and those under heavy sedation for pain.

Throughout the study 10 patients refused to participate, and four patients in the medical-surgical units admitted to being alcoholics and were thus excluded. Patients in the medical-surgical units were more likely to refuse to participate and demonstrated more suspicious behavior toward the interviewer. The researcher was of the opinion that some of the patients who refused to participate also suffered from a substance abuse problem or had a fear of the possibility.

Patients admitted to the substance abuse area were noted in order of admission, but interviews occasionally were delayed until the patient was considered sufficiently physically detoxed to participate. The interviewer was a registered nurse experienced in substance abuse and emotional illness counseling who used discretion in deciding to use or exclude a patient depending on his physical condition.

Patients were asked to identify the incidence of substance abuse in each of their primary and secondary relatives, which were defined as mother, father, brothers, sisters, maternal grandparents, paternal grandparents, uncles and aunts. Each patient was given a family tree diagrammatic drawing of this list of relatives as well as a list of clues that might indicate substance abuse (Appendix D). The clues to substance abuse which are typically accepted by substance abuse treatment centers as valid were reviewed by the interviewer with the patients. Any questions posed by the patients were answered. The patients were asked individually as to the incidence of substance abuse in each

relative. All data as given by the patients were recorded by the researcher at the time of the interview on a predevise data sheet (Appendix E). The patient was asked to put each relative into one of the four categories:

1. had a problem
2. did not have a problem
3. uncertain, or
4. no information about this relative

In addition to information about the incidence of substance abuse in relatives, some demographic information was also obtained from the patient. This information included birthdate of patient, marital status, religion, education, occupation and rank order of birth. Abusers were questioned regarding the first exposure to chemically dependent substances. The abusers were also asked the number of times they had been in treatment for substance abuse. Although asked, this question was not included on the official questionnaire.

The data were collected over a five-week period during Summer, 1987. Patients were seen at their convenience which usually meant late afternoon or evenings for the medical-surgical patients. Substance abuse patients were more difficult to see, due to tightly structured treatment schedules. Three Saturday mornings were used, and the remaining interviews were completed during the 7-8 a.m. breakfast hour or the 5-6 p.m. dinner hour.

The study was explained to the nursing service staff, and their cooperation and input were solicited in obtaining census lists,

information regarding locations of patients and suggestions regarding patients who were physically unable to participate. The interviews were accomplished with much greater ease due to the total cooperation of the staff of both hospitals.

Instruments

The family tree instrument (Appendix D) used in the study was developed by the researcher. A second instrument also developed by the researcher (Appendix E) included clues to substance abuse. These clues were very helpful in the medical-surgical units because these patients were much less familiar with the characteristics of substance abuse. Patients in the substance abuse units also were provided with the paper which covered characteristics of substance abuse but generally made little reference to it.

Even though this particular family tree instrument was original with the researcher, this method has been used in other studies. The reliability of the family tree questionnaire or self-report data has been documented in other studies and found to be highly effective (Mann, Sobbell, Sobell & Pavan, 1985; Sher & Decutner, 1986; Vogel-Sprout, Chipperfield, B., & Hart, 1985).

A pilot study of twelve individuals was conducted to work out any problems with the instrument and to give the researcher some experience in using the instrument. Twelve individuals with unknown histories were asked to participate. The instrument appeared to work

satisfactorily for the collection of desired data, and no changes were made.

Analysis

Demographic data such as age, marital status, education, religion and birth order were grouped into categories for convenience of analysis. The reported incidences of substance abuse among relatives were divided into the four identified categories, namely those who had problems, did not have problems, uncertain and no knowledge about the relative, which generally meant the individual had never known the relative or had never heard any discussion about the individual that would indicate substance abuse. Generally individuals who had died or were separated from the family before the subject was born were most often the relatives to be placed in the "no knowledge" category.

Chi-square was used to test the hypotheses in the study. An alpha level of .05 was selected as the criterion for statistical significance. Hollingshead's Two-Factor Analysis using occupation and education was used to determine the socioeconomic status (SES) of each patient, and this was used in the analysis (Hollingshead, 1957). Hollingshead divided both occupational and educational levels into seven categories and assigned a factor of seven to occupations and four to education. The seven occupational groups were: (1) Higher executives and major professionals, (2) Business managers and less professionals, (3) Administrative personnel and minor professionals, (4) Clerical, sales and technicians, (5) Skilled manual employees, (6) Machine operators

and semi-skilled employees, (7) Unskilled employees. Education was also grouped into seven categories: (1) Graduate education, (2) College graduate, (3) Some college, (4) High school graduate, (5) Completion of tenth or eleventh grade, (6) Completed the seventh through ninth grade, (7) Less than seven years of school. The Two-Factor Analysis groups individuals into five social classes with a range of scores on a continuum from a low of 11 to a high of 77. The range of scores used by Hollingshead is:

<u>Social Class</u>	<u>Range of Computed Scores</u>
I (upper class)	11-17
II (upper-middle class)	18-27
III (lower-middle class)	28-43
IV (working class)	44-60
V (lower class)	61-77

The assumption of a meaningful correspondence between an estimated class position of individuals and their social behavior has been validated by use of the factor analysis method by Hollingshead and Redlich (1958) in their study of social class and mental illness. Hollingshead does not define his social classes but Robertson (1987) does apply labels to the various classes, and these labels were used in the present study.

CHAPTER IV

RESULTS

A Comparison of the Abusers and NonabusersFamily Tendencies

This study confirmed that alcoholism is a familial disease with a significantly higher percentage of abusers having both first- and second-degree relatives who were abusers. The first hypothesis that there would be no significant difference in the incidence of substance abuse in the primary relatives of hospitalized abusers and hospitalized nonabusers was rejected for mothers. Data indicated ($X^2 = 10.06$, $p < .05$) that abuse was much higher in the mothers of the hospitalized abusers (see Table 1). Thirty-one percent of both the mothers and fathers of hospitalized abusers were also abusers in contrast to 3% and 20% respectively of the parents of the hospitalized nonabusers. Even though the pattern of abuse in fathers of hospitalized nonabusers is not significant at the probability of .05, it is noted that the male (father) is a more frequent abuser than the female, as pointed out by Schuckit (1984). The hypothesis for no difference in the level of substance abuse for siblings of hospitalized abusers and hospitalized nonabusers was rejected ($X^2 = 51.35$, $p < .05$). Hospitalized abusers had a total of 119 siblings with 34% being abusers. Forty-six percent of the brothers of the hospitalized abusers were abusers ($X^2 = 29.37$, $p < .05$) while 23% of the hospitalized abusers had sisters who were also abusers ($X^2 = 14.61$, $p < .05$). In contrast, brothers of nonabusers had an

Table 1. A Comparison of Parents of Hospitalized Abusers and Hospitalized Nonabusers for the Incidence of Substance Abuse

Relatives	Hospitalized Abusers <u>N</u> = 35	Hospitalized Nonabusers <u>N</u> = 35	χ^2
<u>Mothers</u>			10.6*
Abusers	11 (31%)	1 (3%)	
Nonabusers	24 (69%)	34 (97%)	
<u>Fathers</u>			1.36
Abusers	11 (31%)	7 (20%)	
Nonabusers	23 (66%)	28 (80%)	
Not known	1 (3%)	0 (-)	

* $p < .05$

abuse rate of 8% with sisters showing a 3% incidence (see Table 2). The evidence confirms the increased incidence of substance abuse within a family of abusers and also shows the male to be the most likely victim.

Out of all the subjects questioned there was not one incidence of substance abuse reported in a maternal grandmother of an abuser or nonabuser, thus the hypothesis that there would be no difference in the abuse level was accepted. A similar hypothesis related to the maternal grandfathers was rejected. Twelve or 34% of the hospitalized abusers reported grandfathers who were substance abusers as compared to 8% of grandfathers of nonabusers ($X^2 = 5.72$, $p < .05$) (see Table 3). In looking at the paternal grandparents, abuse was higher in the abuser family than in the family of the nonabuser but not at a significant level (see Table 4).

The hypothesis stating there would be no significant difference for aunts and uncles of hospitalized abusers versus nonabusers was considered separately for maternal and paternal relatives. The hypothesis was rejected for maternal aunts and uncles. The abuse pattern was high for both maternal aunts of hospitalized abusers ($X^2 = 20.39$, $p < .05$) and for the maternal uncles of abusers ($X^2 = 12.41$, $p < .05$) (see Table 5).

The contrast was true for paternal aunts and uncles. No significance was found at the probability of .05. Abuse was high in both paternal uncles of the hospitalized abusers and hospitalized nonabusers

Table 2. A Comparison of Siblings of Hospitalized Abusers and Hospitalized Nonabusers for the Incidence of Substance Abuse

Relatives	Hospitalized Abusers <u>N</u> = 35	Hospitalized Nonabusers <u>N</u> = 35	χ^2
<u>Sisters</u>			14.61*
Abusers	15 (23%)	2 (3%)	
Nonabusers	48 (74%)	75 (97%)	
Non known	2 (3%)	0 (-)	
	<u>n</u> = 65	<u>n</u> = 77	
<u>Brothers</u>			29.37*
Abusers	25 (46%)	7 (8%)	
Nonabusers	29 (54%)	84 (92%)	
	<u>n</u> = 54	<u>n</u> = 91	
Grand Total	119	168	

* $p < .05$

Table 3. A Comparison of Maternal Grandparents of Hospitalized Abusers and Hospitalized Nonabusers for the Incidence of Substance Abuse

Relatives	Hospitalized Abusers <u>N</u> = 35	Hospitalized Nonabusers <u>N</u> = 35	χ^2
<u>Maternal</u>			
<u>Grandmothers</u>			.00
Abusers	0 (-)	0 (-)	
Nonabusers	29 (83%)	30 (86%)	
Not known	6 (17%)	5 (14%)	
<u>Grandfathers</u>			5.72*
Abusers	12 (34%)	3 (8%)	
Nonabusers	19 (54%)	24 (69%)	
Not known	4 (12%)	8 (23%)	

* $p < .05$

Table 4. A Comparison of Paternal Grandparents of Hospitalized Abusers and Hospitalized Nonabusers for the Incidence of Substance Abuse

Relatives	Hospitalized Abusers <u>N</u> = 35	Hospitalized Nonabusers <u>N</u> = 35	χ^2
<u>Paternal</u>			
<u>Grandmothers</u>			3.08
Abusers	3 (9%)	1 (3%)	
Nonabusers	25 (71%)	28 (80%)	
Not known	7 (20%)	6 (17%)	
<u>Grandfathers</u>			
Abusers	7 (20%)	4 (11%)	
Nonabusers	18 (51%)	21 (60%)	
Not known	10 (29%)	10 (29%)	

$p < .05$

Table 5. A Comparison of Maternal Aunts and Uncles of the Hospitalized Abusers and Hospitalized Nonabusers for the Incidence of Substance Abuse

Relatives	Hospitalized Abusers <u>N</u> = 35	Hospitalized Nonabusers <u>N</u> = 35	χ^2
<u>Maternal</u>			
<u>Aunts</u>			20.39*
Abusers	15 (22%)	1 (1%)	
Nonabusers	48 (72%)	89 (99%)	
Not known	4 (6%)	0 (-)	
	<u>n</u> = 67	<u>n</u> = 90	
<u>Uncles</u>			12.41*
Abusers	19 (28%)	8 (8%)	
Nonabusers	44 (66%)	86 (91%)	
Not known	4 (6%)	1 (1%)	
	<u>n</u> = 67	<u>n</u> = 95	

* $p < .05$

causing the hypothesis to be rejected since the difference was not significant at $p < .05$) (see Table 6).

Education

The fifth hypothesis stated that there would be no significant difference between the educational levels of the hospitalized abusers and the hospitalized nonabusers. The hypothesis was accepted $X^2 = 8.96$ which did not qualify at the $<.05$ level. The education of all patients admitted to the hospital is relatively low, as seen in Table 7. Fifty-four percent of the abusers and 63% of the nonabusers had a high school education or less. This sample is representative of the educational level of the Tennessee population. According to a 1980 U.S. Bureau of the Census report, 43.8% of the residents of Tennessee had less than 12 years of school (Brown, 1985). The Tennessee Statistical Abstracts 1987 lists the median educational level of Tennessee white males over 25 years of age to be 12.5 years (Vickers, 1986).

Marital Status

The sixth hypothesis assumed that there would be no significant difference between the marital status of hospitalized abusers and hospitalized nonabusers. Due to the small sample, the cells were collapsed for statistical analysis and patients were either grouped as married or "other." This hypothesis was accepted ($X^2 = .08$, $p < .05$). Even though there was no statistically significant difference, Table 8 indicates the marriages of the nonabusers were somewhat more stable with 77% being married in contrast to 66% of the abusers. The divorce rate

Table 6. A Comparison of Paternal Aunts and Uncles of the Hospitalized Abusers and Hospitalized Nonabusers for the Incidence of Substance Abuse

Relatives	Hospitalized Abusers <u>N</u> = 35	Hospitalized Nonabusers <u>N</u> = 35	χ^2
<u>Paternal</u>			
<u>Aunts</u>			.0356
Abusers	3 (3%)	6 (7%)	
Nonabusers	82 (89%)	84 (92%)	
Not known	7 (8%)	1 (1%)	
	<u>n</u> = 92	<u>n</u> = 91	
<u>Uncles</u>			1.81
Abusers	22 (30%)	19 (21%)	
Nonabusers	49 (67%)	69 (78%)	
Not known	2	1	
	<u>n</u> = 73	<u>n</u> = 89	

$p < .05$

Table 7. A Comparison of Education of Hospitalized Abusers and Hospitalized Nonabusers for the Incidence of Substance Abuse

Years Completed	Hospitalized Abusers <u>N</u> = 35	Hospitalized Nonabusers <u>N</u> = 35	χ^2
7	3 (9%)	4 (11%)	8.96
7-8-9	1 (3%)	8 (23%)	
10-11	6 (17%)	5 (14%)	
12	9 (26%)	5 (14%)	
Some College	9 (26%)	7 (20%)	
College Degree	3 (9%)	2 (6%)	
Graduate Degree	4 (11%)	1 (3%)	

$p < .05$

Hollingshead's Two-Factor Analysis was used for division of educational levels.

Table 8. A Comparison of the Marital Status of Hospitalized Abusers and Hospitalized Nonabusers for the Incidence of Substance Abuse

Marital Status	Hospitalized Abusers <u>N</u> = 35	Hospitalized Nonabusers <u>N</u> = 35	χ^2
Married	23 (66%)	27 (77%)	.08
Separated	2 (6%)	1 (3%)	
Divorced	6 (17%)	4 (11%)	
Widowed	0 (1)	1 (3%)	
Single	0 (-)	2 (6%)	

$p < .05$

was slightly higher for the abusers. On closer questioning of the abusers, the marital status was more unstable than the table reveals. Of the 35 client abusers, 12 had been married two or more times with some as many as four times. Two abusers who were listed as separated had been married two and four times respectively. Many of the nonabusers listed long marriages sometimes with lengths of 30-40 years.

Age

The hypothesis which stated that there would be no significant difference in the ages of the hospitalized abusers and the hospitalized nonabusers was rejected ($X^2 = 9.77$, $p < .05$). Substance abuse patients admitted to the hospital were somewhat younger. Forty-nine percent of the abusers in contrast to 6% of the nonabusers were between 30-39 years of age (Table 9). The 60-65 year old patients were more often nonabusers (29%) in contrast to 9% of the abusers.

Table 9. A Comparison of Age of Hospitalized Abusers and Hospitalized Nonabusers for the Incidence of Substance Abuse

Age Groups	Hospitalized Abusers N = 35	Hospitalized Nonabusers N = 35	χ^2
30-39	17 (49%)	6 (17%)	9.77*
40-49	10 (29%)	11 (31%)	
50-59	5 (14%)	8 (23%)	
60-65	3 (9%)	10 (29%)	

* $p < .05$

Birth Order

Also accepted was the hypothesis that there would be no significant difference in the birth order of hospitalized abusers and nonabusers ($X^2 = 5.90$, $p < .05$). A comparison of the birth order of the abuser and nonabuser indicated no significant difference between the two groups (see Table 10). No effort was made to determine the birth order of the individuals in relation to the sex of the siblings, and these data might have been more revealing.

Table 10. A Comparison of the Birth Order of Hospitalized Abusers and Hospitalized Nonabusers for the Incidence of Substance Abuse

Birth Order	Hospitalized Abusers N = 35	Hospitalized Nonabusers N = 35	X^2
First	10 (29%)	8 (23%)	5.90
Second	12 (34%)	10 (29%)	
Third	4 (11%)	3 (9%)	
Fourth	4 (11%)	1 (3%)	
Other	5 (14%)	13 (37%)	

* $p < .05$

Socioeconomic Status (SES)

The socioeconomic status (SES) of both groups of patients was reviewed, and it was hypothesized that there would be no significant difference in the hospitalized abusers and hospitalized nonabusers. Using Hollingshead's (1959) Two-Factor Analysis involving five

groupings, there was no difference in the two groups at the probability level of .05. The SES was slightly higher for the abuser than the nonabuser, as seen in Table 11, but not enough to be significant. Seventeen percent of the abusers had college degrees with professional backgrounds in contrast to 3% of the nonabusers. There was little difference in the lower four class groups.

Table 11. A Comparison of the Socioeconomic Status (SES) of Hospitalized Abusers and Hospitalized Nonabusers for the Incidence of Substance Abuse

Social Class	Hospitalized Abusers N = 35	Hospitalized Nonabusers N = 35	χ^2
I (Upper)	6 (17%)	1 (3%)	4.37
II (Upper-Middle)	1 (3%)	1 (3%)	
III (Lower-Middle)	5 (14%)	5 (14%)	
IV (Working)	18 (51%)	20 (57%)	
V (Lower)	5 (14%)	8 (23%)	

* $p < .05$

Taken from Hollingshead's Two-Factor Analysis using education and occupation as criteria.

Religion

The issue of religious affiliation was not significantly different between the two groups with the majority of all the patients professing a Protestant preference, and many were often more specific and added the Baptist faith (see Table 12). Among all the patients only three faiths other than Protestant were even mentioned. Since there were so

few respondents in categories other than Protestant, the cells were collapsed into Protestant and "other" for analysis. Many of the subjects from both groups volunteered that they did not attend church on any regular basis, and some even indicated that church was of no importance in their lives. Seventeen percent of the abusers admitted no religious beliefs in contrast to 9% of the nonabusers. These data are presented in Table 12.

Table 12. A Comparison of the Religious Affiliation of Hospitalized Abusers and Hospitalized Nonabusers for the Incidence of Substance Abuse

Religion	Hospitalized Abusers N = 35	Hospitalized Nonabusers N = 35	χ^2
Protestants	28 (80%)	31 (89%)	.97
(Baptists)	(12) (43%)	(19) (58%)	
Catholic	1 (3%)	1 (3%)	
Jewish	0 (-)	0 (-)	
None	6 (17%)	3 (9%)	

* $p < .05$

Treatment

Of the 35 hospitalized substance abusers identified, this was the first time in a treatment program for 20, 12 had been through treatment once previously, and for three patients this was the third time through treatment. Twenty-five of the abusers claimed to be alcoholics, and some were actually incensed that they might have been considered drug

users. This was particularly true of the older patients, who stated very emphatically that they never "messed" with drugs. They were afraid of them. The other 10 patients were mostly poly-abusers, using many drugs from "pot" to cocaine along with alcohol. All patients described the beginning use of substances at an early age. One patient admitted slipping alcohol out of the family's liquor cabinet at age 10. Most frequently the first use started at 15-16 years of age when the student was still in high school and progressed gradually to abuse which eventually became a problem.

A few hospitalized abusers came to treatment on their own, but most had threats of marital disruptions or job pressures which forced them to seek treatment. With the exception of one patient, all individuals seen in the treatment units felt they needed to be there and would be helped by the experience. The one exception was an individual who said he sold drugs but did not use. His reason for coming into the treatment unit was to help evade some legal problems. In talking with the unit personnel, they felt this person was indeed a user and still in denial.

Summary of Findings

This study confirms that alcoholism does indeed occur more often in individuals who have family histories of the disease. First-degree relatives (mothers, fathers and siblings) as well as second-degree relatives (grandparents and uncles and aunts) of substance abusers were found to have a higher incidence of substance abuse than those members of the families of the hospitalized nonabusers.

Other findings indicated the substance abusers generally to be younger at the time of hospitalization. Several reasons have already been suggested for this. Probably the most important reason is that substance abuse has begun to interfere with their lives at an early age, and employers or associates confront the issue and both encourage and support treatment.

Even though most patients indicated a preference for the Protestant faith, religion did not seem to be significant in the lives of the majority of the patients. The substance abusers spoke more about the belief in a "Higher Power" as they were working through the steps in the Alcoholics Anonymous (AA) program.

Birth order in this study did not seem to make a difference in the outcome for a patient to become an abuser or not. The study did show that 63% of the abusers and 52% of the nonabusers were either first or second children in the family.

There was no significant difference in the marriages for the abusers and nonabusers, but further questions not included in the official questionnaire gave information that the marriages of the hospitalized abusers were fragile. Many had been married more than once with successive marriages occurring occasionally with the same partner. Both substance abuse hospitals provided family therapy, and patients saw marriage as part of the stability toward recovery.

There was no significant difference in the educational levels of the abusers and nonabusers with both being relatively low. The majority had completed 12 grades of school or less. Education and occupation

were combined using Hollingshead's (1957) Two-Factor Analysis to determine the socioeconomic status (SES) of the individuals. The SES was slightly higher for the abuser with 7% falling in the upper or upper-middle class with only 2% of the nonabusers falling in these two classes.

CHAPTER V

CONCLUSIONS AND IMPLICATIONS

Substance abuse is generally accepted as a disease by health care facilities. This is demonstrated by the many treatment units available but does not mean that health care providers all accept this premise. There still exists a segment of our population who consider alcoholics and drug abusers as bad, immoral people and believe if they had the willpower or proper faith in God they would immediately stop this deleterious behavior. This obviously is the wrong approach to handling this serious societal problem of substance abuse.

Substance abuse is not only present in those patients hospitalized in specialized units for treatment of this condition but is also present in patients admitted to the medical-surgical units. For this reason, more and better education on substance abuse is needed for nurses and physicians. Curricula in nursing and medical schools need to incorporate didactic as well as experiential work in substance abuse.

This study reaffirms the findings of many other studies (Cook & Winokur, 1985; Cotton, 1979; Finley, 1983; Frances, Bucky & Alexopoulos, 1984; Vaillant & Milofsky, 1982b). Substance abuse has a familial tendency, and the presence of this disease in the family should be a signal for identifying individuals at high risk and give impetus for initiating preventive measures. The study also confirms that substance abuse tends to be more prevalent in the male as found by Hesselbrock, Hesselbrock and Stabenau (1985). Even male members of nonabusers'

families had a higher incidence of substance abuse than did the female members of the family. The evidence does seem clear that there is a higher incidence of substance abuse among men, but in collecting data, one must consider the stereotypical picture of the female who would not be thought of as an abuser. The researcher noted some of these subtle biases, particularly when questioning nonabusers about female relatives.

Men who become substance abusers do not progress very far in school nor do they achieve a high socioeconomic status, as found in this study. An earlier study by Parker and Hartford (1987) also concluded that blue-collar occupations have a higher percentage of dependent problem drinkers than those in white-collar occupations. As SES is generally determined on the qualifications of the male as the family breadwinner or head of the household, entire families face a cultural and economically deprived environment when the male member of the family has a substance abuse problem. These factors may add to the perpetuation of the disease in families.

The age of the substance abuse patient was generally younger than the hospitalized nonabuser. The researcher could surmise that the substance abuser often does not live a long life or at the older age the individual and his family have adapted to his life-style, and he views it as too late to make a change or seek treatment. Also, at this age many clients would likely be unemployed, retired or at least disabled and lack insurance coverage which is almost mandatory for admission to either Hospital A-ATU or Hospital B.

Substance abuse is frequently referred to as a family disease and even though there was no significant difference in the two groups as to marriage, the marital status data indicate that the marriages of the abusers are much more unstable. Many report several marriages. Spouses often are not abusers but have enabled (or allowed) the abuser to continue with his pattern of behavior. The concept of substance abuse being a family disease is so important that treatment centers have organized therapy sessions that include the entire family. Family and particularly spousal support is almost essential for recovery.

Implications for Nursing Intervention

Nurses need to be better informed on substance abuse for their own protection as well as for the multitude of individuals in society who are suffering from this problem. Nurses not only meet these afflicted people through daily social contacts but in substance abuse treatment units, and perhaps more importantly among the large percentage of patients admitted to health care facilities where substance abuse is not the primary diagnosis. Unless the nurse is well informed, the secondary condition of substance abuse may go unrecognized and untreated or may be maltreated due to the lack of information regarding the patient's history.

Nurses as well as other health professionals have been identified as having substance abuse problems equal to or greater than those in the general population (Bissell & Haberman, 1984). This information must be processed and nurses must learn how to identify themselves

and others who are at high risk for the disease. Finally, nurses must be willing to provide early intervention and support for colleagues who have the disease. This type of intervention and support has been formalized by nurses through the Tennessee Nurses' Association's Peer Assistance Program for Impaired Nurses.

A study by Martin in 1972 of schools of nursing accredited by the National League of Nursing revealed limited opportunities for experiential learning in substance abuse for students. The study also indicated the limited content on drug abuse was integrated throughout the curricula in such areas as maternal and child nursing, medical/surgical and psychiatric and mental health nursing (National Institute on Drug Abuse, 1979). Integration of content generally means a lack of emphasis if not disintegration.

In a very informal study of schools of nursing in Tennessee in 1982 by the researcher, it was found that most directors did not consider alcohol a major problem among their students although they suspected that some might drink. Most all directors refused to believe that their students would be involved in drug abuse. Certainly, more education is needed here.

A knowledgeable nurse can be an effective nurse in the area of substance abuse. Education regarding all the parameters of substance abuse is essential and should be started as part of the basic nursing education process. Few nurses, as other members of our population, have escaped some family contact with substance abuse. This contact may have prejudiced the nurse to the point that counseling and

assistance are needed in learning about substance abuse in a rational therapeutic manner. Students who are children of alcoholics may suffer from their own personal problems and may have difficulty equating an abusive disruptive childhood caused by a substance abusing parent with a disease concept. These students must be given special counseling and support before they can be expected to deal therapeutically with substance abuse.

A nurse could be more effective in caring for a substance abuse patient if he or she used the perspective of Minuchin et al. (1975) which views the patient as an integral part of the family. The entire family group must be involved in the treatment plan. An understanding of both Selye (1976) and Neuman (1980) would emphasize the importance of stress in a patient's adaptation to his environment and Neuman's Gestalt philosophy would provide a holistic approach to care. Patients are not cured of substance abuse but are considered in a state of recovery and must learn a new approach to living and interacting with others.

Implication for Future Research

An important step for nurses is to participate in research that will help to identify the etiology and provide a better basis for prevention, early intervention and treatment of substance abuse. Nurses are becoming increasingly involved in the issue of substance abuse not only to provide peer assistance but to provide better nursing care to both the labeled and unlabeled substance abuser.

Many studies confirm that alcoholism is a familial disease (Cook & Winokur, 1985; Cotton, 1979; Frances, Bucky & Alexopoulos, 1984; Schuckit, 1984b; Vaillant & Milofsky, 1982a). Adult children of heavy-drinking parents were found to have a higher percentage of dependent problems than those without heavy-drinking parents. It is estimated that one of every eight Americans may be children of alcoholics. This situation creates a serious medical and social problem in our society, making it imperative that research continue. Those people who are "at risk" for alcoholism or substance abuse must be identified and offered assistance.

Although alcohol is a drug, the upsurge of the abuse in the past 10 years of additional drugs such as narcotics, tranquilizers and stimulants has not received the same study; consequently, we are only assuming that the patients are alike as to familial background, response to treatment, recovery and recidivism rate. Much work has been done to prove that the familial relationship of alcoholism is genetic and to identify trait markers for genetic loci. A genetic marker is a trait known to be inherited usually in a straightforward Mendelian fashion, such as blood groups, color blindness and certain diseases. Should more alcoholics have the markers than would be expected by chance, this would indicate that alcoholism is influenced by heredity (Halikas, 1983). Proposed markers include a difference in ethanol sensitivity as measured by psychomotor and cognitive performance (Schuckit, 1980, 1984) and biochemical markers such as abnormal monoamine oxidase

activity (Schuckit, Shaskan, Duby, Vegas & Moss, 1982). To date no genetic markers have been identified.

The results of family studies do not unequivocally support genetic transmission. A family shares a common environment as well as common genes and perhaps familial patterns of alcoholism can be explained just as readily by behavioral and cultural theories as by genetics. As one researcher put it, "the fact that everyone in a family speaks French is familial but certainly has nothing to do with genetics."

Vaillant (1986) and Babor (1986) have taken another approach and are interested in the cultural differences in substance abusers. Even with the small sample in their study, some cultural differences were obvious. Childhood antisocial behavior is also being given attention by Lewis, Rice and Helzen (1983). The social-cultural etiology has not been in vogue recently, but it is an area that probably needs more attention. While few will dispute that substance abuse occurs more frequently in some families than others, the question of why has not been answered.

More research is needed in the area of substance abuse in females. Proportionately, females are grossly underrepresented in the treatment units, but there is no clear indication as to the reason. There is some evidence to indicate that alcoholism does develop later in women with a familial history but perhaps has a more malignant course (Schuckit, Li, Cloninger & Dietrich, 1985). Others have suggested that women are more passive and do not react to the disruptive substance abuse family background in the same way that the male sibling does. This opens up

many avenues for study. Health care providers must be aware that women with recurrent, unexplained physical complaints and a family history of alcohol abuse may have a low pain threshold and a tendency to somatize with a variety of ailments. These patients may be prime candidates to develop problems with substance abuse. Should the researcher extend this study, women would be included to determine if they do have the same family history, age of onset, education, SES and response to treatment.

Alcoholism, and more recently the more encompassing term, substance abuse, presents a major health hazard and societal problem in this country. Only recently has the subject been considered appropriate for serious research. Today many unanswered questions remain, but investigators are exploring both the environmental and genetic basis for the disease. Age, cultural and gender differences must also be considered.

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APPENDICES

APPENDIX A

PERMISSION TO DO RESEARCH AT
ST. MARY'S MEDICAL CENTER

Margaret Heins, R.N., has been granted permission to conduct research with selected patients at St. Mary's Medical Center related to a thesis for a Master's Degree in Nursing at The University of Tennessee. The thesis will be under the supervision of Dr. Sandra Thomas, Professor in the College of Nursing. The research proposal is:

A comparison of the genealogy of hospitalized white males with a primary diagnosis of substance abuse and a control group of hospitalized white males with a primary diagnosis of a medical-surgical condition and no history of substance abuse.

Personal interviews will be conducted by the researcher with 50 patients in the medical-surgical area and another 25 in the Addictive Treatment Unit of St. Mary's. The research project will be explained to the patient and written consent will be obtained from each patient who is willing to participate.

The research will be sensitive to the needs and reactions of the patients and will use professional judgment in rejecting a client, discontinuing an interview should conditions warrant or provide support to any patient who reacts adversely to the interview.

The interview will be primarily a collection of historical data regarding substance abuse on primary and secondary relatives of the patient and should take about 30 minutes. Demographic data such as age, religion, marital status and occupation will be obtained.

The identity of all patients and relatives as well as other data will be kept confidential. Data will be stored in a locked file in the researcher's office and destroyed at the completion of the project.

APPROVED:

Signature: _____

Title: _____

Date: _____

APPENDIX B

PERMISSION TO DO RESEARCH AT PENINSULA HOSPITAL

Margaret Heins, R.N., has been granted permission to conduct research with selected patients at Peninsula Hospital related to a thesis for a Master's Degree in Nursing at The University of Tennessee. The thesis will be under the supervision of Dr. Sandra Thomas, Professor in the College of Nursing. The research proposal is:

A comparison of the genealogy of hospitalized white males with a primary diagnosis of substance abuse and a control group of hospitalized white males with a primary diagnosis of a medical-surgical condition and no history of substance abuse.

Personal interviews will be conducted by the researcher with 25 patients in the Chemical Dependency Center of Peninsula Hospital. The research project will be explained to the patient and written consent will be obtained from each patient who is willing to participate.

The research will be sensitive to the needs and reactions of the patients and will use professional judgment in rejecting a client, discontinuing an interview should conditions warrant or provide support to any patient who reacts adversely to the interview. The consent form includes granting the researcher permission to view the patient's hospital chart.

The interview will be primarily a collection of historical data regarding substance abuse on primary and secondary relatives of the patient and should take about 30 minutes. Demographic data such as age, religion, marital status and occupation will be obtained.

The identity of all patients and relatives as well as other data will be kept confidential. Data will be stored in a locked file in the researcher's office and destroyed at the completion of the project.

APPROVED:

Signature: _____

Title: _____

Date: _____

APPENDIX C

INFORMED CONSENT TO PARTICIPATE

I agree to participate in the research project, studying the genealogy of substance abusers, which is being conducted as part of the requirements for a Master's Degree in Nursing at The University of Tennessee, by Margaret Heins, R.N.

I agree to answer a series of questions on the incidence of substance abuse regarding myself and my primary and secondary relatives. I also agree for the researcher to obtain demographic data such as age, religion, occupation and marital status.

I understand the researcher will explain the project to me and answer any questions which I may have.

I understand the interview will take about 30 minutes and my identity and that of my primary and secondary relatives as well as other data will be kept confidential. Collected data will be coded and kept in a locked file and destroyed by the researcher at the end of the project.

Should I have questions regarding the research or a change of mind regarding use of data, I can contact Margaret Heins, 971-7781.

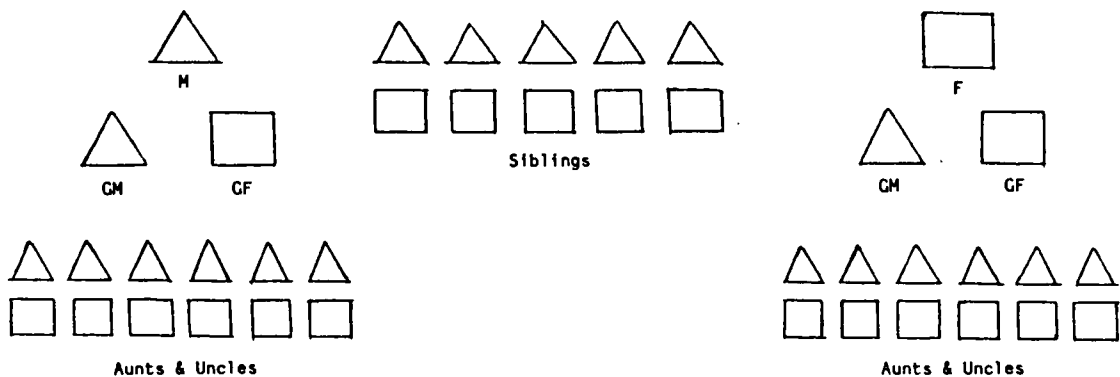
Failure to participate will involve no penalty or loss of benefit to which I am entitled. I understand that I have the right to withdraw from the study for any reason and to refuse to allow the data collected from me to be used.

Signed: _____

Date: _____

APPENDIX D

CLUES TO SUBSTANCE ABUSE

Some Clues to Substance Abuse

1. Believe a relative needed to stop using drugs/alcohol.
2. Use of drugs/alcohol when under pressure.
3. Intake of drugs/alcohol increased over a period of time.
4. Lost a job due to use of drugs/alcohol.
5. Marriage/family problems due to use of drugs/alcohol.
6. Seizures of loss of memory (blackouts) related to drugs/alcohol.
7. Loss of friends/remained alone due to use of drugs/alcohol.
8. Financial problems due to use of drugs/alcohol.
9. Treatment (or recommended) for use of drugs/alcohol.
10. Tried to conceal use of drugs/alcohol.
11. D.W.I. or other legal charges.
12. Abuse, violence with family members or others.

APPENDIX E

CLIENT QUESTIONNAIRE

1. After reviewing the clues to the disease of substance abuse, have you ever thought any of your relatives had or has a substance abuse problem? Specify which relative or relatives.

 M	    	 F
 GM	     Siblings	 GM
 GF		 GF
     		
      Aunts & Uncles		
     		
      Aunts & Uncles		

Key: Yes (Y) Uncertain (U)
 No (N) No knowledge (NK)

2. Years in grade school ____ A.D. Degree ____
 Years in high school ____ College degree ____
 Years in trade/vocational ____ Graduate school/professional ____
 Years in college ____
 Total years of schooling ____
3. Marital status: Married ____ Separated ____ Divorced ____
 Widowed ____ Single ____
4. Religion _____
5. Occupation _____
6. Birth Date _____
7. Birth order _____

VITA

Margaret Jones Heins is a native East Tennessean where she received her early education. She is a graduate of the University of Tennessee College of Nursing in Memphis with a BSN and has a Master's Degree in Administration and Supervision from The University of Tennessee at Knoxville. In August 1975, she earned a Ed.D. in Educational Psychology, also from The University of Tennessee at Knoxville.

She has spent the past 25 years at St. Mary's Medical Center teaching and directing the School of Nursing. The School of Nursing will close in 1988, and she has assumed the position of Director of Education which encompasses both the School of Nursing and Continuing Education for the Medical Center. Additionally she has taught Introductory Sociology for The University of Tennessee.

She has authored several publications and has made numerous presentations at local, state and national conventions including the American Nurses' Association and the American Personnel and Guidance Association conventions. She has received two federal grants--one for a program to assist disadvantaged students in nursing and the second to study and develop a program for clinical evaluation in nursing.

She is a member of the American Nurses' Association, the National League for Nursing and Sigma Theta Tau. She served as president of the Tennessee Nurses' Association from 1982-84 and was instrumental in starting a peer assistance program in Tennessee for nurses impaired from substance abuse. She served as first state chairperson for this

program and presented many workshops related to impairment of health professionals. She was a member of the Tennessee Board of Nursing from 1970-1984 and a chairperson from 1976-1984. She also served on the Governor's Select Committee on Health Care Cost Containment in 1984.

Honor societies include Pi Lambda Theta, Pi Kappa Phi, and Delta Kappa Gamma. She received the Pi Lambda Theta Ella Victoria Dobbs Award for Outstanding Research in 1971. In 1973, she was selected as one of the 36 Charter Fellows to the American Academy for Nursing. She received the University of Tennessee College of Nursing Outstanding Alumnus Award in 1977, the Tennessee Nurses' Association Membership Award in 1982, The Samaritan of the Year Award from St. Mary's Medical Center in 1986, and the Tennessee Nurses' Association District II Hall of Fame Award in 1987.