

ALCOHOL RELATED ILLNESSES IN ALCOHOLICS WITH LONG TERM SOBRIETY –

A PILOT STUDY

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## Introduction

This pilot study was conducted to examine whether alcoholics in long-term sobriety continue to suffer from alcohol-related illnesses even after twenty or more years of continuous sobriety. Little has been written about the health outcomes of recovered alcoholics many years after they stopped drinking, particularly as it relates to academic research. Anecdotally, it has long been thought that once an alcoholic becomes abstinent that he will recover from his physical ailments brought on by the disease if he has not abused his body to having cirrhosis of the liver, chronic pancreatitis, or Korsakoff's Syndrome to his brain, among other ailments. In recent years there has been some evidence that alcoholics may develop symptoms from previously undiscovered and/or dormant ailments which suddenly appear more than twenty years after their last drink. This study aims to ascertain whether the subject matter warrants a more in-depth investigation through a dissertation. Therefore, the primary question for this study is: "Do alcoholics with long-term sobriety continue to be afflicted with alcohol-related ailments more than twenty years after their last drink?" A secondary question is "what should the direction of future research be?"

## Definitions

Addiction, drug or alcohol – Repeated use of a psychoactive substance or substances, to the extent that the user, or addict, is periodically or chronically intoxicated, shows a compulsion to take the preferred substance (or substances), has great difficulty in voluntarily ceasing or modifying the substance used, and exhibits determination to obtain psychoactive substances by almost any means. Tolerance is prominent and a withdrawal syndrome frequently occurs when substance use is interrupted (World Health Organization (WHO),

1994). Addiction is often chronic with relapse always a possibility, even after years of sobriety or abstinence. There are various areas that can be affected by addiction, but for this study it will relate primarily to alcohol.

Alcoholism – E. M. Jellinek, a physiologist and researcher, who consulted with the World Health Organization and the American Medical Association in the establishment of alcoholism as a disease, defines it as “the use of any alcoholic beverages that causes any damage to the individual, society, or both” (Jellinek, 1960). In 1992, to establish a more precise and current definition of the term *alcoholism*, a 23-member multidisciplinary committee of the National Council on Alcoholism and Drug Dependence and the American Society of Addiction Medicine conducted a two year study of the definition of alcoholism. The goal of the committee was to create a revised definition that is scientifically valid, clinically useful, and understandable to the general public. Therefore, the committee agreed to define alcoholism as a primary, chronic disease with genetic, psychosocial, and environmental factors influencing its development and manifestations. The disease is often progressive and fatal. It is characterized by impaired control over drinking, preoccupation with the drug alcohol, use of alcohol despite adverse consequences, and distortions in thinking, especially the phenomenon of denial. The symptoms may be continuous or periodic (Morse & Flavin, 1992).

Abstinence – Refraining from drinking alcoholic beverages, whether as a matter of principle or for other reasons. The term "current abstainer", often used in population surveys, is usually defined as a person who has not drunk an alcoholic beverage in the preceding 12 months; this definition does not necessarily coincide with a respondent's self-description as an abstainer (WHO, 1994). Also, the absence of use of mood altering drugs or

alcohol excluding caffeine, nicotine, and those that are prescribed by a physician for a legitimate physical or psychological complaint. For this study abstinence and sobriety will be used synonymously.

Long-term sobriety – For this study long-term sobriety will mean the abstinence from drinking alcohol or using any other mind-altering drug for twenty consecutive years or more.

Relapse – A return to drinking or other drug use after a period of abstinence, often accompanied by reinstatement of dependence symptoms (WHO, 1994). Also, the return of signs and symptoms of a disease after a patient has had a period of abstinence. It usually occurs prior to the actual consumption of the alcohol or drugs from which the patient is recovering, but is assuredly followed by it. Relapse is very common in the recovering community.

### Literature Review

Alcohol contributes to nearly 80,000 deaths annually (Center for Disease Control and Prevention (CDC), 2008), making it the third leading cause of preventable mortality in the United States after tobacco and diet/activity patterns (Mokdad, Marks, Stroup, & Gerberdin, 2004). In 2005 there were more than 1.6 million hospitalizations due to alcohol (Chen & Yi, 2007). Alcohol dependence and alcohol abuse cost the United States an estimated \$220 billion in 2005 in healthcare and lost productivity. This dollar amount was more than the cost associated with cancer (\$196 billion) and obesity (\$133 billion) (Treatment-Centers.net, 2011).

Approximately 14 million people in the United States, or 7.4 percent of the population, meet the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR), (American Psychiatric Association, 2000) criteria for alcohol abuse or alcoholism. Throughout the world, alcoholism accounts for 4% of the “global disease burden” (World Health Organization, 2002).

According to the Centers for Disease Control and Prevention (CDC), the disease of alcoholism creates many long-term and chronic health risks. Some of these include neurological problems, including dementia, stroke and neuropathy. Chronic alcoholics also live with the prospects of developing cardiovascular problems, psychiatric issues, higher risks of various forms of cancer, in addition to social problems (Centers for Disease Control and Prevention, 2011). These are all in addition to the commonly-known diseases which are normally attributable to alcoholism such as cirrhosis of the liver, alcoholic hepatitis, pancreatitis, gastritis, and other liver diseases (Xu, Kochanek, Murphy, & Tejada-Vera, 2010; Leshner & Lee, 1989 and Kelly, Kaufman, Koff, Laszlo, Wilholm, & Shapiro, 1995). Cirrhosis of the liver is currently the 12<sup>th</sup> leading cause of death in the United States (Szabo & Mandrekar, 2010).

While a great deal of research has been conducted on alcoholism and drug addiction, much less has been done on the physical ailments of those with long-term sobriety. There has been a significant amount of research into what commonalities exist in long-term recovering people, however, the question of physical infirmities connected to their prior alcohol problem has been, for the most part, left alone. This pilot study attempts to analyze whether there are any common lingering physical effects for those with more than twenty years of sobriety and if so, do the results warrant a dissertation.

It has long been anecdotally thought that an alcoholic in recovery can completely restore his or her physical and mental health through long-term abstinence if their self abuse had not crossed the line of permanent damage. The potential damage that has caused the most concern was that done to the liver, pancreas, brain, and esophagus. We will primarily look at the liver, pancreas and the brain in this study, although it is known that for those alcoholics who smoke,

cancers of the throat, especially the esophagus and the larynx, are very common (Edwards, 2004; Anderson, Chhabra, Nerurkar, Souliotis, and Kyrtopoulos, 1995).

Alcoholic liver disease (ALD) is one of the most common causes of chronic disease in the world. The severity of the damage related to alcohol varies within different individuals and even within the same individuals at different times. While laboratory tests have long been used to distinguish among the various stages of alcohol-related liver damage, liver biopsies have been found to be the most accurate method of distinguishing among the stages and finding more covert evidence of damage (Diehl, 2002)

Alcoholic liver disease runs a spectrum of various levels of how much damage the alcoholic has done to his liver. At the less severe end of the spectrum is the condition of a *fatty liver*, known as steatosis. Steatosis is reversible with abstinence or a significant drop in consumption (Diehl, 2002; and, Mann, Smart, and Govoni, 2003). If the alcoholic continues to drink his liver issues will become more severe, leading to steatohepatitis, or alcoholic hepatitis, and further inflammation leading to fibrosis. These illnesses may or may not improve with abstinence. Research shows that 40% to 50% of patients with chronic alcohol-induced steatohepatitis develop cirrhosis within five years (Galambos, 1972). Further drinking will bring the alcoholic towards the most severe end of the spectrum, cirrhosis, and finally, end-stage liver disease. Both of these conditions are irreversible and create a poor prognosis for the alcoholic (Szabo & Mandrekar, 2010). The progression of ALD is caused by the continued consumption of alcohol creating a chain of events in which inflammation plays the key role. The continued inflammation will cause the alcoholic to progress from a fatty liver to liver cell death, inflammation, regenerating nodules, scar tissue (fibrosis), and finally cirrhosis (Diehl, 2001 & Tilg, Jalan, Kaser, Davies, Offner, et al, 2003). It is important to note that alcohol-induced

cirrhosis may be present in individuals who have very few symptoms or signs of liver disease. However, 25% to 30% of patients will develop more clinical symptoms per decade, meaning that within twenty years more than half of the people who are diagnosed with cirrhosis will have had it in a dormant form. Diehl's study did not address whether those in dormant form were abstaining from alcohol or continued to drink alcoholically (Diehl, 2002).

When a patient has reached the level of having cirrhosis of the liver it often creates the need for a liver transplant. This has become a controversial issue when the patient is an alcoholic (Esquivel & Keefe, 1993; Boren, 1994; and, Light, 1994). There are several reasons for the controversy. They are as follows: a) questions as to whether the alcoholic will return to drinking, recidivism; b) the possible post-operative noncompliance of the patient regarding lifestyle and diet regimens, resulting in the new liver's failure; and, c) although alcoholism is designated as a disease, many still view alcoholism with moral overtones, therefore, the feeling exists that the need for the liver transplant is the patient's own fault (Boren, 1994 and Light, 1994). Since an alcoholic in need of a new liver has generally shown a disregard for their own life, many have thought that a new liver would be a license to continue drinking (Esquivel and Keefe, 1993). Studies have shown this not to be the case (Berlakovich, Steininger, Herbst, Barlan, Mittblock, and Muhlbacher, 1994). A University of Michigan study went so far as to develop an "alcoholism prognosis scale" to decide which alcoholics would be accepted for a transplant. Acceptance was based on a variety of factors such as acceptance by the alcoholic and his family that he was, in fact, an alcoholic, social functioning and stability, changes in life-style with substitute activities, hope and self esteem. Fewer than 50% of those who applied were accepted based on those qualifications. The researchers found that the alcoholic's survival rate was no different than the non-alcoholic, approximately 80%. Additionally, only a small number,

10% to 12%, returned to drinking after the transplant. Most of these did not drink alcoholically, and some only drank once. (McMillen, 1995 and Lucey, Merion, & Henley, et al, 1992 and updates).

Liver *cancer* is also a significant concern for alcoholics. Many studies have shown in both humans and laboratory animals that large quantities of alcohol may produce as high as a fivefold increase in the incidence of liver cancer (Anderson, et al, 1995; Naccarato & Farinat, 1991; and, Anundi and Lindros, 1992). In 2011 it is estimated that nearly 20,000 people will die from liver cancer in the United States (American Cancer Society, 2011).

A second common problem for alcoholics is the function of the pancreas. Pancreatitis, an inflammation of the pancreas, is very common in severe alcoholics. Pancreatitis is life threatening because of its effect on the efficiency of the operation of the pancreas. The pancreas is a gland located behind the stomach. It releases the hormones insulin and glucagon, as well as digestive enzymes that help you digest and absorb food (National Center for Biotechnology Information, 2010). Alcohol abuse has a very negative effect on the pancreas, not only limited to pancreatitis, but also pancreatic *cancer*.

Nearly 38,000 people will die in 2011 from pancreatic cancer in the according to the American Cancer Society. Of all forms of cancer this ranks as third in number, even surpassing more commonly known cancers as leukemia and lymphoma. In fact, the only forms of cancer that kill more are breast and colon cancers (American Cancer Society, 2011)

A third problem for alcoholics is the function of their brain after years of abusing it with alcohol. While some studies have shown the brain to recover from the effects of alcohol with long-term sobriety, others have not (Cardenas, Studholme, Gadzinski, Durazzo, & Meyerhoff, 2007 and Gadzinski, Durazzo, & Meyerhoff, 2005). Cardenas, et al found that brain tissue

volume recovers with a significant period of abstinence. Interestingly, Cardenas' study found that drinking severity was not significantly related to the brain's structural changes as much as length of time drinking. The results of this study are tempered by the fact that it had a relatively small sample size, limiting its prediction of how much recovery of the brain would exist (Cardenas, et al, 2007). Studies that don't show improvement on the part of the recovering alcoholic appear to be the result, in part, to the combination of many years of alcohol abuse and the advancing age of the alcoholic (Rosenbloom, and Pfefferbaum, 2008). Specifically, abstinent older alcoholics tend to suffer from brain atrophy producing memory loss and impairments in their visual-spatial motor skills that may be a combination of the aging process and the effects of years of alcohol abuse (DiScalfani, Ezekial, Meyerhoff, Dillon, Weiner, and Fein, 2006).

In a twist of what this study is trying to ascertain, a 1992 study looked at the mortality rate of alcoholics who stayed abstinent compared to those who relapsed over an eleven year period. While those that relapsed died at a rate five times higher than those who stayed sober, it is interesting to note that the sober group's mortality rate was similar to a non-alcoholic control group. The researchers concluded that alcoholic men who achieved "long-term" sobriety experienced the same mortality rate of the general male population (Bullock, Grant, & Reed, 1992).

As stated earlier, this study is specific to ailments relating to the liver, pancreas and brain. It has always been thought that alcohol and smoking would have the greatest effect on the lungs, throat, larynx, and esophagus. While that is true, studies have also found that smoking combined with alcohol is detrimental to one's pancreas (Pfutzer & Singer, 2005). Therefore, this study's stated purpose would not be complete without an examination of the combined effects of alcohol and smoking on the alcoholic.

Heavy drinking and smoking combined is the most common cause of preventable death in the Western World (Edwards, 2004). More than 90% of alcohol abusers are smokers, and the heaviest drinkers tend to smoke the most. Studies in treatment centers have shown ranges of 86% to 97% of males as smokers and 82% to 90% for women (Burling & Ziff, 1988). In 2005 Pfutzer and Singer found that alcoholics who smoke significantly increased their chances of acquiring chronic pancreatitis, as did other researchers (Maissoneuve, et al, 2005 and Talamini, et al, 1996). This is thought to be because of the synergistic pathophysiological mechanisms in alcohol and nicotine appear to create a circumstance that the two actions together create more than each do individually (Ait-Daoud, et al, 2005).

In general, the literature regarding the ailments of long-term sober alcoholics is sparse and tends to be dated. While the effects of alcohol abuse are evident and highly studied, the view towards those who have changed their lives over long periods of time is less investigated. The results below may give an inkling as to why that is so.

### Results

This study included the sober characteristics of five individuals with more than twenty years of sobriety. The average number of years of sobriety in the group was 31.2 years, with a mean of 29 years. The longest period of sobriety in the group was forty-two years. The ages of those participating in the study were from forty-nine to seventy-four. The average age was 61.8 years, and the mean was 62 years. The average age at which the five individuals became abstinent was 30.4 years old, with a mean of 32 years. The oldest person at the beginning of sobriety was thirty-five, the youngest was twenty-one. There were four men and one woman. All five participants were Caucasian.

While there were common characteristics among the subjects, each of the five had their own unique stories. Our oldest subject consumed his last alcoholic beverage in 1969 at the age of 32. Besides alcohol this subject was also addicted to a variety of pills. He was also a heavy smoker. This subject has had some substantial physical consequences due to his alcoholism. Being a smoker for many years, he ultimately developed emphysema. He attributes this to the combination of drinking and smoking as he stated that he smoked more when he drank. In sobriety the patient has also suffered through the deterioration and replacement of his teeth due to his lifestyle. Finally, he stated that he has a 10% loss of his liver function. This has not progressed further in sobriety and is currently dormant. He has been told by his doctor that this will remain so as long as he continues to be abstinent.

Our next subject got sober in 1976, at the age of 31. He was strictly an alcoholic, with no other drug or mind-altering substance use. This subject suffered through many afflictions while he was drinking. They included liver enzyme elevation, hypertension, severe abdominal pain which was related to a hiatal hernia that developed through his alcoholism. In sobriety the only alcohol-related health issue he has had is regarding his white blood cell count, which has been consistently at the borderline for a dangerous area.

The third subject is the only woman in the group. She got sober at the age of 33. Her drugs of choice were alcohol and benzodiazepines. At the age of fifteen she was involved, as the driver, in a drunk driving accident where she was almost killed. She suffered severe injuries to her legs, snapping her tibia and shattering her ankle. Nearly fifty years later she continues to suffer the consequences of that accident as she recently had her ankle operated on again to relieve the pain. This subject has had no new alcohol related physical issues in sobriety.

The fourth subject became sober at twenty-one years old, and was our youngest participant. While he used many different drugs, alcohol was his first choice. He has a long history in Alcoholics Anonymous as he went to his first meeting at the age of 4, meeting founder Bill Wilson at the age of six. His father and brother are both recovering alcoholics. He stated that he had to make the choice of sobriety or jail. This subject appears to have achieved sobriety at such a young age that he has had no enduring physical problems from his alcohol use. In fact, at the age of 48 he was covered by health insurance for the first time in his life.

Our final subject stated that while he used every drug he could get his hands on, alcohol was always involved and was his first love. He got sober at the age of 35. Toward the end of his alcohol and drug use he stated that he would use drugs for four or five consecutive days without any sleep, finally passing out for three to five days. This subject suffered a stroke approximately seven years before he achieved sobriety. He also suffered from severe headaches, constant bronchitis, and sinus problems while he was active in the disease. In sobriety this subject suffers from both short-term memory loss and memory loss from different periods of his past. This is in contrast to the fact that he never “blacked out” when he was drinking or using drugs and had no memory issues then. Additionally, this subject stated that he lost all his teeth in sobriety due to the abuse caused by alcohol and drugs. He also suffers from hypertension and sleep apnea.

It is interesting to note that while this test group has certainly had consequences from their alcohol and drug use, the consequences have not been so severe that they caused any organ failure or affected their ability to live normal lives. This is thought to be for two reasons: a) they achieved sobriety at a relatively young age, all 35 or under; and, b) because they got sober young they drank for shorter periods of time and therefore, had less of an opportunity to do the damage that leads to the catastrophic consequences mentioned in this study.

## Discussion

The findings of this study imply that long-term abstinent alcoholics often continue to suffer from alcohol-related affliction even twenty years after they've become abstinent. However, the afflictions they suffer from did not occur suddenly, but were identified while they were still active in their alcoholism or soon thereafter. This is in sharp contrast with research outlined earlier by Diehl which discusses liver disease being dormant for decades and then re-occurring (Diehl, 2002). Further, this study shows that what was identified at the beginning of their abstinence as a physical or mental problem will, more than likely, not get worse. Improvement is not guaranteed, nor will someone's physical or mental state return to its pristine state prior to alcohol abuse. The alcoholic's age and the number of years of their abuse appear to be a major factor in this instance. No evidence came to light in the study showing that individuals experienced sudden negative surprises as to their conditions and that any ailments that continue to exist or proceed appear to be fairly predictable. Both the research and the study show that long-term abstinent alcoholics who have not reached the more extreme conditions such as alcoholic hepatitis, cirrhosis, or end-stage liver disease experience an improvement of their condition through long-term sobriety. The study is severely limited by the small number of participants. However, the research accompanying it implies that an alcoholic who stops drinking will stop the progression towards an alcoholic death unless the conditions above exist. There is one major exception to this statement, however is in alcoholics who are heavy smokers. The only member of the study group who was a heavy smoker was also the member who suffered the most severe consequences. He was also the only member who could be characterized as having had significant long term consequences that were hidden for many years

before the symptoms came to light. This appears to agree with the alcoholic/smoker research which is detailed in the Literature Review.

This study and the attendant research necessary have been enlightening. The stated reasons for the study have yielded what I believe are important answers to me personally. While a larger study may have shown some of the expected results, the actual results speak for themselves. Alcoholics in long-term sobriety experience an improved life both physically and mentally. How much improvement appears to be based on the length of time the alcoholic was abusing alcohol and the age when they became abstinent. Long-term abstinent alcoholics may still suffer from ailments that they acquired during their active abuse. However, the incidences of a condition “sneaking up on them” seem to be rare. Therefore, I believe that devoting a dissertation to this subject is not warranted at this time. Perhaps in the future more information will come to light that will make such a study more useful.

That being said, I do believe that there is a related study that would yield important information. Performing the research into this study has shown the significant impact that smoking combined with alcoholism has on various forms of cancer. In many cases it appears that this does sneak up on a long-term abstinent alcoholic, due in part to the fact that they have continued to smoke after they became abstinent. I believe a study discussing the precipitating effect of alcoholism combined with smoking promoting oral, throat and esophageal cancer would be an interesting study. There is a vast amount of research that already exists, but not a lot of public knowledge on it.

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