

Impact of Alcohol Consumption on Health

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Abstract

Alcohol is an intoxicant affecting a wide range of structures and processes in the central nervous system which, interacting with personality characteristics, associated behaviour and sociocultural expectations, are causal factors for intentional and unintentional injuries and harm to both the drinker and others. The injuries and harm include interpersonal violence, suicide, homicide and drink-driving fatalities. Alcohol consumption is a risk factor for risky sexual behaviour, sexually transmitted diseases and HIV infection. Moreover, it is a potent teratogen with a range of negative outcomes to the foetus, including low birth weight, cognitive deficiencies and fetal alcohol disorders. It is neurotoxic to brain development, leading to structural changes in the hippocampus in adolescence and reduced brain volume in middle age. Alcohol is a dependence producing drug, similar to other substances under international control. Apart from being a drug of dependence, alcohol has been known for many years as a cause of as many as 60 different types of disease and condition, including injuries, mental and behavioural disorders, gastrointestinal conditions, cancers, cardiovascular diseases, immunological disorders, lung diseases, skeletal and muscular diseases, reproductive disorders and pre-natal harm, including an increased risk of pre-maturity and low birth weight. Therefore the paper will make an in depth analysis of an introduction of the alcohol consumption with an analysis of its effect on physical and mental health and finally a conclusion.

Key Words: Alcohol, health, hazards, physical health, mental health

Introduction

Alcoholism is a growing medical and public health issue both in adults and in the younger generation. It is a multi-logical phenomenon influenced by genetic, psychological, cultural and other factors. Alcoholic beverages have traditionally been prepared from various ingredients such as grapes, hops, rice, honey, etc. Drinking prevalence has varied and is more pronounced in women and the youth. Alcoholism is shown to be of neurophysiological etiology and may lead to impairment of all human body systems. The most frequent cause of death in alcoholics are diseases of the cardiovascular system. The problem of

alcoholism at workplace is very important since by affecting health and reducing work productivity it leads to accidents, injuries and decreased working capacity. Efficient solving of alcoholism and related problems includes early detection, so it is necessary to orient the health care services towards primary prevention and early interventions. Alcohol is widely used and enjoyed in Irish society. It is associated with many aspects of Irish social and cultural life and its use has become deeply woven into our national identity. Alcohol use accompanies many life events and rites of passage; christenings, first communions and weddings are often celebrated with alcohol, and alcohol is often part of the

ritual of wakes and funerals. Drinking alcohol can be a highly pleasurable activity; the desire for its positive, short-term effects, including increased enjoyment, euphoria and the general expression of positive mood, is probably what motivates most people to drink in the first place. Alcohol has traditionally been recommended by medical practitioners for alleviating pain, for stress relief, and for an array of minor ailments. More recently, the alleged health benefits of alcohol have become the focus of greater scientific scrutiny. It is now widely accepted that low alcohol consumption (fewer than two drinks per day) is associated with lower coronary heart disease incidence and mortality in middle aged and older adults. Against this backdrop, however, it is important to remember that alcohol is no ordinary commodity – it is a toxic substance, it is an intoxicant and it is also a drug of dependence. Alcohol is implicated in numerous premature deaths every year from disease, accidents and violence. It has been shown to be causally related to more than 60 different medical conditions. Overall, 4% of the global burden of disease is attributable to alcohol, and it is the third leading cause of death and disability in developed countries, after tobacco and hypertension (WHO 2002). The negative consequences of alcohol include harm to physical health, psychological well-being and relationships. These consequences impact on all facets of society, from the affected individuals and their families to the medical, social and legal resources of the state. Apart from being a drug of dependence, alcohol has been known for many years as a cause of some 60 different types of disease and condition, including injuries, mental and behavioural disorders, gastrointestinal conditions, cancers, cardiovascular

diseases, immunological disorders, lung diseases, skeletal and muscular diseases, reproductive disorders and pre-natal harm, including an increased risk of pre-maturity and low birth weight (Anderson & Baumberg, 2006). In recent years, overwhelming evidence has confirmed that both the volume of lifetime alcohol use and the combination of frequency of drinking and amount drunk per incident increase the risk of alcohol-related harm, largely in a dose-dependent manner (WHO Regional Office for Europe, 2009; Rehm et al., 2010) with the higher the alcohol consumption, the greater the risk. For some conditions, such as cardiomyopathy, acute respiratory distress syndrome and muscle damage, harm appears only to result from a sustained level of high alcohol consumption, but even at high levels, alcohol increases the risk and severity of these conditions in a dose-dependent manner. The frequency and volume of episodic heavy drinking are of particular importance for increasing the risk of injuries and certain cardiovascular diseases (coronary heart disease and stroke). Although there is a protective effect of light to moderate drinking on enzymatic diseases, overwhelmingly alcohol is toxic to the cardiovascular system. Alcohol is an intoxicant affecting a wide range of structures and processes in the central nervous system which, interacting with personality characteristics, associated behaviour and sociocultural expectations, are causal factors for intentional and unintentional injuries and harm to both the drinker and others. These injuries and harm include interpersonal violence, suicide, homicide and drink-driving fatalities. Alcohol consumption is a risk factor for risky sexual behaviour, sexually transmitted diseases and HIV infection. Moreover, it is a potent

teratogen with a range of negative outcomes to the fetus, including low birth weight, cognitive deficiencies and fetal alcohol disorders. It is neurotoxin to brain development, leading to structural changes in the hippocampus in adolescence and reduced brain volume in middle age. Alcohol is a dependence producing drug, similar to other substances under international control. The process of dependence occurs through its reinforcing properties and neuroadaptation. It is also an immune suppressant which increases the risk of communicable diseases, including tuberculosis. Further, alcoholic beverages and the ethanol in them are classified as carcinogens by the International Agency for Research on Cancer.

Review of Literature

Alcohol consumption and problems related to alcohol vary widely around the world, but the burden of disease and death remains significant in most countries. Alcohol consumption is the world's third largest risk factor for disease and disability; in middle-income countries, it is the greatest risk. Alcohol is a causal factor in 60 types of diseases and injuries and a component cause in 200 others. Almost 4% of all deaths worldwide are attributed to alcohol, greater than deaths caused by HIV/AIDS, violence or tuberculosis. Alcohol is also associated with many serious social issues, including violence, child neglect and abuse, and absenteeism in the workplace. Yet, despite all these problems, the harmful use of alcohol remains a low priority in public policy, including in health policy. Many lesser health risks have higher priority. The harmful use of alcohol is a particularly grave threat to men. It is the leading risk factor for death in males ages 15–59,

mainly due to injuries, violence and cardiovascular diseases. Globally, 6.2% of all male deaths are attributable to alcohol, compared to 1.1% of female deaths. Men also have far greater rates of total burden attributed to alcohol than women – 7.4% for men compared to 1.4% for women. Men outnumber women four to one in weekly episodes of heavy drinking – most probably the reason for their higher death and disability rates. Men also have much lower rates of abstinence compared to women. Lower socioeconomic status and educational levels result in a greater risk of alcohol-related death, disease and injury – a social determinant that is greater for men than women.

The relationship between alcohol consumption and stroke risk has been examined in two recent overviews. In a meta-analysis, researchers compared the relationship between alcohol consumption and the risk of is chemical and hemorrhagic strokes (English et al. 1995). They detected no differences in the risk patterns for the two types of stroke, but found clear evidence that heavy drinking was associated with increased stroke risk, particularly in women. In contrast, the Cancer Prevention Study II found that, in men, all levels of drinking were associated with a significant decrease in the risk of stroke death, but in women, the decreased risk was significant only among those consuming one drink or less daily (Thunet al. 1997). A recent study reported that among male physicians in the Physicians' Health Study, those who consumed more than one drink a week had a reduced overall risk of stroke compared with participants who had less than one drink per week (Berger et al. 1999).

Health Hazards

Harmful alcohol consumption is risky both for the drinker and for other people. An intoxicated person can put people in harm's way by involving them in traffic accidents or violent behaviour, or by negatively affecting co-workers, relatives, friends or strangers. A survey in Australia found that two thirds of respondents were adversely affected by someone else's drinking in the past year. Alcohol consumption also affects society at large. Death, disease and injury caused by alcohol consumption have socioeconomic impacts, including the medical costs borne by governments, and the financial and psychological burden to families. The hazardous and harmful use of alcohol also impacts on workers' productivity. Perhaps the biggest social impact is crime and violence related to alcohol consumption, which create significant costs for justice and law enforcement sectors. When drunk regularly over time and/or drunk in a pattern of heavy single drinking sessions, alcohol can cause a variety of health conditions. These include cancers and other conditions such as alcoholic liver disease, which can range from reversible to permanent liver damage due to alcohol. The risks of alcohol-related cancers and other health conditions caused by alcohol are greatest in those who are dependent on alcohol or drink heavily, and the risks increase with the average amount of alcohol drunk. Table 3 lists some of the conditions and complications of chronic and/or heavy episodic alcohol use.

Contrary to the belief of many people, the health, safety and socioeconomic problems attributable to alcohol can be effectively reduced. Many evidence-based alcohol policies and prevention programs are shown to work. One of the most

effective is raising alcohol prices by raising taxes. This has the added benefit of generating increased revenues. A recent analysis of 112 studies on the effects of alcohol tax increases affirmed that when taxes go up, drinking goes down, including among problem drinkers and youth. Implementing and enforcing legal drinking ages for the purchase and consumption of alcohol is another effective way to reduce alcohol-attributable problems, as is the setting of maximum blood alcohol concentrations (BACs) for drivers and enforcing them with sobriety checkpoints and random breath testing. These are effective and cost-effective ways to reduce alcohol-related traffic accidents. Yet, not enough countries use these and other effective policy options to prevent death, disease and injury attributable to alcohol consumption. Since 1999, when WHO first began to report on alcohol policies, at least 34 countries have adopted some type of formal policies. Restrictions on alcohol marketing and on drink-driving have increased but, in general, there are no clear trends on most preventive measures. A large proportion of countries, representing a high percentage of the global population, has weak alcohol policies and prevention programs that do not protect the health and safety of the population.

Alcohol (ethanol or ethyl alcohol) is the ingredient found in beer, wine and spirits which causes drunkenness. Alcohol is formed when yeast ferments (breaks down without oxygen) the sugars in different foods; for example wine is made from the sugar in grapes, beer from the sugar in malted barley (a type of grain), cider from the sugar in apples, and vodka from the sugar in potatoes, beets or other plants. Over the years, scientists have documented the effects of alcohol on many

of the body's organ systems and its role in the development of a variety of medical problems, including cardiovascular diseases, liver cirrhosis, and fetal abnormalities. Alcohol use and abuse also contribute to injuries, automobile collisions, and violence. Alcohol can markedly affect worker productivity and absenteeism, family interactions, and school performance, and it can kill, directly or indirectly. On the strength of this evidence, the United States and other countries have expended considerable effort throughout this century to develop and refine effective strategies to limit the negative impact of alcohol (Bruun et al. 1975; Edwards et al. 1994). In the past two decades, however, a growing number of epidemiologic studies have documented an association between alcohol consumption and lower risk for coronary heart disease (CHD), the leading cause of death in many developed countries (Chadwick and Goode 1998; Criqui 1996a, b; Zakhari 1997). Much remains to be learned about this association, the extent to which it is due specifically to alcohol and not to other associated lifestyle factors, and what the biological mechanisms of such an effect might be.

Effect on Physical Health

Alcohol consumption has huge impact on physical health. It leads to Long-Term Health Risks. Over time, excessive alcohol use can lead to the development of chronic diseases and other serious problems including: High blood pressure, heart disease, stroke, liver disease, and digestive problems. Cancer of the breast, mouth, throat, esophagus, liver, and colon. Cardiovascular diseases account for more deaths than any other group of diseases. Several large prospective studies have reported a

reduced risk of death from CHD across a wide range of alcohol consumption levels. Drinking more than prescribed standard drinks a day can seriously affect health over one's lifetime. It can lead to dependence and addiction, especially in people who are suffering with depression leading to suicide. Some of the negative impact of alcohol consumption on physical health are the following:

Blood and Immune System

Chronic heavy alcohol use can cause abnormalities in the blood, leading to anaemia (low haemoglobin, the component of blood that carries oxygen around the body) and low platelets (platelets help prevent bleeding). Chronic heavy alcohol use also suppresses the immune system (such as affecting the white blood mouth and throat Being drunk can cause slurred speech. stomach and food pipe Too much alcohol can have short- and long-term effects on the oesophagus (food pipe) and the stomach. intestines Both the small intestine and large intestine can be affected by long-term alcohol use, including cancer risk. liver Long-term alcohol use can cause damage to the liver in a variety of ways. pancreas Alcohol use, particularly when heavy, can cause acute or chronic pancreatitis (inflammation and damage to the pancreas). kidneys Alcohol has an effect on the kidneys' functions. heart Alcohol use at low levels may be beneficial for the heart in some people but is harmful for everyone at high levels. blood Alcohol is absorbed into the bloodstream and can have some long-term effects. mental health Alcohol can be used to relax but it is also addictive and can lead to dependency. sexual health Alcohol use can affect judgment and increases the chance of unwanted sexual experiences. It can also affect sexual performance in men.

Breasts (in women): Long-term alcohol use increases the risk of breast cancer.
Bones and muscles: Alcohol immediately affects coordination and increases the likelihood of injury, while ongoing heavy alcohol use can have other health effects.
Eyes: Being drunk can cause blurred vision.

Skin: Alcohol use can have direct and indirect effects on the skin. Alcohol affects all parts of the body including: Summary of main effects Body effects of alcohol cells that fight infections), making it more difficult for the body to fight off both viral and bacterial infections. People who drink heavily over a long time are more likely to suffer from infections after surgery, burns, trauma, hepatitis C infection, HIV/AIDS, meningitis, tuberculosis and pneumonia (acute inflammation of the lung, usually due to infection).

Brain and Nervous System

Being drunk impairs judgment, inhibitions and concentration, and in increasing amounts leads to drowsiness and coma. The loss of memory for a period of drunkenness (alcoholic blackout) can occur in occasional as well as regular heavy drinkers, and is due to alcohol interfering with the laying down of memories.

Heart and Blood Pressure

The evidence for the effect of alcohol on the heart is mixed. There is an opinion that light to moderate alcohol use (up to one standard drink per day for women and up to two standard drinks per day for men) can, in older age groups, reduce the risk of developing and dying from coronary artery disease (narrowing and blockage of the arteries supplying blood to the heart resulting from the build-up of fatty deposits inside the walls of the arteries

(atherosclerosis), which can cause angina and heart attacks). This appears to be because small quantities of alcohol alter the lipids and clotting factors in the blood to make them protective against heart disease. However, heavy drinking (both chronic and a pattern of heavy drinking sessions) increases the risk of coronary artery disease. Heavy drinking (chronic and/or at a single session) is also associated with sudden death from heart failure, with irregular heartbeats and with chronic disease of the heart muscle (dilated cardiomyopathy). Dilated cardiomyopathy leads to heart failure, where the heart can no longer pump blood around the body effectively. Heavy chronic alcohol use is also linked to high blood pressure, particularly in men. Blood pressure increases with drinking more than two or three drinks a day on average and restriction of alcohol lowers the blood pressure. Drinking alcohol in order to 'protect the heart' is not advisable, since alcohol is an addictive drug that causes cancer, increases the risk of injury and causes damage to the fetus in pregnant women. People can find it difficult to limit their drinking to one or two standard drinks a day and heavy drinking actually increases the risk of heart disease and. People who have risk factors for or have established heart disease should focus on other factors such as cigarette smoking, high cholesterol, high blood pressure, diabetes, overweight and physical inactivity. Young and middle-aged adults, especially women, are more likely to experience harm than benefit from alcohol use due to risk from injury and, for women, increased risk from breast cancer

Kidney Related Problems

Alcohol is a diuretic, meaning that it causes water to be lost from the body

through the kidneys (into urine), which can lead to dehydration. Alcohol can also cause the loss of important minerals and salts from the body such as magnesium, calcium, phosphate, sodium and potassium, either directly or because alcohol induces vomiting. Low levels of these elements can cause many problems ranging from irregular heartbeats to seizures.

Mental Health

Heavy alcohol use directly affects brain function and alters various brain chemical (i.e., neurotransmitter) and hormonal systems known to be involved in the development of many common mental disorders (e.g., mood and anxiety disorders) (Kobo 2000). Thus, it is not surprising that alcoholism can manifest itself in a broad range of psychiatric symptoms and signs. (The term “symptoms” refers to the subjective complaints a patient describes, such as sadness or difficulty concentrating, whereas the term “signs” refers to objective phenomena the clinician directly observes, such as fidgeting or crying.) In fact, such psychiatric complaints often are the first problems for which an alcoholic patient seeks help (Anthenelli and Schuckit 1993; Helzer and Przybeck 1988). The patient’s symptoms and signs may vary in severity depending upon the amounts of alcohol used, how long it was used, and how recently it was used, as well as on the patient’s individual vulnerability to experiencing psychiatric symptoms in the setting of excessive alcohol consumption (Anthenelli and Schuckit 1993; Anthenelli 1997). For example, during acute intoxication, smaller amounts of alcohol may produce euphoria, whereas larger amounts may be associated with more dramatic changes in mood, such as sadness, irritability, and nervousness. Alcohol’s disinhibiting properties may

also impair judgment and unleash aggressive, antisocial behaviors that may mimic certain externalizing disorders, such as antisocial personality disorder (ASPD) (Moeller et al. 1998). (Externalizing disorders are discussed in the section “ASPD and Other Externalizing Disorders.”) Psychiatric symptoms and signs also may vary depending on when the patient last used alcohol (i.e., whether he or she is experiencing acute intoxication, acute withdrawal, or protracted withdrawal) and when the assessment of the psychiatric complaints occurs. For instance, an alcohol-dependent patient who appears morbidly depressed when acutely intoxicated may appear anxious and panicky when acutely withdrawing from the drug (Anthenelli and Schuckit 1993; Anthenelli 1997). In addition to the direct pharmacological effects of alcohol on brain function, psycho-social stress that commonly occur in heavy-drinking alcoholic patients (e.g., legal, financial, or interpersonal problems) may indirectly contribute to ongoing alcohol-related symptoms, such as sadness, despair, and anxiety (Anthenelli 1997; Anthenelli and Schuckit 1993).

Conclusion

Therefore it could be concluded that consumption of alcohol is indeed dangerous to health. It not only creates an impact on deterioration of physical and mental health, but also it could create impact on the society which creates in imbalance in the societal relations and harmony in the family. No doubt there are precautions available, but it is very important to analyse that alcohol can damage an individual to such an extent that it may lead to depression thereby leading to suicide. The only way to lead a healthy life is to say no to alcohol.

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