# Research and Reviews: Journal of Medical and Health Sciences

# Alcohol Consumption in Cardiovascular Diseases

Priya Bansal\*

Department of Biotechnology and Microbiology Program, Meerut Institute of Engineering & Technology, CCS University, Meerut, Uttar Pradesh, India

# **Editorial Article**

Received: 30/01/2015 Accepted: 17/02/2015 Published: 27/02/2015

#### \*For Correspondence

Priya Bansal, Department of Biotechnology and Microbiology Program, Meerut Institute of Engineering & Technology, CCS University, Meerut, Uttar Pradesh, India; Tel: 08897468415; E-mail: <u>pribansal04@gmail.com</u>

Keywords: Alcohol, Cardiovascular Diseases, Dependence

# INTRODUCTION

Cardiovascular Disease is the dysfunction that influences one's heart along with the body's circulatory system. Cardiovascular disorders in general include an array of diseases such as atherosclerosis, congenital heart disease, congestive heart failure, coronary artery disease, hypertension, myocardial infarction, myocardial infarction) etc. CVDs are among the foremost reason behind morbidity in addition to fatality throughout the world. Combined with the cardiovascular disease, extreme consumption of alcohol can elevate the blood pressure and increase the risk towards enlarged heart, heart failure or stroke. Increased consumption of alcoholic beverages yields multiple health effects of an individual. Alcohol acts as a toxin [1] that impact unfavorably on heart muscle without any prior information. In fact, heart problem is probably the foremost reasons behind death when associated with alcohol consumption. However, A meta-analysis associated with 34 scientific tests [2] found a reduced threat associated with mortality through cardiovascular disease in men exactly who consumed only 2-4 cocktails daily in addition to females exactly who consumed 1-2 cocktails daily. This short article sets out almost all of the negative heart consequences that have been described secondary to the consumption of alcohol at levels above recommended sensible limits.

The WHO mandate render the information that consistent utilization concerning 3-4 units a day by men and 2-3 units by women of all ages, along with two liquor free days a week, could be permitted in general. These breaking points are based on research analysis on a particular count and halfway from expert opinion or master sentiment [3]. Binge drinking results a quick increment in blood liquor fixation because of fast assimilation, distribution and zero-order kinetics which subsequently lead to 'drunkenness'. This further can bring about trance, respiratory disappointment, hypotension or cardiovascular failure. Liquor ill-use expands levels of triglycerides [4] and builds the dangers for hypertension, heart disease, and stroke. Moreover, the additional calories in liquor can add to corpulence, a significant danger element for many heart issues.

# EFFECTS OF ALCOHOL ON CARDIOVASCULAR SYSTEM

In case 3 or more standard drinks of alcohol are taken consistently, then there is a 100% risk of Systolic and diastolic hypertension [5,6], Stroke, Non-ischaemic, expanded cardiomyopathy and Cardiac arrhythmias. Studies have demonstrated that substantial drinking can build blood glucose level or may become responsible for the onset of type-2 diabetes [7]. Huge measure of liquor over the long haul can induce alcoholic cardiomyopathy. Alcoholic cardiomyopathy clinically may induce hypertrophy of the heart muscles that may result into congestive heart disappointment over the period [8,9]. However, liquor consumption may aid in hypertension and cardiovascular ailment. The relationship between liquor intake

and type-2 diabetes is blurred due to lack of proper research evidences [10]. Hypertension may give rise to aortic sclerosis followed by aortic aneurysm arrangement and aortic dismemberment if not treated in time [11].

In talking about relationship between liquor drinking and diabetes [12], we have to examine relationship between liquor drinking and hypertension and cardiovascular infection. Hypertension is an affirmed cardiovascular sickness connected with liquor drinking. Klatsky [13] reviewed 70 studies from different countries and the studies unequivocally settled an empiric relationship between excessive liquor drinking (>/= 3 standard beverages/day) and hypertension.

Liquor additionally may influence the coronary illness by modulating the activity of different particles involved in various physiological aspects of heart diseases [14,15]. Cytoplasm, mitochondria, and sarcoplasmic reticulum are the three primary Mg2+ compartments inside nucleated mammalian cells including cardiovascular myocytes [16-19], whereas Mg2+ aids in controlling ATP creation, heart bioenergetics, and Ca2+ discharge and cycling. Nguyen and Romani [20] reported the impact of EtOH organization in relation to Mg2+ homeostasis in an in-vitro model of cardiovascular myocytes. Thus, loss of Mg2+ from these compartments can influence the flux of energetics of the cells and metabolic methods to a certain degree of caution.

The developing assortment of academic writing shows a positive relationship between youth drinking practices and presentation to liquor publicizing [21,22]. Any study has not discovered any relationship between schools understudies obtained learning and the example of liquor utilization. Similarly, no noteworthiness was discovered when the variables "extracurricular exercises" and "liquor utilization" were analyzed. Comparable results were found in different studies which demonstrated that the hurtful utilization of liquor is not identified with any particular course, gathering of understudies or time of study [23].

A standout amongst the most extreme wellbeing results of liquor utilization is Alcohol Dependence (AD), which is a maladaptive example of utilization, portrayed by a loss of control, prompting clinically critical impedance or pain. Liquor utilization is a real hazard variable for mortality in many countries of the world [24,25].

#### Moderate drinking can prevent coronary heart disease

Nonetheless, several studies have shown that direct consumers have a lower danger of both nonfatal myocardial dead tissue and lethal coronary illness than do teetotalers. To figure out if liquor really forestalls coronary illness or whether different variables may add to this relationship, specialists directed a methodical writing survey and a consolidated examination (i.e., meta-investigation) of 42 distributed studies. Their examination found that utilization of up to two beverages every day can advance changes in the levels of atoms that lessen the danger of coronary illness while likewise expanding the levels of specific particles that advance coronary illness. Nonetheless, it needs to be illustrated that unmistakable amount of moderate liquor drinking for defensive consequences for diabetes may be unique in relation to that for defensive impacts on hypertension [26] In addition, calculating the exact allowed amount is cumbersome and almost impossible as it differs from individual to individual." [27].

#### CONCLUSION

Acknowledgment of the recommending issues is a emerging step towards enhancing the endorse quality and medicine security [28]. It is vital to plan and actualize instructive policies with the understudies so as to illuminate the National Alcohol Policy and caution them about the positive aspects of OKAY drinking [6,29,30]. More considerable liquor strategies and enhanced scope of AD medications are conceivable drives to decrease liquor utilization and the subsequent weight of illness [31]. Information about value and drinking practices of overwhelming consumers has been developing [32,33].

Finally, we need to recall the fact that today's underage consumers are tomorrow's true blue clients. Therefore, strict laws and proper information dissemination is necessary for educating the young people and save our future generation.

### REFERENCES

- 1. Franklin KM et al. Caffeinated Alcoholic Beverages An Emerging Trend in Alcohol Abuse. J Addict Res Ther. 2013; S4:015.
- 2. Di Castelnuovo et al. "Alcohol dosing and total mortality in men and women: an updated meta-analysis of 34 prospective studies". Arch Intern Med. 2006; 166:2437–2445.
- 3. Carone AR. Alcoholism: Psychological Damage to Their Own Children. J Alcohol Drug Depend. 2015; 3:188.
- 4. Patel NKJ et al. Metabolic Syndrome and its Impact on Cardiovascular Diseases. J Metabolic Synd. 2014; 3:142.
- 5. Yanagawa Y et al. Characteristics of Severe Alcoholic Ketoacidosis with a Reversible Visual Disturbance. J Clinic Toxicol. 2012; S7:001.
- 6. Peters BH and Chun S. Drinking Patterns among the British: Implications for Alcohol Policy Support. J Addict Res Ther. 2015; 6: 217.
- 7. Balkau B et al. A prospective study of alcohol use and non-insulin-dependent diabetes mellitus. Am J Epidemiol. 1991; 134: 1469-1470.
- 8. Awtry EH and Philippides GJ. "Alcoholic and cocaine-associated cardiomyopathies.". Prog Cardiovasc Dis. 2010; 52: 289-299.
- Ritu M and Manika M. Blood Homocystiene and Lipoprotein (A) Levels, Stress and Faulty Diet as Major Risk Factors for Early Cardiovascular Diseases in Indians. J Cardiovasc Dis Diagn. 2014; 2:163.
- 10. Li H et al. Alcohol Consumption and Risk of Type 2 Diabetes in Mongolian Population, Inner Mongolia, China. J Diabetes Metab. 2011; 2:116.
- 11. Barman M et al. Acute Aortic Dissection in a Young Healthy Athlete with Androgenic Anabolic Steroid Use: A Case Report from Qatar. J Cardiovasc Dis Diagn. 2014; 2:152.
- 12. Dave MB. Pioglitazone: A Better Choice of Drug in the Pre-diabetic Patients with High Risk of Cardiovascular Diseases. J Diabetes Metab. 2014; 5:447.
- 13. Klatsky AL. Alcohol and cardiovascular disease--more than one paradox to consider. Alcohol and hypertension: does it matter? Yes. J Cardiovasc Risk. 2003; 10: 21-24.
- 14. Kenneth J et al. Alcohol's Effects on the Risk for Coronary Heart Disease.
- 15. Vitali M et al. Neurophysiological Measures and Alcohol Use Disorder (AUD): Hypothesizing Links between Clinical Severity Index and Molecular Neurobiological Patterns. J Addict Res Ther. 2014; 5:182.
- 16. Romani A and Scarpa A. Regulation of cell magnesium. Arch Biochem Biophys. 1992; 298: 1-12.
- 17. Wolf FI et al. Cell physiology of magnesium. Mol Aspects Med. 2003; 24: 11-26.
- 18. Gunther T. Functional compartmentation of intracellular magnesium. Magnesium. 1986; 5: 53-59.
- 19. Fedotcheva NI et al. Thiol Dependent Sensitization of Mitochondria and Tumor Cells to Doxorubicin. J Clinic Toxicol. 2012; S7:002.
- 20. Nguyen H and Romani AMP. Effect of Alcohol Administration on Mg2+ Homeostasis in H9C2 Cells. J Cardiovasc Dis Diagn. 2014; 2: 179.
- 21. Piazza-Gardner A and Barry AE. A Drink Best Not Served: Conflicts of Interests When the Alcohol Industry Seeks To Inform Public Health Practice and Policy. J Clinic Res Bioeth. 2011; S4:001.
- 22. Razanamihaja N and Befinoana. Marie-Laure B. Alcohol Consumption by School-Going Adolescents in Madagascar: Prevalence and Associated Risk Factors. J Alcoholism Drug Depend. 2013; 2: 145.

- 23. Heather N et al. Alcohol use disorders and hazardous drinking among undergraduates at English universities. Alcohol Alcohol. 2011; 46: 270-277.
- 24. Shield KD et al. Alcohol Consumption, Alcohol Dependence and Related Harms in France: Increasing Public Health by Increasing the Availability of Treatment for Alcohol Dependence. J Addict Res Ther. 2013; S7: 005.
- 25. Horton A. Addictios. J Clinic Toxicol. 2014; S7:005.
- 26. Li H et al. Alcohol Consumption and Risk of Type 2 Diabetes in Mongolian Population, Inner Mongolia, China. J Diabetes Metab. 2011; 2:116.
- 27. Sivakumar J et al. No Safe Levels for Alcohol Consumption. Biosafety. 2015; 2015, 4:e154.
- 28. Zafar F et al. Drug Utilization Pattern in Cardiovascular Diseases: A Descriptive Study in Tertiary Care Settings in Pakistan. J Bioequiv Availab. 2015; 7: 059-062.
- 29. Baumgarten LZ et al. Alcohol Consumption among College Students Attending Healthcare Courses in an Institution in the South of Brazil. J Alcoholism Drug Depend. 2013; 1: 123.
- 30. Ashton JV and Blum K. Everything you Need to Know about Global Alcohol Policy. "Regulating Alcohol around the World: Policy Cocktailsâ€. J Addict Res Ther. 2014; 5: 169.
- 31. Shield KD et al. Alcohol Consumption, Alcohol Dependence and Related Harms in France: Increasing Public Health by Increasing the Availability of Treatment for Alcohol Dependence. J Addict Res Ther. 2013; S7: 005.
- 32. Fiona Pitcairn OrsquoMay et. al. I don't Think there's Anything Else the Politicians can do: Alcohol Policy in Scotland from the Perspective of People with Alcohol-Related Harm. J Alcohol Drug Depend. 2015; 3:186.
- 33. Horton A. Multiculturalism and the New Understanding of Diversity. J Alcohol Drug Depend. 2015; 3:189.