

Tobacco, Alcohol and Marijuana

This article is another of a series written by the Reading Board of Health intended to provide Reading residents with scientific data on human health and welfare topics. We hope the information presented will help people make informed decisions regarding these issues.

This coming November, Massachusetts residents will be voting on Ballot Question #4 on whether or not to make marijuana legal in the Commonwealth for people 21 years of age and older.

The discussion around legalizing marijuana poses many complex questions. For the sake of this article, the Board has decided to focus on two major public health issues, addiction and toxicity in people 21 and older. To put these issues in perspective, using marijuana will be compared to drinking alcohol and smoking tobacco. These latter two recreational drugs (nicotine being the active drug in tobacco) are currently legal and commonly used in the United States. The information presented in this article demonstrates that marijuana can be addictive and harmful, although much less so than alcohol and tobacco.

Comparing addiction rates for tobacco, alcohol, and marijuana is difficult, in part because of the complex nature of addiction. However, Dr. Kevin P. Hill, the Director of the Substance Abuse Consultation Service at McLean Hospital, recently indicated in a Boston Globe Op-Ed piece that while the “use rates of marijuana have doubled in the past ten years, addiction rates have remained stable and are lower than the addiction rates for alcohol and opioids.” In contrast, tobacco is highly addictive, as emphasized by the National Institute on Drug Abuse statement: “Most smokers use tobacco regularly because they are addicted to nicotine.” The Institute further states that “more than 85 percent of those who try to quit on their own relapse, most within a week.”

The public health effects of tobacco smoking and alcohol consumption are alarming. According to the CDC, smoking causes more than 492,000 premature deaths annually. Smoking tobacco can lead to cancer, heart disease, stroke, diabetes, and chronic obstructive pulmonary disease (COPD), which includes emphysema and chronic bronchitis. Tobacco smoking also increases the risk for tuberculosis, certain eye diseases, problems of the immune system, including rheumatoid arthritis, and is a known cause of erectile dysfunction in males. Taken together, these facts make tobacco use the single largest preventable cause of death and disease in the United States.

According to the National Institute on Alcohol Abuse and Alcoholism, alcohol causes liver disease and increases the risk of cancers of the mouth, esophagus, pharynx, larynx, liver, and breast. Nearly 88,000 people die from alcohol-related causes annually (mostly due to liver disease), making alcohol the fourth leading preventable cause of death in the United States.

As stated in an article in the journal *Scientific American*, marijuana is known to cause short-term effects such as memory and attention loss, and in some cases paranoia and irritability. The longer-term toxic effects on adults who use marijuana are more controversial, as can be seen in an article in the *New England Journal of Medicine* and the British journal *The Lancet*.

For example, while some studies suggest a link between marijuana use and long-term brain function, the results are difficult to interpret. In any case, the strong evidence linking tobacco or alcohol use with highly toxic, and sometimes lethal effects, on the human body does not exist for marijuana.

Although beyond the scope of this article, both marijuana and alcohol impair a person's ability to drive a motor vehicle. This can also be said for other drugs, whether prescribed or obtained illicitly. The Board strongly discourages people from driving under the influence of intoxicating substances. Additionally, the impact of a drug addiction reaches beyond the individual and can have devastating effects on both the addict's family and society as a whole.

Andrew Friedmann, Ph.D., Chair
Reading Board of Health