Health Benefits of Red Wine in Moderation

Laura Sundstrom
Beloit College, Beloit, WI

ABSTRACT

Red wine provides health benefits that no other alcohol can. Dark alcohol, red wine included, is beneficial because it contains polyphenols, which are antioxidants. But the component of red wine that increases the health benefits compared to other dark alcohols is resveratrol. The exact benefits of resveratrol are still being studied intensively. My method in this study was to examine peer-reviewed sources from nutritional journals to determine the health benefits of red wine. Red wine will reduce the risk of cardiovascular disease, slow the rate of tumor growth in certain cancers and treat neurological disorders such as Alzheimer's and Parkinson's. Red wine reduces the production of low density lipoproteins, often called bad cholesterol, and increases the production of high density lipoproteins, called good cholesterol. The maximum benefits from red wine can be received for men with one to two servings and for women with one serving. Red wine promotes good health and reduces the risk of premature death, but must be consumed in moderation for the best results.

INTRODUCTION

Red wine provides health benefits that no other alcohol can. Resveratrol, often referred to as a nutraceutical, is the compound found in red wine that distinguishes it from other alcohols. Polyphenols and flavonoids are types of antioxidants found in most dark alcohols, including red wine. Antioxidants such as polyphenols and flavonoids prevent the oxidation process where particles known as free radicals cause damage to healthy cells. Antioxidants can affect cholesterol, a lipid produced by the body.

People eat foods that impact their cholesterol in either a positive or negative way. Cholesterol is transported through the blood bound to lipoproteins, whose density decreases as more cholesterol is bound. The oxidation of low density lipoproteins leads to the production of plaques on the inside of blood vessels. This plaque leads to atherosclerosis and the hardening of the arteries. High density lipoproteins are the good types of cholesterol because they contain the least cholesterol, and remove it from circulation. Low density lipoprotein has lots of cholesterol, and deposits it in arteries to form plaque. I hypothesize that everybody would benefit from drinking one to two glasses of red wine each day, and if you cannot or will not drink red wine, then one should drink one to two glasses of another dark alcohol or dark grape juice each day.

METHOD

My method was to study peer-reviewed sources from nutritional journals.

RESULTS

Benefits of Resveratrol [1,6]:
•Cancer Prevention – minimizes DNA mutations that lead to cancer and blocks formation of new blood vessels that "feed" tumors
 Benefits found for: Breast Cancer, Colon Cancer, Leukemia, Melanoma, Prostate Cancer
•Life extension and anti-aging
•Cardiovascular disease prevention – reduces production of low density lipoproteins and increases the production of high density lipoproteins; thins the blood to reduce blood clotting which in turn reduces the risk of stroke
•Regulates nitric oxide - nitric oxide gas allows smooth muscles to relax which allows blood to flow smoothly through the vessel
•Treatment for certain neurological disorders such as Alzheimer's and Parkinson's

Flavonoids are antioxidants that produce anti-allergic, anti-inflammatory, anti-microbial, and anti-cancer activity. Flavonoids help in the prevention of some cancers and cardiovascular disease. While both red and white wine contain flavonoids, red wine contains significantly more because it is produced by fermentation in the presence of grape skins. [1, 2]
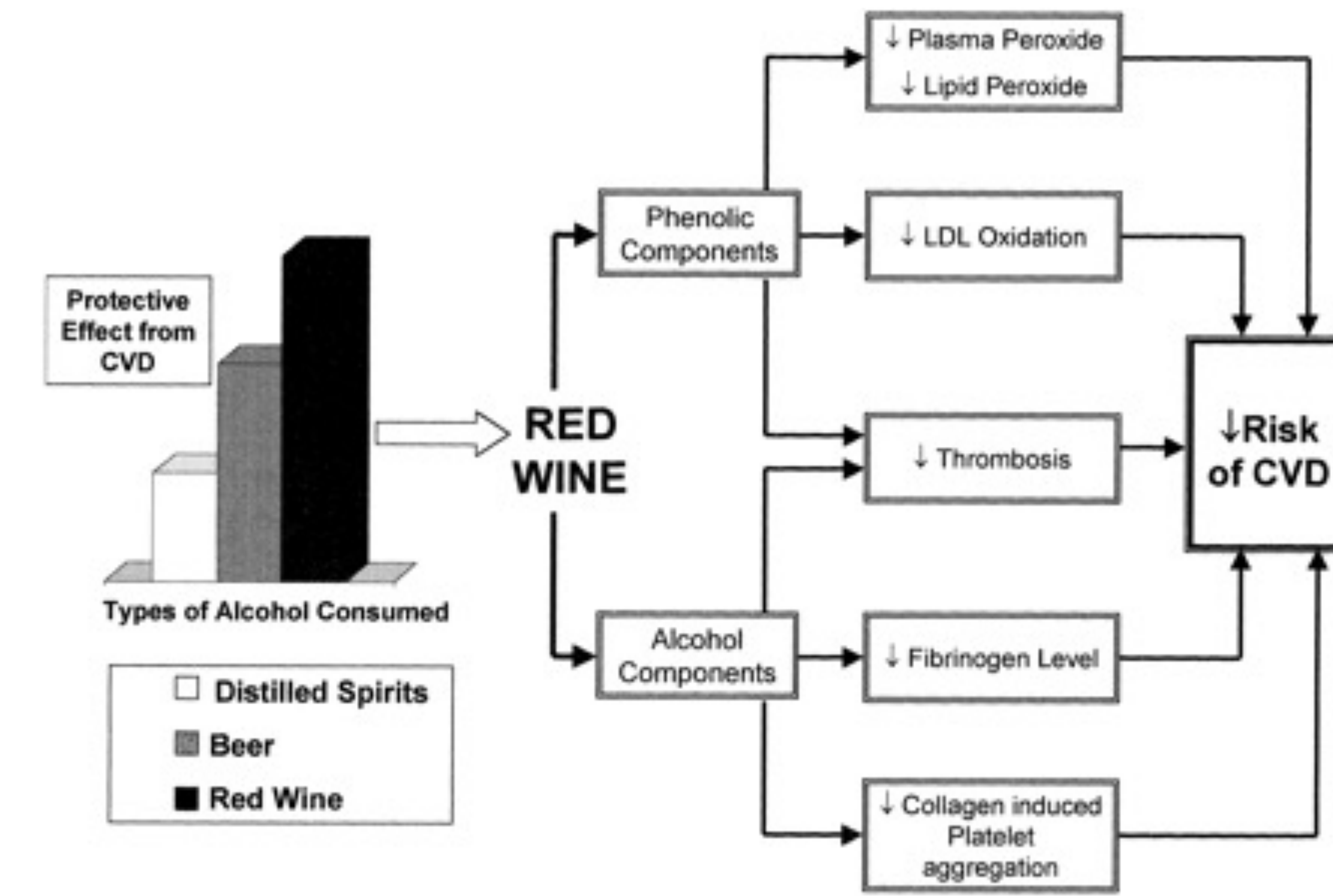

Schematic representation of the effect of different alcohols on the risk for cardiovascular disease [7]

"The French Paradox": Studies have shown that the French, even though their diets are generally higher in saturated fat than Americans diets, have a lower incidence of heart disease. While there are many theories to explain this occurrence, the generally accepted theory is that the French drink more red wine and therefore have fewer incidences of heart disease. Further, a study comparing French and German wines concluded that French wines deliver more health benefits because of the higher level of antioxidants. [6]
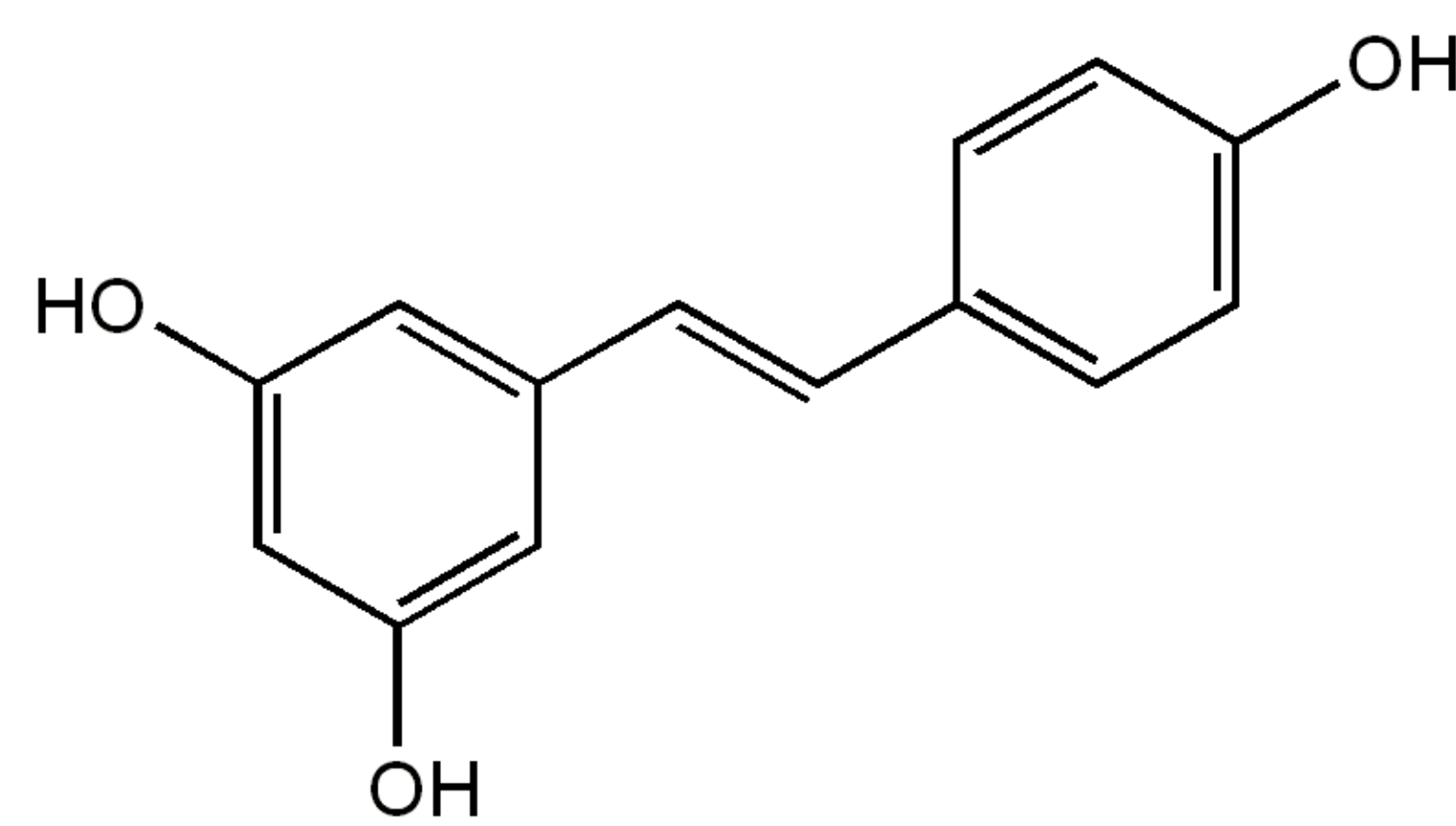
Chemical Structure of Resveratrol [4]
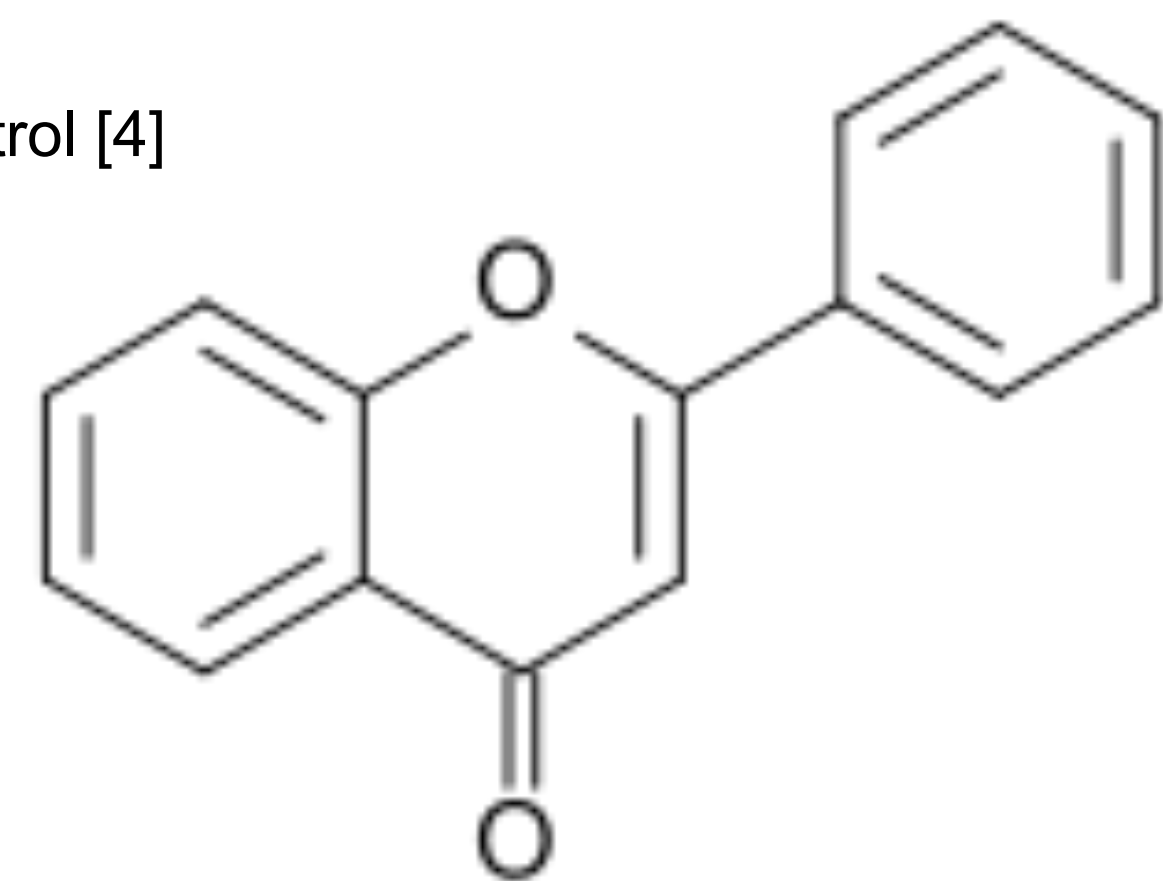
Chemical Structure of a type of Flavonoids [3]

RESULT CONTINUED…

The maximum benefits from red wine can be received for men with one to two servings and for women with one serving. serving. of red wine is equivalent to four ounces. [1, 6]

Drinking three or more servings of alcohol a day causes an increased risk of fat in the bloodstream. Excessive, long term drinking can cause nerve cell damage, and damage to the liver and pancreas. Liver cirrhosis as a result of alcohol abuse is one of the top ten leading causes of death in the United States. [6]

The risks of alcohol in excess include [6]:
•High blood pressure
•Irregular heart beats
•Liver diease
•Stomach ulcers
•Severe acid reflux
•Sleep apnea
•Osteoporosis
•Obesity
•Increased risk of cancers such as cancers of the mouth, pharynx, larynx, and esophagus, liver cancer, and breast cancer

Best Wines to Drink for Maximum Benefit [1]:
•Cabernet Sauvignon
•Petit Syrah
•Pinot Noir
•Merlot and Red Zinfandels have significantly less benefits
•Drier wines contain more flavonoids

Grape juice does have many of the same antioxidant benefits as red wine, though red wine and grape juice share the same antioxidant profile. But grape juice does not offer the same cardiovascular disease prevention because it does not significantly lower LDL as does red wine [1].

DISCUSSION

As research has shown, drinking red wine regularly and in moderation is beneficial to one's health. Red wine helps reduce the risk of cardiovascular disease, will prevent the growth of tumors for certain types of cancer, and could possibly help to treat neurological disorders. The benefits of red wine can only be attained when drunk in moderation. Even with the benefits of drinking red wine, alcohol consumption is not right for everyone. People who are at risk for medical or social conditions that are worsened by alcohol should not consume any alcohol. Some examples of such conditions are liver disease, heart failure, depression, and pancreatitis. Alcohol interferes with and causes hazard when taken with many medications. Alcohol, including red wine, cannot be a substitute for a nutritious diet.

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