The importance of wine components in human health

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Abstract

Moderate wine consumption can reduce the risk of heart disease, and it’s important to clarify how individual components of wine can reduce the risk of coronary heart disease in certain individuals. Some wine researchers propose to use biogenic amines as potential descriptors of wine characteristics and quality.

The main objective of this research is to give a scientific explanation about the wines components effect on human health. Regarding this it’s important to know the content of wines in amines, level of ethyl carbamate (EC) and also the presence of rasveratrol.

Keywords: wine quality, wine components, human health

Introduction

The wine quality is a complex process, because a wine consists of over 300 different chemical compounds, many of which are identical or similar to those found in fruits, vegetables, spices, herbs, and other substances.

Wine quality is, in large measure, determined by the grape and the winemaker. Grapes characteristics are governed principally by the combination between soil and climate, influencing grape chemistry and subsequent wine quality.

Romanian law recognizes the following categories for wines: Wines for current consumption: Table wine (VM), Superior table wine (VMS); Quality wines: Wine of superior quality (VS), Quality wine with controlled appellation of origin (VDOC), Wine with controlled appellation of origin (DOC), Wine with controlled appellation of origin and quality degree (DOCC).

According to the sugar content, wines can be classified as follows: dry (up to 4 g/l), medium-dry (4-12 g/l), medium-sweet (12-50 g/l), sweet (over 50 g/l).

Material and Methods

There are wines which, after alcoholic fermentation and malolactic fermentation, are allowed to rest for some period (which may be longer or shorter) in wooden barrels (small barrels or large ones). This is a period when the wine acquires complexity as new aromas form.

The intensity of aroma have a relative importance since it is basically a measure of quantity. In a fine wine a rich bouquet is an attribute; but in a bad wine a strong odor is a negative factor.

Persistence of aroma is an indicator of quality, particularly in the lingering bouquet of a mature wine, but in a young, fruity wine it is not always an essential factor.
The final test of quality is the aroma of the wine. Such aromas depend on the grape variety and origins of the wine, on its age and how it has been aged or stored. There are three general categories of aroma to consider:

*Primary aromas* are the source of so-called *varietal character* of certain wines, though the intensity and finesse of these grapey aromas vary from one variety to another.

*Secondary aromas.* These are the odors that derive from the alcoholic fermentation and, to some extent, from maturing in wood.

*Tertiary aromas.* These are the distinctive odors, usually known as *bouquet*, developed after alcoholic and malolactic fermentations are complete. They often derive in part from maturing in wood, though bouquets gain depth and complexity through aging in bottle.

The most important for evaluating a wine are sweetness and acidity. Saltiness is barely perceptible and serves mainly to heighten sweet and acidic flavors.

Time in bottle also influences aromas. Young red wines smell of fruit; as they age, their bouquet evolves into complex perfumes that mingle cedar, tobacco, tea, mushrooms and spices.

Tannins are elements extracted primarily from grape skins (and so found mostly in red wines), but which can derive from stems or seeds, and also from oak, especially new oak barrels. They're perceived as an astringent feeling. Young red wines meant for long aging are pumped full of tannins, by extending the maceration period or otherwise enhancing their extraction, because tannins act as a preservative and their chemical evolution toward softer, silkier textures is part of the maturation of great wines. With age the tannins soften and the wine, which may be a collection of impressive but disparate impressions in its youth, will become more harmonious and complex.

The basic tastes of wine in the mouth are complemented by the aromatic qualities, sensed by the olfactory system by way of the nasal passage at the back of the mouth. These aromas are conveyed to the olfactory bulb as the taster inhales through the mouth and exhales through the nose.

There are several factors behind this effect. One is the light evaporation that takes place as the wine is warmed by the mouth. Another is that the chewing motion used by tasters compresses and agitates the wine, liberating odorous particles. Also saliva, which is secreted liberally during tasting, chemically modifies certain substances in wine and makes them odorous.

It should be clear at this point that while the traditional Visual, Olfactory and Gustatory examinations are mirroring the order our senses perceive wine (first the sight, then the smell, and only at last the taste and the touch). The aromatic taste sensation and the finish and aftertaste evaluations are really only subsequent phases in the way the gustatory process evolves.

**Discussion**

Moderate wine consumption can reduce the risk of heart disease, and its important to clarify how individual components of wine (alcohol and principal polyphenols) can reduce the risk of coronary heart disease in certain individuals.

It is also important to know that polyphenols can reduce the rate of harmful cell oxidation and favorably affect other processes that, if unchanged, could lead to atherosclerosis and heart disease.

Some studies indicated that the cardio protective compounds in grapes, polyphenolic antioxidants, reside in the skin and seeds. Grape skins, which contain purple pigment, are
crushed with the pulp to make red wines. But the skins are separated from the pulp to make most white wine. That situation led to the conventional belief that red wines and red grape juice are the most heart healthy.

White wine is traditionally made without the use of grape skins. Red wine is made by fermenting the juice along with the skins. The skins give red wine its coloration and contain the highest concentration of polyphenols, which are potent antioxidants. The researchers theorized that they could boost the antioxidant capacity of white wine by extracting more grape skin polyphenols during processing.

Polyphenols are good reasons to explain the putative cardiovascular protective effect of wine, because they are abundant in wine especially red wine, and possess antioxidant and super oxide ion scavenging properties.

The particular wine component groups and components have a direct influence on sensory perception. Alcohol causes blood vessels to dilate and can increase the intensity of all the other flavors in the wine. And after a few samples it can also degrade your ability to taste, both due to its effect on the taste buds and on your mental strength.

References