Ask the AWRI: Wine – a weighty issue

The AWRI helpdesk often receives enquiries about the calorie content of wine and whether wine makes you ‘fat’. This column provides answers to some key questions about body weight and the consumption of alcoholic beverages.

What is the relationship between alcohol consumption and weight gain?

The effect of alcohol on body weight is complex, and there is not a clear cause-and-effect association between alcohol consumption and weight gain. Compared to other foods, alcohol has a relatively high energy content. Pure ethanol has an energy density of 7.1 kcal/g, lower than a gram of fat (9 kcal/g), but almost twice that of a gram of protein or carbohydrate (4 kcal/g). While alcohol has a relatively high energy content, it is otherwise quite low in its nutrient content, which is why the calories from alcohol are sometimes labelled as ‘empty calories’.

What about if I only drink light to moderate amounts of alcohol?

Positive associations between alcohol consumption and weight gain and changes in waist circumference have mainly been found with heavier alcohol consumption in the absence of alcohol dependence, particularly in men, and in all age groups. This positive relationship is also found for binge drinking patterns. Light to moderate alcohol consumption has been found to be either negatively associated or not associated with body weight gain or excess body weight.

Do any factors influence the positive association between heavier alcohol consumption and weight gain?

The evidence suggests that heavier alcohol consumption is a risk factor for excess weight in some but not all individuals. Factors such as gender, genetics, physical activity, sleeping habits, mental health, certain chronic diseases, use of certain medications and predisposition to gain weight, in addition to type, frequency, amount and pattern of alcohol consumption all influence the association. In general, the association between alcohol consumption and body weight/abdominal obesity is stronger in men than women. An individual’s genetics can also predispose them to gain weight from alcohol consumption.

A recent study suggested that physical activity influences the relationship between alcohol consumption and weight gain, where energy expenditure may counter energy from alcohol. Compared to overweight or obese individuals, underweight or normal weight individuals appear less likely to gain weight from alcohol consumption. In addition, insufficient sleep, such as sleeping less than six hours per night, is also associated with greater weight gain from alcohol in adults.

Do all alcoholic beverages have the same calorie content?

Different types of alcoholic beverages contain different amounts of calories. For example, a 10 g alcohol standard drink of wine or sparkling wine contains around 53 to 71 kcal compared to 150 kcal for fortified wine. For the same volume glass, white wine usually contains less alcohol and fewer calories than red wine.

For spirits, a standard drink contains at least 68 kcal, while one standard drink of beer can range from approximately 45 kcal for a light beer to approximately 100 kcal for full strength.

Essentially, higher alcohol content contributes to higher energy content, but alcoholic drinks also contain varying amounts of carbohydrates, which contribute additional calories. Choosing a low carbohydrate beer has only a small impact on the total calorie content because low carbohydrate does not also mean low alcohol.

Beer and spirit drinkers generally appear to have less healthy dietary and physical activity behaviours and lower social economic status than wine drinkers, which may contribute to a higher body weight and greater waist circumference. A six-year study of a Mediterranean diet observed that beer and spirits consumption (≥7 drinks/week) was associated with a 119 g/year higher average yearly weight gain than both wine consumption and abstinence from alcohol. There was no apparent association between wine consumption and yearly weight change or the risk of weight gain.

Can I drink wine if I am on a weight loss program?

Alcohol consumption is not a significant predictor of success or failure in losing weight during weight loss programs. An Australian study of weight loss after gastric banding surgery also observed that those consuming alcohol moderately (approximately six to eight standard drinks/week) lost weight at a greater rate than those who abstained, and those who consumed wine lost comparatively more than those who consumed other types of alcoholic beverages.

For more information, please contact the AWRI helpdesk on 08 8313 6600 or helpdesk@awri.com.au. References can be provided on request.