

# Non-Communicable Diseases Watch

November 2016



衛生防護中心  
Centre for Health Protection



衛生署  
Department of Health

## Tea or Coffee?

### Key Points

- ※ While drinking tea or coffee moderately is associated with a decreased risk of certain chronic diseases, over-consumption can pose some health risks, in particular related to their caffeine contents. Addition of sugar, milk/cream or other flavourings can lead to weight gain and increase the risk of obesity and related diseases. While drinking tea and coffee at very high temperature can cause thermal injury to oesophageal lining, high intakes of tea and coffee consumption may also affect excretion or absorption of certain minerals.
  
- ※ Although plain tea and coffee can be incorporated in a balanced diet, they should be consumed in moderation. For meeting daily fluid needs, plain water is still the best.
  
- ※ Individuals who are on caffeine restriction may consider the decaffeinated version of tea and coffee. Before taking the sip, let the hot drink cool down for a few minutes from steaming hot to optimal drinking temperature.

## Tea or Coffee?

Many people like to have a cup of tea or coffee to kick start the day, supplement their lunch, take breaks from work, or complement the time spent reading. After water, tea and coffee are the most popular beverages consumed in the world.<sup>1</sup>

### Potential Health Benefits of Tea and Coffee Consumption

Epidemiological studies have shown that consumption of tea and coffee is associated with a decreased risk of certain chronic diseases, for example cardiovascular diseases and type 2 diabetes.<sup>2-5</sup> Moreover, there is consistent evidence that coffee probably protects against endometrial cancer and liver cancer.<sup>6, 7</sup> On the other hand, scientific support for tea drinking in cancer prevention have been inconclusive.<sup>8</sup> Yet to be fully understood, the health-promoting effects of tea and coffee are generally presumed to be due to their bioactive compounds, in particular plant polyphenols.<sup>9-12</sup>

### Adverse Health Effects Associated with Tea and Coffee Consumption

Over-consumption of tea and coffee can pose some health risks, in particular related to their caffeine contents. Caffeine is a stimulant and diuretic. It can make the person shaky; make it hard to fall asleep; make the heart beat faster; can cause headaches, nervousness, or dizziness and can make the person dehydrated especially during a workout.<sup>13</sup> While the reaction to and tolerance of the effects of caffeine differ widely from person to person, many habitual tea or coffee (and other caffeinated beverages) drinkers experience caffeine withdrawal symptoms (such as headache, fatigue, irritability, difficulty in concentration and temporary feelings of depression) if consumption is discontinued abruptly.<sup>13, 14</sup> In women, high level caffeine consumption has been associated with complications in pregnancy

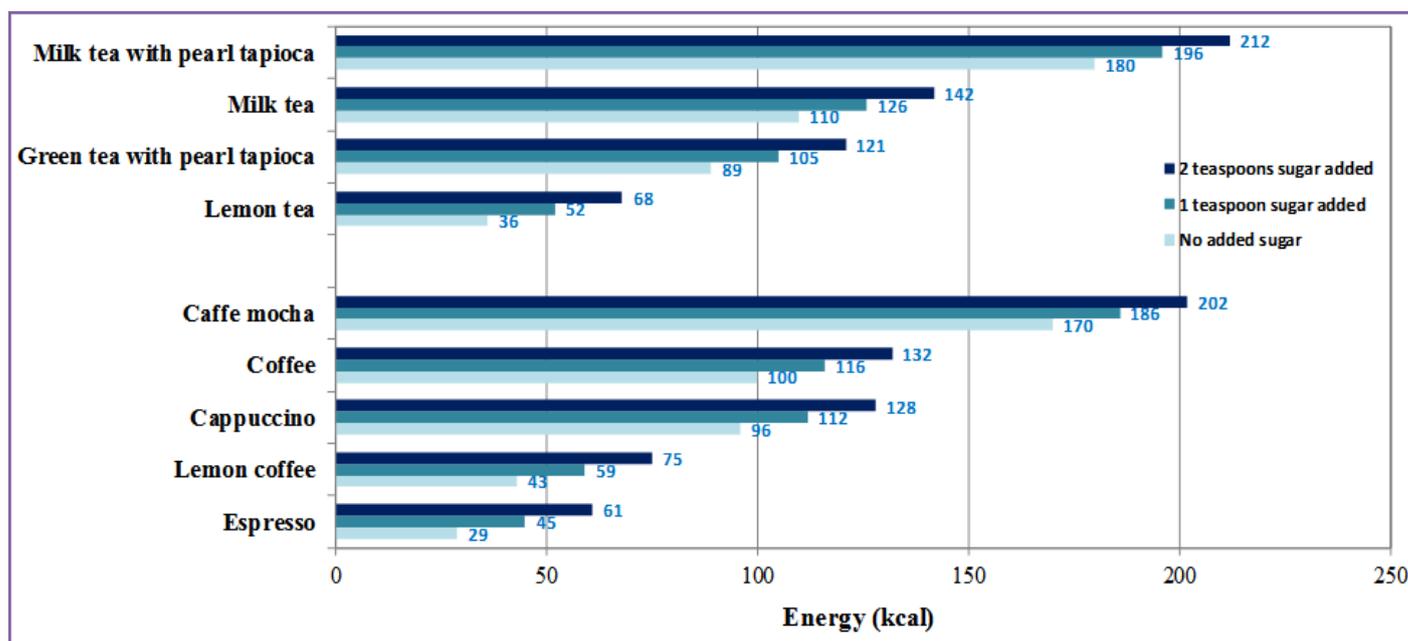
including risk of spontaneous abortion and low birth weight.<sup>15, 16</sup> High intakes of coffee and caffeine would induce urinary calcium excretion and interfere with calcium absorption. This may contribute to loss of bone mass, especially in individuals with inadequate calcium intakes.<sup>10, 17</sup>

Furthermore, excessive consumption of sugar-sweetened, milk/cream or other flavourings added tea or coffee can lead to weight gain and increase the risk of obesity and related diseases. Apart from adding sugar to tea or coffee, some people like to drink them piping hot. Drinking very hot tea or coffee may cause thermal injury to the oesophageal lining, thus increasing the risk of tumour formation. In 2016, the International Agency for Research on Cancer classified very hot beverages at above 65°C as 'probably carcinogenic to humans'.<sup>18</sup> As polyphenols in tea and coffee can impair intestinal absorption of iron, excessive consumption may increase risk of iron deficiency.<sup>10, 12</sup>

### Local Situation

In Hong Kong, the Centre for Food Safety (CFS) of the Food and Environmental Hygiene Department conducted a study in 2006/07 to determine the nutrient contents of common non-prepackaged hot (and cold) beverages available in Hong Kong market, including tea and coffee. Results from 23 hot beverage samples showed that the energy content varied from 29 kcal per 240 ml of espresso with no added sugar, to over 200 kcal per 240 ml of milk tea with pearl tapioca with two teaspoons of added sugar (Figure 1). Addition of sugar increased the energy content of beverages considerably. For example, addition of one teaspoon of sugar in a cup of lemon tea would increase the energy content by 44%; addition of two teaspoons of sugar in a cup of espresso would double the energy content.<sup>19</sup>

**Figure 1: Comparison of energy content of hot tea and coffee drinks with different amount of added sugar (kcal/240 ml)**



Source: Centre for Food Safety.

Regarding the caffeine content in hot-served milk tea and coffee drinks commonly prepared in local food premises, a co-joint study by the CFS and the Consumer Council in 2013 found that milk tea and coffee drinks contained rather high caffeine

content (Table 1). For example, one serving of local café style milk tea contained 170 mg of caffeine on average; one serving of regular coffee contained 200 mg of caffeine on average.<sup>20</sup>

**Table 1: Caffeine content of the six milk tea and coffee drink items under testing**

Drink Type	Drink item	No. of samples	Caffeine content (mg/serving)	
			Mean	Range
Tea	Local café style milk tea	30	170	73-220
	Taiwanese style milk tea	10	130	100-160
Coffee	Regular coffee	20	200	110-380
	Espresso	12	97	62-170
	Cappuccino	4	110	55-160
	Caffe latte	4	90	54-140

Sources: Centre for Food Safety and Consumer Council.

## Healthy Beverage Rules

Adequate fluid consumption is an integral component of a healthy diet. The Healthy Food Pyramid suggests adults in general drinking 6 to 8 glasses of fluids every day. Although tea and coffee beverages can contribute to daily fluid intake, they should be consumed in moderation. To meet the daily fluid needs, plain water is the best. By drinking water and carrying own cups or bottles instead of drinking pre-packaged sugar-added beverages not only help avoid obesity from excess energy intake, but also decrease waste generation from consumed cups or canned drinks!

For tea and coffee drinkers, they are encouraged to stick to basic black, or choose less sweet version and use skimmed milk instead of whole-milk or cream for fewer calories. Furthermore, individuals who are on caffeine restriction (such as pregnant women) may consider the decaffeinated version of tea and coffee. In general, pregnant and lactating women are advised to limit caffeine intake to not more than 200-300 mg per day, whereas children are advised to limit daily caffeine intake to not more than 2.5-5 mg per kg body weight.<sup>20</sup> Before taking a sip, it would also be wise to wait a few minutes for their brews to cool from steaming hot to optimal drinking temperature.

For more information about energy and nutrient contents of specific tea and coffee beverages, please visit the Nutrient Information Inquiry System of the CFS at <http://www.cfs.gov.hk/english/nutrient/index.php>. To know more about healthy eating, please visit the Department of Health's Change for Health webpage at <http://www.change4health.gov.hk/>.

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## “My Family Doctor Walks with Me”

To echo World Diabetes Day 2016, the Primary Care Office (PCO) of the Department of Health (DH) printed a poster with the slogan titled “My Family Doctor Walks with Me”. The English slogan “**My Family Doctor Walks with Me**” highlights the role of family doctor as a life-long partner in health, which is important in the management of diabetes.



Some high risk individuals do not have any classical symptoms of diabetes, and hence they are not aware of the potential problems. All too often patients are diagnosed at a stage when various health problems have already been developed, such as high blood pressure, abnormal blood lipids and proteinuria, with increased risk of developing eye diseases, heart disease, stroke and kidney failure.

Family medicine is the medical specialty which provides **comprehensive** and continuing health care for the individual and family. It is a specialty in breadth that integrates the biological, clinical and behavioral sciences. The scope of family medicine encompasses all ages and both sexes. A family doctor also offers professional assistance to manage mood problems, family or even work and social problems. A family doctor is usually the first point of contact for individuals and families in a continuing healthcare process. He/she will refer the patient to appropriate health care services when the need arises.

A family doctor takes care of patients from cradle to grave, on all issues related with health. According to the definition by the World Health Organization, “Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.” Therefore, health problems include physical, mental and social functions. These problems usually do not exist as separate entities, but often interrelated and influence one another.

The relationship between the family doctor and the patient is **continuous**. If an individual has risk factors for diabetes such as overweight, obesity, family history or symptoms suggesting of the disease, the family doctor will advise on taking a fasting blood glucose or an oral glucose tolerance test. If diagnosed with diabetes, depending on the circumstances, the family doctor may refer the patient to a specialist. After the patient is stable, the family doctor can manage and provide continuing care. He/she can be referred for other specialist or health support services. Family doctors implement shared care programmes with specialists, so that patients can receive appropriate care.

Other than treatment, a family doctor also provides services related to disease prevention. He/she will assess your age, sex and other characteristics and offer the most suitable advice on disease prevention, such as screening of diabetes, immunization and lifestyles changes. These will help you improve your quality of life, with the aim of maintaining both physical and mental health.

If you do not have a family doctor, please visit the Primary Care Directory at [www.familydoctor.gov.hk](http://www.familydoctor.gov.hk) or our mobile website <http://m.familydoctor.gov.hk> to search for one who can suit your needs.



**Non-Communicable Diseases (NCD) WATCH** is dedicated to promote public's awareness of and disseminate health information about non-communicable diseases and related issues, and the importance of their prevention and control. It is also an indication of our commitments in responsive risk communication and to address the growing non-communicable disease threats to the health of our community. The Editorial Board welcomes your views and comments. Please send all comments and/or questions to [so\\_dp3@dh.gov.hk](mailto:so_dp3@dh.gov.hk).

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