

食物安全焦點

Food Safety Focus



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Centre for Food Safety

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食物安全中心
食物事故應變及管理小組
劉明吳醫生報告
Reported by Dr. LAU Ming Ho, Medical & Health Officer,
Food Incidents Response & Management Unit,
Centre for Food Safety

引言

本文將會提供最新的二零一零年有關食肆/食物業的食物中毒事件概況，並撮述當中的重大事件。

與本港食肆及食物業相關的食物中毒事件

食物安全中心(中心)的職責包括調查有關食肆及食物業的食物中毒事件。二零一零年，中心接獲衛生署轉介279宗食物中毒個案，受影響人數共910人(見表一)。在調查過程中，中心人員會查明成因，追查懷疑有問題食物的來源，並向食物從業員提出有關食物、個人及環境衛生的忠告。

自二零零六年起，食物中毒事件總數持續下降。正如圖一所示，下降趨勢主要是由細菌引起的食物中毒事件減少所致。

Introduction

In this article, we would like to update the situation of food poisoning related to food premises / food business and highlight some important incidents in year 2010.

Food Poisoning Outbreaks Related to Local Food Premises and Food Business

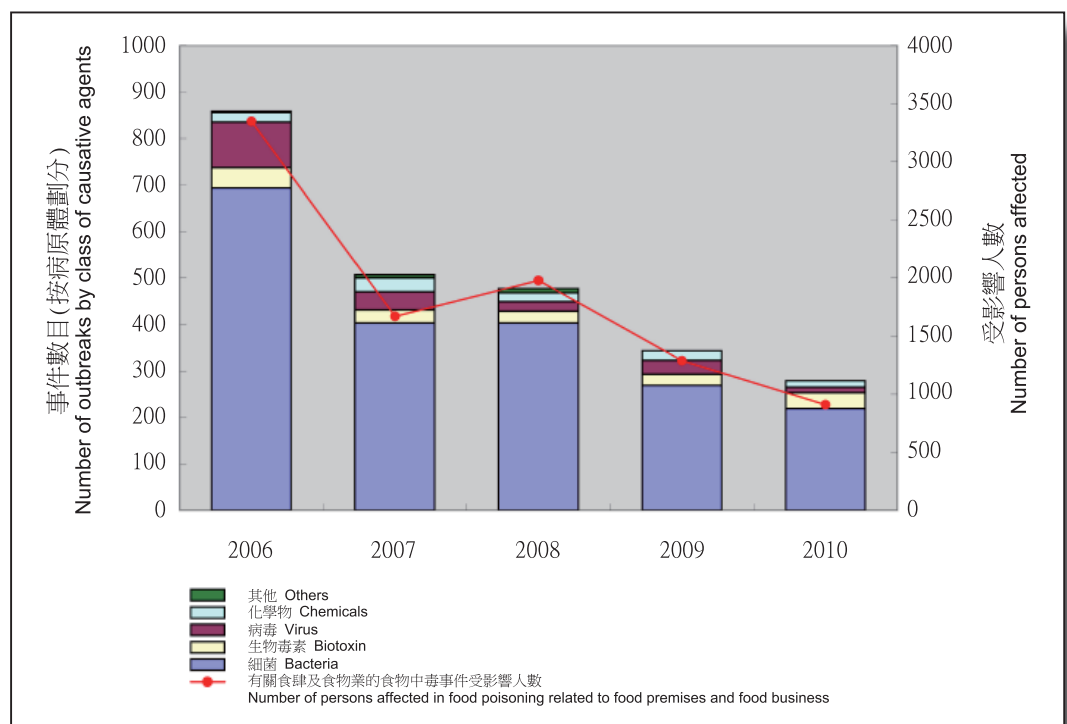
The roles of Centre for Food Safety (CFS) include investigation of food poisoning outbreaks related to food premises and food business. In year 2010, the CFS received referrals from Department of Health (DH) of 279 food poisoning outbreaks, affecting a total of 910 persons (Table 1). During investigations, our staff will identify the contributing factors and trace the sources of suspected incriminated food. Health advice on food, personal and environmental hygiene will be given to the food handlers.

The total number of outbreaks is decreasing since 2006. As shown in Figure 1, the decreasing trend could be attributed mainly to the reduction in food poisoning outbreaks caused by bacteria.

表一：2006-2010年中心接獲轉介的有關食肆/食物業的食物中毒事件

Table 1: Referrals received by the CFS on food premises / food business related food poisoning outbreaks from 2006 to 2010

年份 Year	2006	2007	2008	2009	2010
事件數目 Number of outbreaks	859	507	477	343	279
受影響人數 Number of persons affected	3 348	1 669	1 978	1 288	910



圖一：2006-2010年有關食肆/食物業的食物中毒事件數目及受影響人數

Figure 1: Number of food premises / food business related food poisoning outbreaks and number of persons affected from 2006 to 2010

焦點個案
Incident in Focus

病原體及成因

在已證實和懷疑個案的病原體方面，最常見病原體為細菌，約佔整體事件數目的78%；其他病原體包括生物毒素(12%)、病毒(5%)及化學物(5%)(見圖二)。有關數字與過去四年大致相若，惟生物毒素一項除外。二零零六至零九年，生物毒素只佔整體個案的6%，但去年則由於爆發較大型麻痺性貝類中毒事件而佔12%。副溶血性弧菌、沙門氏菌及金黃葡萄球菌仍然是細菌性食物中毒事件的首三個原因，佔整體細菌性食物中毒事件的90%。

生熟食物交叉污染、不當貯存熟食和被食物從業員污染是二零一零年食物中毒事件的最常見成因(見圖三)。

兩宗大型食物中毒事件

有關帶子的麻痺性貝類中毒

二零一零年五月，中心接獲14宗麻痺性貝類中毒事件報告，共29人受影響。患者在家中進食帶子後出現神經系統和腸胃相關的症狀。帶子是在本港九個不同街市內的海鮮檔購買。中心人員在零售和消費層面採取管制措施，勸諭有關街市的所有海鮮檔自行停售懷疑的貝類海產，而衛生署則呼籲市民切勿進食帶子。由於採購記錄不齊全，故未能查出有關帶子的確實來源。中心其後再沒有收到新的個案。

有關齋滷味的食物中毒事件

二零一零年六月底，中心接獲26宗有關齋滷味的食物中毒事件報告，共83人受影響，全部與進食九龍某齋館外賣部的齋滷味有關。患者的糞便樣本經化驗證實含副溶血性弧菌，此細菌通常與海產有關。雖然在不同批次的食物樣本和環境樣本進行的食物中毒病原體檢測全部及格，但相信問題食物可能受海產污染。此外，問題食物亦曾長時間在不當溫度下存放。有關食肆自行暫停營業，以便進行全面消毒，又在重新出售齋滷味前檢討齋滷味的配製程序和推行食物安全計劃。

結語

有關食肆及食物業的食物中毒事件數目已連續五年下降。《食物安全條例草案》現正由立法會審議，當中規定食物商須備存發票，我們預計這項規定能協助當局在日後發生食物中毒事件時有效追查食物來源和採取管制措施。

Causative Agents and Contributory Factors

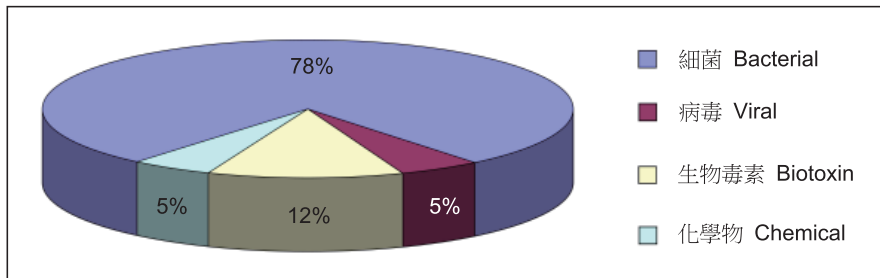
For the causative agents of both confirmed and suspected cases, bacteria were by far the most common causative agents, which accounted for about 78% of the outbreaks. Other causative agents were biotoxins (12%), viruses (5%) and chemicals (5%) (Figure 2). Figures are generally similar to those of the past four years, except that of biotoxin, which only accounted for 6% of all cases in 2006-2009, but accounted for 12% last year because of a relatively large scale paralytic shellfish poisoning outbreak. *Vibrio parahaemolyticus*, *Salmonella spp.* and *Staphylococcus aureus*, were still the top three causes of bacterial food poisoning outbreaks (contributing 90% of the bacterial outbreaks in total).

Cross contamination by raw food, improper storage of cooked food and contamination by food handlers were by far the most common contributory factors in year 2010 (Figure 3).

Two Major Food Poisoning Outbreaks

Paralytic shellfish poisoning related to fan scallops

In May 2010, 14 clusters of food poisoning outbreak affecting 29 persons related to Paralytic Shellfish Poisoning (PSP) were reported to CFS. The victims presented with neurological and gastrointestinal symptoms after consumption of fan scallops at home. The fan scallops were purchased from seafood stalls in nine different wet markets in Hong Kong. Control measures were taken at retail and consumer levels. All seafood stalls in the concerned markets were advised to voluntarily suspend selling of the suspected shellfish. The public were advised not to consume scallops by DH. Investigation could not identify the specific source of the fan scallops because of incomplete purchase records. No further related case was reported subsequently.

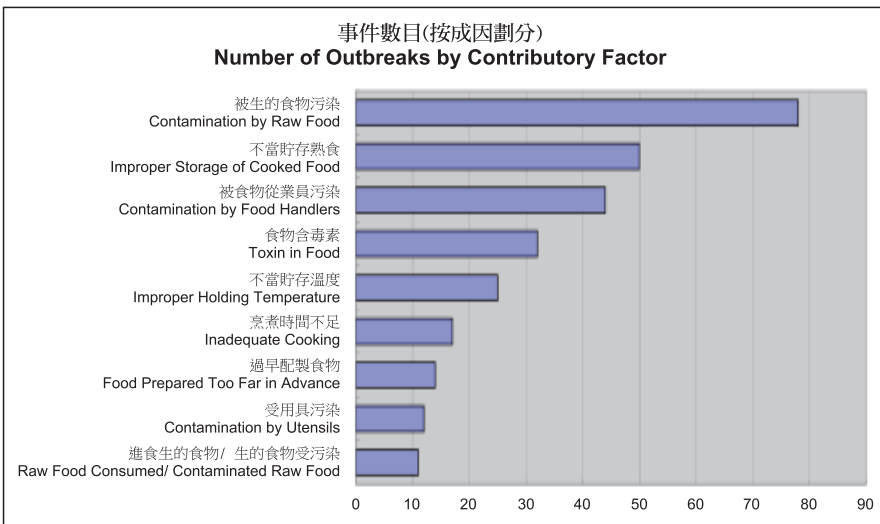


圖二：2010年有關食肆及食物業的食物中毒事件中病原體種類*(按百分比劃分)

Figure 2: Causative agents* by percentage in food poisoning outbreaks related to food premises and food business in year 2010

註：*有關數字包括已證實和懷疑個案

Notes: *The figures included both confirmed and suspected cases



圖三：2010年有關食肆及食物業的食物中毒事件成因

Figure 3: Contributory factors identified in food poisoning outbreaks related to food premises and food business in year 2010

註：一次食物中毒事件可有多於一個成因

Notes: More than one contributing factor could be identified in a single outbreak

Food poisoning outbreak related to Chinese vegetarian Lo Mei

In the end of June 2010, 26 clusters of food poisoning outbreak affecting a total of 83 persons related to Chinese vegetarian Lo Mei were reported to CFS. All these cases involved consumption of vegetarian Lo Mei purchased from the take away section of a vegetarian restaurant in Kowloon. Stool samples from the victims were cultured positive for *Vibrio parahaemolyticus* which is a bacterium that is commonly associated with seafood. Although food samples from a different batch and environmental samples taken were all satisfactory for food poisoning organism, the incriminated food was possibly contaminated by seafood. The incriminated food was also found to be stored under inappropriate temperature for prolonged period. The food premises voluntarily suspended business for thorough disinfection. The preparation procedure of vegetarian Lo Mei was reviewed and appropriate food safety plan was implemented before its resumption of sale.

Conclusion

In year 2010, the number of food poisoning outbreaks related to food premises and food business continued to decline for the fifth consecutive year. We anticipate that the legal requirement of keeping invoices as stipulated in the Food Safety Bill currently under vetting by the Legislative Council will aid in efficient source tracing and control of future food poisoning outbreaks.

輻射與食物安全

Radiation and Food Safety

食物安全中心
風險評估組
科學主任周淑敏女士報告

Reported by Ms. Shuk-man CHOW, Scientific Officer,
Risk Assessment Section,
Centre for Food Safety

即使你不愛烹飪，總會用過微波爐，但你有沒有聽過“燒烤微波爐”或“光波爐”這些東西呢？你又知不知道它們與輻射有何關係呢？

有些人也許會覺得輻射可怕。事實上，無線電波、微波、紅外線、可見光、紫外線、X-射線及伽瑪射線等輻射可能對人體健康有益。本文將會以具體實例說明不同輻射在控制食物安全方面的應用情況。

微波與食物安全

微波爐現已十分普及，大部分家庭和食肆都有微波爐。微波爐的操作原理是利用微波輻射穿過食物。食物接觸到微波時，所吸收的能量會導致極性分子(例如水分子)和離子合成物(例如已溶解的鹽分)旋轉/振動，從而產生熱能殺死食源性病原體。相比煎炸或以焗爐烤焗這兩種烹調方法，微波煮食的溫度較低(通常不會超過攝氏100度)，有助減少可能致癌的物質產生。

不過，由於微波的穿透度低，只能快速加熱食物的外層，其餘部分主要透過滾燙的外層所傳導的熱能烹煮，故此微波未必適宜用來烹煮釀入其他食材的家禽和大塊肉類，因為這些食物的中央部分未必達到可殺死有害細菌所需的溫度。

紅外線與食物安全

微波本身不適合燒烤或烤焗用途，因為以微波爐烹煮的食物通常不會金黃香脆，因此便有燒烤微波爐或紅外線加熱器和光波爐等同類產品應運而生，成為代替傳統焗爐的節能爐具。

一般而言，這些爐具會有發射體(紅外線加熱元件)釋放出紅外線。食物接觸紅外線時，大量能量會在短時間內轉移，導致水分子和蛋白質及澱粉等有機合成物旋轉/振動，產生熱能殺死微生物，並令食物變得金黃香脆。食物業界會使用紅外線進行加熱消毒，殺死液體和固體食物內的細菌、孢子、酵母菌及霉菌。紅外線消毒令剛焗好的麪包無須添加防腐劑就可享有較長的保質期，又可對蔬菜進行脫水保存。

電離輻射與食物安全

紅外線無疑能殺死食物中的細菌，但未必適宜用來處理易受加熱程序影響的食品，例如水果和海產。如為這類食品進行消毒，電離輻射可能是較佳的選擇。

在輻照過程中，進行處理的食物會接受伽瑪射線、X射線或高能電子束等電離輻射處理。高能輻射穿過食物時，會破壞食物、細菌、昆蟲和寄生蟲內的基因，令這些生物死亡或喪失繁殖能力，從而延長輻

Even you are not a cooking fan, I am sure you have used a microwave oven before. But have you ever heard of something called “grill microwave oven” or “halogen oven”? Do you know how they are related to radiation?

To some people, radiation might sound scary. In fact, radiation such as radio wave, microwave, infrared, visible light, ultraviolet, X-ray and gamma ray, may be beneficial to human health. In this article, we are going to illustrate with some specific examples of how different radiation can be used for food safety control.

Microwave and Food Safety

Microwave ovens are now so common that very few homes and restaurants are without them. Microwave ovens work by passing microwave radiation through the food. When food is exposed to microwaves, the energy absorbed causes polar molecules (e.g. water molecules) and ionic compounds (e.g. dissolved salts) to rotate/ vibrate and thus generating heat to inactivate foodborne pathogens. Compared to baking in the oven or frying, the lower temperature of microwave cooking (normally would not exceed 100°C) has been suggested to reduce the formation of potential carcinogens in food.

However, due to the low penetration depth of microwave, it only allows for rapid heating of the outer inch or so of the food. The remainder is mainly cooked by the heat conducted from the hot outer layers. Therefore, microwave may not be a good choice for cooking stuffed poultry and large meat pieces. The core might not reach the temperature needed to kill harmful bacteria.

Infrared and Food Safety

Microwaves are typically not good for grilling and baking because food cooked in a microwave oven does not normally become brown and crispy. That is why grill microwave oven and similar products such as infrared heater and halogen oven (turbo cooker) are developed as energy efficient alternatives to conventional ovens.

In general, these cookers carry an emitter (infrared heating element) that releases infrared radiation. When food is exposed to the radiation, large amounts of energy are transferred in a short time. The energy induces water molecules and organic compounds, such as proteins and starches, to vibrate/rotate, producing heat to kill microorganisms and give the food brown and crispy surface. In the food industry, infrared is used as a means of thermal disinfection to inactivate bacteria, spores, yeast and mould in both liquid and solid food. Disinfection via infrared can allow freshly baked bread to enjoy a longer shelf-life without the addition of preservatives. It can also be applied to dehydrate vegetables for preservation.



光波爐 - 漸受歡迎的新式煮食電器

一般而言，光波爐包括兩部分：一個玻璃鍋和一個連風扇及鹵素燈的蓋子。當接上開關電源，鹵素燈會放射出紅外線產生熱能，而風扇會使熱空氣於鍋內均勻流動，煮熟食物。光波爐可作燒烤、烤焗、烘焙、蒸煮、炭燒用途或為食物進行脫水，無需預先加熱。

[圖片由德國寶(香港)有限公司提供]

Halogen oven - a new electric cooking appliance gaining popularity

In general, a halogen oven consists of a glass bowl with a lid that contains a fan and halogen bulbs. When switched on, beams of infrared radiation are released from the halogen bulbs to produce heat. The fan circulates hot air over and around the food to cook. Halogen ovens can be used to roast, grill, bake, steam, barbecue or dehydrate food, with no need of preheating.

[Illustration by courtesy of German Pool (Hong Kong) Limited]

Ionising Radiation and Food Safety

There is no doubt that infrared can inactivate pathogens in our food. However, it may not be suitable for treating some heat sensitive food products such as fruits and seafood. For these kinds of products, disinfection with ionising radiation may be a better option.

During the process of irradiation, food under treatment is exposed to ionising radiation such as gamma rays, X-rays or high energy electron beams. When the high energy radiation passes through, DNA in the food, bacteria,

照食物的保質期。雖然伽瑪射線等電離輻射可能是由輻射源產生，但電離輻射技術不會令食物帶放射性。

如欲知更多有關使用輻射生產和處理食物的安全事宜，請參閱本欄的昔日文章：

- 《微波煮食與食物安全》、
- 《食物輻照技術》及
- 《輻照食物的安全性與標籤事宜》。

insects or parasites will be disintegrated. These organisms may then be killed or sterilised and thereby the shelf-life of the irradiated food products can be extended. Although ionising radiation, such as gamma rays, may be generated from radioactive sources, irradiation with ionising radiation will not cause the food to become radioactive.

For more information on safety issues surrounding the use of radiation in food production and processing, readers may refer to our previous articles:

- "Microwave Cooking and Food Safety",
- "Food Irradiation" and
- "Safety and Labelling of Irradiated Food".



在奶製品中濫用皮革水解蛋白的情況

Abuse of Hydrolysed Leather Protein in Milk Products

傳媒在上月報道有關內地奶製品中濫用皮革水解蛋白一事。皮革水解蛋白據稱是由皮革廢料經水解製成。不法生產商在奶製品中添加皮革水解蛋白，以提高蛋白質含量。這種違法做法會引致食物安全問題，因為奶製品可能會含有皮革製造過程中使用的金屬污染物。

Last month, media reported the abuse of hydrolysed leather protein in milk products in the Mainland. Hydrolysed leather protein is reportedly made from hydrolysing scrap leather and added to milk products by unscrupulous manufacturers to increase protein content. This illegal practice causes food safety concerns since metallic contaminants used in the manufacturing process of leather might be present in the milk products.

食物安全中心(中心)根據日常食物監察計劃定期進行奶類及奶製品的金屬污染物測試，過去三年經測試的樣本結果全部合格。在傳媒報道後，中心立即抽取多個奶類及奶製品樣本進行金屬污染物測試，結果全部合格。中心會繼續監察有關情況。

The Centre for Food Safety (CFS) conducts regular testing on milk and milk products for metallic contaminants under the routine surveillance programme, with satisfactory results for all samples tested in the past three years. Following the media report, the CFS immediately collected samples of milk and milk products for testing of metallic contaminants and the results were all satisfactory. The CFS will continue to monitor the situation.

業界應向可靠的供應商採購奶類及奶製品，並確保在本港出售的所有食物符合法例標準，適宜供人食用。

The trade should source milk and milk products from reliable suppliers. They should ensure that all foods for sale in Hong Kong comply with the legal standards and are fit for human consumption.

稻米中的鎘

Cadmium in Rice

傳媒在上月報道，有研究發現中國內地一些稻米樣本含過量鎘。由於稻米是主要食糧，故有關報道引起市民關注。

Last month, media reported that studies found excessive cadmium in some rice samples in Mainland China which raised public concerns as rice is the main staple.

鎘天然存在於泥土中，並經泥土吸收進入稻米中。不過，如泥土或灌溉水受污染，例如農民使用含鎘的肥料或污水，稻米的鎘含量便可能會偏高。鎘屬於人類的致癌物，長時間攝入可能會損害腎臟。為減少鎘污染，農民應以清潔的水灌溉稻米。消費者應向可靠來源採購稻米。

Cadmium is found naturally in soil and is present in rice by absorption from soil. However, cadmium may be present at higher levels if the soil or the irrigation water is contaminated e.g. by the use of cadmium-containing fertilisers or waste discharges. Cadmium is a human carcinogen and may have adverse effects on kidney over prolonged intake. Clean water should be used for irrigation to minimise cadmium contamination. Consumers are advised to purchase rice from reliable source.

食物安全中心(中心)會定期監察稻米，進行鎘等金屬污染物測試。過去三年，中心抽取了80個稻米樣本進行鎘測試，結果全部合格。業界應確保出售或進口的所有食物符合法例標準。

The Centre for Food Safety conducts regular surveillance on rice to test for metallic contaminants including cadmium. In the 80 rice samples tested for cadmium in the past three years, all results were satisfactory. Traders should ensure all foods they sell or import comply with legal standards.

風險傳達 工作一覽 Summary of Risk Communication Work

風險傳達工作一覽 (二零一一年二月) Summary of Risk Communication Work (February 2011)	數目 Number
事故/食物安全個案 Incidents / Food Safety Cases	62
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