食物安全焦點
Food Safety Focus

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本期內容 IN THIS ISSUE

焦點個案 Incident in Focus

預防高血壓——減少攝入鹽／鈉
Reduce Salt/Sodium Intake to Prevent High Blood Pressure

食物安全中心 風險評估組 科學主任林伏波博士報告

Reported by Dr. Violette LIN, Scientific Officer, Risk Assessment Section, Centre for Food Safety

香港確診高血壓的患病率呈上升趨勢，由二零零八年的9.3%上升至二零一一／一二年的11.0%。有鑑於此，食物安全中心(中心)於二零一三年四月二日與衞生署攜手在全港展開高血壓公眾教育運動，尤其是以減低鈉的攝入量作為預防高血壓的重要措施之一。

攝入鹽／鈉與血壓的關係

就成年人來說，高血壓是指血壓持續處於140／90毫米水銀柱或以上的水平。患上高血壓而不加以治療或控制不佳，動脈和身體主要器官會受到破壞，引致冠心病或中風。減少攝取鹽分、維持均衡飲食、避免吸煙及酗酒、保持恒常運動等均可降低患高血壓及其併發症的風險。

今年年初，世界衞生組織(世衞)發表了關於鈉和鉀攝入量的新指引，建議成人每日從膳食攝入的鈉不多於2 000毫克(5克鹽)，但攝入的鉀則最少要有3 510毫克，以降低血壓。然而，早前有報告指港人的鹽分攝取量一般每日達10克，較世衞建議的每日攝取限量超標一倍。

港人攝入鹽／鈉的主要膳食來源

世衞指出，在西方飲食中，鈉主要來自加工食物中的鹽(約佔75%)。在亞洲國家的傳統膳食中，鈉則主要來自在烹調或進食時加入食物的鹽。在本港，鈉主要來自佐料及醬料，以及湯水等(見圖)。我們應小心留意每天的膳食，以免攝入的鈉超過世衞的建議限量(見表)。

The prevalence of diagnosed high blood pressure (hypertension) in Hong Kong is on the rise, from 9.3% in 2008 to 11.0% in 2011/2012. In view of this, on 2 April 2013, the Centre for Food Safety (CFS), in collaboration with the Department of Health, launched a territory-wide media and public education campaign on hypertension, especially on reducing sodium intake as one of the important preventive measures.

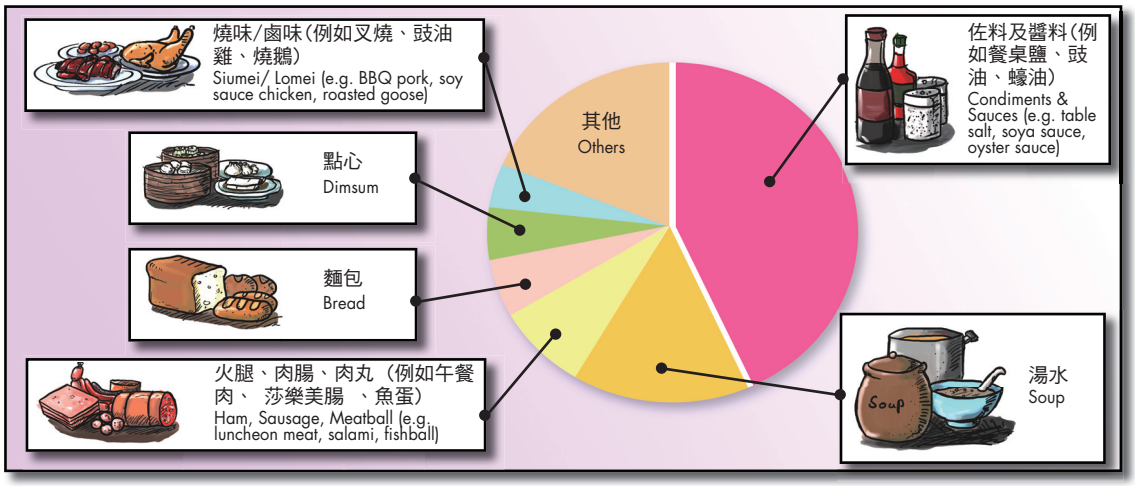
Relationship between Salt/Sodium Intake and Blood Pressure

An adult is said to have hypertension if blood pressure is persistently at or above 140/90 mmHg. Untreated or poorly controlled hypertension can damage the arteries and vital organs which in turn lead to coronary heart disease or stroke. The risk of developing hypertension and its complications can be reduced by reducing salt intake, eating a balanced diet, avoiding smoking and harmful use of alcohol, taking regular physical activity, etc.

Early this year, the World Health Organization (WHO) issued new guidance on sodium and potassium intake which recommends adults to consume less than 2 000 mg sodium (5 g salt) but at least 3 510 mg potassium daily from food to reduce blood pressure. As previously reported, Hong Kong people in general consume 10 g/day salt which doubles the WHO recommendation.

Major Source of Salt/Sodium Intake in the Local Diet

According to WHO, 75% of sodium in western diet is from salt in processed foods, whereas salt added during cooking and at the table is the major sodium source in traditional diets in Asia. Locally, the majority of sodium is from condiments and sauces, soup, etc. (see Figure). One needs to pay special attention in order not to exceed the WHO recommendation on dietary sodium intake (see Table).



本港市民攝入鈉的膳食來源估計分布圖 Figure: Estimated distribution of sodium intake from local diet

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表：部分高鈉食物的鈉含量及其佔世衛2 000毫克標準的百分比
Table: Sodium content of some foods high in sodium and their percentage contribution to WHO's recommendation of 2 000 mg

Food items 食物	Amount 分量(g 克)	Sodium 鈉 (mg 毫克)	% contribution to 2 000 mg sodium 佔2 000毫克鈉的百分比
Condiments and sauces 佐料及醬料			
Chicken powder 雞粉	½ teaspoon 茶匙 (2.5)	433	22%
Oyster sauce 蠔油	1 tablespoon 湯匙 (18)	774	39%
Light soy sauce 生抽	1 teaspoon 茶匙 (5)	330	17%
Soup 湯水			
Seafood Tomyam soup 海鮮冬蔭湯	1 bowl 碗 (250)	1625	81%
Pig stomach preserved vegetable pepper soup 胡椒鹹菜豬肚湯	1 bowl 碗 (250)	1115	56%
Processed meat 加工肉類			
Sausage (liver, pork) 臘腸/膶腸/紅腸	1 link 條(½ pair 半孖) (51)	886	44%
Sausage (cervelat, cheese, chicken) 司華力腸／芝士腸／雞肉腸	1 piece 條 (55)	513	26%
Bread 麵包			
Hamburger 漢堡包	1 piece 個 (95)	423	21%
Tuna bread 吞拿魚包	1 piece 個 (84)	281	14%

資料來源：食物安全中心《本港食物鈉含量的研究》Source: Study on Sodium Content in Local Foods by the Centre for Food Safety

減鈉足鉀以防高血壓

鈉雖然是維持人體電解質平衡的必需元素，但估計每天攝入200至500毫克已足夠維持身體正常功能。鉀也是維持人體電解質平衡的必需元素，許多食物都含有鉀，例如豆／豌豆、堅果、新鮮蔬果等。加工食品多新鮮蔬果少的膳食通常會攝入過多鈉，從而導致高血壓。相反，攝入足夠的鉀可降低血壓。

Cut Sodium Intake and Ensure Sufficient Potassium Intake to Prevent Hypertension

Sodium is essential in maintaining the body's electrolyte balance but 200-500 mg/day is the estimated minimum intake needed for proper bodily function. Potassium is also essential in maintaining the body's electrolyte balance, which is commonly found in a variety of foods such as beans/peas, nuts, fresh fruits and vegetables. A diet high in processed foods and low in fresh fruits and vegetables is often high in sodium and may lead to high blood pressure. Contrarily, sufficient intake of potassium will lower blood pressure.

含鉀豐富的食物 Examples of potassium–rich foods

很多港人都愛出外用膳和購買加工食品，因此減鈉需要業界和消費者同心協力才能成功。業界可參考《降低食物中鈉含量的業界指引》，並支持中心新成立的“降低食物中鈉含量工作小組”的活動，生產和推廣鈉含量較低的食物。消費者則可利用營養資料查詢系統，找出不同食物中的鉀和鈉含量。另外，善用預先包裝食物上的營養標籤，亦有助選購低鈉食物。

As many Hong Kong people eat out and buy processed foods, sodium reduction therefore requires the concerted efforts of traders and consumers. Traders can refer to the Trade Guidelines for Reducing Sodium in Foods and support the activities of the CFS newly established Working Group on Reducing Sodium in Food by producing and promoting lower sodium foods. Consumers can search the Nutrient Information Inquiry System for the amount of potassium and sodium in foods. Reading nutrition label on prepackaged food can also help you choose low-sodium food.

注意要點：

- 世衛建議減少攝入鈉，同時增加攝入鉀，以減低患上高血壓的風險。
- 降低鈉的攝入量至每日低於2 000毫克(即少於一平茶匙鹽)，並確保鉀的攝入量每日高於3 510毫克。
- 維持飲食均衡，少吃加工食品，多吃新鮮蔬果及不加鹽的豆／豌豆和堅果。

Key Points to Note:

- WHO recommends reducing sodium intake and simultaneously increasing potassium intake to reduce the risk of high blood pressure.
- Reduce daily sodium intake to below 2 000 mg (less than one level teaspoon of salt) and ensure a daily potassium intake to above 3 510 mg.
- Consume a balanced diet with less processed foods, more fresh fruits and vegetables, and unsalted beans/peas and nuts.

給消費者的建議

1. 烹調時，逐步減少用鹽或含鈉調味料的分量，讓味蕾慢慢適應清淡的味道。
2. 出外用膳時，要求減少佐料／醬料，並要求把佐料／醬料另上而非淋在食物上。
3. 參考預先包裝食物的營養標籤，選擇較低鈉的產品。

Advice to Consumers

1. When cooking, gradually reduce the use of salt or sodium-containing seasonings in foods to allow the taste buds get adapted to the new taste.
2. When eating out, ask for less condiments/sauces and condiments/sauces to be served on the side rather than on the dishes.
3. When purchasing pre-packaged foods, read the nutrition label and select lower sodium options.

給業界的建議

1. 參照業界指引的建議，生產和推廣較低鈉含量的產品。
2. 餐桌上不放置佐料／醬料瓶，當消費者要求時才奉上。
3. 因應個別食品的各種特性，按部就班地減少在食物中加入鹽和調味料。

Advice to the Trade

1. Make reference to the Trade Guidelines to produce and promote products with lower sodium content.
2. Remove condiment/sauce containers from the table and only present them to the customers when requested.
3. Stepwise reduction of the use of salt and seasonings in the food supply according to the characteristics of individual food products.

食物安全平台
Food Safety Platform

配方奶產品中添加的膽鹼、牛磺酸和核苷酸 — 真有說的那麼好嗎？

Added Choline, Taurine and Nucleotides in Formula Products – Are They As Good As They Claimed?

食物安全中心
風險評估組
科學主任廖珮珊女士報告

Reported by Ms. Melissa LIU, Scientific Officer,
Risk Assessment Section,
Centre for Food Safety

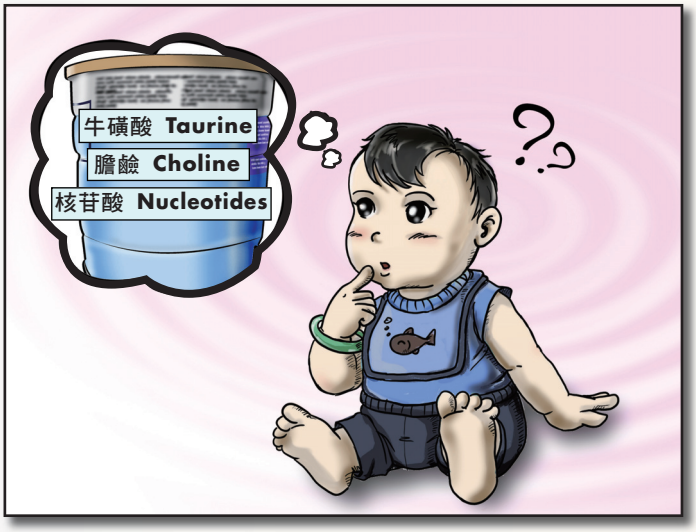
我們上幾期探討了嬰幼兒(0至36個月) 配方奶產品和食品中的微量營養素、 常量營養素和二十二碳六烯酸 (DHA)。這期我們會探討一下這些產品中的其他添加成分對嬰幼兒的健康是否有益。

在配方奶產品中添加膽鹼、牛磺酸和核苷酸

我們在上幾期提過，食品法典委員會對嬰幼兒配方奶產品須包含的營養素種類和分量都有規定，以確保嬰幼兒有足夠的營養。然而，除了這些基本成分外，生產商往往會在配方奶中額外添加其他成分，聲稱這些成分能為嬰幼兒帶來各方面的營養助益。膽鹼、牛磺酸和核苷酸都屬於這類額外成分。

膽鹼

膽鹼除了是構成細胞膜的重要成分外，還用作脂類和膽固醇的輸送和代謝。在膽鹼對腦部發育的作用方面，資料主要來自動物研究。至於從膳食攝入膽鹼有助嬰兒眼部發育的說法，仍有待國際公認的科學證據支持。食品法典委員會把膽鹼列為嬰兒配方奶的基本成分，但對較大嬰兒配方奶則沒有作出規定。蛋黃、肉類和果仁均含有豐富的膽鹼。



對於在配方奶產品添加膽鹼、牛磺酸和核苷酸的益處，國際上尚未達成共識
Benefits of choline, taurine and nucleotides added to formula products still lack international consensus

牛磺酸

牛磺酸是膽鹽的主要成分，大量存在於胎兒和新生兒的腦部。牛磺酸對身體吸收脂類和脂溶性維他命，以及維持肝臟正常功能起重要作用。雖然配方奶產品普遍會添加牛磺酸，預期可促進嬰兒的視力、聽力和腸道發育，但未有充足的人類研究證據支持。食品法典委員會並未規定配方奶產品必須添加牛磺酸。母乳、海產和肉類中都含有牛磺酸。

核苷酸

核苷酸是構成DNA和RNA的核心單位，並有助蛋白質合成和調節代謝過程。生產商模擬母乳的成分在配方奶產品中添加核苷酸，目的是提高嬰兒的免疫系統和促進發育。然而，現有證據未足以確定補充了核苷酸的配方奶產品對嬰兒的益處。食品法典委員會亦沒有要求配方奶產品須添加核苷酸。事實上，人體可自行製造核苷酸，多種食物亦蘊含核苷酸。

應否給孩子吃添加了額外“營養”成分的產品？

目前，國際間對生產商主動加入配方奶的多種成分的益處仍然缺乏共識。以膽鹼、牛磺酸和核苷酸為例，雖然個別配方奶產品作出關於這些成分的功效或健康益處聲稱，但其實只有部分聲稱獲個別國家，特別是新加坡的接納。這些獲接納的聲稱包括膽鹼與整體心智功能；牛磺酸與整體心智及體格發展；核苷酸與身體天然抵抗力或正常細胞功能。然而，同類的聲稱在其他司法管轄區(例如歐盟)並未獲准使用。嬰幼兒配方奶產品有關膽鹼、牛

In the previous issues, we have discussed the micronutrients, macronutrients and docosahexaenoic acid (DHA) in formula products and foods for infants and young children (0-36 months). In this issue, we will look at some other substances added to these products and study whether they could bring additional health benefit to infants and young children.

Addition of Choline, Taurine and Nucleotides to Formula Products

As explained in the previous issues, the Codex Alimentarius Commission (Codex) has required formula products for infants and young children to contain a number of nutrients in prescribed amounts to ensure they meet the normal nutritional requirements of infants and young children. However, on top of these essential compositions, manufacturers often add other substances to formula products, claiming that they bring additional nutritional benefit on various aspects. Choline, taurine and nucleotides are some of the examples.

Choline

Choline plays a role in the structural integrity of cell membranes, as well as in lipid and cholesterol transport and metabolism. Concerning its function in brain development, information mainly came from animal studies. As for claims related to the function of dietary choline intake on eye development of infants, support of such claims from internationally recognised scientific evidence is still pending. The Codex considers choline as an essential composition for infant formula but not for follow-up formula. Egg yolk, meat and nuts are good sources of choline.

Taurine

Taurine is a major constituent of bile salts and is abundant in foetal and neonatal human brain. It plays an important role in the absorption of fat and fat soluble vitamins and maintenance of normal liver functions. Although taurine is commonly added to formula products because of the anticipated benefits on visual, auditory and intestinal development of infants, relevant evidence from human studies is lacking. The Codex considers mandatory addition of taurine is not necessary in formula products. Taurine is available from human breastmilk, and also in seafood and meat.

Nucleotides

Nucleotides are core structural units of DNA and RNA. They are involved in protein synthesis and metabolic regulatory processes. Nucleotides are added to formula products to mimic breastmilk with the anticipated benefits of enhancing immune functions and promoting growth of infants. However, evidences of beneficial effects from nucleotide supplementation of infant formulae are not conclusive. The Codex does not require the addition of nucleotides in formula products. In fact, nucleotides could be produced in the human body and are widely available in foods.

Should I Give My Child Products With Added “Nutritive” Substances?

At present, the benefits from adding a number of substances voluntarily by manufacturers to formula products still lack international consensus. In the case of choline, taurine and nucleotides, although claims on their functions or health benefits may have been made on some formula products, only a few have been accepted in individual overseas jurisdictions, notably Singapore. These claims include those related to choline and overall mental function, taurine and overall mental and physical development, nucleotides and body’s natural

磺酸和核苷酸的聲稱仍需更多科學證據，尤其是來自人類研究的證據支持。

總括而言，配方奶產品中額外添加的“營養”成分對嬰幼兒是否有益，目前國際上尚未達成共識。事實上，六個月以下的嬰兒一般可從母乳或符合食品法典委員會要求的嬰兒配方奶中取得足夠的營養。至於踏入斷奶期的六個月以上嬰幼兒，只要保持飲食均衡，進食多元化的食物，自能獲得全面的營養，健康成長。

defence or normal cell function. Nevertheless, similar claims have not been permitted in other jurisdictions such as the European Union. Claims on choline, taurine and nucleotides made on formula products for infants and young children still need more scientific support, in particular from human studies.

All in all, there is no international consensus that formula products with additional "nutritive" substances provide added benefits to infants and children. In fact, normal infants below six months old could usually obtain adequate nutrients from breastmilk or infant formulae meeting the Codex basic compositional requirements. For older infants and young children who have started weaning, maintaining a balanced diet and consuming a variety of foods are crucial to obtaining different types of nutrients to support their growth and development.

食物事故點滴
Food Incident Highlight

朱古力復活蛋藏塑膠塊

食物安全中心上月發出食物警報，提醒市民一款Kit Kat朱古力復活蛋(Kit Kat Chunky Collection Giant Egg)在英國被發現藏有塑膠塊，有關公司已主動在香港等地回收該款產品。

預先包裝食物有時會摻雜了塑膠、石屑、玻璃或金屬碎片等異物。食物中的塑膠塊可能來自食物處理過程中使用的塑膠物料及包裝物料的塑膠鑄件。這些異物對消費者構成物理危害，一旦吃下可能會哽住或割傷食道。

食物製造商應小心處理原料和生產設備，以預防食品受到污染。為盡量減低異物進入食物內的機會，食物製造商應奉行優良製造規範。

受影響的Kit Kat朱古力復活蛋
The affected Kit Kat Chunky Collection Giant Egg product

Chocolate Eggs with Plastic Pieces

Last month, the Centre for Food Safety issued a food alert on a chocolate egg product, Kit Kat Chunky Collection Giant Egg, which was voluntarily recalled by the company in many places including Hong Kong as small pieces of plastic were found in the UK product.

From time to time, foreign matters such as plastic, stone chips, glass or metal fragments are found in pre-packaged food products. Pieces of plastic may enter food products from the plastic materials used in any part of the food processing chain as well as from plastic castings of packaging materials. These foreign matters pose a physical hazard and may cause choking or cuts when ingested.

Food manufacturers should pay attention in handling raw materials and equipment to prevent product contamination. They are reminded to practise good manufacturing practice in order to minimise the chance of foreign matters entering food.

韓國麵豉醬含未有標示致敏物(花生)

食物安全中心(中心)於二零一三年三月二十六日發出食物致敏物警報，呼籲對花生敏感的消費者停止食用一款韓國生產的預先包裝麵豉醬。該款麵豉醬懷疑含花生，但未有在食物標籤上標明。

花生是致敏物的一種，有些人會對花生產生過敏反應。對花生有過敏的人士進食含有花生的食物後，可能出現嘔吐、腹瀉、哮喘、濕疹等敏感反應，嚴重的甚至可引起過敏性休克。在香港，所有預先包裝食物如含有花生等八種致敏物，須在標籤上標明。

中心已向涉事入口商及零售超市發出警告信，並通知業界停止出售該產品。對花生有過敏反應的市民應停止食用有關產品。如食用上述產品後感到不適，應盡快求醫。

受影響的韓國麵豉醬
The affected Korean mixed soybean paste

Undeclared Allergen (Peanut) in Korean Mixed Soybean Paste

On 26 March 2013, the Centre for Food Safety (CFS) issued a food allergen alert to advise consumers allergic to peanut stop consuming a prepackaged mixed soybean paste manufactured in Korea since the product may contain peanut which has not been listed on the food label.

Peanut is a known allergen which can cause allergic reactions in sensitive individuals. People who are allergic to peanut may develop symptoms like vomiting, diarrhoea, asthma and rash upon consumption. Anaphylactic shock may even develop in severe cases. In Hong Kong, all prepackaged food is required to indicate the presence of eight specified allergens, including peanut.

The CFS has issued warning letters to the concerned importer and supermarket, and alerted the trade to stop selling the product concerned. Consumers who are sensitive to peanut should stop eating the affected product and seek medical treatment if feeling unwell after taking the food.

風險傳達工作一覽
Summary of Risk Communication Work

風險傳達工作一覽（二零一三年三月） Summary of Risk Communication Work (March 2013)	數目 Number
事故/食物安全個案 Incidents / Food Safety Cases	92
公眾查詢 Public Enquiries	82
業界查詢 Trade Enquiries	124
食物投訴 Food Complaints	375
給業界的快速警報 Rapid Alerts to Trade	28
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