Survey on

Public Knowledge, Attitude and Practice

regarding Food Safety and Nutrition Labelling

Executive Summary

Updated in Dec 2009

1 BACKGROUND

1.1 The Food and Environmental Hygiene Department (FEHD) commissioned the Accredited Certification International Limited to conduct a survey to gauge opinion and assess the knowledge, attitude and practice of the general public regarding food safety and nutrition labelling.

2 OBJECTIVES

2.1 The objectives of the survey were to:

- assess the knowledge, attitude and practice of the general public regarding the 5 Keys to Food Safety, namely "choose, clean, cook, separate and safe temperature";
- collect opinion and assess knowledge, attitude and practice of the general public regarding nutrition labelling; and
- identify knowledge gaps and information needs of the general public to facilitate FEHD subsequent planning on risk communication activities.

3 COVERAGE AND TARGET RESPONDENTS

3.1 The survey covered the land-based non-institutional population aged between 18 and 64. The target respondents were those who can speak Cantonese, Putonghua or English.

4 SAMPLE DESIGN

4.1 2 000 sampled living quarters were randomly drawn from the Frame of Quarters maintained by the Census and Statistics Department. All households in the sampled living quarters were visited.

4.2 To select target respondents to complete the questionnaire, a household member of each sampled household was selected by the Kish Grid method.

5 DATA COLLECTION METHOD, FIELDWORK PERIOD AND RESPONSE RATE

5.1 The mode of interview used in this survey was face-to-face household interview.

5.2 The main fieldwork was carried out from 16 June to 13 July 2008. A pilot survey was also conducted in late May 2008 to test the survey instrument and to assess the sampling method and interview process.

5.3 A total of 1 213 interviews were successfully completed, yielding an overall response rate of 70.1%. The response rate was computed as follows:

$$\text{Response rate} = \frac{\text{Successfully enumerated eligible cases}}{\text{Total number of eligible cases}} *100$$

$$= \frac{1\,213}{1\,730} *100 = 70.1\%$$

6 GENERALIZATION OF POPULATION

6.1 In estimating the population results, the collected data was weighted by gender, age group and region (i.e. Hong Kong Island, Kowloon and New Territories) according to 2007 land-based non-institutional population statistics provided by the Census and Statistics Department.

7 KEY SURVEY FINDINGS

7.1 Frequency of Cooking

7.1.1 Of the 4 849 000 persons aged 18 - 64, 17.7% of them (860 000 persons) indicated that they “every time / always” cooked, 22.9% (1 111 000 persons) said they cooked “most times” whereas 30.4% (1 476 000 persons) “not often” and 8.5% (410 000 persons) “never” cooked”. The remaining 20.5% (992 000 persons) expressed that they cooked “sometimes”.

(Ref.: Q1)

7.2 Frequency of Purchasing Prepackaged Food

7.2.1 Concerning about the frequency of purchasing prepackaged food, only a small proportion (6.2%) of persons aged 18 - 64 (302 000 persons) "every time / always" did so, while 27.9% (1 355 000 persons) "most times", 35.4% (1 715 000 persons) "sometimes" and 25.7% (1 245 000 persons) "not often" bought prepackaged food. The remaining 4.8% (232 000 persons) claimed that they "never" bought prepackaged food.

(Ref.: Q2)

5 Keys to Food Safety

The "5 Keys to Food Safety" were introduced by the World Health Organization, which include "choose, clean, cook, separate and safe temperature" to promote proper food handling practices so as to prevent foodborne diseases.

7.3 Knowledge on Food Safety

7.3.1 Choose

7.3.1.1 When asked about how to ensure that perishable prepackaged food was safe to eat or drink, less than two-fifths (37.9%) of persons aged 18 - 64 (1 838 000 persons) could figure out the three correct ways – (i) "check if the package is intact"; (ii) "check the expiry date on the package" and (iii) "check the temperature of the storage area" (i.e. the correct answer). On the contrary, 59.1% of persons aged 18 - 64 (2 868 000 persons) could only figure out one or any two correct ways (i.e. the incorrect answer). The remaining 2.9% (143 000 persons) "did not know" what they should do.

(Ref.: Q3)

7.3.2 Clean

7.3.2.1 When asked about how they should clean hands before preparing food or eating, nearly three quarters (74.8%) of persons aged 18 - 64 (3 626 000 persons) gave the wrong answer (comprising of 53.6% (2 597 000 persons) who chose "wash hands with warm soapy water for 10 seconds" and 21.2% (1 028 000 persons) who chose "wash hands with warm water for 20 seconds"). Conversely, 24.3% (1 177 000 persons) answered correctly that they should "wash hands with warm soapy water for 20 seconds". The remaining 0.9% (46 000 persons) "did not know" what the appropriate way of cleaning hands was.

(Ref.: Q6)

7.3.3 Separate

7.3.3.1 Among the 4 849 000 persons aged 18 - 64, 60.3% (2 923 000 persons) realised that they should "put raw food at the bottom and cooked food at the top in the same refrigerator" (i.e. the correct answer), whereas 34.6% (1 677 000 persons) indicated the wrong way that "raw food should be put at the top and cooked food at the bottom". Another 3.3% (160 000 persons) had the wrong idea that "raw and cooked food should be put on the same shelf". The remaining 1.8% (90 000 persons) claimed that they "did not know" the answer.

(Ref.: Q9)

7.3.4 Cook

7.3.4.1 Of the 4 849 000 persons aged 18 - 64, more than seven-tenths (73.0%) could not point out the correct minimum core temperature ("75^{o}C or above") to ensure thorough cooking of food; correspondingly 64.4% (3 120 000 persons) and 3.6% (174 000 persons) provided the incorrect answer of "100^{o}C or above" and "60^{o}C or above" while 5.1% (245 000 persons) claimed that they "did not know" the answers. On the other hand, 27.0% (1 309 000 persons) knew the exact minimum core temperature (i.e. the correct answer).

(Ref.: Q12)

7.3.5 Safe temperature

7.3.5.1 When asked about the effect of refrigeration on most bacteria in food, 78.1% of persons aged 18 - 64 (3 786 000 persons) were able to state the right answer "slow down their growth". Conversely, 12.6% (610 000 persons) misunderstood that refrigeration would "destroy the bacteria" and 5.4% (260 000 persons) thought that there would be "no effect" (i.e. the incorrect answers). The remaining 4.0% (192 000 persons) stated that they "did not know".

(Ref.: Q15)

7.3.6 Overall knowledge assessment on food safety

7.3.6.1 Overall speaking, the performance on food safety knowledge assessment was not satisfactory, as only 1.6% of persons aged 18 - 64 (77 000 persons) were able to answer all the 5 questions correctly. When 1 mark and 0 mark were assigned to each knowledge question with correct and incorrect/no answers respectively, 12.5% (606 000 persons) scored 4 marks, 28.5% (1 384 000 persons) scored 3 marks, 33.8% (1 638 000 persons) scored 2 marks, 16.5% (799 000 persons) scored 1 mark and 7.1% (346 000 persons) answered all questions wrongly. The mean score was 2.28 marks.

(Ref.: Q3, Q6, Q9, Q12 and Q15)

7.3.6.2 T-test, at the 5% significance level[1], showed that the mean knowledge score on food safety were significantly different between those who engaged and did not engage in a job. As indicated by the results of F-test, there was significant difference among the mean score of subgroups with different age, level of educational attainment, monthly household income and frequency of cooking at the 5% significance level.

(Ref.: (Q3, Q6, Q9, Q12, Q15) & Q1, Q35 - Q38)

7.3.6.3 Different subgroup analyses revealed that the following groups of persons achieved higher score in knowledge assessment on food safety:

- For age, the younger-aged groups were found to perform better than the elder-aged groups. The mean score decreased from the highest (2.56 marks) for those aged 18 - 29 to the lowest (1.86 marks) for those aged 60 - 64;
- For level of educational attainment, the more educated got a higher score compared to the less educated. The mean score dropped gradually from the highest (2.59 marks) for those who had attained tertiary education and above to the lowest (1.55 marks) for those who had attained primary education and below;
- For employment status, those working persons (2.36 marks) had better performance than those non-working persons (2.11 marks);
- For monthly household income, those higher-income groups showed better performance than those lower-income groups. The mean score decreased from the highest (2.88 marks) for those who had monthly household income of $60,000 and above to the lowest (1.74 marks) for those who had

[1] Unless otherwise stated, statistical significance is considered at p-value < 0.05

monthly household income of less than $6,000; and

- For frequency of cooking, those who "not often" cooked (2.55 marks) and "never" cooked (2.43 marks) were found to achieve higher score than those who "sometimes" (2.32 marks), "most times" (2.14 marks) and "every time / always" cooked (1.86 marks).

(Ref.: (Q3, Q6, Q9, Q12, Q15) & Q1, Q35 - Q38)

7.4 Attitude on Food Safety

7.4.1 Choose

7.4.1.1 A vast majority (97.4%) of persons aged 18 - 64 (4 722 000 persons) accepted that **"we should not use food after its expiry date"**, while 1.6% (79 000 persons) opined in an opposite way. The remaining 1.0% (48 000 persons) were "not sure or did not have any comments".

(Ref.: Q4)

7.4.2 Clean

7.4.2.1 Of the 4 849 000 persons aged 18 - 64, 96.7% (4 687 000 persons) thought that it was "**worth the extra time to wash hands frequently during food preparation**", whereas 1.7% (85 000 persons) disagreed. The remaining 1.6% (77 000 persons) were "not sure and had no comments".

(Ref.: Q7)

7.4.3 Separate

7.4.3.1 Among the 4 849 000 persons aged 18 - 64, 96.8% (4 691 000 persons) agreed that "**keeping raw food and cooked food separate can reduce the risk of food poisoning**." 1.6% (75 000 persons) showed disagreement on the statement. The remaining 1.7% (82 000 persons) were "not sure or had no comment".

(Ref.: Q10)

7.4.4 Cook

7.4.4.1 Nearly all (98.5%) persons aged 18 - 64 (4 778 000 persons) agreed that "**soup should be brought to a boil before consumption in order to ensure food safety**", while only 1.0% (47 000 persons) opposed the statement. The remaining 0.5% (25 000 persons) were "not sure or did not have comment".

(Ref.: Q13)

7.4.5 Safe temperature

7.4.5.1 Of the 4 849 000 persons aged 18 - 64, 80.2% (3 891 000 persons) believed that "**it is not safe to keep cooked food at room temperature for more than two hours**." On the contrary, 15.4% (747 000 persons) indicated an opposite view. The remaining 4.4% (211 000 persons) were "not sure and had no comment".

(Ref.: Q16)

7.5 Practice on Food Safety

7.5.1 Choose

7.5.1.1 Before buying their food, 21.8% of persons aged 18 - 64 (1 057 000 persons) reported that they "every time / always " checked the hygienic conditions of the shop, 43.3% (2 100 000 persons) revealed that they checked "most times", 17.3% (841 000 persons) said "sometimes", whereas 13.2% (640 000 persons) "not often" and 3.9% (190 000 persons) "never" did so. The remaining 0.4% (21 000 persons) thought this question was "not applicable" to their situation (e.g. those who claimed that they had not bought food before).

(Ref.: Q5)

7.5.2 Clean

7.5.2.1 Among the 4 849 000 persons aged 18 - 64, 21.8% (1 059 000 persons) "every time / always" and 37.1% (1 799 000 persons) "most times" washed their hands with liquid soap before and during food preparation. 22.5% (1 089 000 persons) reported that they "sometimes" washed. Conversely, 14.0% (679 000 persons) said "not often" and 3.2% (157 000 persons) indicated that they "never" did so. The remaining 1.4% (66 000 persons) did not consider this question applicable to them (e.g. those who "never" cooked).

(Ref.: Q8)

7.5.3 Separate

7.5.3.1 Only 21.2% of the 4 849 000 persons aged 18 - 64 (1 028 000 persons) "every time / always" used separate knives and cutting boards when preparing raw food and cooked food to avoid cross-contamination. 14.4% (696 000 persons) and 12.7% (613 000 persons) expressed that they separated the cookware "most times" and "sometimes" respectively. On the contrary, as many as 20.9% (1 012 000 persons) "not often" and 27.4% (1 330 000 persons)

"never" did so. This question was answered as "not applicable" from 169 000 persons (3.5%) (e.g. those who "never" cooked).

(Ref.: Q11)

7.5.4 Cook

7.5.4.1 More than half (57.7%) of the 4 849 000 persons aged 18 - 64 (2 795 000 persons) reported that they "every time / always" made sure that cooked food was reheated until piping hot. 31.1% (1 509 000 persons) and 7.4% (358 000 persons) "most times" and "sometimes" did so respectively. On the contrary, only 0.3% (15 000 persons) expressed that they "never" paid attention and 2.7% (130 000 persons) "not often" did so. The remaining 0.9% (42 000 persons) considered this question was inapplicable to them (e.g. those who "never" cooked).

(Ref.: Q14)

7.5.5 Safe temperature

7.5.5.1 Regular monitoring of fridge temperature was not a common practice among the public. Only a small proportion (7.3%) of persons aged 18 - 64 (355 000 persons) claimed that they "every time / always" checked the temperature of the refrigerator, while one-fifth (20.1% or 977 000 persons) indicated that they "never" did so. 16.6% (805 000 persons) "most times", 30.5% (1 477 000 persons) "sometimes" and 24.8% (1 203 000 persons) "not often" paid attention to the refrigerator temperature. The remaining 0.7% (32 000 persons) thought the question was inapplicable to them.

(Ref.: Q17)

Nutrition Labelling

Mandatory nutrition labelling scheme will come into effect on 1 July 2010. Information on nutrition label is important in facilitating the promotion of health and wellness of the public for preventing chronic diseases.

7.6 Opinion on Nutrition Labelling

7.6.1 Over eight-in-ten (85.4%) of persons aged 18 - 64 (4 142 000 persons) agreed that "**nutrition labelling could promote a balanced diet**", whereas 9.0% (436 000 persons) showed an opposite view. The remaining 5.6% (271 000 persons) were "not sure or had no comments".

(Ref.: Q18)

7.6.2 When asked about their agreement on the statement **"The implementation of the Nutrition Labelling Scheme can encourage food trade to produce or develop healthy food products"**, 87.2% of persons aged 18 - 64 (4 228 000 persons) agreed, while 9.1% (441 000 persons) disagreed. The remaining 3.7% (180 000 persons) were "not sure or had no comments".

(Ref.: Q19)

7.6.3 Of the 4 849 000 persons aged 18 - 64, 86.4% of them (4 190 000 persons) opined that "**nutrition labelling could promote public health**", whereas 8.1% (393 000 persons) opposed the statement. The remaining 5.5% (266 000 persons) did not give their opinions.

(Ref.: Q20)

7.6.4 Overall speaking, a vast majority of the general public (85% and above) perceived the Nutrition Labelling Scheme to be useful and beneficial to public health (i.e. agreed with the statements).

(Ref.: Q18 - Q20)

7.7 Knowledge on Nutrients and Nutrition Labels

7.7.1 Knowledge on nutrients

7.7.1.1 Knowledge on the relationship between nutrients and health effects was tested. Only one-fifth (20.9%) of the 4 849 000 persons aged 18 - 64 (1 014 000 persons) could correctly point out that both "saturated fat" and "trans fat" would increase the "bad" cholesterol level in blood (i.e. the correct answer). 2 884 000 persons (59.5%) could not give a complete correct answer with 15.0% could only point out that "saturated fat" would have such adverse effect while 26.2% could only point out "trans fat". The remaining 19.6% (951 000 persons) claimed that they "did not know".

(Ref.: Q28)

7.7.1.2 About seven-tenths (69.0%) of persons aged 18 - 64 (3 348 000 persons) realised that "hypertension" was associated with a high intake of sodium (i.e. the correct answer), while correspondingly 11.2% (544 000 persons) and 12.1% (586 000 persons) gave the wrong answer of "arthritis" and "diabetes". The remaining 7.6% (371 000 persons) had no idea about what the associated health problem was.

(Ref.: Q29)

7.7.2 Knowledge on nutrition labels

7.7.2.1 The survey also assessed participants' understanding of information on nutrition labels based on two nutrition labels of brand A and brand B biscuits (Please refer to Diagram 1 and 2 at Annex). When being asked about the question **"How many pieces of biscuit are there in the package of brand A biscuits?"**, only a quarter (25.6%) of the persons aged 18 - 64 (1 241 000 persons) were able to give the correct answer of "15 pieces", while correspondingly 46.2% (2 242 000 persons) and 16.3% (788 000 persons) indicated that the package contained "5 pieces" and "10 pieces" of biscuits (i.e. incorrect answers). The remaining 11.9% (577 000 persons) could not tell the answer.

(Ref.: Q30)

7.7.2.2 When asked about how much energy one would get if 5 pieces of brand A biscuit were consumed, among the 4 849 000 persons aged 18 - 64, 40.8% (1 977 000 persons) answered correctly that 222 kilocalories would be taken in. The other two wrong answers "444 kilocalories" and "888 kilocalories" were chosen by 1 884 000 persons (38.9%) and 359 000 persons (7.4%) respectively. The remaining 13.0% (629 000 persons) said they "did not know".

(Ref.: Q31)

7.7.2.3 The last question on nutrition labels required persons to identify the brand that would provide more sugar when eating biscuits of the same weight. Most (78.8%) of the 4 849 000 persons aged 18 - 64 (3 818 000 persons) were able to work out the correct answer – "brand B", whereas 9.8% (476 000 persons) selected "brand A" and 3.9% (188 000 persons) indicated "the same", both being incorrect. The remaining 7.6% (367 000 persons) replied "don't know".

(Ref.: Q32)

7.7.3 Overall knowledge assessment on nutrients and nutrition labels

7.7.3.1 For the 5 questions of knowledge assessment on nutrients and nutrition labels, 1 mark and 0 mark were assigned to correct and incorrect/no answers respectively. Only 2.5% of persons aged 18 - 64 (123 000 persons) got a full mark of 5, whereas 5.0% (242 000 persons) did not score any mark. Another 13.8% (671 000 persons) got four marks, 29.3% (1 423 000 persons) got three marks, 29.7% (1 442 000 persons) got two marks and the remaining 19.5% (947 000 persons) got one mark. The mean score was 2.35 marks.

(Ref.: Q28 - Q32)

7.7.3.2 As shown in the results of *T*-test, there was a significant difference between the mean score of those who were and were not working at the 5% significance level. *F*-test, at the 5% significance level, indicated that a significant difference among the mean score of subgroups with different age, levels of educational attainment, levels of monthly household income and frequency of buying prepackaged food.

(Ref.: Q28 - Q32 & Q2, Q35 - Q38)

- For age, it was found that the mean score of those aged 30 - 39 (2.44 out of 5 marks) and those aged 18 - 29 (2.43 marks) were higher than that of other subgroups aged 40 - 64 (2.36 marks – 2.02 marks), indicating that the younger-aged had a relatively better knowledge on nutrients and nutrition labels. Those aged 60 - 64 achieved the lowest score (2.02 marks);
- With regard to educational attainment, those with lower education level attained were found to have less understanding on nutrients and nutrition labels when compared to those with higher education level attained. The mean score increased from the lowest (1.84 out of 5 marks) for those who had attained primary education and below to the highest (2.81 marks) for those who had attained tertiary education and above;
- For employment status, working persons achieved higher score (2.41 marks) when comparing to those who were not working (2.24 marks);
- For monthly household income, those in higher-income groups were found to perform better than those in lower-income groups in the knowledge assessment of nutrients and nutrition labels. The mean score decreased from the highest (3.05 marks) for those who had household income of $60,000 and above to the lowest (1.97 marks) for those who had household income of $6,000 and below; and
- For frequency of buying prepackaged food, those who “not often” (2.19 marks) and “never” (1.82 marks) bought prepackaged food got lower scores in the knowledge assessment of nutrients and nutrition labels compared to those who “sometimes” (2.42 marks), “every time / always” (2.44 marks) and “most times” (2.48 marks) bought prepackaged food.

(Ref.: Q28 - Q32 & Q2, Q35 - Q38)

7.8 Attitude towards nutrition label

7.8.1 Among the 4 849 000 persons aged 18 - 64, 87.3% (4 232 000 persons) thought it was important to read the information on nutrition labels before buying prepackaged food. On the contrary, 8.6% (419 000 persons) thought in a reverse way. The remaining 4.1% (198 000 persons) were “not sure or did not give any comments”.

(Ref.: Q21)

7.8.2 About eight-tenths (80.7%) of persons aged 18 – 64 (3 915 000 persons) agreed with the statement **"The information on nutrition labels can help you decide what food to buy"**, while 13.2% (641 000 persons) disagreed. The remaining 6.0% (293 000 persons) were "not sure or had no comments".

(Ref.: Q22)

7.8.3 When being asked whether they agreed on the statement **"The information on nutrition labels can help you make healthy food choices"**, 86.9% (4 215 000 persons) said "Yes", while 9.1% (439 000 persons) said "No". The remaining 4.0% (195 000 persons) did not provide their opinions.

(Ref.: Q23)

7.8.4 Of the 4 849 000 persons aged 18 - 64, less than half (45.4%, 2 202 000 persons) considered the "**nutrition claims (e.g. high calcium, low fat) of prepackaged food truthful**", while 42.2% (2 045 000 persons) held an opposite view. The remaining 12.4% (602 000 persons) were "not sure" about their options.

(Ref.: Q24)

7.8.5 Generally speaking, a positive attitude towards nutrition label information was identified among the public. Most persons (above 80.0%) realised the importance and usefulness of the information on nutrition labels (i.e. the answer was "Yes" to the three statements). However, some (42.2%) were doubtful about the truthfulness of the nutrition claims on the prepackaged food (i.e. the answer was "No" to the statement "**The nutrition claims of prepackaged food are truthful**").

(Ref.: Q21 - Q24)

7.9 Practice on the use of nutrition label

7.9.1 Nearly a quarter (23.2%) of the 4 849 000 persons aged 18 - 64 (1 125 000 persons) reported that they "every time / always" read nutrition label on the package when they bought a food product for the first time. On the contrary, 11.6% (563 000 persons) "never" paid attention to the label. A further 31.4% (1 521 000 persons) "most times", 21.7% (1 051 000 persons) "sometimes" and 11.7% (566 000 persons) "not often" read the labels. The remaining 0.5% (23

000 persons) considered the question to be inapplicable (e.g. those who "never" bought prepackaged food).

(Ref.: Q25)

7.9.2 When investigating the frequency of reading nutrition label on the package when purchasing a food product for the first time, **those who "every time / always / most times / sometimes" read the nutrition label were classified as "Frequent/Usual Readers"**; while **those who "not often / never" read the nutrition label as "Non-frequent/usual Readers"**. Chi-square tests, at the 5% significance level, showed that there was a significant association between the frequency of reading nutrition label and gender, as well as age, level of education attained, employment status, monthly household income, living region and frequency of buying prepackaged food.

(Ref.: Q25 & Q2, Q34 - Q38, Region)

7.9.3 Different subgroup analyses showed that a larger proportion of the following groups of persons were Frequent/Usual Readers of nutrition label:

- For gender, females (82.4%) as compared with 69.2% for males;
- For age, those aged 30 - 39 (81.8%) as against 76.3% -70.7% for those who were in other age groups;
- For level of education attained, those who had attained tertiary education and above (81.9%) and complete secondary education (79.8%) in comparison to 76.4% - 60.9% for those who had other educational attainment;
- For employment status, those who were working (76.8%) as against 75.2% for those who were not working ;
- For monthly household income, those with household monthly income of $60,000 and above (94.1%) as decreased gradually to 61.5% for those with monthly household income of less than $6,000;
- For living region, those who lived in Kowloon (80.0%) as against 74.9% for those who lived on Hong Kong Island and 74.7% for those who lived in New Territories; and
- For frequency of buying prepackaged food, those who bought prepackaged

food "most times" (80.4%), "sometimes" (79.8%) and "every time / always" (77.5%) as against 69.7% for those who "not often".

(Ref.: Q25 & Q2, Q34 - Q38, Region)

7.9.4 For those who read the nutrition label, they were asked about the frequency of reading the different type of nutrients on the nutrition labels. Among the list of nutrients, "sugars", "total fat" and "calories / energy" were the information that received the most attention. On the other hand, "trans fats" and "saturated fat" were the two nutrients that received the least attention. A summary of percentage of reading the nutrition information on the nutrition labels by type of nutrients and type of readers in descending order was shown in Table A.

(Ref.: Q26-1 - Q26-8)

Table A: Percentage distribution of reading the nutrition information on the nutrition labels by type of nutrients and type of readers
(order by the nutrient received most attention to the nutrient received least attention)

Type of nutrients	Types of readers		
	Frequent/Usual readers of individual nutrients	Non-frequent/usual readers of individual nutrients	**Total**
Sugar	82.6%	17.4%	**100.0%**
Total fat	79.5%	20.5%	**100.0%**
Calories/Energy	75.0%	25.0%	**100.0%**
Protein	67.3%	32.7%	**100.0%**
Sodium	67.1%	32.9%	**100.0%**
Carbohydrate	66.2%	33.8%	**100.0%**
Saturated fat	64.8%	35.2%	**100.0%**
Trans fat	60.9%	39.1%	**100.0%**

7.9.5 For persons who ever read other nutrients, they would read "Vitamins" (75 000 persons), "Calcium" (43 000 persons), "Minerals" (29 000 persons), "Cholesterol" (24 000 persons), "Dietary fiber" (12 000 persons), "Magnesium" (6 000 persons), "DHA" (3 000 persons), "Potassium" (3 000 persons) and "Vitamin C" (2 000 persons).

(Ref.: Q26-9)

7.9.6 Upon being asked how often they chose low fat food when buying prepackaged food, 13.9% of the 4 849 000 persons aged 18 - 64 (672 000 persons) claimed that they "every time / always" did so. 32.7% (1 585 000 persons) "most times", 29.6% (1 437 000 persons) "sometimes", 14.7% (711 000 persons) "not often" and 8.3% (404 000 persons) "never" chose low fat prepackaged food. 40 000 persons (0.8%) answered "not applicable" (e.g. those who never bought prepackaged food).

(Ref.: Q27)

7.9.7 When examining the frequency of buying low fat prepackaged food, **those who every time / always / most times / sometimes" bought the low fat prepackaged food were classified as "Frequent/Usual Buyers"**; while **those who "not often / never" buy such food as "Non-frequent/usual Buyers"**. Based on the results of chi-square test, at the 5% significance level, gender, age, level of education attained, monthly household income and living region were found to be associated with the frequency of buying low fat prepackaged food.

(Ref.: Q27 & Q34 - Q36, Q38, Region)

7.9.8 Different subgroup analyses showed that a larger proportion of the following groups of persons were Frequent/Usual Buyers of low fat prepackaged food:

- For gender, females (82.3%) as compared with 69.1% for males;
- For age, those aged 30 - 39 (79.0%) and aged 40 - 49 (78.6%) as against 74.3% - 72.8% for those who were in other age groups;
- For level of education attained, those who had attained tertiary education and above (80.0%), complete secondary education, (77.8%) in comparison to 75.3% for those who had attained incomplete secondary education, matriculation (73.7%) and 68.9% for those who had attained primary education and below;
- For monthly household income, those with household monthly income of $60,000 and above (90.8%) compared to 77.2% - 67.8% for those with other levels of monthly household income; and
- For living region, those who lived in Kowloon (79.0%) as against 76.2% for those who lived in New Territories and 71.8% for those who lived on Hong Kong Island.

(Ref.: Q27 & Q34 - Q36, Q38, Region)

7.9.9 Based on the survey findings, more than half (54.6%) of persons aged 18-64 reported that they "every time/always/most times" read the nutrition label on the package when they bought a food product for the first time.

(Ref.: Q25)

7.9.10 For the frequent/usual readers, (please refer to the paragraph 7.9.2 for the definition), they paid most of their attention to "sugars", "total fat" and "calories / energy" on the nutrition labels. On the other hand, "trans fats" and "saturated fat" were the two nutrients that received the least attention.

(Ref.: Q26)

7.9.11 Buying low fat prepackaged food was also a rather common practice in Hong Kong. Based on the survey findings, nearly half (46.5%) of persons aged 18-64 reported that they "every time/always/most times" chose low fat prepackaged food when buying prepackaged food.

(Ref.: Q27)

7.10 Sources of Information about Food Safety

7.10.1 When it comes to the main sources of food safety information, 79.2% of the 4 849 000 persons aged 18 - 64 (3 840 000 persons) recalled that they obtained such information on "television", followed by "newspaper" (72.0% or 3 493 000 persons), "magazines" (40.5% or 1 966 000 persons), "websites" (28.4% or 1 378 000 persons), "radio" (27.3% or 1 322 000 persons), "health education materials in leaflets/booklets" (24.2% or 1 171 000 persons), "relatives and friends" (18.7% or 907 000 persons), "health education materials in posters" (18.3% or 887 000 persons), "hospitals/clinics" (18.0% or 871 000 persons), "school" (9.4% or 458 000 persons), "bus / minibus (Roadshow / M Channel)" (7.5% or 365 000 persons), "talks / seminars" (4.7% or 230 000 persons), "MTR" (4.6% or 225 000 persons), "workplace" (4.3% or 211 000 persons), "bus-stops" (2.7% or 132 000 persons), and "hotlines" (0.9% or 43 000 persons).

Note: Multiple answers were allowed

(Ref.: Q33)

7.10.2 There were other sources that persons aged 18 - 64 obtained information about food safety, such as “food shops” (0.4% or 19 000 persons), “supermarkets” (0.4% or 18 000 persons), “books” (0.2% or 10 000 persons) and “dietitians” (0.1% or 3 000 persons).

(Ref.: Q33)

8. CONCLUSION AND RECOMMENDATION

8.1 5 Keys to Food Safety

8.1.1 Based on the knowledge assessment on 5 Keys to Food Safety, fair performance (mean score of 2.28 marks) was observed among the general public. Knowledge in the area of "Clean" and "Cook" needed further improvement as less than one-third of the public could correctly point out the way of washing hands before preparing food or eating (24.3%) and the minimum core temperature of cooked food to ensure thorough cooking (27.0%). Better performance was observed in the area of "Safe temperature" and "Separate" with more than half of the public could correctly identify the effect of refrigeration on most bacteria in food (78.1%) and the appropriate way of putting the raw and cooked food in the same refrigerator (60.3%) respectively. On the other hand, public has demonstrated fair understanding on "Choose" as less than two-fifths (37.9%) could point out all the three correct ways to choose perishable prepackaged food that was safe to eat or drink.

8.1.2 While over 96% of the population held positive attitude towards "Choose", "Clean", "Separate" and "Cook", around 80% (80.2%) of people aged 18 to 64 opined that it was unsafe to keep cooked food at room temperature for more than two hours (Safe temperature).

8.1.3 Most of the people aged 18 to 64 have already adopted certain food safety practices (those reported "every time / always / most times / sometimes") such as reheating cooked food until piping hot (Cook) (96.2%), checking the hygienic conditions of a shop before buying their food (Choose) (82.4%) and washing hands with liquid soap before and during food preparation (Clean) (81.4%). However some of the food safety practices were still overlooked by the population including checking the temperature of the refrigerator (Safe temperature) (54.4%) as well as using separate knives and cutting boards when preparing raw food and cooked food (Separate) (48.2%).

8.1.4 In order to enhance public understanding on 5 Keys to Food Safety and encourage the population adopting these food safety practices in their daily lives, comprehensive publicity programmes should be devised. Food safety messages targeting the elder-aged groups, non-working persons, those with lower education level, those with less monthly household income and those who cooked more frequently are suggested to be included as they achieved relatively lower mean scores in the knowledge assessment on food safety. In addition, CFS may consider disseminating the food safety messages through the most frequently cited publicity channels as shown in paragraph 8.3.

8.2 Nutrition Labelling

8.2.1 In the knowledge assessment on nutrients and nutrition labelling, the general public scored 2.35 marks out of 5 marks on average. The results indicated that the population has developed some basic understanding of nutrients and nutrition labelling but there was still room for improvement. In particular, poor performance was observed in questions asking the nutrient(s) which could raise the “bad” cholesterol in blood as well as questions testing the understanding and application of different terminology (e.g. serving size, number of servings per package) on nutrition label.

8.2.2 Generally speaking, public attitude and opinion towards nutrition labelling were positive. Majority (more than 80%) of the population agreed that nutrition label was important and beneficial. However, over two-fifth (42.2%) of the population was doubtful about the truthfulness of the nutrition claims of prepackaged food.

8.2.3 Concerning the practice on reading the nutrition label, more than half (54.6%) of the population “every time / always / most times” read nutrition labels before buying prepackaged foods for the first time. On the other hand, nearly half (46.5%) of the population “every time / always / most times” chose low fat food when buying prepackaged food.

8.2.4 Sugars, total fat and energy were the top three nutrients receiving most attention by the frequent/usual readers (please refer to the paragraph 7.9.2 for the definition) while trans fat and saturated fat were found receiving the least attention.

8.2.5 Educational materials should emphasize on introducing the terminology on nutrition label and its applications in real life situation. Meanwhile, health effects of individual nutrients such as saturated fat and trans fat should also be well explained to the general public. CFS might consider allocating more resources targeting non-working persons, elder-aged groups, those with lower education level, those with lower monthly household income and those who bought prepackaged food less frequently as they performed relatively poorer in the knowledge assessment on nutrients and nutrition labels and had relatively smaller proportions reading the nutrition label on the package when buying a food product for the first time.

8.3 Publicity Channels

It was identified in the survey findings that the population obtained most of the food safety information from “television” (79.2%), “newspaper” (72.0%), “magazines” (40.5%), “websites” (28.4%) as well as “radio” (27.3%). The CFS could make reference to these publicity channels in disseminating food safety messages.

END

Annex

Nutrition Information 營養資料	
Servings Per Package/每包裝所含食用分量數目: 3 Serving Size/食用分量: 5 pieces (50g) /5 塊 (50 克)	
	Per 100g 每 100 克
Energy/熱量	444 kcal/千卡
Protein/蛋白質	6g/克
Fat, total/脂肪總量	17g/克
Carbohydrate/碳水化合物	65g/克
- Sugar 糖	24g/克

Diagram 1. Nutrition label (partial) of Brand A biscuit

Nutrition Information 營養資料	
	Per 100g 每 100 克
Energy/熱量	532 kcal /千卡
Protein/蛋白質	4 g /克
Fat, total /脂肪總量	28 g /克
Carbohydrate/碳水化合物	65 g /克
- Sugar 糖	38 g/克

Diagram 2. Nutrition label (partial) of Brand B biscuit