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Behavioural Risk Factor Survey (April 2010)

Main Report

Commissioned by

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Executive Summary

Introduction

The Social Sciences Research Centre of the University of Hong Kong (SSRC) was commissioned by the Department of Health (DH) in April 2010 to conduct a survey to detect changes in health risk and behaviour as well as to collect further information on the health related behavioural issues among the Hong Kong population. This will provide information to facilitate the planning, implementation and evaluation of health promotion programmes on the prevention of diseases related to lifestyle and behaviour.

The scope of this survey covered the following 15 areas:

- Weight status
- Physical activities and leisure-time exercises
- Fruit and vegetable consumption
- Consumption of soft drinks and sugary beverages
- Smoking habits
- Pattern of alcohol consumption
- Eating out habits
- Eating habits in relation to salt
- Heat stroke and sunburn
- Use of solarium
- Oral health practices
- Prevalence of haemorrhoids
- Cervical screening (for female respondents only)
- Breast cancer risk (for female respondents only)
- Demographic information: gender, age, education, marital status, occupation, monthly personal income, monthly household income, number of dependants, type of living quarters and household size.

Research Methodology

This survey was conducted by using Computer Assisted Telephone Interview (CATI). The sample was drawn randomly from a list of telephone numbers, which included unlisted and new numbers. The target respondents were Cantonese, Putonghua or English speaking residents in Hong Kong (excluding domestic helpers) aged 18-64. A bilingual (Chinese and English) questionnaire with 76 questions was used to collect data. Fieldwork took place between the 21st April and 2nd June 2010. A sample size of 2 013 successful interviews was achieved. The contact rate was 40.0% and the overall response rate was 68.4%. The width of a 95% confidence interval was at most +/- 2.2%. Weighting was applied based on age and gender in order to make the findings more representative, using the Hong Kong population data compiled by the Census and Statistics Department for end-2009 as reference.

Statistical tests were applied to investigate if there is any significant association between demographics and the response variables. Only the statistically significant findings at the 5% level (2-tailed) are presented in the report.

Key Findings of the Survey

Weight status

Using the World Health Organization (WHO)'s standard Asian classification of weight status, about half (48.8%) of the respondents were classified as "normal", 21.7% of the respondents were classified as "obese" and 18.7% were regarded as "overweight", while the remaining (10.8%) were classified as "underweight".

Regarding respondents' self-perceived current weight status, close to half (49.3%) of the respondents perceived themselves as "just right". In addition, 41.8% considered themselves as "overweight" while 8.9% considered themselves as "underweight". Females, the older respondents (aged 35 years or above), married or divorced/ separated/ widowed respondents and those with educational attainment of not having completed secondary school or below were more likely to view themselves as "overweight". Overall, 64.7% of the respondents perceived their weight status in a way consistent with the WHO's weight status classification for Asians, while 19.2% of the respondents overestimated and 16.1% of them underestimated their weight status.

Physical activities and leisure-time exercises

For people of all ages, genders and bodily conditions, regular physical activity improves health. However, this survey revealed that over half (54.6%) of the respondents had not engaged in any moderate physical activity for at least 10 minutes a day and over three-fifths (61.6%) of respondents had not engaged in any vigorous physical activity for at least 10 minutes a day during the seven days prior to the survey. Overall, 18.1% of respondents reported that they had at least 30 minutes of moderate physical activity, or at least 20 minutes of vigorous physical activity, on 5 or more days a week.

Walking was the most common form of physical activity - 67.4% of the respondents had spent at least 10 minutes on walking every day during the seven days prior to the survey. On the other hand, the survey also revealed that over one-fifth (20.9%) of the respondents sat 10 or more hours per day during weekdays (Monday to Friday) in the seven days prior to the survey.

Overall, nearly two-thirds (64.2%) of the respondents' level of physical activity did not attain the WHO's recommended physical activity level for adults.

Concerning leisure-time exercise, about two-fifths (42.8%) of the respondents reported that they exercised less than once a month in their leisure-time. On the other hand, 15.0% of respondents reported that they exercised 4 times or more a week and 31.3% exercised 1 to 3 times a week in their leisure-time. Females, older respondents, married respondents and divorced/ separated/ widowed respondents, respondents with lower educational attainment, blue collar workers and those with monthly household income below $14,000 were more likely to exercise less than once a month in leisure-time than their respective counterparts.

Fruit and vegetable consumption

Eating enough fruit and vegetables has many health benefits. Adequate consumption of fruit and vegetables as part of the daily diet could help prevent major non-communicable diseases (NCD) such as cardiovascular diseases and certain cancers. Eating a variety of fruit and vegetables could ensure an adequate intake of most micronutrients and dietary fibre.

While more than half (53.8%) of the respondents had eaten fruit every day, most respondents (80.5%) had eaten vegetables daily. Regular fruit or vegetable juice consumption was found to be uncommon amongst respondents, as only 2.2% of the respondents drank fruit or vegetable juice daily.

Excluding juice, the average daily intake of fruit and vegetables by the respondents was only 3.3 servings. About one-fifth (19.1%) of the respondents had a daily intake of 5 or more servings of fruit and vegetables per day. Females, those aged 55-64, divorced/ separated/ widowed respondents, non-working respondents and those living in private housing were more likely to have consumed at least the recommended 5 servings of fruit and vegetables a day.

Consumption soft drinks and sugary beverages

The risk of overweight and obesity increases with excessive energy intake from soft drinks and sugary beverages. Around one-tenth of the respondents (11.7%) drank pre-packaged soft drinks and sugary beverages every day. On average, 2.1% of respondents consumed three cups or more of soft drinks and sugary beverages per day and nearly one-seventh (13.4%) of the respondents consumed one to less than three cups of soft drinks and sugary beverages per day. Male respondents, those aged 35-44, divorced/ separated/ widowed respondents, service workers and blue collar workers were more likely to have consumed 3 or more cups of soft drinks and sugary beverages per day.

Smoking habits

More than one-eighth (13.8%) of the respondents were current smokers at the time of this survey. Among the current smokers, the vast majority (94.8%) of them were daily smokers. A relatively higher proportion of current smokers who reported smoking more than 20 cigarettes a day were found amongst male respondents, those aged 18-24 or 45-54, those who had not completed secondary education, service workers, those with monthly household income of $8,000-$19,999 and those living in public rental flats.

Pattern of alcohol consumption

More than one-third of the respondents (34.9%) were drinkers who had drunk at least one alcoholic drink during the thirty days prior to the survey. On the whole, drinking during the thirty days prior to the survey was more prevalent among males, those aged 25-34, never married respondents, those with tertiary educational attainment or above, managerial/ professional workers and those with monthly household income of $14,000-$19,999 or above $39,999.

Among the drinkers who had drunk alcohol during the thirty days prior to the survey, more than one-fifth (20.6%) of them reported that they had engaged in binge drinking (drinking 5 or more glasses/ cans of alcohol on one occasion) at least once during the thirty days prior to the survey. Binge drinking was more common among males, never married respondents or divorced/ separated/ widowed respondents, service workers and those who lived in public rental flats.

Also among the drinkers who had drunk alcohol during the thirty days prior to the survey, 16.6% of respondents reported that they had drunk so much that they exhibited signs of drunkenness. Drunkenness was more common among males, those aged 18-24, divorced/ separated/ widowed respondents and service workers.

Eating out habits

More than a quarter of the respondents (28.5%) ate out for breakfast 5 times or more a week and nearly half (47.5%) of the respondents ate out for lunch 5 times or more a week during the thirty days prior to the survey. Males and blue collar workers were more likely to report so.

Less than one-tenth (9.4%) of the respondents ate out for dinner 5 times or more a week during the thirty days prior to the survey. A relatively higher proportion of male respondents, those aged 18-34, never-married respondents or divorced/ separated/ widowed respondents, those who had tertiary education or above, service workers, those with monthly income of $14,000-39,999 and those living in private housing were more likely to report so.

Eating habits in relation to salt

When eating out during the thirty days prior to the survey, nearly four-fifths (78.8%) of the respondents reported that they never or seldom requested soy sauce/ seasoning to be separated from dishes when served; more than four-fifths (82.1%) of respondents never or seldom requested rice with 'siu-mei' or steamed rice with some meat in pot to be served without adding 'siu-mei' sauce/ soy sauce. Males, never married respondents and those who had educational attainment of matriculation or above were more likely to never use the above two ways to reduce the consumption of seasoning. On the other hand, less than one-tenth (7.8%) of respondents had always or often added salt, soy sauce, oyster sauce, ketchup, chilli sauce, bean chilli paste or other seasonings containing salt to food.

During the thirty days prior to the survey, 3.9% of respondents had eaten preserved vegetables three or more days per week, while more than one-tenth (11.0%) of respondents had eaten snacks with high salt content three or more days per week. Females, those aged 18-34, never-married respondents and those with matriculation educational attainment were more likely to eat snacks with high salt content three or more days per week.

Heat stroke and sunburn

During the twelve months prior to the survey, 2.1% of the respondents had heat stroke and 9.9% had sunburn. The average numbers of times for having heat stroke and sunburn were 1.8 and 1.7 respectively.

Use of solarium

Only 0.9% of the respondents had ever used solarium. Among these users, 92.4% reported that they had not used solarium within the twelve months prior to the survey.

Oral health practices

Most respondents (84.2%) brushed their teeth at least twice a day. However, nearly three-fifths (59.7%) of the respondents had never used or did not currently use dental floss. Males, divorced/ separated/ widowed respondents, blue collar workers and those living in public rental flats were more likely to report that they had never used or did not currently use dental floss. Also, the lower the educational attainment and the monthly household income of the respondents, the more like they reported so.

Over half (50.1%) of the respondents reported that they did not have regular dental checkups. These respondents were more likely to be males, those with lower educational attainment, blue-collar workers, those living in public rental flats and those with lower monthly household income.

In general, only about one-third (34.0%) of respondents considered that their general oral health status was "good" or "very good".

Prevalence of haemorrhoids

More than one-eighth (13.5%) of the respondents reported that they had haemorrhoids at the time of survey. These respondents were more likely to be older respondents, those married, those with educational attainment of not having completed secondary school or below, those with lower monthly household income and those living in public rental flats.

About one-fifth (19.3%) of the respondents with haemorrhoids mentioned that they had haemorrhoid flare-ups more than 5 times during the twelve months prior to the survey. Male respondents and those aged 18-34 or 45-54 were more likely to report so.

Cervical screening

Less than two-thirds (63.0%) of the female respondents reported that they had had a cervical smear before. Females aged 35-54, married respondents, those with educational attainment of having completed secondary education or below, those with monthly household income of $40,000 or above and those living in subsidized sale flats or private housing were more likely to have had a cervical smear.

Among those female respondents who had a cervical smear before, more than half (53.1%) of them had their last cervical smear taken within twelve months prior to the survey and more than two-thirds (70.2%) of them reported having a cervical smear at a regular interval. Among those female respondents who had cervical smears regularly, 59.2% of them had the test once a year.

Breast cancer risk

Overall, 4.0% of the female respondents claimed that they had first-degree relatives who had breast cancer at or before age 50; a total of 4.7% had received but stopped or were still receiving hormonal replacement therapy for menopause at the time of the survey. Among the female respondents who had children, 5.2% of them gave birth to their first children at the age of 35 or above and more than half (54.8%) reported that they had breastfed their children.

Recommendations

Some recommendations based on the survey findings are suggested below:

1. The benefits of regular physical activity are well-known, such as improving cardio-respiratory and muscular fitness, bone health and reducing the risk of developing chronic diseases and depression. However, only slightly more than one-third of respondents (35.8%) have done the recommended amount of physical activities suggested by the WHO. Therefore, health promotion programmes could focus on educating the community about the WHO's recommended level of physical activity and some healthy tips for being more active.

2. Diets rich in fruit and vegetables have been associated with a reduced risk of developing major non-communicable diseases, including cardiovascular diseases, type 2 diabetes and certain cancers. However, less than one-fifth of respondents reported that they had a daily average intake of five or more servings of fruit and vegetables per week as recommended by the DH. Therefore, the benefits of having at least 5 servings of fruit and vegetables a day should be further promoted.

3. Nearly half and more than a quarter of the respondents ate out for lunch and breakfast 5 times or more per week respectively. The Eatsmart@restaurant campaign should be continued and further supported, in order to encourage restaurants to provide healthier dishes with more fruit and vegetables, less oil, salt and sugar, and to make healthy diet an easier choice while eating out for the public.

4. Regularly consuming soft drinks and sugary beverages contributes to weight gain because these drinks are usually rich in added sugars. The survey showed that more than one-seventh of respondents consumed 1 cup or more of soft drinks and sugary beverages per day on average. Health promotion programmes could focus on encouraging the public to drink water or unsweetened tea instead of soft drinks and sugary beverages.

5. Excessive exposure to UV radiation reduces effectiveness of immune system and increases the risk of skin cancer and cataract. The survey showed that almost one-tenth of respondents had sunburn in the twelve months prior to survey. The public should be reminded to take effective measures in summer to reduce the chance of having sunburn and other health problems related to excessive exposure to UV radiation.

6. Proper oral hygiene, including the use of dental floss to remove food remaining stuck between the teeth and avoid plaque formation, can help keep teeth clean and prevent periodontal problems. However, it was observed that only slightly more than a quarter (27.8%) of the respondents used dental floss at least once per day. Further oral health promotion campaigns could focus on educating the public the importance of oral hygiene including the proper use of dental floss at least once per day for the prevention of periodontal problems.

Chapter 1 Introduction

The Social Sciences Research Centre of the University of Hong Kong (SSRC) was commissioned by the Department of Health to conduct a survey in April 2010 to detect changes in health risk and behaviour as well as to collect further information on the health related behavioural issues among the Hong Kong population. This will provide information to facilitate the planning, implementation and evaluation of health promotion programmes on the prevention of diseases related to lifestyle and behaviour.

The scope of this survey encompasses the following areas:

- Weight status
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Chapter 2 Research Methodology

2.1 Sampling method

Telephone interview by using Computer Assisted Telephone Interview (CATI) was adopted. A random sample was drawn from 26 194 telephone numbers. These numbers were generated from the 2007 English residential telephone directory[1] by dropping the last digit, removing duplicates, adding all 10 possible final digits, randomizing order, and selecting as needed. This method provides an equal probability sample that covers unlisted and new numbers but excludes large businesses that used blocks of at least 10 numbers[2].

Where more than one eligible person resided in a household and more than one was present at the time of the telephone contact, the "Next Birthday" rule was applied to each successful contacted residential unit, i.e., the household member who had his/her birthday the soonest was selected. This reduces the over-representation of housewives in the sample.

2.2 Target respondents

Eligible respondents were residents in different districts of Hong Kong aged between 18 and 64 who spoke Cantonese, Putonghua or English. Foreign domestic helpers were excluded.

2.3 Questionnaire design

A bilingual (Chinese and English) questionnaire with 60 pre-coded questions and 16 open-ended questions (with 12 demographic questions) was designed to cover all the areas outlined in Chapter 1.

A copy of the questionnaire is enclosed in Annex A.

2.4 Pilot study

A pilot study comprising 52 successfully completed interviews was conducted from 22nd and 23rd March 2010 to test the length, logic, wording and format of the questionnaire. The data collected from these pilot interviews were not counted as part of the survey report.

[1] The Chinese residential telephone directory was not used because the total number of telephone contacts is less than the English residential telephone directory.

[2] This selection process includes unlisted numbers, new numbers, some business and fax numbers so that the contact rate is lower than a pure directory sample.

2.5 Fieldwork

Fieldwork took place between 21st April and 2nd June 2010. Because of the briefing, telephone calls were made between 4:45 p.m. and 10:30 p.m. on 21st April. From 22nd April to 23rd April, 26th April to 30th April, 3rd May to 7th May, 10th May to 14th May, 17th May to 20th May, 24th May to 28th May and 31st May to 2nd June , telephone calls were made between 4:00 p.m. and 10:30 p.m. For 8th May and 15th May, telephone calls were made between 1:00 p.m. and 7:00 p.m.

2.6 Response rate

A total of 24 326 telephone numbers were attempted. The number of successful interviews was 2 013. Refusal and dropout cases amounted to 928. All "not available" (4 724), and "no answer" (4 212) cases were attempted five times before being classified as non-contact cases. The contact rate was 40.0%[3] and the overall response rate was 68.4%[4]. Table 2.6 details the breakdown of telephone contact status.

Table 2.6: Final status of telephone numbers attempted

Type	Final status of contacts[5]	Number of cases
1	Success	2 013
2	Drop-out	119
3	Refusal	809
4	Language problems	13
5	Not eligible	749
6	Business lines	1 306
7	Not available	4 724
8	Busy tone	323
9	No answer	4 212
10	Fax/data lines	933
11	Invalid	9 125
TOTAL		**24 326**

[3] Contact rate = the number of answered telephone calls divided by the total number of calls attempted, i.e. from Table 2.6, Sum of (types 1 to 7) / Total = (2 013 + 119 + 809 + 13 + 749 + 1 306 + 4 724) / 24 326 = 40.0%.

[4] Response rate = the number of successful interviews divided by the sum of the numbers of successful interviews, drop-out cases and refusal cases, i.e. from Table 2.6, (type 1) / (type 1 + type 2 + type 3) = 2 013 / (2 013 + 119 + 809) = 68.4%.

[5] "Drop-out": eligible respondents who initially accepted the interview but failed to complete the interview due to some reasons. "Refusal": eligible respondents who refused the interview. "Language problems": eligible respondents who were not able to speak clearly in any of the three languages. "Not available": eligible respondents who were busy at the time of telephone contact. "Invalid": not a valid telephone line (because we used a random method to generate telephone numbers, see section 2.1).

2.7 Sample size and sample error

A sample size of 2 013 successful interviews was achieved (the target sample size was 2 000). The width of a 95% confidence interval for this sample size is at most +/– 2.2%[6]. This means that we can have 95% confidence that the true population proportion falls within the sample proportion plus or minus 2.2%. For example, 16.5% of the respondents in the sample claimed that their weight differed by more than 10 pounds when compared with one year ago, and then the conservative 95% confidence interval for the true percentage of the population stating a weight difference for the above question falls between 16.5% ± 2.2%, i.e. 14.3% and 18.7%.

2.8 Quality control

All SSRC interviewers were well trained in a standardized approach prior to the commencement of the survey. All interviews were conducted by experienced interviewers fluent in Cantonese, Putonghua and English.

The SSRC engaged in quality checks for each stage of the survey to ensure satisfactory standards of performance. At least 15% of the questionnaires completed by each interviewer were checked by the SSRC independently.

2.9 Statistical analysis and weighting

This survey revealed some differences in gender and age proportions when compared with the Hong Kong population data compiled by the Census and Statistics Department (C&SD) for end-2009. The proportions of respondents among age groups 18-24, 50-64 were much higher than the population while the proportions of respondents aged 25-39 years old were much lower. The sample also contained a higher percentage of females when compared with the population. Table 2.9a shows the differences in terms of age and gender.

In view of the demographic differences between this sample and the population, weighting was applied by gender and age in order to make the results more representative of the general population. The weights are the ratio of the age and gender distribution of the population to that of this sample (Table 2.9b).

[6] As the population proportion is unknown, 0.5 is put into the formula of the sampling error to produce the most conservative estimate of the sampling error. The confidence interval width is:

$$\pm 1.96 \times \sqrt{\frac{0.5 \times 0.5}{2\,013}} \times 100\% = 2.2\%$$

Table 2.9a: Distribution differences of age and gender between this survey and the Hong Kong population data compiled by the C&SD for end-2009

Age Group	This survey			Hong Kong population data – from the C&SD (end 2009)*		
	Male	**Female**	***Total***	**Male**	**Female**	***Total***
	% of Total	*% of Total*	*% of Total*	*% of Total*	*% of Total*	*% of Total*
18-24	**7.27**	**7.67**	14.94	**6.19**	**6.39**	12.59
25-29	**2.16**	**3.21**	5.36	**4.60**	**6.13**	10.74
30-34	**2.36**	**4.01**	6.37	**4.49**	**6.30**	10.78
35-39	**2.76**	**6.57**	9.32	**4.81**	**6.70**	11.51
40-44	**4.26**	**8.72**	12.98	**5.14**	**6.65**	11.79
45-49	**4.66**	**8.42**	13.08	**6.31**	**7.21**	13.52
50-54	**4.66**	**10.28**	14.94	**6.10**	**6.25**	12.35
55-59	**3.86**	**8.42**	12.28	**4.81**	**4.85**	9.66
60-64	**4.56**	**6.17**	10.73	**3.58**	**3.48**	7.06
Total	**36.54**	**63.46**	100.00	**46.03**	**53.97**	100.00

*Note: *Provisional figures obtained from the C&SD*

Table 2.9b: Weights by age and gender applied in the analyses

Age	Male	Female
18-24	0.851766047	0.833815436
25-29	2.135859121	1.912335273
30-34	1.904022674	1.570245972
35-39	1.745986632	1.020422052
40-44	1.205292072	0.762748199
45-49	1.354179698	0.856217267
50-54	1.309154723	0.608110124
55-59	1.245061659	0.576112921
60-64	0.784438246	0.564794112
Age data missing	1.000000000	1.000000000

Statistical tests were applied to study the significant differences between sub-groups. Associations between selected demographic information and responses of selected questions were examined. Significance testing was conducted at the 5% level (2-tailed). The statistical software, PASW(SPSS) for Windows version 18.0 was used to perform all statistical analyses.

Chapter 3 Findings of the Survey

This chapter presents the findings of this survey after weighting for gender and age. Some percentages in the figures may not add up to the total or 100% because of rounding.

3.1 Demographics

This section briefly describes the characteristics of respondents in this survey (Table 3.1).

3.1.1 Gender and age

As weighting was applied to gender and age in this survey, the distribution of gender and age reported in this report matches the Hong Kong Population compiled by the C&SD for end 2009.

Overall, 54.2 % of the respondents were females and 47.6 % were aged between 30 and 49.

3.1.2 Marital status

Over three-fifths (62.9%) of the respondents were married - 55.0% had children and 7.8% did not have a child. Nearly one-third (32.6%) of the respondents were never married, 3.2% were divorced or separated and 1.4% of respondents were widowed.

3.1.3 Educational attainment

Most of the respondents (72.4%) had secondary education or above - 27.4% had completed secondary (F.5), 9.2% had matriculation education and 35.8% attained tertiary education or above. The remaining of the respondents (27.6%) had not completed secondary education or had primary education or below.

3.1.4 Occupation

More than one-third (37.3%) of the respondents were not working. This included 8.7% students; 17.7% homemakers; 5.3% unemployed and 5.6% retired persons.

For working respondents, a relatively higher proportion of respondents were clerks (13.7%), followed by associate professionals (10.7%) and employers/ managers/ administrators (8.3%).

3.1.5 Income

Nearly two-thirds (65.5%) of the respondents had a monthly personal income below $20,000 - 40.0% had a monthly personal income of $10,000-$19,999 and 25.5% had a monthly personal income below $10,000.

Regarding the monthly household income, close to three-fifths (58.5%) of the respondents had a monthly household income below $30,000 - 21.4% had a monthly household income of $20,000-$29,999, 24.8% had a monthly household income of $10,000-$19,999 and 12.3% had a monthly household income below $10,000.

3.1.6 Household size

Overall, over three-fifths (61.9%) of respondents claimed that their household sizes were 3-4 persons and 21.8% had 1-2 persons in their household (excluding foreign domestic helpers).

3.1.7 Number of dependants

About two-fifths (40.8%) of the respondents did not have any dependants while about another two-fifths (41.9%) had 1-2 dependants.

3.1.8 Type of living quarters

About half (52.2%) of the respondents were living in private residential flats, followed by public rental flats (32.9%) and Housing Authority/ Housing Society subsidized sale flats (14.8%).

Table 3.1: Demographic information (Q1, Q50-Q58)[7]

Gender	**Base = 2 013**
Male	45.8%
Female	54.2%
Marital Status	**Base = 2 010**
Never married	32.6%
Married and with child(ren)	55.0%
Married and without child	7.8%
Divorced/ Separated	3.2%
Widowed	1.4%

Age	**Base = 1 995**
18-24	12.6%
25-29	10.7%
30-34	10.8%
35-39	11.5%
40-44	11.8%
45-49	13.5%
50-54	12.4%
55-59	9.7%
60-64	7.1%

[7] Refer to the question number in the survey questionnaire, see Annex A.

Educational Attainment	**Base = 2 011**
Primary or below	11.0%
Had not completed secondary	16.6%
Completed secondary (F.5)	27.4%
Matriculation	9.2%
Tertiary or above	35.8%

Type of Living Quarters	**Base = 1 989**
Public rental flats	32.9%
Housing Authority subsidized sale flats	13.3%
Housing Society subsidized sale flats	1.5%
Private residential flats	46.4%
Villas/ Bungalows/ Modern village houses	1.9%
Simple stone structures/ Traditional village house	2.7%
Staff quarters	1.2%
Non-domestic quarters	0.1%

Occupation	**Base = 1 974**
Employer/ Manager/ Administrator	8.3%
Professional	6.5%
Associate professional	10.7%
Clerk	13.7%
Service worker	7.1%
Shop sales worker	3.3%
Skilled agricultural/ Fishery worker	0.2%
Craft and related worker	4.5%
Plant and machine operator and assembler	3.2%
Unskilled worker	5.3%
Student	8.7%
Home-maker	17.7%
Unemployed person	5.3%
Retired person	5.6%

Monthly Personal Income	**Base = 1 180[8]**
Below $10,000	25.5%
$10,000-$19,999	40.0%
$20,000-$29,999	14.3%
$30,000-$49,999	14.2%
$50,000 or above	6.0%

Monthly Household Income	**Base =1 595**
Below $10,000	12.3%
$10,000-$19,999	24.8%
$20,000-$29,999	21.4%
$30,000-$49,999	21.2%
$50,000 or above	20.3%

[8] For non-working respondents, they did not need to answer question Q54 (monthly personal income).

Number of Dependents	Base = 1 996	Household Size (excluding foreign domestic helpers)	Base = 1 998
none	40.8%	1	5.2%
1	19.6%	2	16.7%
2	22.3%	3	29.5%
3	10.1%	4	32.4%
4	4.7%	5	11.7%
5	2.1%	6	3.5%
6	0.4%	7 or above	1.1%
7 or above	0.1%		

3.2 Weight status

Four questions were asked in this survey to ascertain the respondents' height, weight, waist circumference and the perception on their current weight. Using respondents' reported height and weight, their Body Mass Index (BMI) was derived and classified to assess their weight status according to the World Health Organization (WHO) classifications (both European and Asian Standards).

Those respondents with a body height out of the suggested range 100 - 190cm, body weight out of the suggested range 37 - 120kg or who were pregnant were treated as outliers and excluded from height, weight and BMI analyses (section 3.2.1, 3.2.2 and 3.2.4). Subsequently, a total of 10 outlier cases for height or weight (including four pregnant women) were excluded from analyses in section 3.2.5. In addition, 57 cases were also excluded from the BMI analyses due to missing data for height or weight.

3.2.1 Height (when not wearing shoes)

The reported height of respondents when not wearing shoes ranged from 121.9 to 190.0cm. About two-fifths (41.4%) of the respondents were within the range from 160.0 to less than 170.0cm, followed by 28.4% in the range from 150.0 to less than 160.0cm. The overall mean and median heights were 163.7cm and 163.0cm respectively (Table 3.2.1).

Table 3.2.1: Height distribution of respondents (percentage, mean and median) (Q2a)

Height (cm)	Number	% of Total
100.0 – <150.0	45	2.3%
150.0 – <160.0	561	28.4%
160.0 – <170.0	819	41.4%
170.0 – <180.0	479	24.2%
180.0 – 190.0	73	3.7%
Total	***1 978****	***100.0%***
Mean	163.7cm	
Median	163.0cm	

*Note: *All respondents excluding outliers, "don't know" and refusal*

3.2.2 Weight (wearing light clothes)

The reported weight of respondents when wearing simple clothes ranged from 37.7 to 117.9kg. About one-third (33.6%) of the respondents fell into the weight range from 50.0 to less than 60.0kg, followed by 24.9% of the respondents in the range from 60.0 to less than 70.0kg. The overall mean and median weights were 60.4kg and 59.0kg respectively (Table 3.2.2).

Table 3.2.2: Weight distribution of respondents (percentage, mean and median) (Q2b)

Weight (kg)	Number	% of Total
37.0 – <40.0	6	0.3%
40.0 – <50.0	390	19.8%
50.0 – <60.0	661	33.6%
60.0 – <70.0	490	24.9%
70.0 – <80.0	306	15.5%
80.0 – 120.0	118	6.0%
Total	***1 972****	***100.0%***
Mean	60.4kg	
Median	59.0kg	

*Note: *All respondents excluding outliers, "don't know" and refusal*

3.2.3 Waist circumference

Those respondents with a waist circumference out of the suggested range 50-120cm or who were pregnant were treated as outliers. A total of 6 cases (including four pregnant women) were treated as outliers.

The reported waist circumference of the respondents ranged from 50.8 to 119.4cm. About two-fifths (42.0%) of the respondents had their waist circumference in the range from 70.0 to less than 80.0 cm, followed by 26.8% in the range from 60.0 to less than 70.0cm. The overall mean and median waist circumferences were 75.6cm and 76.2cm respectively (Table 3.2.3).

Table 3.2.3: Waist circumference distribution of respondents (percentage, mean and median) (Q2c)

Waist circumference (cm)	Number	% of Total
50.0 – <60.0	11	0.6%
60.0 – <70.0	524	26.8%
70.0 – <80.0	820	42.0%
80.0 – <90.0	492	25.2%
90.0 – 120.0	106	5.4%
Total	***1 952****	***100.0%***
Mean	75.6cm	
Median	76.2cm	

*Note: *All respondents excluding outliers, "don't know" and refusal*

3.2.4 Body Mass Index (BMI)

BMI was derived from weight and height by the following formula:

$$BMI = body\ weight\ (kg) / [height\ (m)]^2$$

3.2.4.1 Weight status by WHO classification

According to WHO's European and Asian classification of weight status, respondents were classified into four categories of weight status (underweight, normal, overweight and obese) as in Table 3.2.4.1a and Table 3.2.4.1b respectively.

According to the European standard, about two-thirds (67.5%) of the respondents were classified as "normal", 18.4% of respondents were classified as "overweight" and 3.3% were classified as "obese". About one-tenth (10.8%) of the respondents were regarded as "underweight" (Table 3.2.4.1a).

Table 3.2.4.1a: WHO classification for weight status (European standard) (Q2a & Q2b)

Weight status by WHO classifications	BMI	Number	% of Total
Underweight	BMI < 18.5	210	10.8%
Normal	BMI 18.5 – <25.0	1 318	67.5%
Overweight	BMI 25.0 – <30.0	359	18.4%
Obese	BMI ≥ 30.0	63	3.3%
	Total	***1 951****	***100.0%***

*Note: *All respondents excluding outliers and missing data for height or weight*

Based on the Asian standard, less than half (48.8%) of the respondents were classified as "normal", 21.7% of the respondents were classified as "obese" and 18.7% were regarded as "overweight", while the remaining 10.8% were classified as "underweight" (Table 3.2.4.1b).

Table 3.2.4.1b: WHO classification for weight status (Asian standard) (Q2a & Q2b)

Weight status by WHO classifications	BMI	Number	% of Total
Underweight	BMI < 18.5	210	10.8%
Normal	BMI 18.5 – <23.0	952	48.8%
Overweight	BMI 23.0 – <25.0	366	18.7%
Obese	BMI ≥ 25.0	423	21.7%
	Total	***1 951****	***100.0%***

*Note: *All respondents excluding outliers and missing data for height or weight*

3.2.5 Perception of current weight status

When respondents were asked their self perceived current weight status, close to half (49.3%) of the respondents perceived it as "just right". However, 41.8% considered themselves as "overweight" while 8.9% considered themselves as "underweight" (Table 3.2.5a).

Table 3.2.5a: Perception of current weight status (Q3)

Perception of current weight	Number	% of Total
Overweight	837	41.8%
Just right	986	49.3%
Underweight	178	8.9%
Total	***2 002****	***100.0%***

*Note: * All respondents excluding outliers, "don't know" and refusal*

Table 3.2.5b shows the differences of weight status between the WHO (Asian standard) classification and the respondents' perception. Almost half (49.0%) of respondents considered their weight status as "just right" while close to half (48.8%) of respondents were classified as "normal" under the WHO classification (Asian standard). On the other hand, 42.1% of respondents perceived themselves as "overweight" while 40.4% were classified as "overweight" or "obese" according to the WHO criteria (Asian standard). Overall, 64.7% of the respondents perceived their weight status in a way consistent with the WHO criteria, while 19.2% of the respondents overestimated and 16.1% underestimated.

Table 3.2.5b: Comparison of weight status between WHO classification (Asian standard) and respondents' perception of their current weight (Q2a, Q2b & Q3)

Cross-tabulation		Weight status by WHO classification (Asian standard)				
		Underweight	**Normal**	**Overweight**	**Obese**	***Total***
Respondents' perception of current weight	**Overweight**	11	234	218	356	820
	% of Total	0.6%	12.0%	11.2%	18.3%	42.1%
	Just right	129	617	145	65	956
	% of Total	6.6%	31.6%	7.4%	3.4%	49.0%
	Underweight	70	101	3	1	174
	% of Total	3.6%	5.2%	0.1%	0.04%	8.9%
	Total	210	952	366	423	1 951
	% of Total	10.8%	48.8%	18.7%	21.7%	100.0%

*Note: *All respondents excluding refusal, outliers and missing responses either in the questions of perception about current weight or the weight status by WHO classification. The percentages of respondents' perception of current weight are slightly different from Table 3.2.5a since the bases are different.*

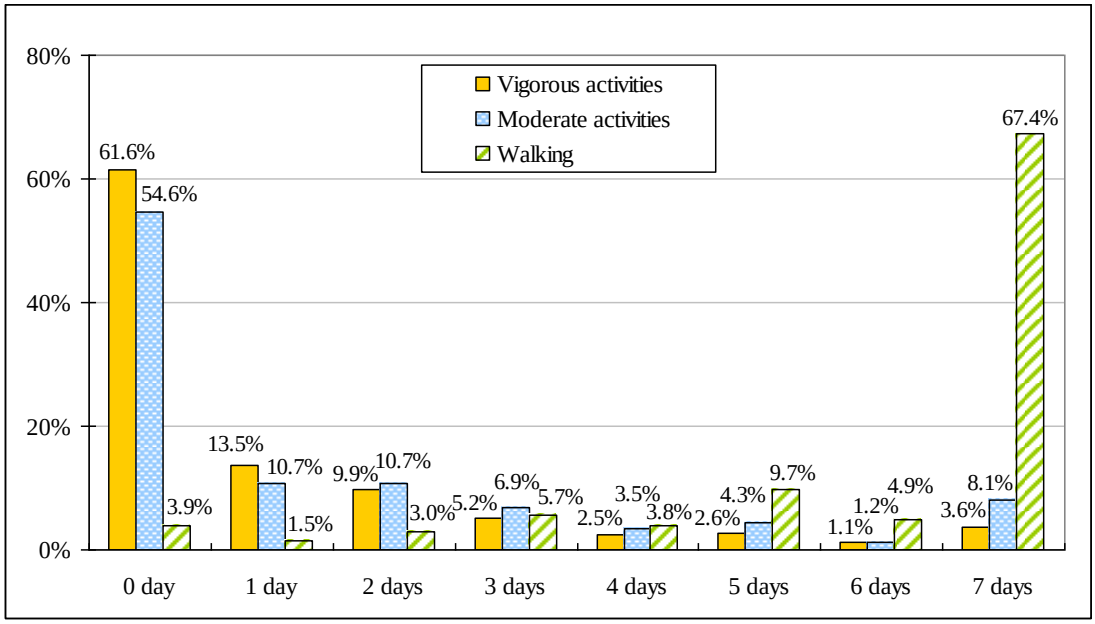
3.3 Physical activities and leisure-time exercises

Nine questions were asked to understand the frequency and duration of physical activities[9] in which respondents had engaged. Seven of the questions were adopted from the International Physical Activity Questionnaire (IPAQ) short form (see Annex A, Q4a-Q9).

3.3.1 Frequency of physical activities per week

On a weekly basis, walking was far more prevalent than vigorous and moderate physical activities. During the seven days prior to the survey, 67.4% of respondents spent at least 10 minutes walking every day. On the other hand, 38.4% and 45.4% of the respondents reported that they spent at least one day on vigorous and moderate physical activities in the seven days prior to the survey respectively (Fig. 3.3.1a).

Fig. 3.3.1a: Number of days per week spent on doing each type of physical activities in the seven days prior to the survey (Q4a, Q5a & Q7a)

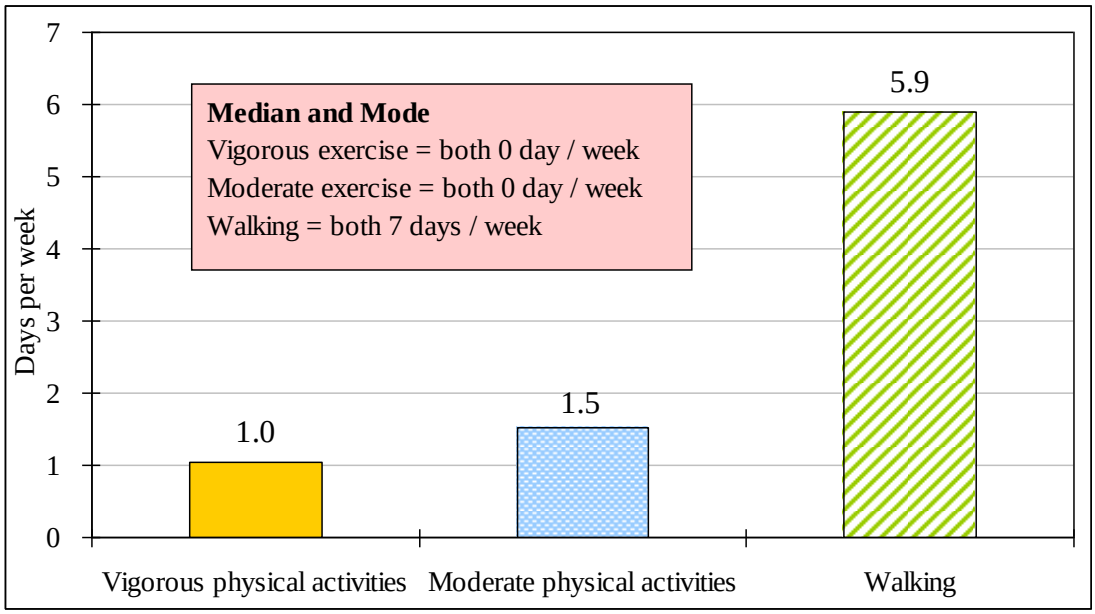


Base: All respondents excluding "don't know" (vigorous activities = 2 013; Moderate activities = 2 013; Walking = 2 012)

[9] Respondents were informed of the definitions of vigorous physical activities, moderate physical activities and walking. Vigorous physical activities are defined as those that make people breathe much harder than normal, for example aerobics, football, swimming, heavy physical work and jogging. Moderate physical activities are defined as those that make people breathe somewhat harder than normal, for example cycling, washing or polishing cars, fast walking and cleaning windows. Walking includes walking to work or school, walking to travel from place to place and walking for leisure. All the questions about vigorous exercise, moderate exercise and walking only referred to those activities on which the respondents had spent at least 10 minutes at a time.

Fig.3.3.1b shows that respondents spent fewer days on vigorous and moderate physical activities. On average, respondents spent 1.0 day per week on vigorous physical activities and 1.5 days per week on moderate physical activities. In contrast, the average number of days spent on walking was much higher at 5.9 days per week (Fig. 3.3.1b).

Fig. 3.3.1b: Weekly average number of days spent on different types of physical activities with median and mode (Q4a, Q5a & Q7a)



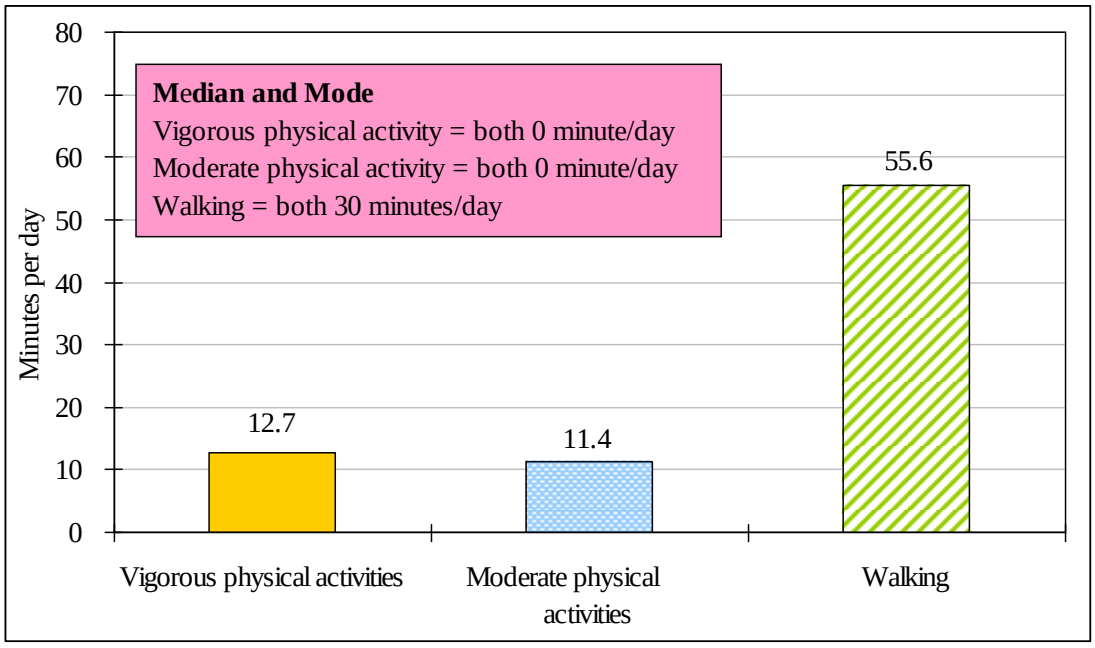
Base: All respondents excluding "don't know" (vigorous activities = 2 013; Moderate activities = 2 013; Walking = 2 012)

3.3.2 Daily average time spent on physical activities[10]

On average, respondents spent 12.7 minutes per day on vigorous physical activities, 11.4 minutes on moderate physical activities and 55.6 minutes on walking. The median and mode average time spent per day were both zero minutes for vigorous and moderate physical activities and both median and mode time spent per day were 30 minutes for walking (Fig. 3.3.2a).

Overall, less than one-tenth of the respondents spent a daily average of 31 minutes or more on vigorous physical activities (9.6%) and moderate physical activities (8.8%), while 38.6% of respondents spent a daily average of 31 minutes or more on walking (Table 3.3.2b).

Fig.3.3.2a: Daily average minutes spent on different types of physical activity with median and mode (Q4a, Q4b, Q5a, Q5b, Q7a & Q7b)



Base: All respondents excluding "don't know" (Vigorous exercise = 2 011; Moderate exercise = 2 013; Walking = 1 997)

[10] The daily average minutes per day spent on each type of exercise was computed by multiplying the average number of days engaged in each type of exercise on a weekly basis and the average minutes of time spent on each type of exercise on those days they had done exercise and then dividing by 7 days. Vigorous exercise: (Q4a*Q4b)/7; Moderate exercise: (Q5a*Q5b)/7; Walking: (Q7a*Q7b)/7.

Table 3.3.2b: Daily average time spent on doing different types of physical activity (Q4a, Q4b, Q5a, Q5b, Q7a & Q7b)

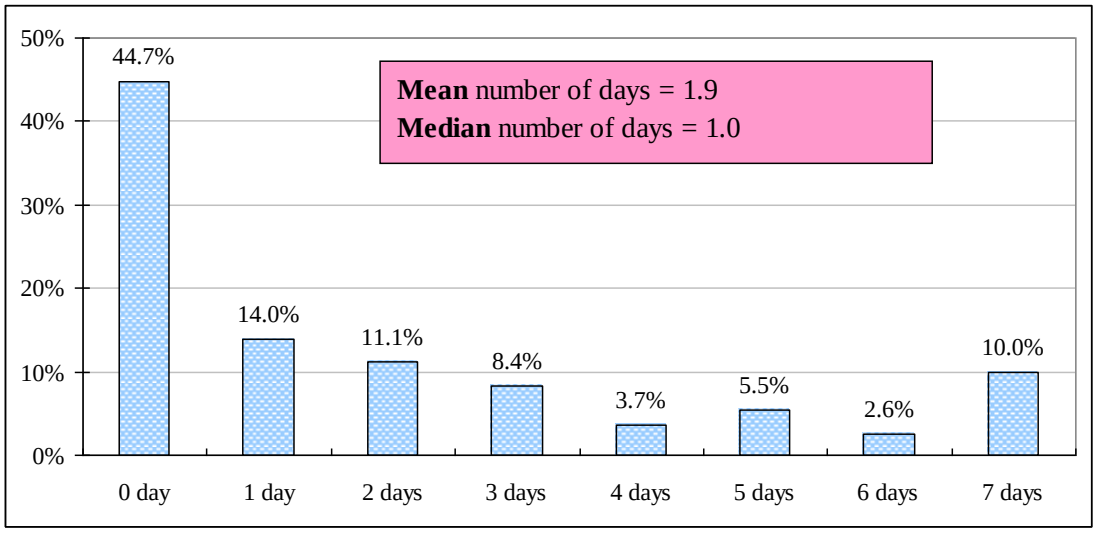
Minutes	Vigorous physical activity		Moderate physical activity		Walking	
	Number	% of Total	Number	% of Total	Number	% of Total
Below 10	1 556	77.4%	1 502	74.6%	231	11.6%
10 – <16	54	2.7%	117	5.8%	219	11.0%
16 – <31	209	10.4%	217	10.8%	777	38.9%
31 – <61	113	5.6%	100	5.0%	401	20.1%
61 or above	80	4.0%	77	3.8%	370	18.5%
Total	***2 011****	***100.0%***	***2 013****	***100.0%***	***1 997****	***100.0%***

*Note: *All respondents excluding "don't know"*

3.3.3 Physical activities with moderate or vigorous intensity

Respondents were asked the number of days per week having moderate physical activities for at least 30 minutes or vigorous physical activities for at least 20 minutes during the seven days prior to the survey. Overall, over two-fifths (44.7%) did not spend any time on such activities while 18.1% had physical activities for 5 or more days during the seven days prior to the survey. The mean and median number of days spent on these activities was 1.9 days and 1.0 day respectively (Fig.3.3.3).

Fig.3.3.3: Number of days having moderate physical activities for at least 30 minutes, or vigorous physical activities for at least 20 minutes per week (Percentage, mean and median)(Q6)



Base: All respondents = 2 013

3.3.4 Sitting[11]

Respondents were asked how much time per day on average they spent on sitting during weekdays (Monday to Friday) in the seven days prior to the survey. Table 3.3.4 shows that more than half (54.0%) of the respondents reported that they sat for at least six hours per day during weekdays. The mean and median sitting hours were 6.3 and 6.0 respectively (Table 3.3.4).

Table 3.3.4: Average time spent on sitting per day during weekdays in the seven days prior to the survey (Percentage, mean and median) (Q8)

Sitting Hours	Number	% of Total
Below 2	83	4.2
2 - <4	348	17.5
4 - <6	482	24.3
6 - <8	356	17.9
8 - <10	301	15.2
10 or above	415	20.9
Total	***1 985****	***100.0%***
Other statistics	**Hours**	
Mean	6.3	
Median	6.0	

*Note: *All respondents excluding "don't know" and outliers*

[11] Sitting includes time spent sitting at work, at home, visiting friends, reading, travelling on public transport and lying down to watch television.

3.3.5 Analysis of the International Physical Activity Questionnaire

The analysis in this survey is based on the guidelines for data processing and analysis of the IPAQ – Short Form (revised November 2005)[12]. The age range of respondents of this survey (18-64) is within the age criteria of the IPAQ analysis, i.e., 15-69. The analysis of the IPAQ short form provides two indicators of physical activity, namely categorical and continuous indicators.

According to the IPAQ data processing and cleaning rules, 17 cases were excluded from this part of analyses for being classified as "don't know".

3.3.5.1 Categorical scoring

The categorical score comprises three levels of physical activity, namely "low", "moderate" and "high"[13]. Table 3.3.5.1a details the criteria of classification.

Table 3.3.5.1a: Categorical scoring classification of the level of physical activity

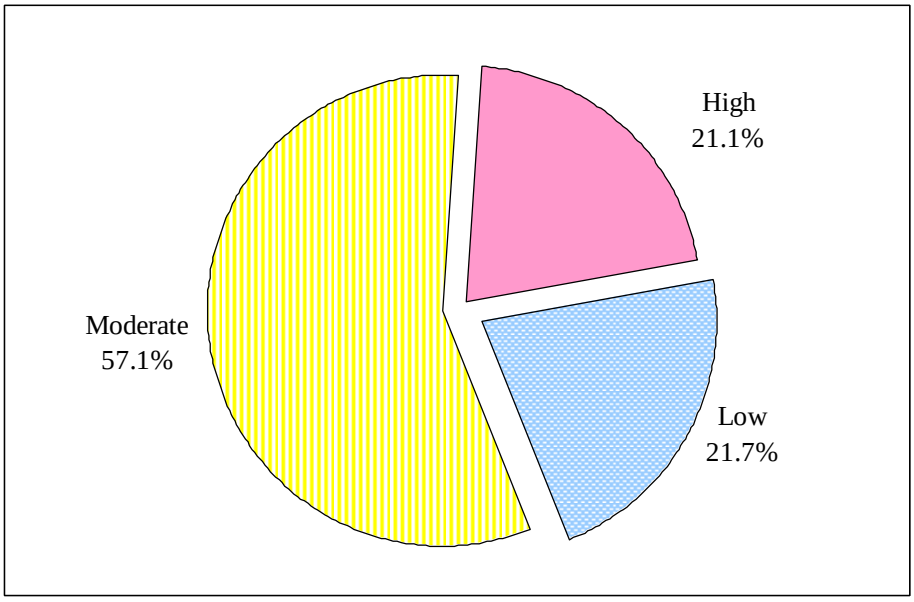
Level of physical activity	Categorical scoring classification criteria
Low	▪ No activity is reported OR ▪ Some activity is reported but not enough to meet categories "Moderate" or "High"
Moderate	Any one of the following 3 criteria ▪ 3 or more days of vigorous-intensity activity of at least 20 minutes per day OR ▪ 5 or more days of moderate-intensity activity or walking of at least 30 minutes per day OR ▪ 5 or more days of any combination of walking, moderate-intensity or vigorous-intensity activities achieving a minimum of at least 600 MET-min/week
High	Any one of the following 2 criteria ▪ Vigorous-intensity activity on at least 3 days and accumulating at least 1500 MET-minutes/week OR ▪ 7 or more days of any combination of walking, moderate-intensity or vigorous-intensity activities achieving a minimum of at least 3000 MET-minutes/week

Note: MET = multiples of resting metabolic rate
Source: Guidelines for data processing and analysis of the IPAQ – short form

[12] This document for data processing and analysis of the IPAQ is available on the website: http://www.ipaq.ki.se/ipaq.htm .
[13] The current categories of IPAQ classification are "Low", "Moderate" and "High". The previous categories were known as "Inactive", "Minimally active" and "HEPA active".

According to the classification criteria listed in Table 3.3.5.1a, nearly three-fifths (57.1%) of the respondents were classified as having "moderate" level of physical activity. In addition, the proportions of respondents having "high" and "low" level of physical activity were 21.1% and 21.7% respectively (Fig. 3.3.5.1b).

Fig. 3.3.5.1b: Classification of respondents' physical activity level (Q4a, Q4b, Q5a, Q5b, Q7a & Q7b)



Base: All respondents excluding "don't know" and outliers according to the data processing rules of the IPAQ analysis guidelines = 1 995

3.3.5.2 Continuous scoring

Continuous scoring is another measurement of physical activity suggested in the IPAQ - short form guidelines. This is achieved by weighting each type of activity by its energy requirements defined in METs (METs are multiples of the resting metabolic rate) to yield a score in MET-minutes. A MET-minute score[14] is computed by multiplying the MET by the minutes performed. MET-minute scores are equivalent to kilocalories expended for a 60 kilogram person. The selected MET values for different types of activity were derived from work undertaken during the IPAQ Reliability Study conducted in 2000-2001. This study yielded MET values for the three types of activity, namely "walking"= 3.3 METs, "moderate physical activity" = 4.0 METs and "vigorous physical activity" = 8.0 METs. These MET values are used for the continuous scoring analysis of IPAQ data in this part.

More specifically, the continuous score for each type of physical activity was computed according to the formula and examples in Table 3.3.5.2a.

[14] Source of information: Guideline for data processing and analysis of the IPAQ

Table 3.3.5.2a: Continuous score computation

MET-min per week for each activity	= (MET level) x (min of activity) x (events per week)
Total MET-min per week	= (Walk METs x min x days) + (Moderate PA METs x min x days) + (Vigorous PA METs x min x days)
Example:	***Given:*** *MET-min/week for 30 min episodes, 5 times/week, MET levels for walking = 3.3METs, Moderate PA= 4.0METs and Vigorous PA= 8.0METs*
MET-min/week for walking	= 3.3 x 30 x 5 = 495 MET-min/week
MET-min/week for Moderate PA	= 4.0 x 30 x 5 = 600 MET-min/week
MET-min/week for Vigorous PA	= 8.0 x 30 x 5 = 1,200 MET-min/week
Total MET-min/week	Total = 2 295 MET-min/week

Note: PA = physical activity
Source: Guidelines for data processing and analysis of the IPAQ – short form

As suggested by the IPAQ – short form guidelines, the continuous indicator is presented as median minutes or median MET-minutes rather than mean minutes or mean MET-minutes given the non-normal distribution of energy expenditure in many populations. However, median scores (unlike mean scores) are not additive, so the median score is not the sum of the median scores for each type of physical activity.

Table 3.3.5.2b shows the medians of the continuous scores for each type of physical activities. The medians for vigorous physical activity and moderate activity were both 0 while the median for walking was 693 MET-minutes per week. The median score of these three activities combined was 1 359 MET-minutes per week.

Table 3.3.5.2b: Medians of the IPAQ continuous score for each type of physical activity level (Q4a, Q4b, Q5a, Q5b, Q7a & Q7b)

Statistics	Continuous Score (MET-minutes/week)			
	Vigorous exercise	Moderate exercise	Walking	**Total**
Median	0	0	693	1 359

*Note: *All respondents excluding "don't know" and outliers according to the data processing rules of the IPAQ analysis guideline (Vigorous exercise = 2 011; Moderate exercise = 2 013; Walking = 1 997)*

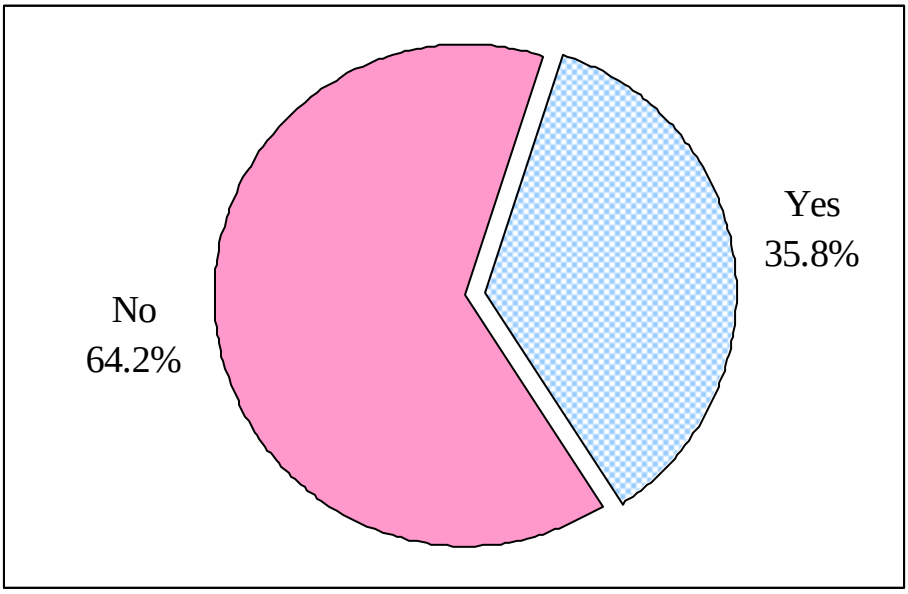
3.3.6 Analysis based on WHO's Global Recommendations on Physical Activity for Health

The WHO published the Global Recommendations on Physical Activity for Health in August 2010[15]. Based on the recommendations, adults aged 18-64 should do at least one of the following amount of physical activities in order to improve body fitness and prevent diseases:

1. At least 150 minutes of moderate-intensity aerobic physical activity throughout the week, OR
2. At least 75 minutes of vigorous-intensity aerobic physical activity throughout the week , OR
3. An equivalent combination of moderate- and vigorous-intensity aerobic physical activity throughout the week[16].

Overall, more than one-third of respondents (35.8%) have done the recommended amount physical activity during the seven days prior to the survey (Fig. 3.3.6).

Fig. 3.3.6: Whether the physical activity level recommended by the WHO for adults were attained (Q4a, Q4b, Q5a, Q5b)



Base: All respondents excluding "unknown" physical activity level =2 011

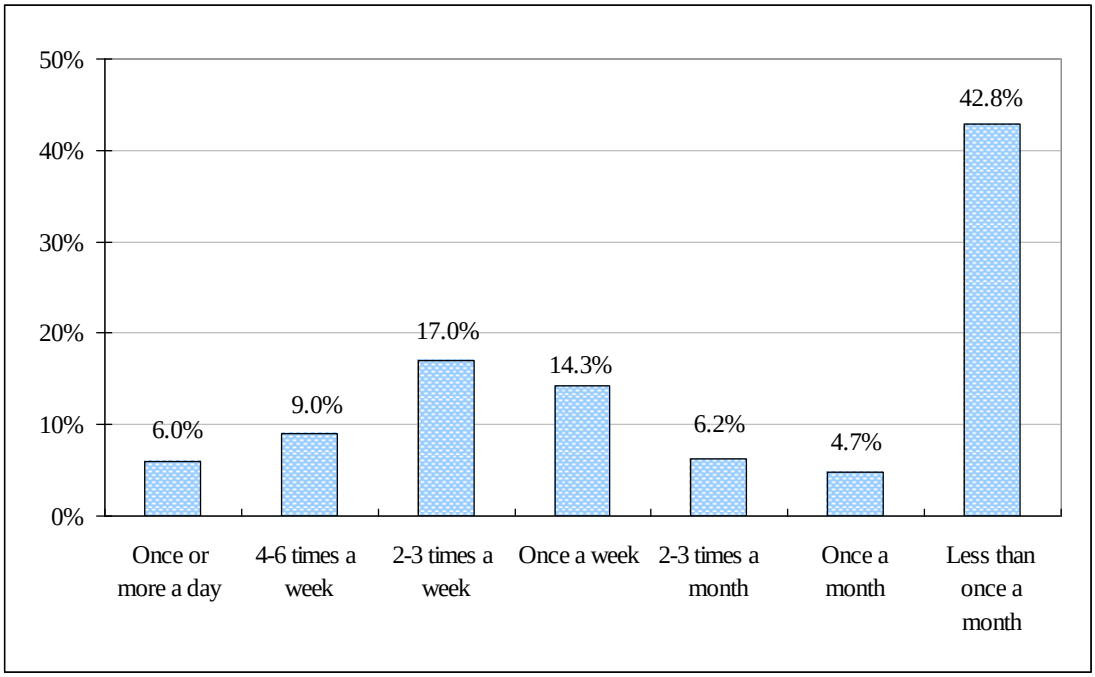
[15] "Global Recommendations on Physical Activity for Health", World Health Organization; 2010. (http://whqlibdoc.who.int/publications/2010/9789241599979_eng.pdf)

[16] Amount of equivalent combination of moderate- and vigorous-intensity aerobic physical activities = duration (in minutes) of moderate-intensity aerobic physical activity in a week + (duration (in minutes) of vigorous-intensity aerobic physical activity in a week x 2)

3.3.7 Frequency of having exercise in leisure-time[17]

Respondents were asked how often they would exercise in their leisure-time during the thirty days prior to the survey. Overall, About two-fifths (42.8%) of the respondents reported that they exercised less than once a month in their leisure-time. On the other hand, 15.0% of respondents reported that they exercised 4 times or more a week and 31.3% exercised one to three times a week in their leisure-time (Fig. 3.3.7).

Fig. 3.3.7: Frequency of having exercise in leisure-time during the thirty days prior to the survey (Q9)



Base: All respondents excluding "don't know" = 2 009

[17] Exercise is defined as activities that make people breathe somewhat harder than normal and sweat.

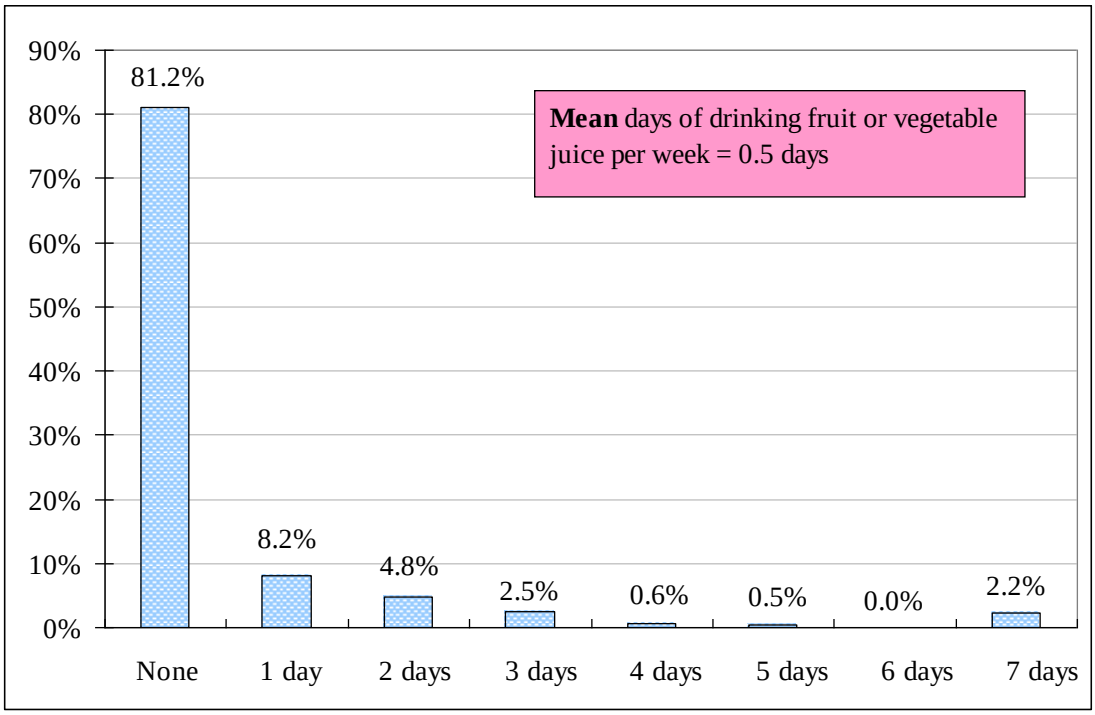
3.4 Fruit and vegetable consumption

Five questions were asked in this survey to gauge respondents' fruit and vegetable consumption.

3.4.1 Frequency of consuming fruit or vegetable juice per week[18]

Overall, only 2.2% of the respondents drank fruit or vegetable juice on a daily basis. The average number of days per week in which the respondents drank fruit or vegetable juice was 0.5 day (Fig.3.4.1).

Fig. 3.4.1: Number of days in the week when respondents drank fruit or vegetable juice (Q12)



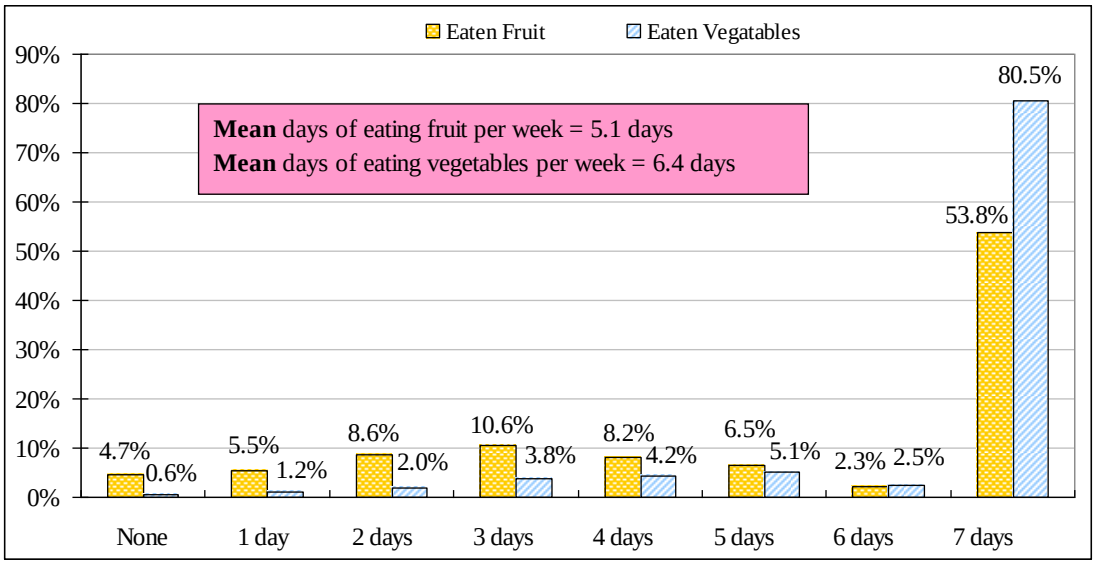
Base: All respondents excluding "don't know" = 2 008

3.4.2 Frequency of consuming fruit and vegetables per week

On a daily basis, more respondents consumed vegetables than fruit. Fig. 3.4.2 shows that about four-fifths (80.5%) of the respondents had consumed vegetables every day while more than half of the respondents (53.8%) had eaten fruit on a daily basis. On average, the number of days per week that respondents consumed vegetables (6.4 days per week) was higher than that for consuming fruit (5.1 days per week) (Fig. 3.4.2).

[18] Fruit/vegetable juice refers to freshly squeezed juice or those labelled 100% or pure fruit/vegetable juice.

Fig. 3.4.2: Number of days in the week when respondents ate fruit and vegetables (Q10a & Q11a)



Base: All respondents excluding "don't know" (Eating fruit = 2 012; Eating vegetables =2 013)

3.4.3 Amount of fruit and vegetables eaten per day[19]

On average, 44.7% and 32.2% of respondents consumed less than one fruit daily and one bowl of vegetables daily respectively. In addition, nearly half (49.8%) of the respondents consumed 1-2 fruit on a daily basis and nearly two-thirds (63.0%) of the respondents ate 1-2 bowls of vegetables every day on average. Overall, the daily average amount consumed was 1.0 fruit and 1.1 bowls of vegetables (Table 3.4.3).

Table 3.4.3: Daily average amount of fruit and vegetables eaten (Q10a, Q10b, Q11a & Q11b)

Average no. of fruit/bowl of vegetables eaten per day	No. of respondents			
	Fruit		Vegetables	
	Number	% of Total	Number	% of Total
Less than 1	897	44.7%	645	32.2%
1 – 2	1 000	49.8%	1 263	63.0%
More than 2	110	5.5%	95	4.7%
Total	***2 008****	***100.0%***	***2 003****	***100.0%***
Mean	1.0 fruit		1.1 bowls of vegetables	

*Note: * All respondents excluding "don't know"*

[19] Respondents were informed that one fruit was a medium sized apple or orange, one banana, two kiwi fruits or plums, or one bowl of small fruit like grapes or strawberries. For vegetables, it is calculated in terms of bowl where one bowl refers to the size of a rice bowl. The average number of fruit eaten per day is calculated by: (the average number of days eating fruit per week x the average number of fruit eaten on those days) / 7. Similarly, the average number of bowls of vegetables eaten per day is calculated by: (the average number of days eating vegetables per week x the average number of bowls of vegetable eaten on those days) / 7.

3.4.4 The total number of servings of fruit and vegetables consumed per day

The WHO recommends that adults should eat at least five servings of fruit and vegetables per day or a daily intake of at least 400 grams of fruit and vegetables[20].

Total servings excluding fruit or vegetable juice

The number of servings of fruit and vegetables consumed per day was defined in this survey as the sum of the average number of fruit eaten per day and twice the average number of bowls of vegetables eaten per day (i.e. one fruit was equated to 1 serving and one bowl of cooked vegetables[21] was equated to 2 servings).

Overall, close to one-fifth (19.1%) of the respondents consumed 5 or more servings of fruit and vegetables per day. The mean and median numbers of servings were 3.3 and 3.0 respectively (Table 3.4.4a).

Table 3.4.4a: Number of servings of fruit and vegetables consumed per day excluding juice (Percentage, mean and median) (Q10a, Q10b, Q11a & Q11b)

No. of servings (excluding juice)	**No. of respondents**	
	Number	**% of Total**
Less than 3	866 (0 serving = 4)	43.3% (0 serving = 0.2%)
3 - <5	751	37.6%
5 or above	382	19.1%
Total	***1 998****	***100.0%***
	No. of servings of fruit and vegetables eaten per day	
Mean	3.3 servings	
Median	3.0 servings	

*Note: *All respondents excluding "don't know"*

Total servings including fruit or vegetable juice

The total number of servings of fruit and vegetables consumed per day was defined in this survey as the sum of the average number of fruit eaten per day and twice the average number of bowls of vegetables eaten per day (i.e. one fruit was equated to 1 serving and 1 bowl of cooked vegetables was equated to 2 servings) and the average number of days per week having drunk one cup or more of fruit or vegetable juice (fruit/vegetable juice only counted as 1 serving, regardless of how many cups of juice were drunk in one day; less than 1 cup a day did not count)[22].

[20] Fruit, vegetables and NCD disease prevention. Geneva: World Health Organization; 2003. (http://www.who.int/dietphysicalactivity/media/en/gsfs_fv.pdf)
[21] 1 bowl of uncooked vegetable was coded as 0.5 bowl of cooked vegetable.
[22] Juice (fruit and vegetable) only counted as 1 serving a day, regardless of how much is drunk because it has very little fibre. It is also likely to lose some vitamins once juiced (particularly vitamin C, which is easily destroyed by light and air).

Overall, 19.6% of the respondents consumed 5 or more servings of fruit and vegetables per day if fruit or vegetable juice is included in calculating the total servings per day. The mean and median numbers of servings were 3.4 and 3.0 respectively (Table 3.4.4b).

Table 3.4.4b: Number of servings of fruit and vegetables consumed per day including juice (Percentage, mean and median) (Q10a, Q10b, Q11a & Q11b & Q12)

No. of servings (including juice)	**No. of respondents**	
	Number	**% of Total**
Less than 3	842 (0 serving =3)	42.2% (0 serving =0.2%)
3 - <5	762	38.2%
5 or above	390	19.6%
Total	***1 994****	***100.0%***
	No. of servings of fruit and vegetables eaten per day	
Mean	3.4 servings	
Median	3.0 servings	

*Note: *All respondents excluding "don't know"*

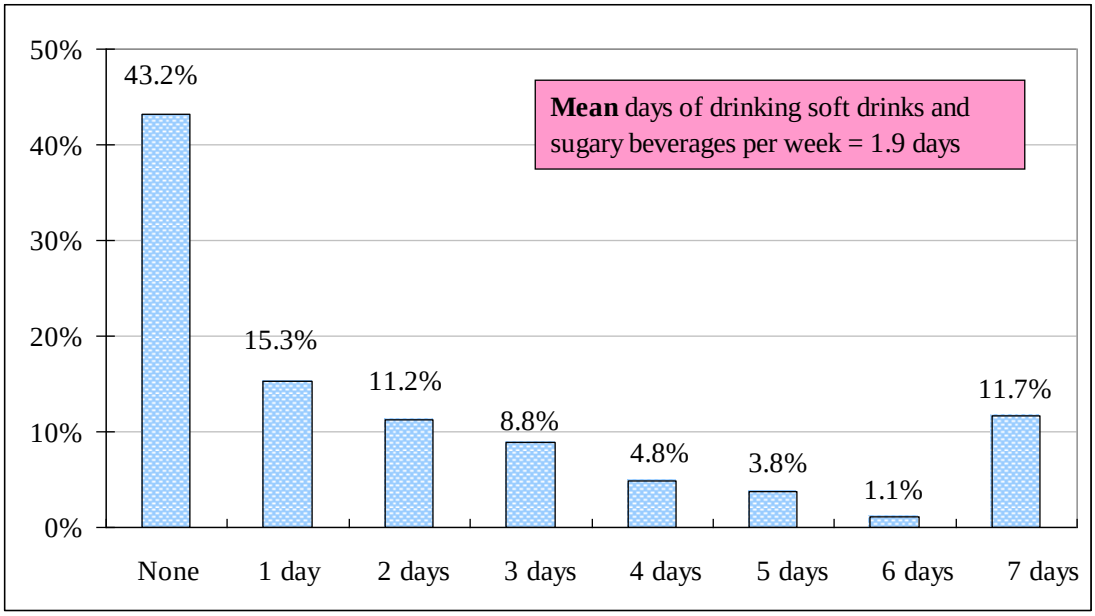
3.5 Consumption of soft drinks and sugary beverages

The Expert Panel for Cancer Prevention recommends that people should avoid sugary drinks, especially soft drinks and beverages with added sugars, as excessive consumption of these drinks can promote weight gain[23]. Two questions were asked in this survey to gauge respondents' consumption of pre-packaged soft drinks and sugary beverages.

3.5.1 Frequency of consuming soft drinks and sugary beverages per week[24]

Overall, around one-tenth (11.7%) of the respondents drank soft drinks and sugary beverages on a daily basis. The average number of days per week in which the respondents drank these drinks was 1.9 days (Fig.3.5.1).

Fig. 3.5.1: Number of days in the week when respondents drank soft drinks and sugary beverages (Q13)



Base: All respondents excluding "don't know" and refusal = 2 000

[23] "Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective", World Cancer Research Fund (WCRF) and the American Institute for Cancer Research (ACIR); 2007

[24] Soft drinks and sugary beverages include lemon tea, chrysanthemum tea, Yakult, Vitasoy, soy drinks or cordials in tetra-packs, cans or bottles etc, but excluding pure milk.

3.5.2 Amount of soft drinks and sugary beverages consumed per day[25]

The majority (84.5%) of the respondents drank less than 1 cup every day on average. However, 2.1% of respondents consumed three cups or more of soft drinks and sugary beverages per day on average. Overall, the mean and median daily average amount consumed was 0.4 cup and 0.1 cup of soft drinks and sugary beverages (Table 3.5.2).

Table 3.5.2: Daily average amount of soft drinks and sugary beverages consumed (Q13, Q14)

No. of cups	**No. of respondents**	
	Number	**% of Total**
Less than 1 cup	1 688 (0 cup = 864)	84.5% (0 cup = 43.3%)
1 - <3 cups	268	13.4%
3 cups or more	42	2.1%
Total	***1 998***	***100.0%***
	No. of cups of soft drinks and sugary beverages consumed per day	
Mean	0.4 cup	
Median	0.1 cup	

*Note: *All respondents excluding "don't know" and refusal*

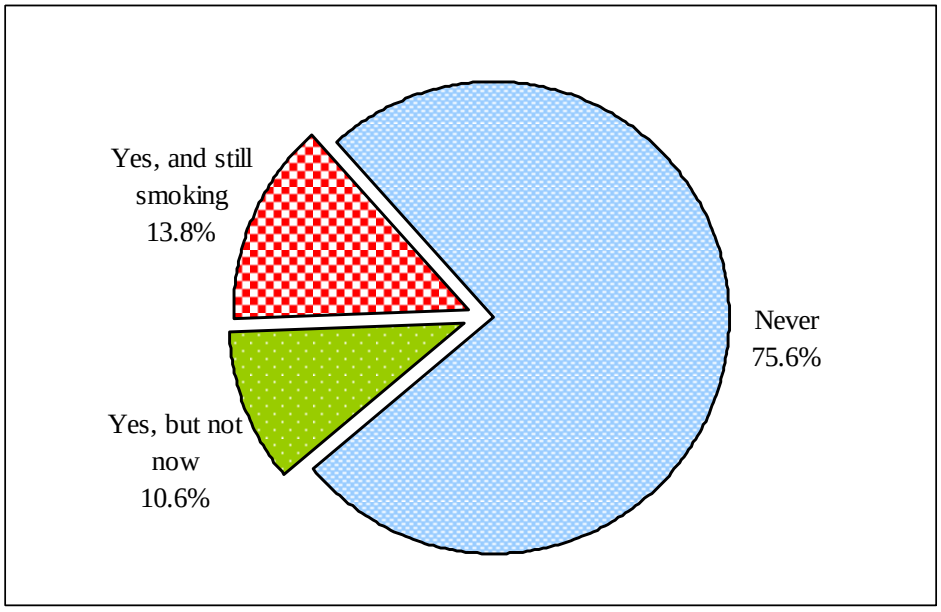
[25] Respondents were informed that 1 tetra-pack of sugary drink is equal to 1 cup; 1 can of soft drinks is equal to 1.5 cups; 1 bottle of soft drink is equal to 2 cups. The average number of soft drink and sugary beverages consumed per day is calculated by: (the average number of days drinking soft drink and sugary beverages per week x the average number of soft drinks and sugary beverages on those days) / 7.

3.6 Smoking habits

In this survey, three questions were asked to understand respondents' smoking habits.

About three-quarters (75.6%) of the respondents reported that they had never smoked, 10.6% smoked in the past but now abstained and 13.8% of the respondents were current smokers (Fig. 3.6).

Fig. 3.6: Breakdown of smoking habits amongst respondents (Q15a)

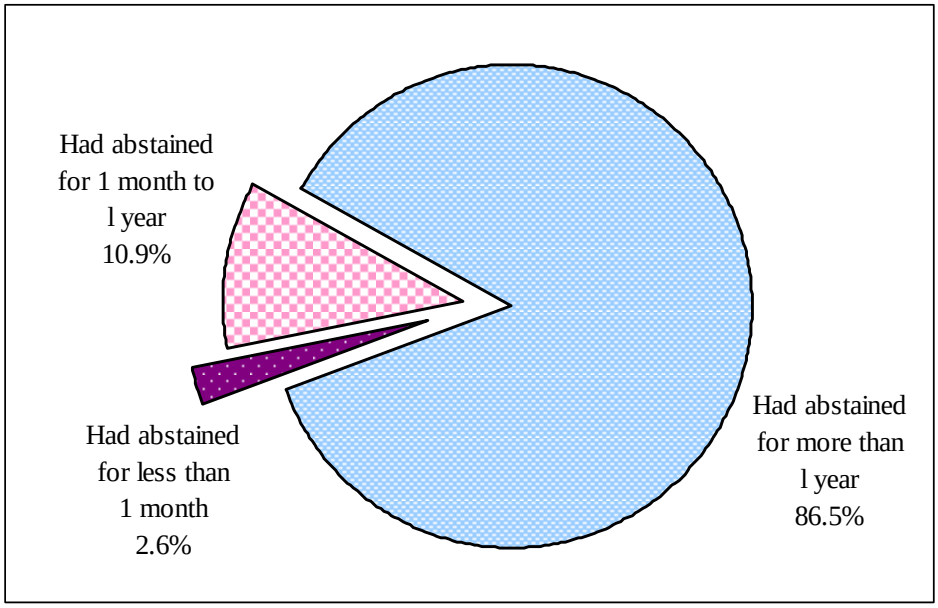


Base: All respondents = 2 013

3.6.1 Abstaining from smoking

Among those who smoked before but had now abstained from smoking, most of them (86.5%) reported that they had abstained for more than one year and 10.9% had given up smoking for one month to one year. Only 2.6% of them reported that they had given up smoking for less than one month (Fig.3.6.1).

Fig. 3.6.1: Length of time abstained from smoking (Q15b)

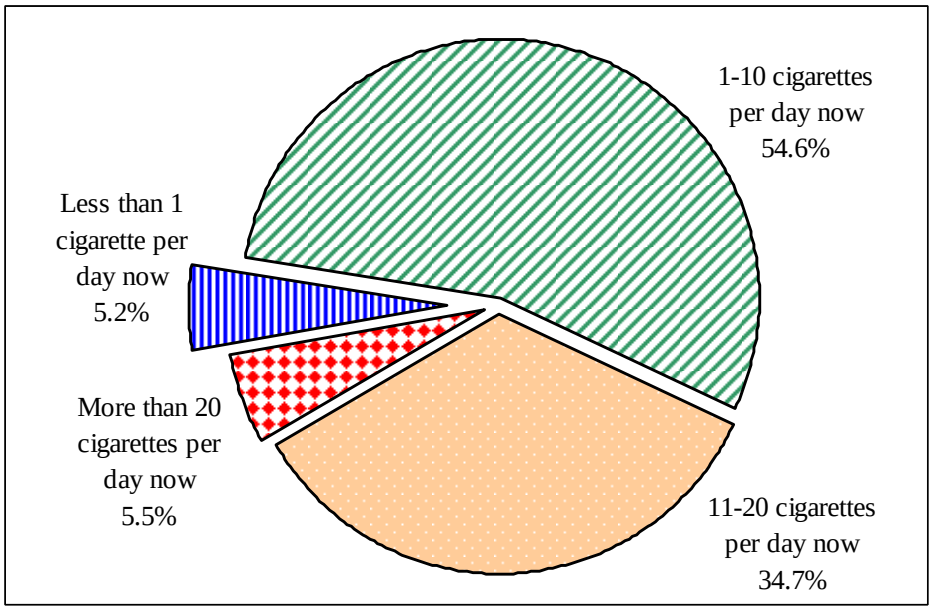


Base: All past smokers = 214

3.6.2 Cigarette consumption

Among the current smokers, the vast majority (94.8%) of them were daily smokers. More than half (54.6%) of the current smokers reported that they smoked 1-10 cigarettes per day and about two-fifths (40.2%) of the current smokers reported that they smoked at least 11 cigarettes a day (Fig. 3.6.2).

Fig. 3.6.2: Number of cigarettes smoked on average per day by current smokers (Q15c)



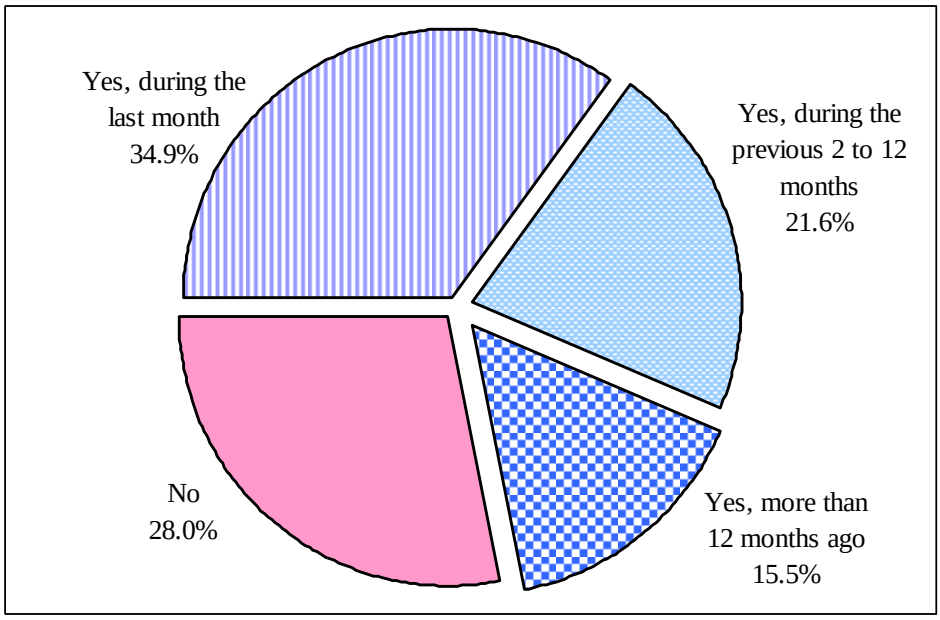
Base: All current smokers excluding "don't know" and refusal = 275

3.7 Pattern of alcohol consumption

Seven questions were asked in order to understand respondents' alcohol drinking patterns. One respondent who reported drinking more than 24 standard drinks per drinking day on average was treated as an outlier and was excluded in the analyses from sections 3.7.1 to 3.7.4.

Overall, more than one-third (34.9%) of the respondents reported that they had consumed at least one alcoholic drink during the thirty days prior to the survey. On the other hand, nearly three-tenths (28.0%) of the respondents reported that they had never drunk alcohol (Fig. 3.7).

Fig. 3.7: Ever had at least one alcoholic drink (Q16a)

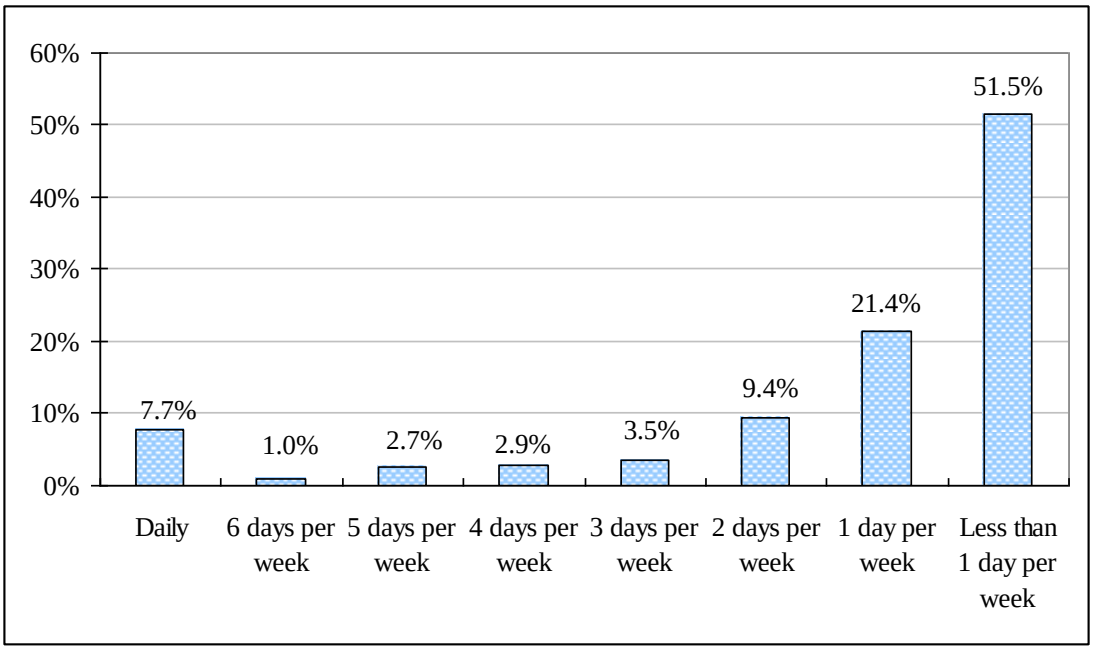


Base: All respondents excluding "don't know" = 2 012

3.7.1 Frequency of alcohol consumption

Among those respondents who had at least one alcoholic drink during the thirty days prior to the survey, less than one-tenth (7.7%) of the drinkers reported that they drank daily. On the other hand, about half (51.5%) of the drinkers reported that they drank less than 1 day per week (Fig. 3.7.1).

Fig. 3.7.1: Frequency of drinkers consuming at least one alcoholic drink during the thirty days prior to the survey (Q16b)



Base: Respondents who had at least one alcoholic drink during the thirty days prior to the survey excluding outliers and "don't know" = 695

3.7.2 Amount of alcoholic drinks consumed

Among those who drank at least one alcoholic drink during the thirty days prior to the survey, they were further asked the average number of standard drinks[26] consumed on each drinking day. More than two-thirds of them (69.2%) consumed less than 3 standard drinks on each drinking day while less than one-tenth (9.2%) consumed 5 or more standard drinks. On average, they consumed 2.4 standard drinks on each drinking day and the median was 1.5 standard drinks (Table 3.7.2).

Table 3.7.2: Average number of standard drinks consumed on the days they drank alcohol (Percentage, mean and median) (Q16c)

No. of standard drinks	No. of drinkers	
	Number	% of Total
Less than 3	480	69.2%
3 – <5	149	21.5%
5 or above	64	9.2%
Total	***693****	***100.0%***
Mean	2.4 standard drinks	
Median	1.5 standard drinks	

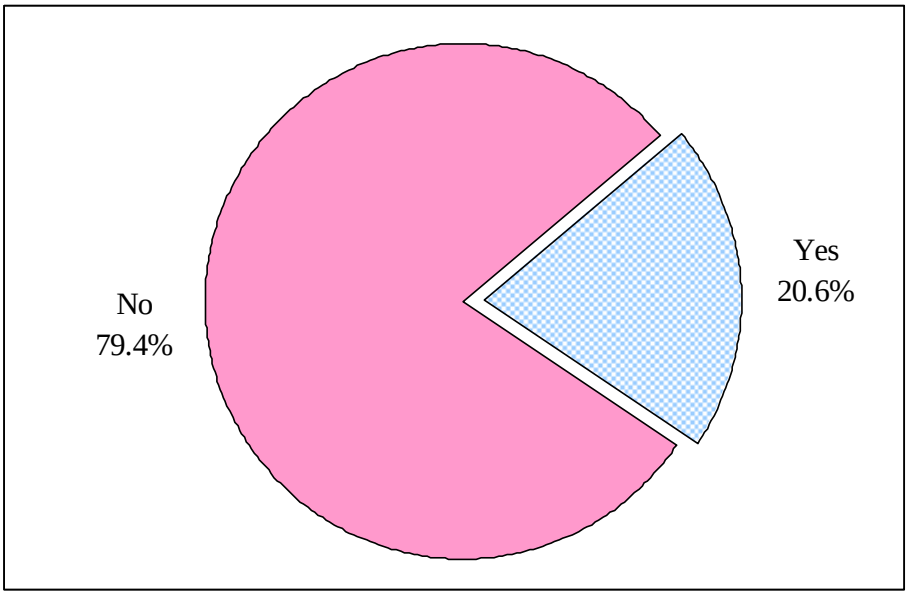
*Note: * Respondents who had at least one alcoholic drink during the thirty days prior to the survey excluding outliers and "don't know"*

[26] The amount of drinks consumed was measured using the following standard units: one can or small bottle of beer is equated to 1.5 standard drinks, or one dining glass of wine, or one spirit nip of brandy/whisky, or one small glass of Chinese wine such as rice wine is equated to one standard drink.

3.7.3 Drinking at least 5 glasses/ cans of alcohol on one occasion (Binge drinking)[27]

Among those respondents who had at least one alcoholic drink during the thirty days prior to the survey, about one-fifth (20.6%) had consumed at least 5 glasses/ cans of alcohol on one single occasion during the thirty days prior to the survey (Fig. 3.7.3a).

Fig. 3.7.3a: Consumption of at least 5 glasses/ cans of alcohol by drinkers on one single occasion during the thirty days prior to the survey (Q16d)

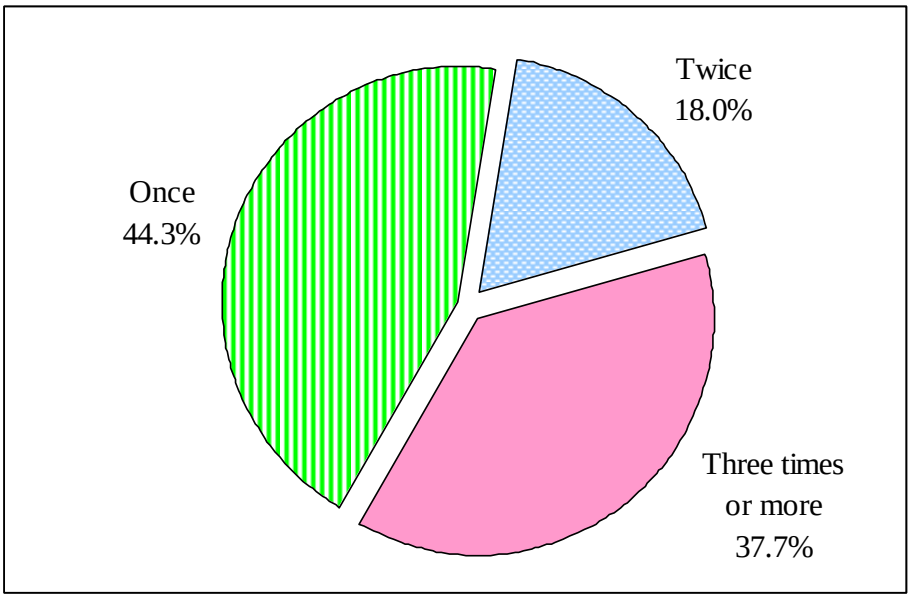


Base: Respondents who had at least one alcoholic drink during the thirty days prior to the survey excluding outliers and "don't know" = 698

Among these respondents, more than one-third (37.7%) of the respondents had engaged in binge drinking three times or more, less than one-fifth (18.0%) had this experience twice and more than two-fifths (44.3%) had this heavy consumption once during the period (Fig. 3.7.3b).

[27] Refer to total number of glasses/ cans of any types of alcohol. One single occasion means a period of a few hours.

Fig. 3.7.3b: Frequency of consuming at least 5 glasses/cans of alcohol on one single occasion by heavy drinkers during the thirty days prior to the survey (Q16e)

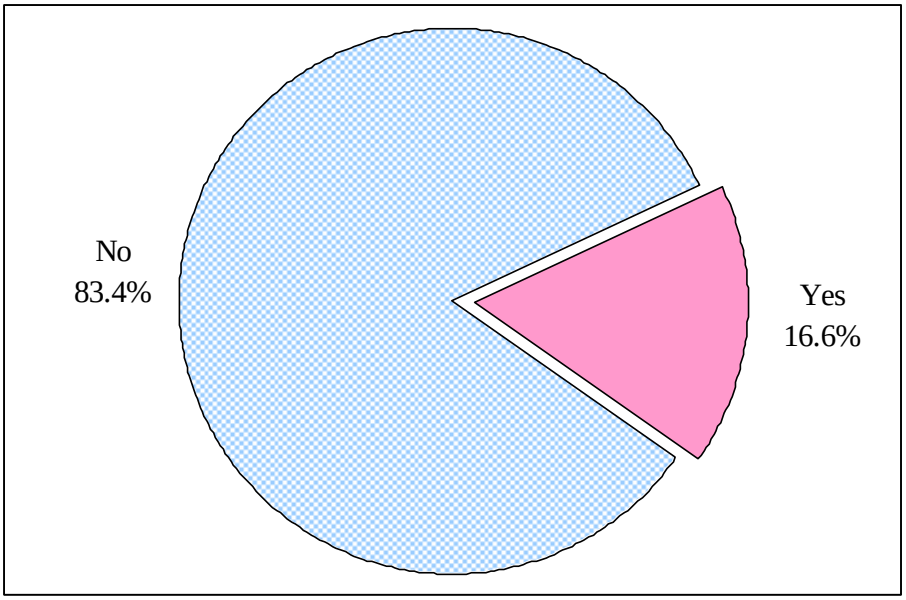


Base: Drinkers who drank at least 5 glasses or cans of alcohol on at least one occasion excluding outliers and refusal = 143

3.7.4 Exhibiting signs of drunkenness[28]

Among the respondents who had at least one alcoholic drink during the thirty days prior to the survey, 16.6% reported that they had drunk so much that they exhibited signs of drunkenness (Fig.3.7.4a).

Fig. 3.7.4a: Having drunk so much that they exhibited signs of drunkenness (Q16f)



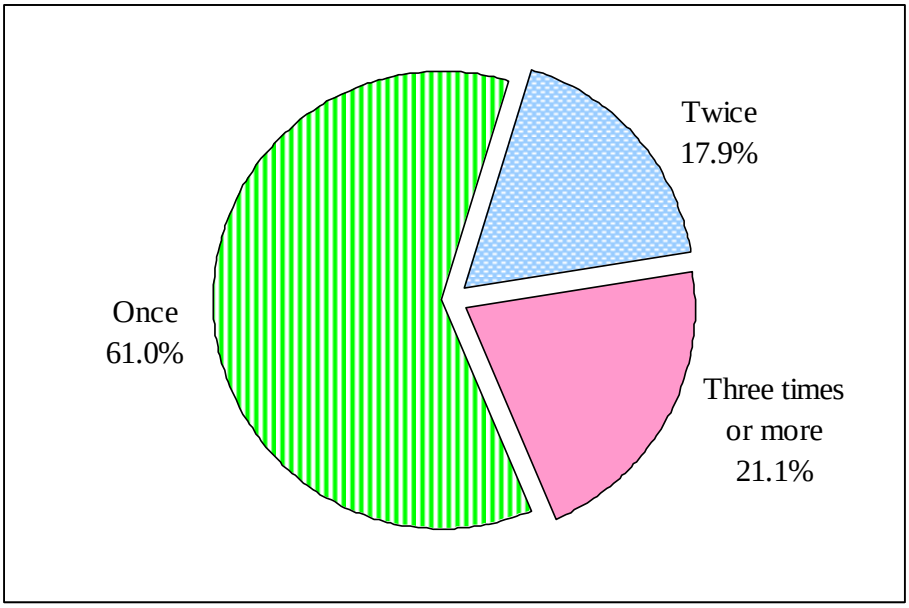
Base: Respondents who had at least one alcoholic drink during the thirty days prior to the survey excluding outliers = 700

Among those respondents who had drunk so much that they exhibited signs of

[28] Respondents were given examples of signs of drunkenness which include "flushed face or reddened eyes", "slurred or incoherent speech", "unsteady feet or staggering gait", "vomiting" and "hangover".

drunkenness, about one-fifth (21.1%) of them had this experience three times or more while nearly four-fifths (78.9%) experienced it once or twice in the thirty days prior to the survey (Fig.3.7.4b).

Fig. 3.7.4b: Frequency of drinking so much and exhibiting signs of drunkenness (Q16g)



Base: Drinkers who had drunk so much that they exhibited signs of drunkenness excluding outliers and "don't know" = 111

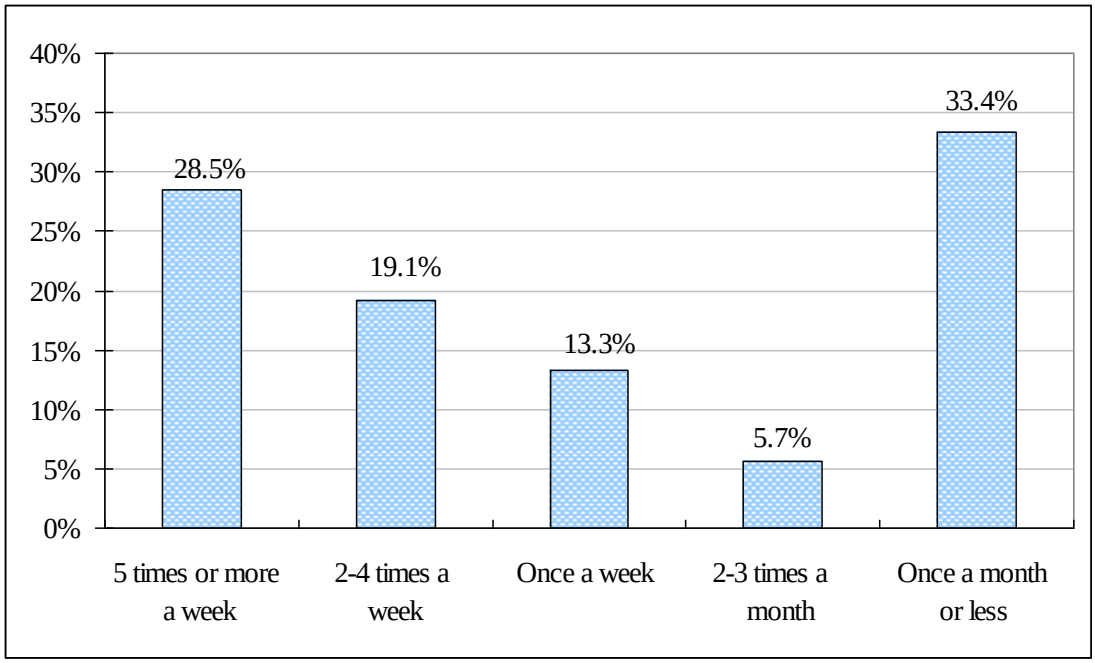
3.8 Eating out habits

In this survey, three questions were asked about respondents' frequency of eating out for breakfast, lunch and dinner during the thirty days prior to the survey. Respondents who skipped breakfast, lunch or dinner were excluded in the analysis.

3.8.1 Eating out for breakfast[29]

Overall, about three-fifths of the respondents (61.0%) ate out for breakfast once a week or more, of which 28.5% ate out for breakfast 5 times or more a week during the thirty days prior to the survey (Fig.3.8.1).

Fig.3.8.1: Frequency of eating out for breakfast during the thirty days prior to the survey (Q17)



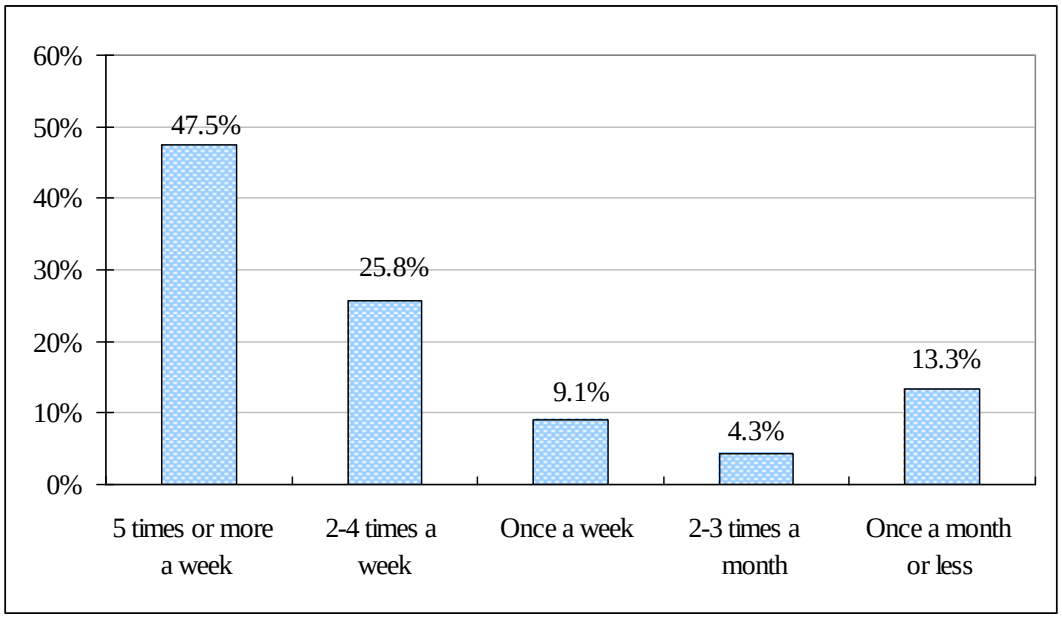
Base: All respondents excluding "don't know" and those "skipped breakfast" = 1 900

3.8.2 Eating out for lunch[30]

More than four-fifths (82.3%) of the respondents ate out for lunch at least once a week, of which nearly half (47.5%) of the respondents ate out for lunch 5 times or more a week during the thirty days prior to the survey (Fig. 3.8.2).

[29] Respondents were told that "Eat out for breakfast" refers to the breakfast that is not made at home and excludes the bread that is bought from a bakery.
[30] Respondents were told that "Eat out for lunch" refers to the lunch that is not made at home.

Fig. 3.8.2: Frequency of eating out for lunch during the thirty days prior to the survey (Q18)

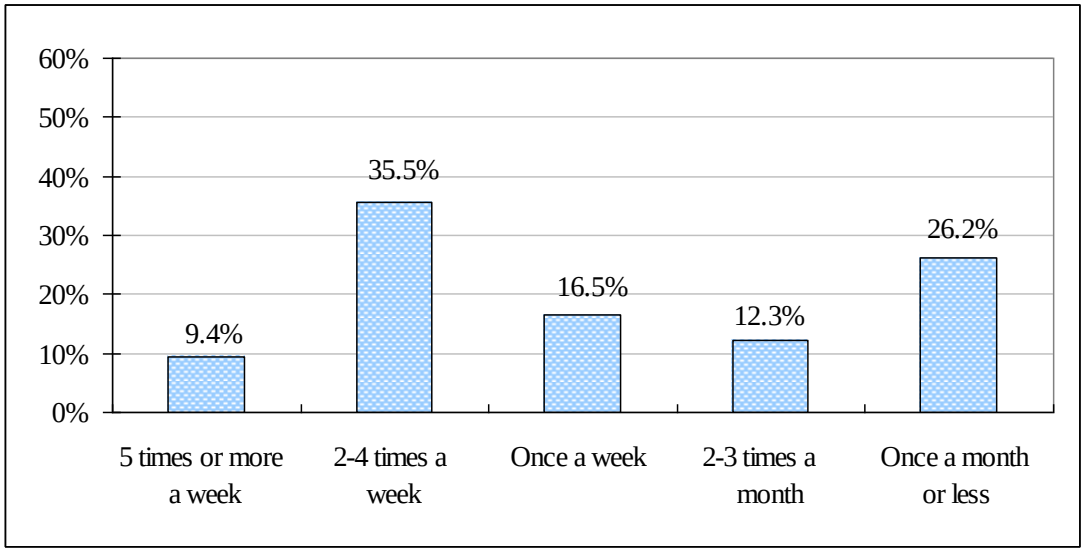


Base: All respondents excluding "don't know" and those "skipped lunch" = 1 966

3.8.3 Eating out for dinner[31]

More than three-fifths (61.5%) of the respondents ate out for dinner at least once a week. Among them, less than one-tenth (9.4%) of the respondents ate out for dinner 5 times or more a week during the thirty days prior to the survey (Fig. 3.8.3).

Fig. 3.8.3: Frequency of eating out for dinner during the thirty days prior to the survey (Q19)



Base: All respondents excluding "don't know" and those "skipped dinner" = 1 999

[31] Respondents were told that "Eat out for dinner" refers to the dinner that is not made at home.

3.9 Eating habits in relation to salt

In this survey, five questions were asked to understand respondents' dietary habits in relation to salt.

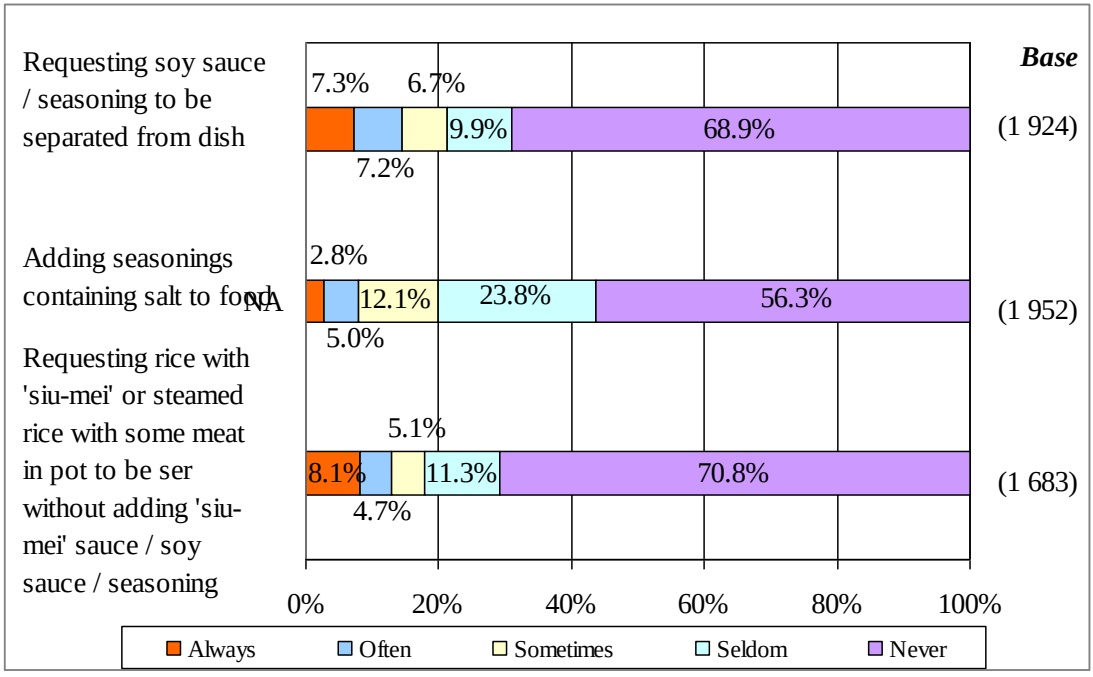
3.9.1 Dietary habit in relation to salt when eating out

About one-seventh (14.5%) of respondents had always or often requested soy sauce/ seasoning to be separated from dishes when served to reduce the consumption of seasoning[32] when eating out during the thirty days prior to the survey. In contrast, nearly four-fifths (78.8%) of respondents never or seldom had this practice (Fig. 3.9.1).

Less than one-tenth (7.8%) of respondents had always or often added salt, soy sauce, oyster sauce, ketchup, chilli sauce, bean chilli paste or other seasonings containing salt to food at the table when eating out during the thirty days prior to the survey, Meanwhile, about four-fifths (80.1%) never or seldom had this practice (Fig. 3.9.1).

More than one-tenth (12.8%) of respondents had always or often requested rice with 'siu-mei' or steamed rice with some meat in pot to be served without adding 'siu-mei' sauce/ soy sauce when eating out during the thirty days prior to the survey. On the other hand, more than four-fifths (82.1%) never or seldom had this practice (Fig. 3.9.1).

Fig. 3.9.1 Breakdown of dietary habit in relation to salt when eating out (Q20, Q21, Q22)



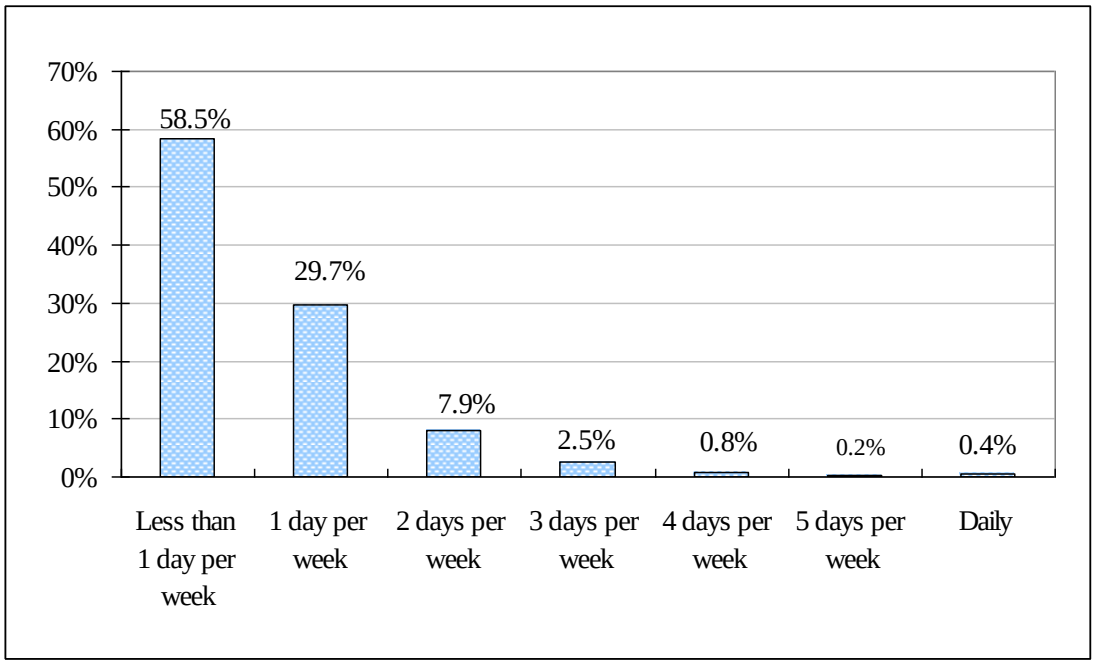
Base: All respondents excluding "do not eat out", "do not remember" and "do not eat the food being mentioned"

[32] Respondents were given the examples of steamed rice-rolls with separated soy sauce/seasoning and vegetables cooked in water with separated oyster sauce, etc.

3.9.2 Frequency of consuming preserved vegetables[33]

During the thirty days prior to the survey, nearly three-fifths (58.5%) of respondents had eaten preserved vegetables less than one day per week on average, whereas 3.9% of them had eaten preserved vegetables three or more days per week on average (Fig. 3.9.2).

Fig. 3.9.2 Frequency of consuming preserved vegetables (Q23)



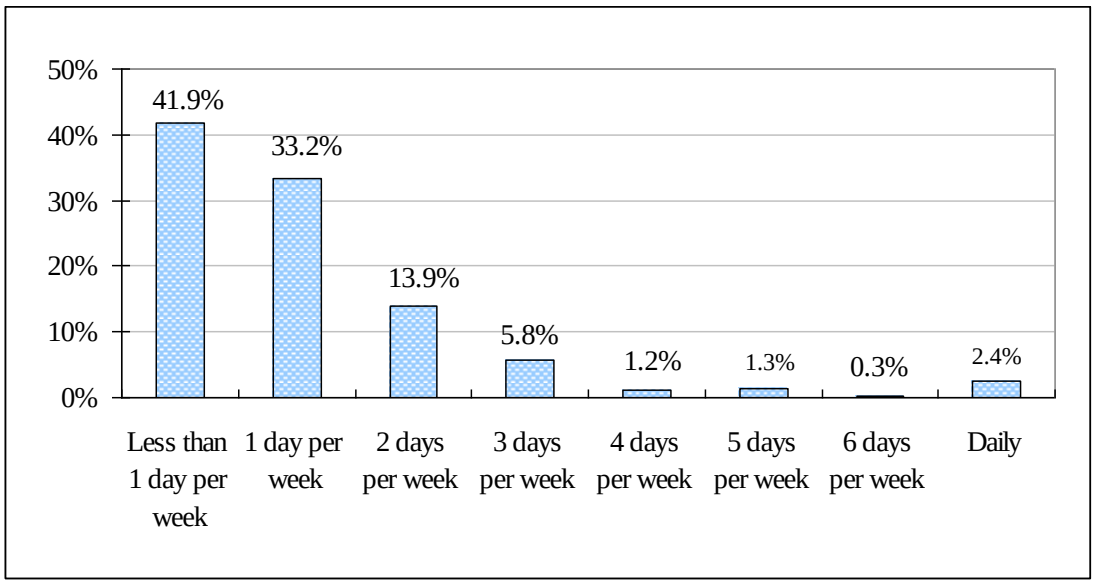
Base: All respondents excluding "do not remember" and "do not eat preserved vegetables" = 1 164

[33] Respondents were given the examples of preserved vegetables such as Chinese preserved vegetables, pickled cucumber, olive, etc.

3.9.3 Frequency of eating snacks with high salt content[34]

During the thirty days prior to the survey, over one-tenth (11.0%) of respondents had eaten snacks with high salt content three or more days per week on average and more than two-fifths (41.9%) of them had eaten snacks with high salt content less than one day per week on average (Fig. 3.9.3).

Fig. 3.9.3 Frequency of eating snacks with high salt content (Q24)



Base: All respondents excluding "do not remember" and "do not eat salty snacks" = 1 179

[34] Respondents were given that the examples of snacks with high salt content include such as potato crisps, prawn crackers, squid floss, barbequed dried pork, snack type seaweeds or traditional Chinese preserved fruits, etc

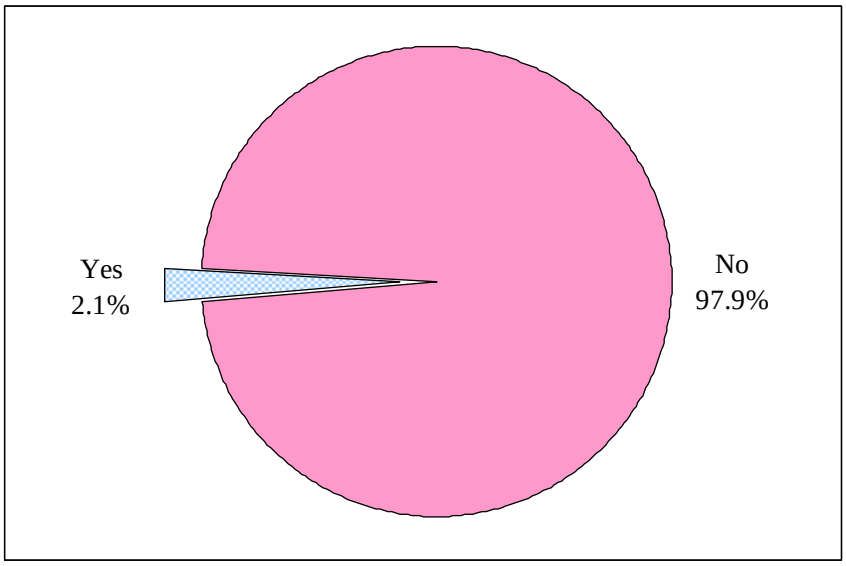
3.10 Heat stroke and sunburn

Four questions were asked to understand how often respondents had heat stroke or sunburn during the twelve months prior to survey.

3.10.1 Whether had heat stroke[35]

Overall, 2.1% of the respondents had heat stroke during the twelve months prior to the survey (Fig. 3.10.1) .

Fig. 3.10.1: Whether respondents had heat stroke during the twelve months prior to the survey (Q25)



Base: All respondents = 2 013

[35] Respondents were informed that the symptoms of heat stroke may include high fever (>39℃); red, hot and dry skin; rapid pulses; throbbing headache; nausea; muscle cramps and dizziness.

3.10.2 Frequency of having heat stroke

Among those respondents who had heat stroke during the twelve months prior to the survey, more than half (53.0%) of them reported that they had heat stroke two times or more. The mean and median times that respondents had heat stroke were 1.8 times and 2.0 times respectively (Table 3.10.2).

Table 3.10.2: Frequency of having heat stroke during the twelve months prior to the survey (percentage, mean and median) (Q26)

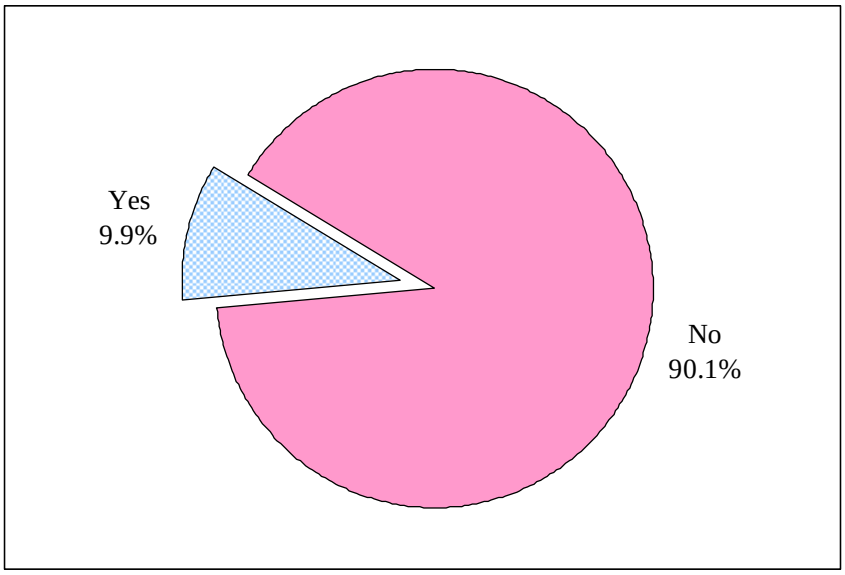
Frequency	No. of respondents	
	Number	% of Total
1 time	19	47.0%
2 times or more	21	53.0%
Total	***40****	***100.0%***
Mean	1.8 times	
Median	2.0 times	

*Note: *Respondents who had heat stroke during the twelve months prior to the survey excluding "don't know"*

3.10.3 Whether had sunburn[36]

Overall, about one-tenth (9.9%) of the respondents had sunburn during the twelve months prior to the survey (Fig. 3.10.3).

Fig. 3.10.3: Whether respondents had sunburn during the twelve months prior to the survey (Q27)



Base: All respondents = 2 013

[36] Respondents were informed that a sunburn refers to even a small part of the skin being red or sore for more than twelve hours at any time

3.10.4 Frequency of having sunburn

Among those respondents who had sunburn during the twelve months prior to the survey, more than one-third (37.6%) of them reported that they had sunburn two times or more. The mean and median times that respondents had sunburn were 1.7 times and 1.0 time respectively (Table 3.10.4).

Table 3.10.4: Frequency of having sunburn during the twelve months prior to the survey (percentage, mean and median) (Q28)

Frequency	No. of respondents	
	Number	% of Total
1 time	117	62.4%
2 times or more	70	37.6%
Total	***187****	***100.0%***
Mean	1.7 times	
Median	1.0 time	

*Note: *Respondents who had sunburn during the twelve months prior to the survey excluding "don't know"*

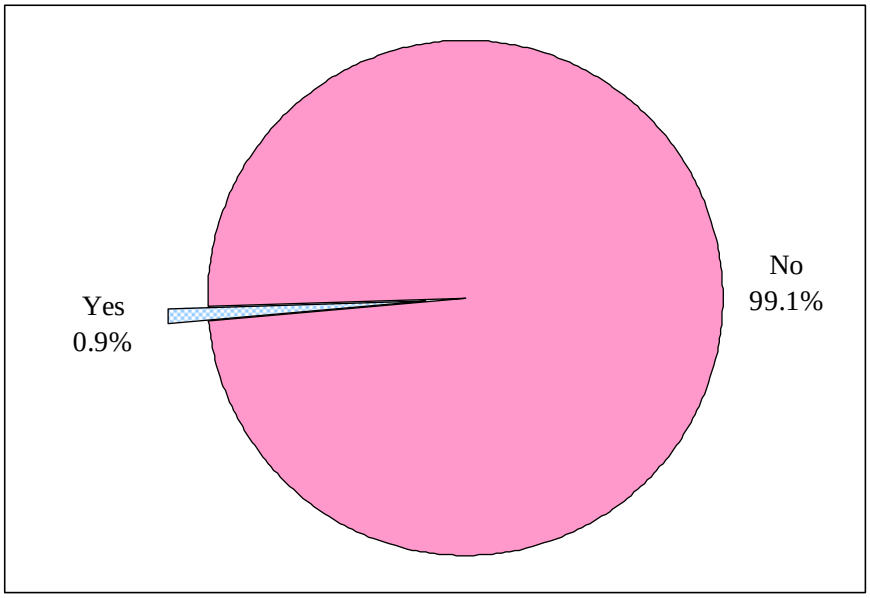
3.11 Use of solarium

Five questions were asked to understand whether respondents had ever used solarium and their usage pattern.

3.11.1 Ever used solarium

Overall, 0.9% of the respondents had ever used solarium (Fig. 3.11.1).

Fig. 3.11.1: Whether respondents had ever used solarium (Q29)



Base: All respondents = 2 013

3.11.2 Age of using solarium for the first time

Among those 18 respondents who had ever used solarium, 13.5% of them reported that they used solarium for the first time when they were less than 18 years old. The mean and median age of using solarium for the first time were 28.6 and 25.9 years respectively (Table 3.11.2).

Table 3.11.2: Age of using solarium for the first time (percentage, mean and median) (Q30)

Age	No. of respondents	
	Number	% of Total
Less than 18	2	13.5%
18-24	5	26.5%
25-34	6	33.8%
35 or above	5	26.3%
Total	***18****	***100.0%***
Mean	28.6 years old	
Median	25.9 years old	

*Note: *Respondents who had ever used solarium excluding "don't know"*

3.11.3 Frequency of using solarium

Among those 18 respondents who had ever used solarium, nearly two-thirds (65.2%) of them had used solarium 5 times or less up till the time of enumeration. However, the majority (92.4%) of the respondents who had ever used solarium reported that they had not used solarium within the twelve months prior to the survey (Table 3.11.3).

Table 3.11.3: Frequency of using solarium (Q31, Q32)

Frequency	No. of respondents			
	Until Now		Within twelve months prior to the survey	
	Number	% of Total	Number	% of Total
Once	5	24.9%	0	0.0%
2-5 times	7	40.3%	1	3.0%
6-10 times	3	18.9%	1	4.6%
More than 10 times	3	15.9%	0	0.0%
No time	0	0.0%	17	92.4%
Total	***19****	***100.0%***	***19****	***100.0%***

*Note: *Respondents who had ever used solarium*

3.11.4 Length of time spent in the last tanning session

Among the two respondents who had used solarium within twelve months prior to the survey, one of them spent 11-15 minutes in the last tanning session while another respondent spent 21-30 minutes.

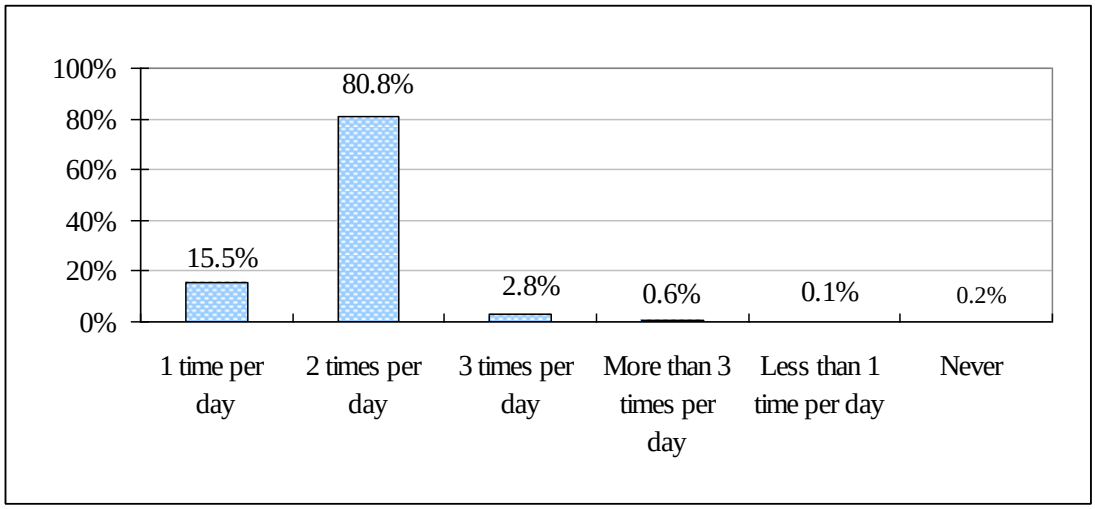
3.12 Oral health practices

Five questions were asked to understand the respondents' oral health practices.

3.12.1 Frequency of brushing teeth and using dental floss

About four-fifths (80.8%) of the respondents reported that they brushed their teeth twice a day while 15.5% of respondents only brushed their teeth once a day (Fig. 3.12.1a).

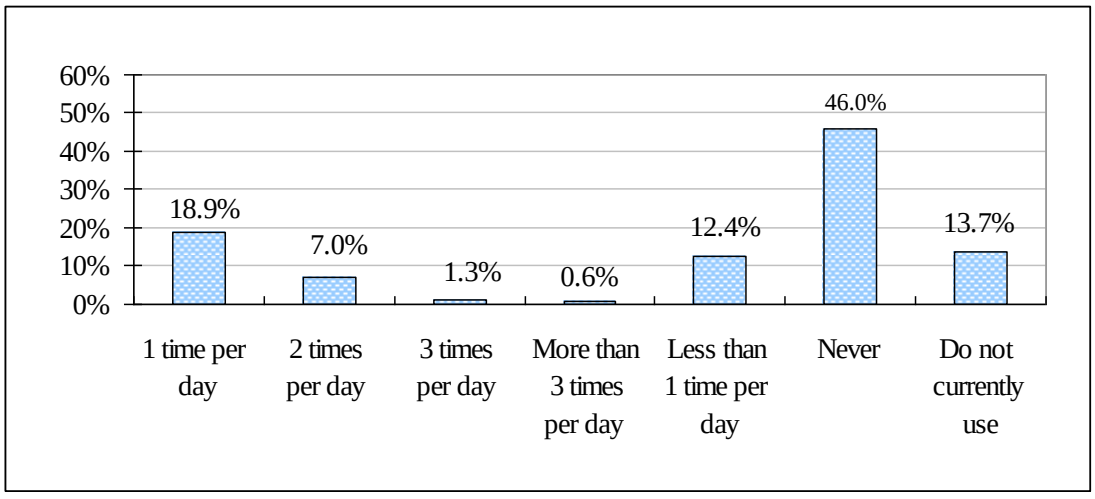
Fig. 3.12.1a: Frequency of brushing teeth (Q34)



Base: All respondents excluding "no teeth" and "don't remember" = 2 011

Close to three-fifths (59.7%) of the respondents claimed that they never used or did not use dental floss at the time of survey. On the other hand, 27.8% of respondents used it at least once per day (Fig. 3.12.1b).

Fig. 3.12.1b: Frequency of using dental floss (Q35)

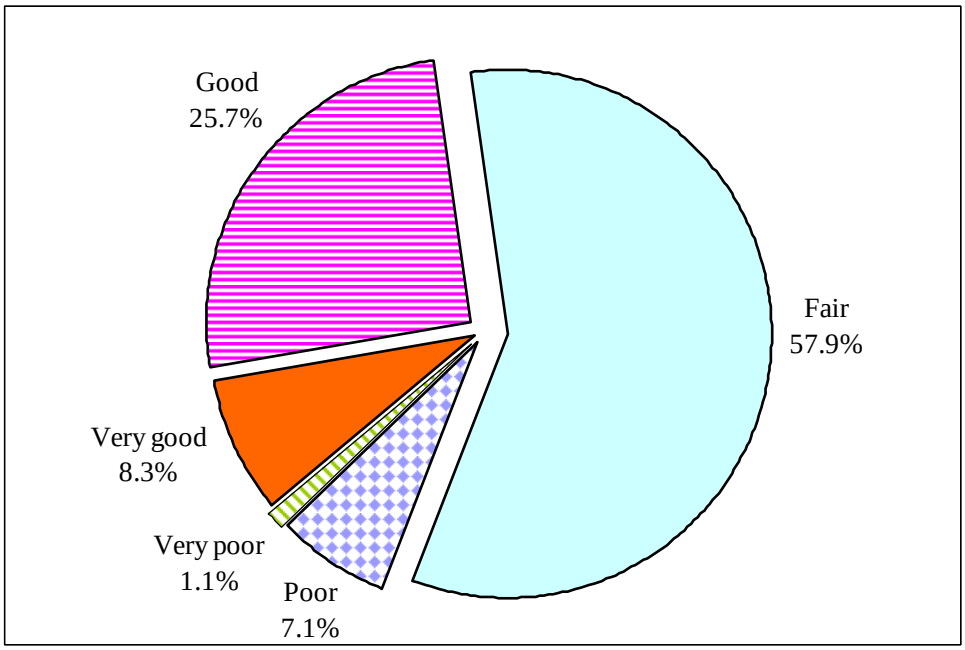


Base: All respondents excluding "no teeth" and "don't remember" = 2 011

3.12.2 General oral health status

Overall, about one-third (34.0%) of the respondents considered that their general oral health status was "good" or "very good". In contrast, only 8.1% of respondents considered it "poor" or "very poor". Nearly three-fifths (57.9%) of the respondents claimed that their general oral health status was "fair" (Fig. 3.12.2).

Fig. 3.12.2: Perception about general oral health status (Q36)

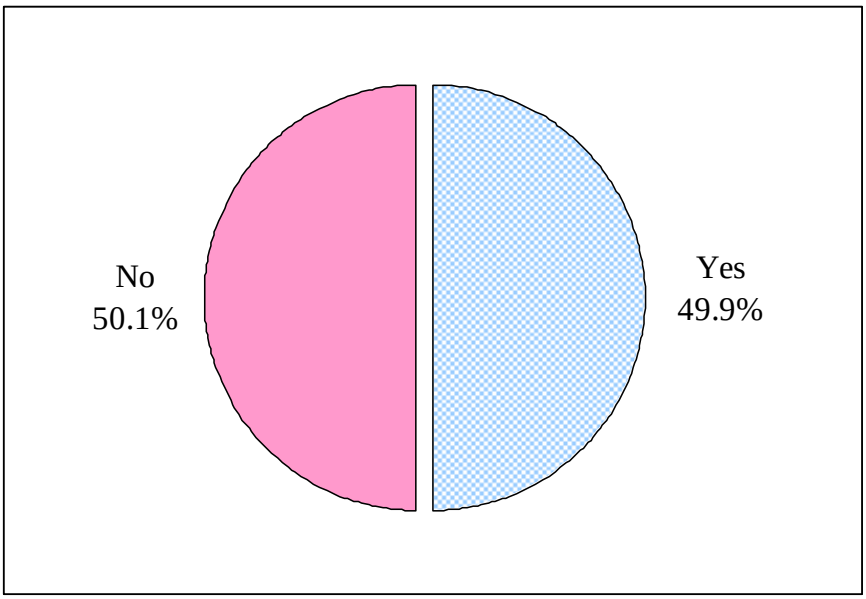


Base: All respondents excluding "don't know" = 2 010

3.12.3 Regular dental checkups

Overall, close to half (49.9%) of the respondents reported that they had regular dental checkups (Fig. 3.12.3a).

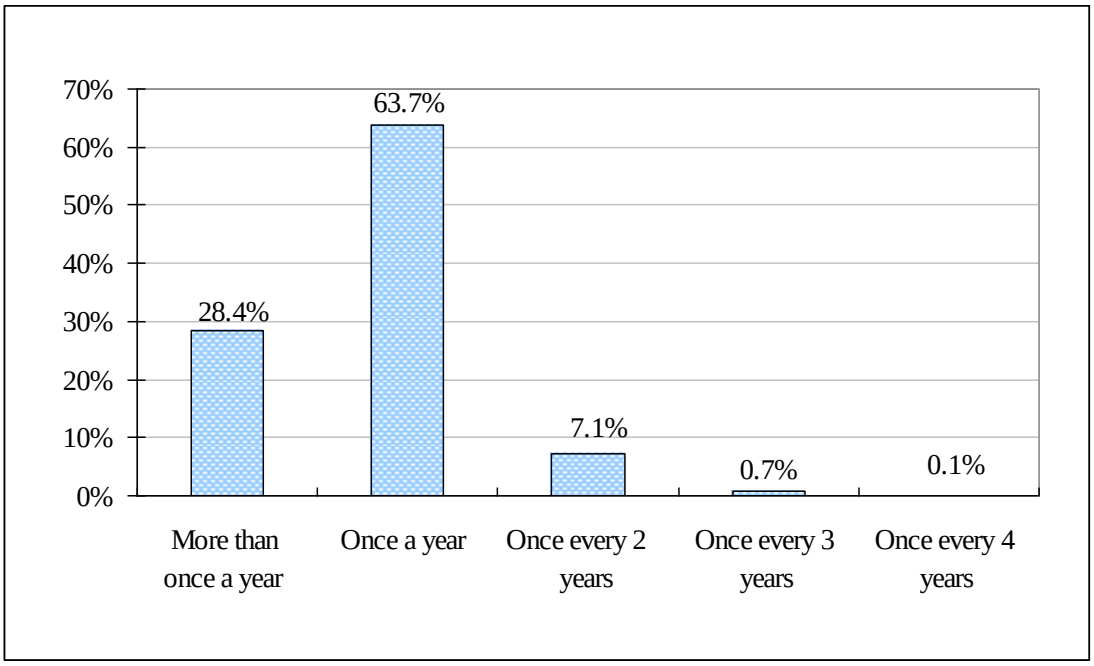
Fig. 3.12.3a: Whether had regular dental checkups (Q37)



Base: All respondents = 2 013

Among these respondents, more than a quarter (28.4%) of them had a dental checkup more than once a year and nearly two-thirds (63.7%) had it once a year (Fig. 3.12.3b).

Fig. 3.12.3b: Frequency of having a dental checkup (Q38)



Base: Respondents reported that they had regular dental checkups excluding "cannot say/remember" = 1 004

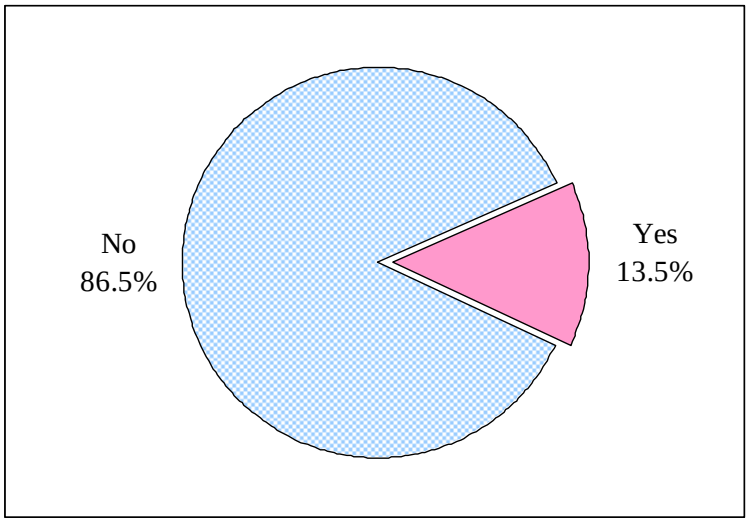
3.13 Prevalence of haemorrhoids

Two questions were asked to gauge the prevalence of haemorrhoids.

3.13.1 Whether had haemorrhoids

More than one-eighth (13.5%) of the respondents reported that they had haemorrhoids at the time of survey (Fig 3.13.1).

Fig. 3.13.1: Whether had haemorrhoids at the time of survey (Q39)

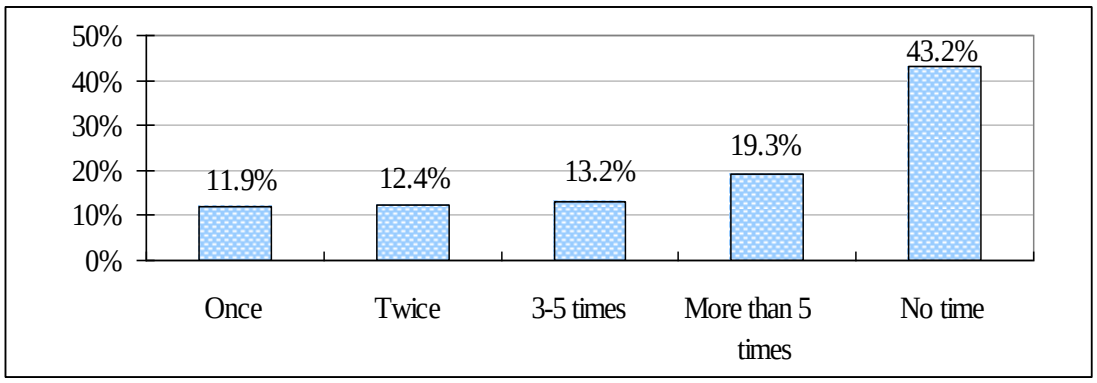


Base: All respondents excluding "don't know" = 2 001

3.13.2 Frequency of having haemorrhoid flare-ups

During the twelve months prior to the survey, about one-fifth (19.3%) of the respondents with haemorrhoids mentioned that they had haemorrhoid flare-ups more than 5 times (i.e. having intense anal pain or bled), while more than two-fifths (43.2%) of respondents did not have haemorrhoid flare-up (Fig. 3.13.2).

Fig. 3.13.2 : Frequency of having haemorrhoid flare-ups during the twelve months prior to the survey (Q40)



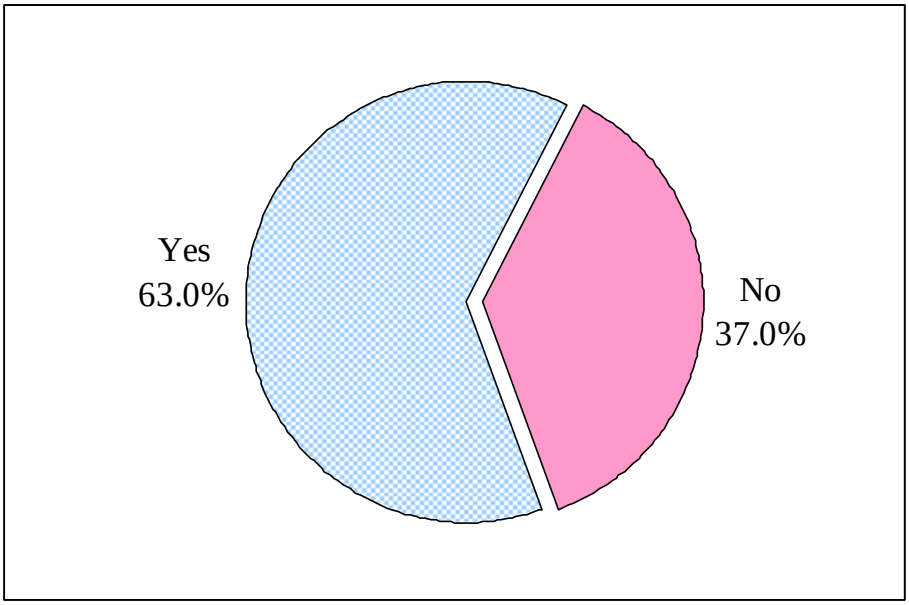
Base: Respondents who had haemorrhoids at the time of survey excluding "don't know how many times" = 270

3.14 Cervical screening (for female respondents only)

Five questions were asked to understand female respondents' behaviour regarding cervical screening.

Overall, less than two-thirds (63.0%) of the female respondents reported that they had a cervical smear before (Fig. 3.14).

Fig. 3.14: Whether had screened for cervical cancer before (Q41)

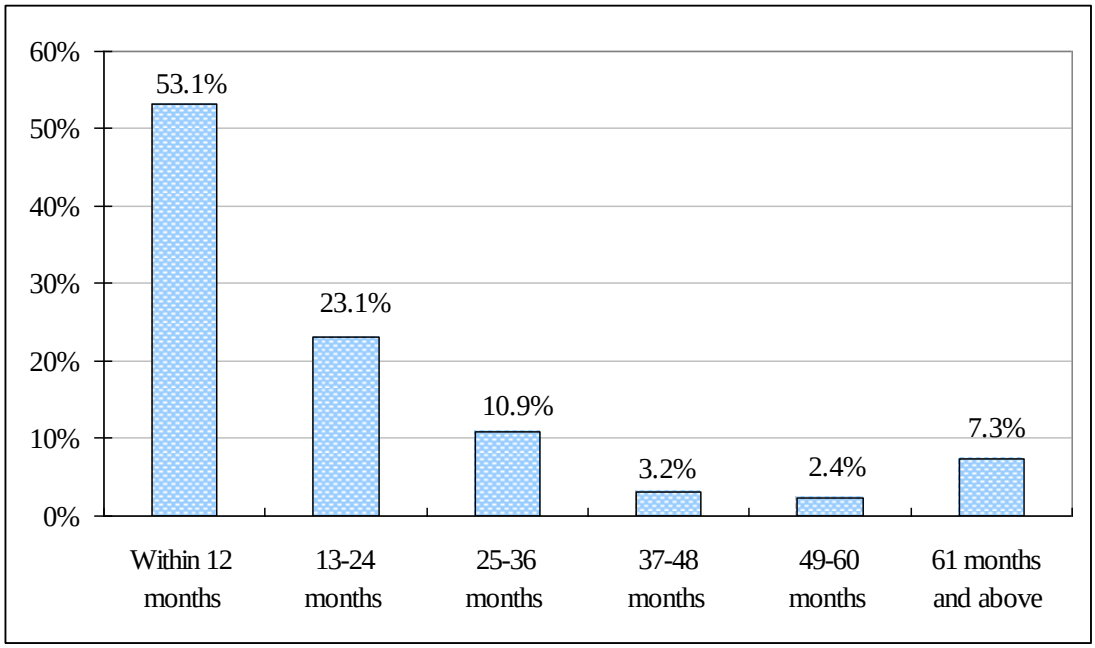


Base: All female respondents excluding "not sure" and refusal = 1 085

3.14.1 Length of time since last cervical smear

Of those female respondents who had had a cervical smear before, more than half (53.1%) of them had their last cervical smear taken within twelve months prior to the survey. More than one-third (34.0%) of them had the examination within 13-36 months, while 12.9% of them had their last cervical smear 37 months or more ago (Fig. 3.14.1).

Fig. 3.14.1: Length of time since last cervical smear if ever had a smear (Q42)

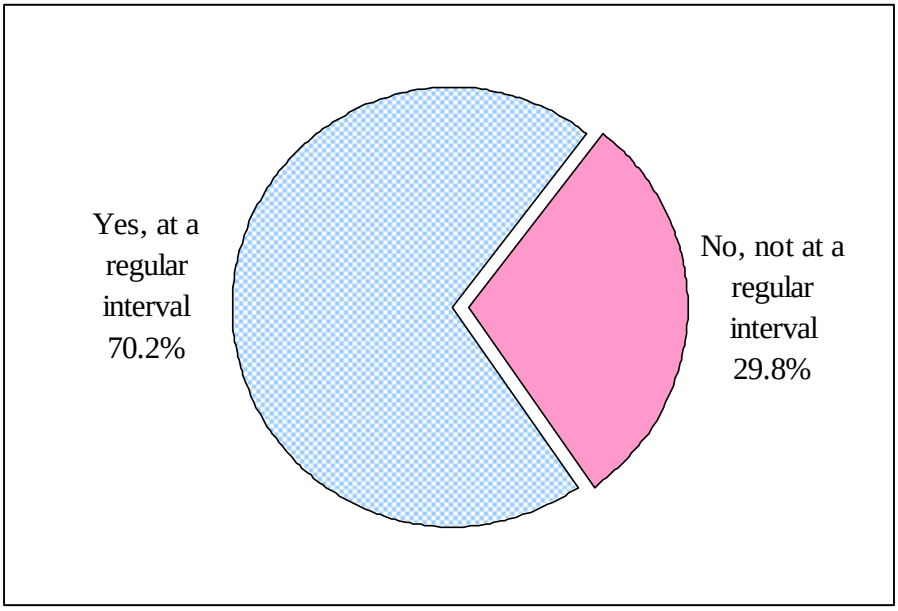


Base: Female respondents who ever had a cervical smear before, excluding "cannot remember" = 673

3.14.2 Cervical smear at a regular interval

More than two-thirds (70.2%) of respondents who had a cervical smear before had the test at a regular interval (Fig. 3.14.2a).

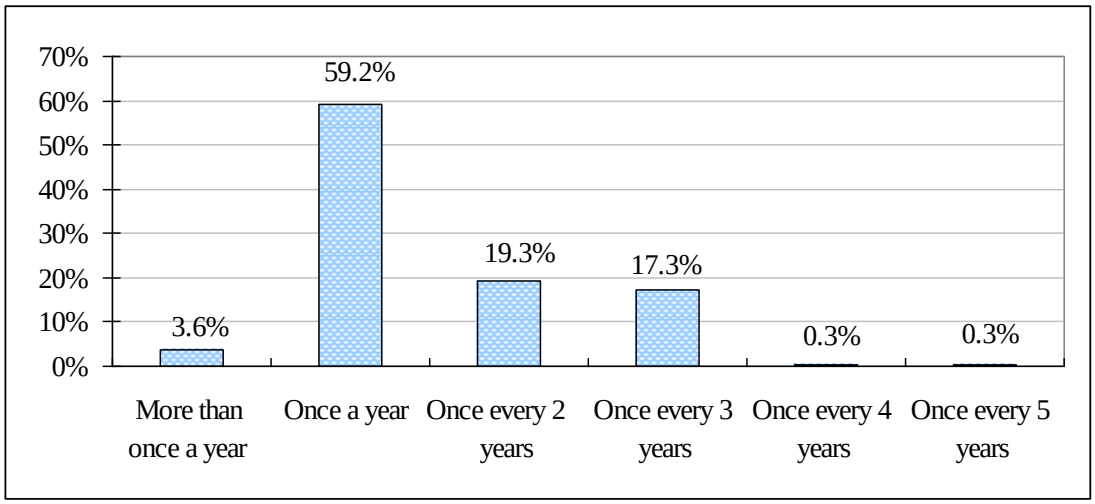
Fig. 3.14.2a: Whether had a cervical smear at a regular interval (Q43)



Base: Female respondents who ever had a cervical smear before = 684

Among those female respondents who had a cervical smear at a regular interval, close to three-fifths (59.2%) of the female reported that they had a cervical smear once a year. More than one-third (36.5%) had it once every two or three years. Another 3.6% had the test more than once a year (Fig. 3.14.2b).

Fig. 3.14.2b: Frequency of having cervical smear at a regular interval (Q44)

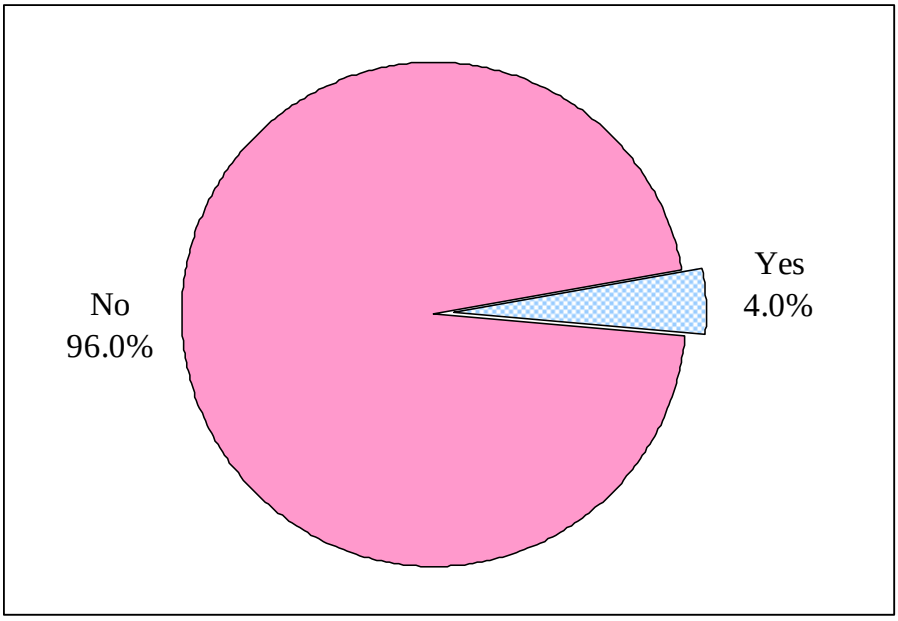


Base: Female respondents who had cervical smear at a regular interval, excluding "cannot say/ remember" and refusal = 476

3.14.3 Whether had a total hysterectomy

Among all female respondents, 4.0% of them had had a total hysterectomy (surgical removal of the entire uterus) (Fig. 3.14.3).

Fig. 3.14.3: Whether had a total hysterectomy (Q45)



Base: All female respondents excluding refusal = 1 088

3.15 Breast cancer risk (for female respondents only)

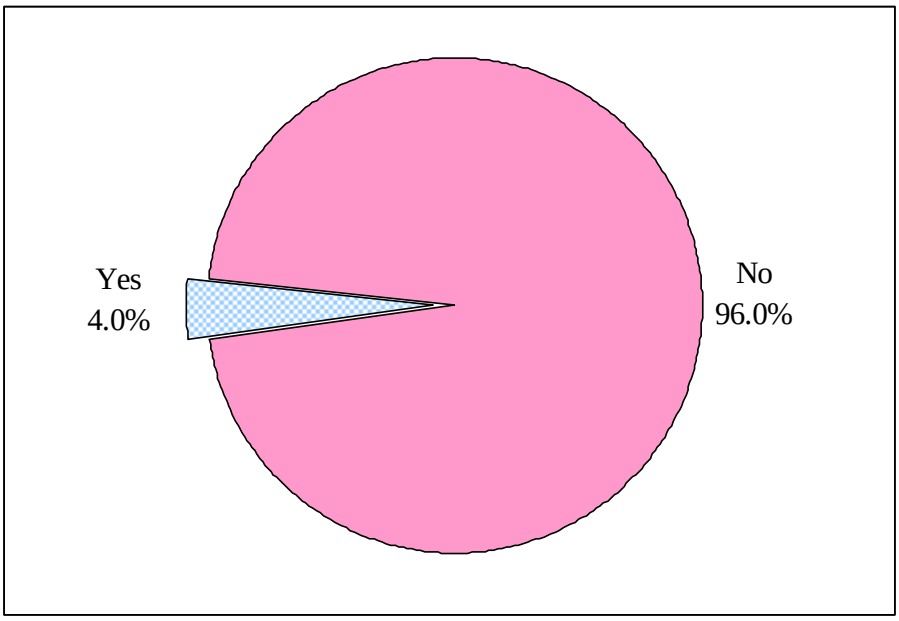
Five questions were asked in this survey to understand the breast cancer risk among the female respondents.

3.15.1 Whether had first-degree relatives who had breast cancer[37]

Having one or more first-degree relatives who have had breast cancer may increase a woman's chance of developing breast cancer.[38]

Overall, 4.0% of the respondents claimed that they had first-degree relatives who had breast cancer at or before age 50 (Fig. 3.15.1).

Fig. 3.15.1: Whether had first-degree relatives who had breast cancer at or before age 50 (Q46)



Base: All female respondents excluding "don't know" and refusal = 1 086

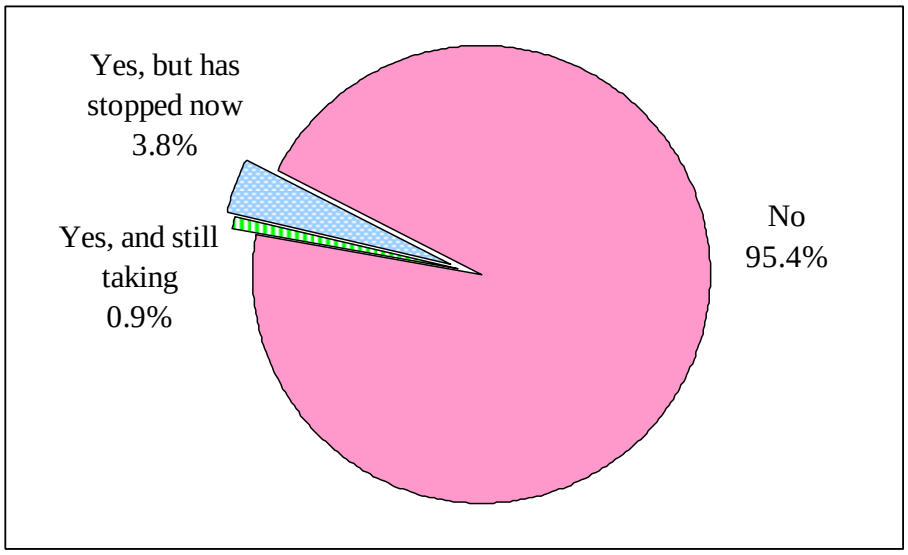
[37] Respondents were told that first degree relatives mean father/ mother/ brothers/ sisters/ daughters/ sons. Respondents were informed that male breast cancers are included.
[38] "The Breast Cancer Risk Assessment Tool", National Cancer Institute (NCI) (http://www.cancer.gov/bcrisktool)

3.15.2 Ever taken hormonal replacement therapy for menopause

Taking hormonal replacement therapy for menopause may increase the risk of breast cancer[39]. Therefore, female respondents were asked whether they had ever taken hormonal replacement therapy for menopause.

Overall, the vast majority (95.4%) of respondents had never taken hormonal replacement therapy for menopause. While 0.9% of female respondents were still taking hormonal replacement therapy for menopause, a small proportion (3.8%) of them had taken the therapy but had stopped at the time of survey (Fig. 3.15.2).

Fig. 3.15.2: Ever taken hormonal replacement therapy for menopause (Q47)



Base: All female respondents excluding "not sure" and refusal = 1 082

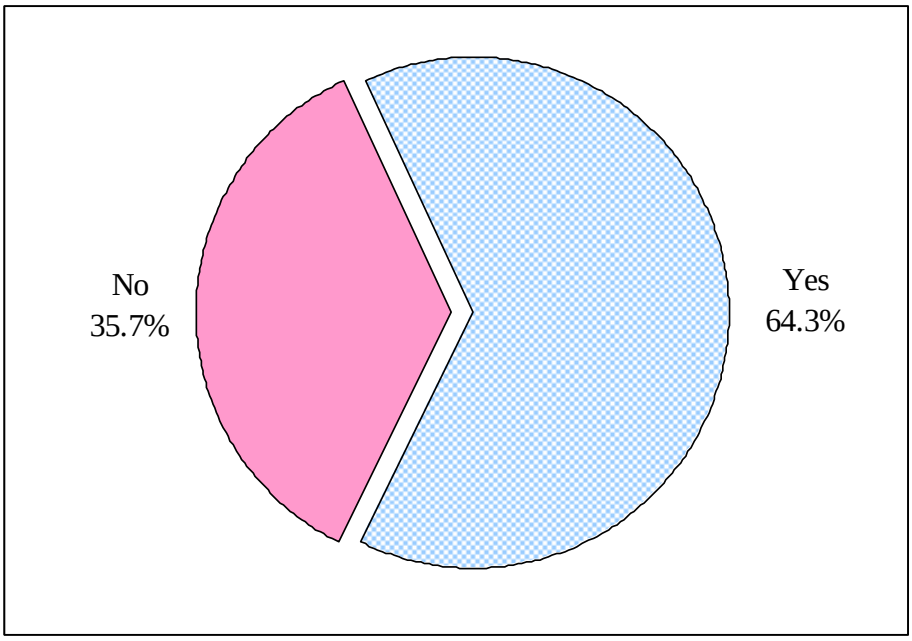
[39] "Menopausal Hormone Replacement Therapy Use and Cancer", National Cancer Institute (http://www.cancer.gov/cancertopics/factsheet/Risk/menopausal-hormones)

3.15.3 Whether had children and age of having first child

The risk of breast cancer increases among women who have never given birth or women who gave birth to their first child late[40].

Overall, nearly two-thirds (64.3%) of female respondents reported that they had children (Fig. 3.15.3a).

Fig. 3.15.3a: Whether had children (Q48a)

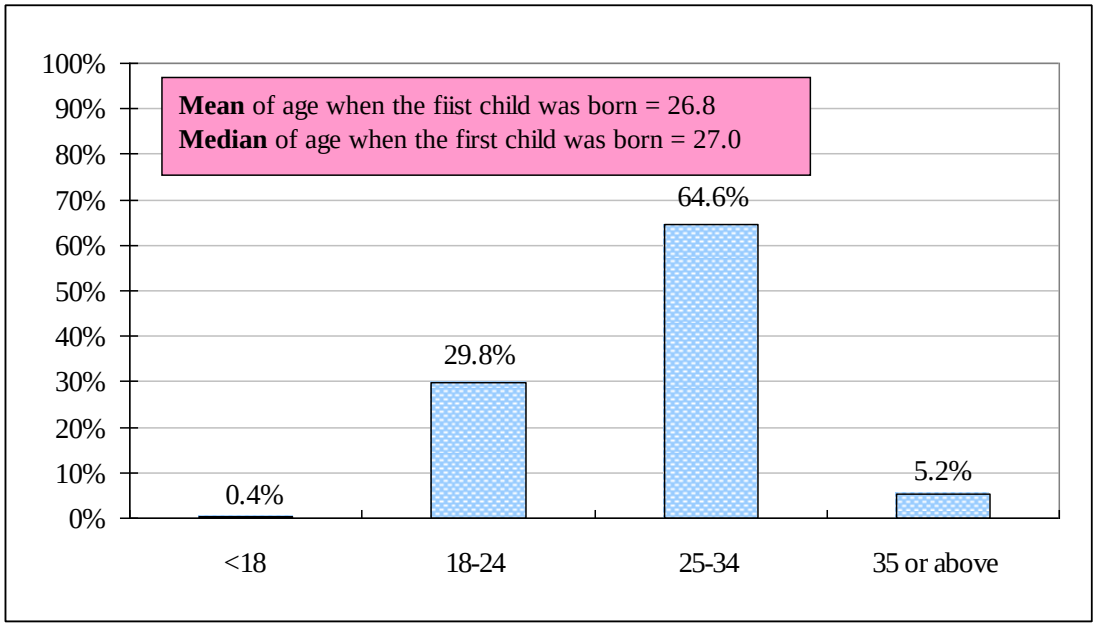


Base: All female respondents excluding refusal = 1 090

[40] "The Breast Cancer Risk Assessment Tool", National Cancer Institute (NCI) (http://www.cancer.gov/bcrisktool/)

Among those female respondents who had children, 5.2% of them gave birth to their first child at the age 35 or above (Fig. 3.15.3b).

Fig. 3.15.3b: Age of having first child (Q48b)



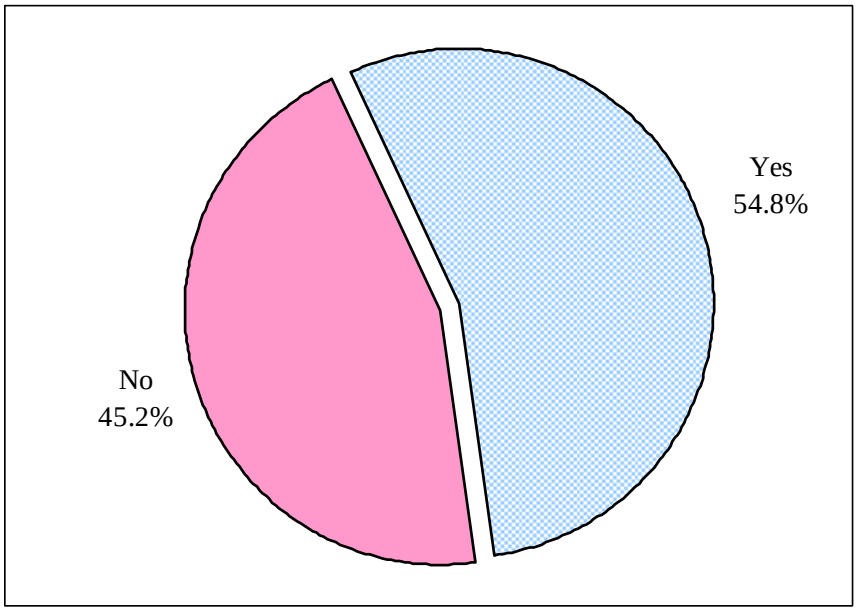
Base: All female respondents who had children excluding "don't know" and refusal = 695

3.15.4 Ever had breastfed children

Breastfeeding helps to reduce the risk of developing breast cancer[41].

More than half (54.8%) of female respondents who had children reported that they had breastfed their children (Fig. 3.15.4).

Fig. 3.15.4: Ever had breastfed children (Q49)



Base: All female respondents who had children excluding "not sure" = 697

[41] "Breast cancer: prevention and control - Breast cancer risk factors", World Health Organization (http://www.who.int/cancer/detection/breastcancer/en/index2.html)

Chapter 4 Sub-group Analysis by Demographic Information and Related Questions

4.1 Re-grouping of variables

In this chapter, sub-group analyses are performed based on the breakdown of respondents' demographic information including gender, age, marital status, educational attainment, occupation, monthly household income and type of living quarters to see if there are any significant associations between these demographic factors and the areas being investigated. Additional cross tabulations are also done for special areas of interest. For example, Body Mass Index (BMI) is analyzed by perceptions about current weight.

Some of the responses have been re-grouped into smaller number of categories in order to make the sub-group analyses more robust. Table 4.1a shows how the demographic variables have been re-grouped while Table 4.1b illustrates how the responses of some questions were combined. The responses of "don't know", "can't remember", "not sure", "not applicable", "refuse to answer" and "outliers" have been excluded from all the sub-group analyses in this chapter.

Table 4.1a: Re-grouping the responses of demographic information (Q1, Q50 – Q58)

Demographic variable	**Original level**	**Re-grouped level**	**Sample size (weighted)**
Gender	Male	Male	922
	Female	Female	1 091
Age group	No grouping	18 – 24	251
		25 – 34	429
		35 – 44	465
		45 – 54	516
		55 – 64	334
Age group (For sub-group analysis against Q40 only)	No grouping	18 – 34	680
		35 – 44	465
		45 – 54	516
		55 – 64	334
Marital status	Never married	Never married	655
	Married with child(ren)	Married	1 263
	Married without child(ren)		
	Divorced/ Separated	Divorced/ Separated/ Widowed	91
	Widowed		

Educational attainment	Primary or below	Primary or below	220
	Had not completed secondary	Had not completed secondary	335
	Completed secondary (F.5)	Completed secondary (F.5)	551
	Matriculation	Matriculation	186
	Tertiary (non-degree, degree or above)	Tertiary or above	720
Monthly household income	Less than $2,000	Below $8,000	130
	$2,000 - $3,999		
	$4,000 - $5,999		
	$6,000 - $7,999		
	$8,000 - $9,999	$8,000 - $13,999	255
	$10,000 - $11,999		
	$12,000 - $13,999		
	$14,000 - $15,999	$14,000 - $19,999	205
	$16,000 - $17,999		
	$18,000 - $19,999		
	$20,000 - $24,999	$20,000 - $39,999	564
	$25,000 - $29,999		
	$30,000 - $34,999		
	$35,000 - $39,999		
	$40,000 - $44,999	$40,000 or above	440
	$45,000 - $49,999		
	$50,000 - $54,999		
	$55,000 - $59,999		
	$60,000 or above		

Occupation	Employer/ Manager/ Administrator	Managerial/ Professional worker	502
	Professional		
	Associate professional		
	Clerk	Clerk	270
	Service worker	Service worker	206
	Shop sales worker		
	Skilled agricultural/ Fishery worker	Blue collar worker	259
	Craft and related worker		
	Plant and machine operator and assembler		
	Unskilled worker		
	Student	Non-working person	736
	Home-maker		
	Unemployed person		
	Retired person		
	Other non-working person		
Type of living quarters	Public rental flats	Public rental flats	655
	Housing Authority subsidized sale flats	Subsidized sale flats	295
	Housing Society subsidized sale flats		
	Private residential flats	Private housing	1 038
	Villas/ Bungalows/ Modern village houses		
	Simple stone structures/ Traditional village houses		
	Staff quarters		
	Non-domestic quarter	Non-domestic quarter*	1

**As there is only one case which the respondent lived in a non-domestic quarter. The sub-group of non-domestic quarter is excluded from the sub-group analysis against type of living quarters.*

Table 4.1b: Re-grouping the responses of questions

Question No.	Question content	Original level	Re-grouped level
Q4a, Q5a, Q7a	Average days per week spent on vigorous/ moderate physical activities and walking	0 day	0-1 day
		1 day	
		2 days	2-3 days
		3 days	
Q10a, Q11a, Q12, Q13	Average days per week that respondents drink fruit/ vegetable juice, eat fruit/ vegetable, have soft drinks and sugary beverages	4 days	4-5 days
		5 days	
		6 days	6-7 days
		7 days	
Q9	Frequency of doing exercise in the leisure-time	Once or more a day	At least 4 times per week
		4-6 times per week	
		2-3 times per week	1-3 times per week
		Once a week	
		2-3 times a month	1-3 times per month
		Once a month	
		Less than once a month	Less than once a month
Q16b	Weekly frequency of drinking at least one alcoholic drink during the thirty days prior to the survey	Daily	6 days or more per week
		6 days per week	
		5 days per week	4-5 days per week
		4 days per week	
		3 days per week	2-3 days per week
		2 days per week	
		1 day per week	1 day or less per week
		Less than 1 day per week	
Q16c	Average number of standard drinks consumed on the days drinking alcohol	No grouping	Less than 3 units
			3 - <5 units
			5 - 24 units
Q23	Average number of days of eating preserved vegetables each week in the 30 days prior to the survey	Less than 1 day per week	Less than 1 day per week
		1 day per week	1 day per week
		2 days per week	2 days per week
		3 days per week	3 or more days per week
Q24	Average number of days of eating snacks with high salt content each week in the 30 days prior to the survey	4 days per week	
		5 days per week	
		6 days per week	
		Daily	
Q26, Q28	No. of heat strokes / sunburns in the 12 months prior to the survey	No grouping	1 time
			2 times or more

Q30	Age of first time using a solarium	No grouping	<18
			18-24
			25-34
			35 or above
Q34	Daily frequency of brushing teeth	Never	1 time or less per day (including never)
		Less than 1 time per day	
		1 time per day	
		2 times per day	2 times per day
		3 times per day	More than 2 times per day
		More than 3 times per day	
Q35	Daily frequency of using dental floss	Do not currently use	Never/ do not currently use
		Never	
		Less than 1 time per day	Less than 1 time per day
		1 time per day	1 time per day
		2 times per day	More than 1 time per day
		3 times per day	
		More than 3 times per day	
Q36	Self perception of oral health status	Very good	Good and Very good
		Good	
		Fair	Fair
		Poor	Poor and very poor
		Very poor	
Q38	Frequency of having a dental checkups	More than once a year	More than once a year
		Once a year	Once a year
		Once every 2 years	Less than once a year
		Once every 3 years	
		Once every 4 years	
		Once every 5 years	
		Once every 6-10 years	
		Less frequent than once every 10 years	
Q42	Period of time since last cervical smear	1-12 months	1-12 months
		13-24 months	13-36 months
		25-36 months	
		37-48 months	37 or more months
		49-60 months	
		61 months or above	

Q44	Frequency of having cervical smear	More than once a year	At least once a year
		Once a year	
		Once every 2 years	Once every 2 years
		Once every 3 years	Once every 3-5 years
		Once every 4 years	
		Once every 5 years	

Three types of statistical tests are used for sub-group analysis in this report, namely Pearson chi-square test, Kruskal-Wallis test and Spearman's rank correlation [42].

When both variables are nominal, the chi-square test is used. When one variable is nominal and the other one is ordinal, the Kruskal-Wallis test is adopted. Spearman's rank correlation is performed when both variables are ordinal. Only statistically significant results at the 5% level are presented in this chapter. As for the Pearson chi-square test, only those tables where no more than 20% of the cells had expected values of less than 5 are included.

Only the Pearson chi-square test uses weighted data; the Kruskal-Wallis test and Spearman's rank correlation are carried out without weighting as SPSS is unable to handle non-integer weights for these two tests. However, all percentages are reported after weighting.

[42] The statistical tests have been performed using SPSS. Formulae of the statistical tests are included for reference.

Pearson Chi-square test:

$$\chi^2 = \sum_i \sum_j \frac{(Oij - eij)^2}{eij}$$

where O_{ij} is the observed value corresponding to the i[th] column and the j[th] row, e_{ij} is the expected value corresponding to the i[th] column and the j[th] row. The calculation of e_{ij} is as follow: expected value = (i[th] column total x j[th] row total) / Overall total.

Kruskal-Wallis test:

$$H = \frac{12}{N(N+1)} \sum_{i=1}^{k} \frac{R_i^2}{n_i} - 3(N+1)$$

where N is the total number of observations, R_i is the sum of the ranks of the values of the i[th] sample, n_i is the number of observations of the i[th] sample.

Spearman's rank correlation coefficient:

$$r = \sum_{i=1}^{N} \frac{(X_i - \overline{X})(Y_i - \overline{Y})}{(N-1)SxSy}$$

where N is the sample size and Sx and Sy are the standard deviations of the rank of the two variables, X_i and Y_i are the i[th] rank of X and Y respectively and $\overline{X}$ and $\overline{Y}$ are the mean rank of X and Y respectively. The rank order of each data value is used in the above formula (adjustments are made if there are ties). Pairwise method is used to handle missing data.

4.2 Weight status

4.2.1 Weight status

Using the Asian standard of WHO classification, weight status is associated significantly with six demographic variables including gender, age, marital status, educational attainment, occupation and type of living quarters (Table 4.2.1).

More male respondents (28.4%) were classified as "obese" while more female respondents (14.9%) were classified as "underweight". In terms of age, respondents aged 34 or below (ranged from 16.2% to 25.2%) were more likely to be "underweight" while those aged 35 or above were more likely to be classified as "overweight" (ranged from 19.8% to 23.5%) or "obese" (ranged from 20.8% to 30.3%).

The never married respondents (17.9%) were more likely to be "underweight" than the married respondents and the divorced/ separated/ widowed respondents (7.3% and 7.7% respectively). A relatively higher proportion of married respondents and the divorced/ separated/ widowed respondents (25.4% and 22.8% respectively) were classified as "obese".

A relatively higher proportion of respondents with primary education level or below (32.2%) were classified as "obese".

Regarding the respondents' occupation, a relatively higher proportion of blue collar workers (28.7%) were classified as "obese".

Respondents who lived in subsidized sale flats (25.7%) were more likely to be classified as "overweight".

Table 4.2.1: Weight status based on BMI and the classification of WHO (Asian standard)

Variable	Level	Base	Under-weight	Normal	Over-weight	Obese	p-value	
							Kruskal-Wallis test	Rank Correlation
Gender	Male	894	5.9%	44.2%	21.5%	28.4%	<0.001	
	Female	1057	14.9%	52.7%	16.4%	16.0%		
Age	18-24	240	25.2%	57.5%	10.9%	6.4%		<0.001
	25-34	423	16.2%	53.9%	13.8%	16.1%		
	35-44	452	9.4%	50.0%	19.8%	20.8%		
	45-54	501	4.7%	42.4%	22.7%	30.3%		
	55-64	318	4.7%	42.5%	23.5%	29.3%		

Marital status	Never married	640	17.9%	54.0%	13.7%	14.5%	<0.001	
	Married	1217	7.3%	46.5%	20.8%	25.4%		
	Divorced/ Separated/ Widowed	90	7.7%	42.0%	27.5%	22.8%		
Educational attainment	Primary or below	203	5.1%	40.1%	22.6%	32.2%		<0.001
	Had not completed secondary	324	6.5%	44.7%	24.5%	24.3%		
	Completed secondary (F5)	533	10.5%	49.8%	18.2%	21.5%		
	Matriculation	183	18.3%	52.2%	12.5%	17.1%		
	Tertiary or above	706	12.7%	51.5%	17.0%	18.8%		
Occupation	Managerial/ Professional worker	493	9.5%	45.3%	20.0%	25.2%	<0.001	
	Clerk	266	13.6%	57.0%	15.0%	14.4%		
	Service worker	202	11.0%	46.7%	18.0%	24.3%		
	Blue collar worker	247	2.1%	46.4%	22.9%	28.7%		
	Non-working person	707	13.9%	48.9%	18.1%	19.1%		
Type of living quarters	Public rental flats	630	10.8%	55.0%	12.8%	21.4%	0.036	
	Subsidized sale flats	283	8.4%	45.8%	25.7%	20.1%		
	Private housing	1017	11.4%	45.6%	20.5%	22.5%		

4.2.2 Perception about current weight status

Perception about current weight status is associated significantly with respondents' gender, age, marital status and educational attainment (Table 4.2.2a).

A relatively higher proportion of female respondents (46.4%), respondents aged 35-64 (ranged from 45.1% to 48.8%), married respondents (44.9%) or divorced/ separated/ widowed respondents (47.2%) and those who had not completed secondary education or below (ranged from 47.1% to 48.6%) considered themselves as "overweight".

Table 4.2.2a: Perception about current weight status (Q3)

Variable	Level	Base	Under-weight	Just right	Over-weight	p-value	
						Kruskal-Wallis test	Rank Correlation
Gender	Male	920	11.7%	51.9%	36.4%	<0.001	
	Female	1082	6.5%	47.0%	46.4%		
Age	18-24	249	13.6%	56.2%	30.1%		<0.001
	25-34	425	10.7%	56.2%	33.1%		
	35-44	464	7.6%	47.3%	45.1%		
	45-54	515	6.5%	44.7%	48.8%		
	55-64	332	8.6%	44.4%	47.0%		
Marital status	Never married	651	12.1%	52.8%	35.1%	<0.001	
	Married	1256	7.4%	47.6%	44.9%		
	Divorced/ Separated/ Widowed	91	5.4%	47.4%	47.2%		
Educational attainment	Primary or below	220	6.1%	45.3%	48.6%		<0.001
	Had not completed secondary	332	7.4%	45.4%	47.1%		
	Completed secondary (F5)	547	9.6%	49.3%	41.1%		
	Matriculation	186	6.9%	55.9%	37.2%		
	Tertiary or above	715	10.3%	50.6%	39.1%		

Analysis of respondents' perception about their current weight by their weight status based on the Asian standard of WHO classification was carried out. There are significant associations between these two types of variables.

For those respondents who were classified as "underweight", about two-thirds of them considered themselves as "just right" (61.4%) or "overweight" (5.4%). Among those respondents who were classified as "overweight", 39.6% of them considered themselves as "just right". Also, 15.5% of "obese" respondents perceived themselves as "just right" (Table 4.2.2b).

Table 4.2.2b: Perception about current weight status analysed by weight status based on WHO classification (Asian standard)

Variable	Level	Base	Perception about current weight status			p-value
			Under-weight	Just right	Over-Weight	Rank Correlation
WHO classification (Asian standard)	Underweight	210	33.2%	61.4%	5.4%	<0.001
	Normal	952	10.6%	64.8%	24.6%	
	Overweight	366	0.7%	39.6%	59.7%	
	Obese	423	0.2%	15.5%	84.3%	

4.3 Physical activities and leisure-time exercises

4.3.1 Vigorous physical activities

The number of days spent on doing vigorous physical activities for at least 10 minutes during the seven days prior to the survey is associated significantly with five of the respondents' demographic characteristics including gender, age, marital status, occupation and monthly household income.

Female respondents (79.9%), those aged 35-64 (ranged from 77.0% to 79.3%), those who were married (77.4%) or divorced/ separated/ widowed (77.4%), clerks (80.5%) and service workers (81.4%) were more likely than their respective counterparts to have engaged in vigorous physical activities for at least 10 minutes on only one day or less during the seven days before interview. Also the lower the monthly household income of the respondents, the more likely that they had engaged in vigorous physical activity for at least 10 minutes on only one day or less (Table 4.3.1).

Table 4.3.1: Number of days spent on doing vigorous physical activities for at least 10 minutes during the seven days prior to the survey (Q4a)

Variable	Level	Base	0-1 Day	2-3 days	4-5 days	6-7 days	p-value	
							Kruskal-Wallis test	Rank Correlation
Gender	Male	922	69.4%	18.1%	6.7%	5.8%	<0.001	
	Female	1091	79.9%	12.6%	3.8%	3.7%		
Age	18-24	251	62.6%	27.6%	6.4%	3.4%		0.002
	25-34	429	73.8%	18.8%	4.9%	2.4%		
	35-44	465	79.3%	11.9%	4.6%	4.2%		
	45-54	516	77.2%	12.0%	5.2%	5.6%		
	55-64	334	77.0%	10.0%	4.9%	8.1%		
Marital status	Never married	655	70.5%	21.9%	5.4%	2.2%	0.033	
	Married	1263	77.4%	11.9%	5.1%	5.7%		
	Divorced/ Separated/ Widowed	91	77.4%	9.7%	4.2%	8.7%		
Occupation	Managerial/ Professional worker	502	74.9%	18.9%	3.8%	2.3%	0.024	
	Clerk	270	80.5%	16.1%	3.4%	0.0%		
	Service worker	206	81.4%	10.7%	3.4%	4.5%		
	Blue collar worker	259	75.5%	8.4%	5.4%	10.7%		
	Non-working person	736	71.6%	15.7%	6.8%	6.0%		

Monthly household income	Below $8,000	130	82.7%	6.7%	2.4%	8.2%		0.019
	$8,000 - $13,999	255	79.2%	9.3%	7.3%	4.2%		
	$14,000 - $19,999	205	74.4%	12.1%	5.9%	7.6%		
	$20,000 - $39,999	564	73.8%	17.2%	4.8%	4.2%		
	$40,000 or above	440	73.7%	18.5%	4.4%	3.4%		

4.3.2 Moderate physical activities

The number of days spent on doing moderate physical activities for at least 10 minutes during the seven days prior to the survey is associated significantly with respondents' age, marital status and occupation.

Respondents who were aged 18 - 24 (70.4%), never-married respondents (68.8%) or divorced/ separated/ widowed respondents (66.8%) and service workers (73.2%) were more likely than their respective counterparts to have spent only one day or less on moderate physical activities for at least 10 minutes during the seven days prior to the survey. On the other hand, the older the respondents, the more likely that they had spent 6-7 days on moderate physical activities for at least 10 minutes during the seven days prior to the survey (Table 4.3.2).

Table 4.3.2: Number of days spent on doing moderate physical activities for at least 10 minutes during the seven days prior to the survey (Q5a)

Variable	Level	Base	0-1 day	2-3 days	4-5 days	6-7 days	p-value	
							Kruskal-Wallis test	Rank Correlation
Age	18-24	251	70.4%	17.1%	8.1%	4.4%		0.010
	25-34	429	63.0%	21.1%	10.2%	5.7%		
	35-44	465	67.2%	17.1%	6.8%	9.0%		
	45-54	516	65.3%	16.4%	7.0%	11.3%		
	55-64	334	61.7%	16.2%	7.4%	14.7%		
Marital status	Never married	655	68.8%	17.9%	8.4%	4.9%	0.005	
	Married	1263	63.4%	17.6%	7.5%	11.5%		
	Divorced/ Separated/ Widowed	91	66.8%	15.3%	8.3%	9.7%		
Occupation	Managerial/ Professional worker	502	61.5%	23.1%	8.6%	6.8%	0.032	
	Clerk	270	69.6%	15.9%	8.9%	5.7%		
	Service worker	206	73.2%	14.7%	2.5%	9.6%		
	Blue collar worker	259	62.5%	15.6%	7.4%	14.5%		
	Non-working person	736	65.0%	15.7%	8.9%	10.3%		

4.3.3 Walking

Significant associations exist between the number of days spent on walking for at least 10 minutes during the seven days prior to the survey and respondents' educational attainment and occupation.

A relatively higher proportion of respondents with educational attainment of primary or below (81.5%), service workers (82.3%) and blue collar workers (82.5%) reported that they walked for at least 10 minutes on 6-7 days within the seven days prior to the survey when compared with their respective counterparts (Table 4.3.3).

Table 4.3.3: Number of days spent on walking for at least 10 minutes during the seven days prior to the survey (Q7a)

Variable	Level	Base	0-1 day	2-3 days	4-5 days	6-7 days	p-value	
							Kruskal-Wallis test	Rank Correlation
Educational attainment	Primary or below	219	4.2%	6.3%	8.0%	81.5%		0.001
	Had not completed secondary	335	6.6%	8.3%	12.3%	72.8%		
	Completed secondary (F5)	551	6.8%	8.5%	12.5%	72.1%		
	Matriculation	186	2.3%	10.9%	12.7%	74.1%		
	Tertiary or above	720	5.1%	9.3%	16.6%	69.0%		
Occupation	Managerial/ Professional worker	502	6.3%	8.0%	16.1%	69.6%	<0.001	
	Clerk	270	3.8%	8.0%	15.3%	72.9%		
	Service worker	206	3.0%	5.6%	9.1%	82.3%		
	Blue collar worker	258	5.2%	4.9%	7.4%	82.5%		
	Non-working person	736	5.6%	11.9%	14.7%	67.7%		

4.3.4 Whether attained the physical activity level recommended by WHO for adults

Whether respondents had attained the WHO's recommended levels of physical activity for adults is significantly associated with their gender and marital status.

A relatively higher proportion male respondents (41.6%) and never married respondents (39.7%) were found to have attained the physical activity level recommended by WHO for adults when compared with their respective counterparts (Table 4.3.4).

Table 4.3.4: Whether attained the physical activity level recommended by WHO for adults (Q4a, Q4b, Q5a, Q5b)

Variable	Level	Base	Yes	No	p-value Chi-square test
Gender	Male	921	41.6%	58.4%	<0.001
	Female	1090	30.8%	69.2%	
Marital status	Never married	655	39.7%	60.3%	0.031
	Married	1261	34.1%	65.9%	
	Divorced/ Separated/ Widowed	91	30.9%	69.1%	

4.3.5 Frequency of moderate and vigorous physical activities

The number of days doing moderate physical activities for at least 30 minutes or vigorous physical activities for at least 20 minutes during the seven days prior to the survey is associated significantly with respondents' gender and occupation.

Female respondents (62.2%), clerks (66.8%) and service workers (66.8%) were more likely than their respective counterparts to have spent one day or less in moderate physical activities for at least 30 minutes or vigorous physical activities for at least 20 minutes during the seven days prior to the survey (Table 4.3.5).

Table 4.3.5: Number of days spent on moderate physical activities for at least 30 minutes or vigorous physical activities for at least 20 minutes during the seven days prior to the survey (Q6)

Variable	Level	Base	0-1 day	2-3 days	4-5 days	6-7 days	p-value Kruskal-Wallis test
Gender	Male	922	54.6%	21.9%	10.2%	13.4%	0.002
	Female	1091	62.2%	17.5%	8.4%	11.9%	

Occupation	Managerial/ Professional worker	502	58.2%	24.2%	8.8%	8.8%	0.001
	Clerk	270	66.8%	19.2%	9.3%	4.7%	
	Service worker	206	66.8%	17.0%	2.8%	13.4%	
	Blue collar worker	259	57.6%	13.8%	8.2%	20.4%	
	Non-working person	736	54.4%	19.6%	11.2%	14.8%	

4.3.6 Sitting

The average time spent on sitting on a weekday during the seven days prior to the survey is associated significantly with respondents' gender, age, marital status, educational attainment, occupation, monthly household income and type of living quarters.

Male respondents (26.0%), those aged 18-34 (ranged from 26.4% to 27.1%), those never married (28.5%), clerks (33.9%), managerial/ professional workers (32.8%) and those living in private housing (22.9%) were more likely than their respective counterparts to sit 10 hours or above on a weekday on average during the seven days prior to the survey. Also the higher the educational attainment and the monthly household income of the respondents, the more likely that they had sat 10 hours or above on a weekday (Table 4.3.6).

Table 4.3.6: Average time spent on sitting on a weekday during the seven days prior to the survey (Q8)

Variable	Level	Base	Below 2hrs	2- <4hrs	4- <6hrs	6- <8hrs	8- <10hrs	10hrs or above	p-value	
									Kruskal-Wallis test	Rank Correlation
Gender	Male	910	3.7%	16.4%	23.2%	18.0%	12.8%	26.0%	<0.001	
	Female	1075	4.6%	18.5%	25.2%	17.9%	17.2%	16.6%		
Age	18-24	249	1.7%	8.8%	18.3%	26.1%	18.6%	26.4%		<0.001
	25-34	426	1.7%	10.3%	20.6%	20.4%	19.9%	27.1%		
	35-44	455	4.7%	19.5%	21.8%	16.9%	15.1%	22.1%		
	45-54	509	5.3%	19.5%	28.6%	14.6%	13.5%	18.6%		
	55-64	329	6.3%	28.0%	30.1%	14.5%	9.4%	11.8%		
Marital status	Never married	647	2.2%	7.8%	19.1%	23.4%	18.9%	28.5%	<0.001	
	Married	1246	4.9%	22.3%	26.4%	15.4%	13.5%	17.6%		
	Divorced/ Separated/ Widowed	89	7.4%	20.8%	31.3%	14.1%	12.5%	13.9%		

Educational attainment	Primary or below	216	9.1%	29.8%	33.4%	13.3%	8.1%	6.3%		<0.001
	Had not completed secondary	330	5.7%	30.6%	28.1%	15.4%	7.8%	12.3%		
	Completed secondary (F5)	545	4.8%	19.5%	23.6%	17.8%	17.0%	17.4%		
	Matriculation	183	1.7%	13.7%	28.7%	14.4%	16.0%	25.5%		
	Tertiary or above	711	2.2%	7.2%	19.0%	21.5%	19.1%	30.9%		
Occupation	Managerial/ Professional worker	495	1.5%	8.6%	18.9%	19.8%	18.3%	32.8%	<0.001	
	Clerk	268	1.1%	5.4%	14.0%	15.1%	30.6%	33.9%		
	Service worker	203	7.6%	28.4%	23.2%	13.3%	13.4%	14.2%		
	Blue collar worker	256	10.3%	27.2%	26.9%	15.1%	6.8%	13.8%		
	Non-working person	725	3.7%	20.8%	31.1%	20.0%	11.4%	12.9%		
Monthly household income	Below $8,000	128	7.1%	22.2%	29.7%	18.4%	8.9%	13.6%		<0.001
	$8,000-$13,999	254	5.9%	22.3%	29.6%	16.6%	12.2%	13.5%		
	$14,000-$19,999	205	5.6%	25.1%	20.5%	19.9%	11.8%	17.1%		
	$20,000-$39,999	560	3.4%	16.7%	22.3%	17.1%	18.3%	22.2%		
	$40,000 or above	433	2.1%	9.2%	22.6%	18.9%	17.9%	29.3%		
Type of living quarters	Public rental flats	645	5.3%	21.0%	24.8%	16.5%	14.0%	18.4%	0.001	
	Subsidized sale flats	291	2.2%	21.2%	20.9%	20.4%	15.1%	20.2%		
	Private housing	1023	4.0%	14.2%	24.9%	18.0%	16.0%	22.9%		

4.3.7 Leisure-time exercises

Frequency of doing exercises in leisure-time during the thirty days prior to the survey is associated significantly with respondents' gender, age, marital status, educational attainment, occupation and monthly household income.

Female respondents (48.0%), married respondents (47.9%) and divorced/ separated/ widowed respondents (59.1%), blue collar workers (62.2%) and those with monthly household income below $14,000 (ranged from 56.0% to 56.2%) were more likely than their respective counterparts to have reported that they had leisure-time exercises less than once a month during the thirty days prior to the survey. Also, the older and the lower the educational attainment of the respondents, the more likely that they had had leisure-time exercises less than once a month (Table 4.3.7).

Table 4.3.7: Frequency of doing exercises in leisure-time during the thirty days prior to the survey (Q9)

Variable	Level	Base	At least 4 times per week	1 – 3 times per week	1 – 3 times per month	Less than once a month	p-value	
							Kruskal-Wallis test	Rank Correlation
Gender	Male	920	15.7%	37.5%	10.1%	36.7%	<0.001	
	Female	1089	14.4%	26.0%	11.7%	48.0%		
Age	18-24	250	16.6%	43.8%	16.1%	23.5%		<0.001
	25-34	429	11.2%	35.8%	17.2%	35.8%		
	35-44	464	13.5%	29.9%	12.2%	44.3%		
	45-54	516	15.0%	27.4%	6.6%	51.0%		
	55-64	332	20.9%	22.8%	3.8%	52.5%		
Marital status	Never married	655	13.3%	41.8%	14.1%	30.9%	<0.001	
	Married	1260	15.5%	26.8%	9.7%	47.9%		
	Divorced/ Separated/ Widowed	91	18.8%	18.3%	3.7%	59.1%		
Educational attainment	Primary or below	220	19.7%	12.8%	2.8%	64.7%		<0.001
	Had not completed secondary	335	16.3%	20.9%	5.3%	57.5%		
	Completed secondary (F5)	549	15.5%	29.5%	9.6%	45.4%		
	Matriculation	186	15.9%	34.9%	13.0%	36.2%		
	Tertiary or above	718	12.3%	42.2%	16.4%	29.0%		

Occupation	Managerial/ Professional worker	501	11.3%	42.0%	15.7%	31.0%	<0.001	
	Clerk	269	9.1%	34.5%	12.1%	44.3%		
	Service worker	205	7.9%	27.0%	13.6%	51.5%		
	Blue collar worker	258	11.5%	21.8%	4.6%	62.2%		
	Non-working person	736	22.7%	26.8%	8.7%	41.8%		
Monthly household income	Below $8,000	130	16.7%	20.4%	6.9%	56.0%		<0.001
	$8,000-$13,999	255	17.8%	16.4%	9.6%	56.2%		
	$14,000-$19,999	205	14.0%	32.3%	5.1%	48.7%		
	$20,000-$39,999	564	14.5%	32.3%	12.0%	41.2%		
	$40,000 or above	439	13.2%	42.0%	13.7%	31.2%		

4.4 Fruit and vegetable consumption

4.4.1 Frequency of drinking fruit or vegetable juice per week

The frequency of drinking fruit or vegetable juice is associated significantly with respondents' age, educational attainment, monthly household income and type of living quarters.

A relatively higher proportion of respondents aged 45-54 (92.8%), respondents who had not completed secondary education or below (ranged from 93.8% to 94.1%), those with monthly household income between $8,000 and $13,999 (96.3%), and those living in public rental flats (91.1%) or subsidized sale flats (92.7%) reported that they drank fruit or vegetable juice one day or less in a week on average when compared with their respective counterparts (Table 4.4.1).

Table 4.4.1: Number of days per week in which respondents drank fruit or vegetable juice (Q12)

Variable	Level	Base	0-1 day	2-3 days	4-5 days	6-7 days	p-value	
							Kruskal-Wallis test	Rank Correlation
Age	18-24	251	84.9%	10.7%	2.7%	1.7%		0.011
	25-34	427	88.1%	8.7%	0.9%	2.4%		
	35-44	464	89.4%	7.7%	0.4%	2.5%		
	45-54	515	92.8%	4.0%	1.0%	2.2%		
	55-64	334	89.6%	6.8%	1.2%	2.5%		
Educational attainment	Primary or below	220	94.1%	4.8%	0.3%	0.9%		<0.001
	Had not completed secondary	335	93.8%	3.4%	0.9%	1.9%		
	Completed secondary (F5)	550	88.7%	7.7%	1.2%	2.5%		
	Matriculation	184	89.9%	7.6%	1.0%	1.5%		
	Tertiary or above	717	86.2%	9.5%	1.4%	2.9%		
Monthly household income	Below $8,000	130	91.3%	6.0%	0.0%	2.7%		<0.001
	$8,000-$13,999	252	96.3%	3.2%	0.5%	0.0%		
	$14,000-$19,999	205	91.9%	5.2%	1.1%	1.8%		
	$20,000-$39,999	564	87.4%	8.9%	1.6%	2.1%		
	$40,000 or above	439	86.9%	8.4%	1.2%	3.5%		
Type of living quarters	Public rental flats	654	91.1%	6.5%	1.1%	1.2%	0.026	
	Subsidized sale flats	293	92.7%	3.1%	0.9%	3.3%		
	Private housing	1036	87.4%	8.8%	1.1%	2.7%		

4.4.2 Frequency of consuming fruit per week

The frequency of fruit consumption (excluding fruit juice) is associated significantly with respondents' gender, age, marital status, educational attainment, occupation and type of living quarters.

The proportion of people consuming fruit 6-7 days a week was higher among female respondents (63.0%), married respondents (61.8%) or divorced/ separated/ widowed respondents (59.7%), those with primary education or below (65.5%), non-working respondents (61.5 %) and those living in private housing (59.7%). Also, the older the respondents, the more likely that they consumed fruit 6-7 days a week (Table 4.4.2).

Table 4.4.2: Number of days per week in which respondents consumed fruit (not including fruit juice) (Q10a)

Variable	Level	Base	0-1 day	2-3 days	4-5 days	6-7 days	p-value	
							Kruskal-Wallis test	Rank Correlation
Gender	Male	922	13.2%	24.0%	15.0%	47.9%	<0.001	
	Female	1090	7.5%	15.1%	14.3%	63.0%		
Age	18-24	251	10.8%	25.8%	17.8%	45.6%		<0.001
	25-34	429	14.4%	19.4%	16.0%	50.2%		
	35-44	465	10.5%	22.3%	14.6%	52.6%		
	45-54	516	9.3%	17.0%	14.1%	59.5%		
	55-64	333	5.3%	12.8%	11.9%	70.1%		
Marital status	Never married	655	15.1%	23.8%	16.7%	44.5%	<0.001	
	Married	1263	7.2%	16.9%	14.1%	61.8%		
	Divorced/ Separated/ Widowed	91	14.8%	18.3%	7.2%	59.7%		
Educational attainment	Primary or below	220	8.7%	13.7%	12.2%	65.5%		<0.001
	Had not completed secondary	333	12.2%	18.9%	10.1%	58.8%		
	Completed secondary (F5)	551	9.0%	19.2%	17.2%	54.6%		
	Matriculation	186	10.4%	19.0%	13.1%	57.5%		
	Tertiary or above	720	10.4%	21.0%	16.0%	52.5%		
Occupation	Managerial/ Professional worker	502	11.1%	19.6%	17.5%	51.8%	0.001	
	Clerk	270	10.4%	22.0%	15.8%	51.8%		
	Service worker	206	14.2%	22.0%	11.2%	52.7%		
	Blue collar worker	259	13.6%	19.1%	11.7%	55.6%		
	Non-working person	736	7.3%	17.6%	13.6%	61.5%		
Type of living quarters	Public rental flats	654	11.8%	22.5%	14.8%	50.9%	0.006	
	Subsidized sale flats	295	9.9%	20.0%	15.6%	54.5%		
	Private housing	1038	9.4%	16.8%	14.1%	59.7%		

4.4.3 Frequency of consuming vegetables per week

The frequency of vegetable consumption (excluding vegetable juice) is associated significantly with respondents' gender, age, marital status and occupation.

A relatively higher proportion of female respondents (87.7%), those aged 55-64 (87.7%), married respondents (86.3%), and non-working respondents (86.1%) had consumed vegetables 6-7 days a week when compared with their respective counterparts (Table 4.4.3).

Table 4.4.3: Number of days per week in which respondents consumed vegetables (not including vegetable juice) (Q11a)

Variable	Level	Base	0-1 day	2-3 days	4-5 days	6-7 days	p-value	
							Kruskal-Wallis test	Rank Correlation
Gender	Male	922	2.6%	8.1%	11.9%	77.4%	<0.001	
	Female	1091	1.2%	3.8%	7.2%	87.7%		
Age	18-24	251	2.0%	6.0%	13.8%	78.2%		0.002
	25-34	429	2.6%	5.4%	6.9%	85.1%		
	35-44	465	2.0%	4.1%	10.9%	83.0%		
	45-54	516	2.0%	7.4%	10.2%	80.4%		
	55-64	334	0.4%	5.6%	6.4%	87.7%		
Marital status	Never married	655	3.0%	7.8%	12.1%	77.0%	<0.001	
	Married	1263	1.1%	4.5%	8.1%	86.3%		
	Divorced/ Separated/ Widowed	91	3.6%	8.5%	7.3%	80.6%		
Occupation	Managerial/ Professional worker	502	1.6%	3.4%	11.0%	84.0%	0.002	
	Clerk	270	0.7%	9.9%	12.4%	77.1%		
	Service worker	206	4.1%	9.0%	8.7%	78.2%		
	Blue collar worker	259	3.0%	6.8%	6.7%	83.5%		
	Non-working person	736	1.3%	4.6%	8.0%	86.1%		

4.4.4 Amount of fruit and vegetables consumed per day

In this survey, the average number of servings of fruit and vegetables consumed per day is associated significantly with respondents' gender, age, marital status, occupation and type of living quarters.

4.4.4.1 Number of servings of fruit and vegetables consumed per day (excluding fruit/vegetable juice consumption) [43]

Female respondents (23.9%), those aged 55-64 (26.6%), divorced/ separated/ widowed respondents (24.8 %), non-working respondents (23.9%) and those living in private housing (22.2%) were more likely than their respective counterparts to have consumed 5 or more servings of fruit and vegetables per day (excluding fruit/vegetable juice consumption) (Table 4.4.4.1).

Table 4.4.4.1: Number of servings of fruit and vegetables consumed per day (excluding fruit and vegetable juice) (Q10a, Q10b, Q11a & Q11b)

Variable	Level	Base	Less than 5 servings	5 servings or more	p-value	
					Chi-square test	Kruskal-Wallis test
Gender	Male	918	86.6%	13.4%	<0.001	
	Female	1081	76.1%	23.9%		
Age	18-24	251	84.2%	15.8%		<0.001
	25-34	426	81.7%	18.3%		
	35-44	461	81.2%	18.8%		
	45-54	513	83.0%	17.0%		
	55-64	329	73.4%	26.6%		
Marital status	Never married	652	84.5%	15.5%	0.009	
	Married	1252	79.4%	20.6%		
	Divorced/ Separated/Widowed	90	75.2%	24.8%		
Occupation	Managerial/ Professional worker	500	81.9%	18.1%	0.001	
	Clerk	269	84.3%	15.7%		
	Service worker	205	82.5%	17.5%		
	Blue collar worker	257	87.1%	12.9%		
	Non-working person	728	76.1%	23.9%		
Type of living quarters	Public rental flats	650	84.7%	15.3%	<0.001	
	Subsidized sale flats	292	84.4%	15.6%		
	Private housing	1033	77.8%	22.2%		

[43] Total average number of servings: average no. of fruit eaten per day + (average no. of bowls of vegetables eaten per day x 2)

4.4.4.2 Number of servings of fruit and vegetables consumed per day (including fruit/vegetable juice consumption)[44]

Female respondents (24.6%), those aged 55-64 (26.9%), divorced/ separated/ widowed respondents (24.8%), non-working respondents (24.5%) and those living in private housing (22.7%) were more likely than their respective counterparts to have consumed 5 or more servings of fruit and vegetables per day (including fruit/ vegetable juice consumption) (Table 4.4.4.2).

Table 4.4.4.2: Number of servings of fruit and vegetables consumed per day (including fruit and vegetable juice) (Q10a, Q10b, Q11a, Q11b & Q12)

Variable	Level	Base	Less than 5 servings	5 servings or more	p-value	
					Chi-square test	Kruskal-Wallis test
Gender	Male	916	86.3%	13.7%	<0.001	
	Female	1078	75.4%	24.6%		
Age	18-24	251	83.6%	16.4%		<0.001
	25-34	424	81.7%	18.3%		
	35-44	460	80.3%	19.7%		
	45-54	513	82.6%	17.4%		
	55-64	329	73.1%	26.9%		
Marital status	Never married	650	83.8%	16.2%	0.017	
	Married	1250	79.0%	21.0%		
	Divorced/ Separated/ Widowed	90	75.2%	24.8%		
Occupation	Managerial/ Professional worker	497	81.4%	18.6%	<0.001	
	Clerk	269	83.5%	16.5%		
	Service worker	205	82.2%	17.8%		
	Blue collar worker	257	87.1%	12.9%		
	Non-working person	727	75.5%	24.5%		
Type of living quarters	Public rental flats	649	84.3%	15.7%	<0.001	
	Subsidized sale flats	290	84.0%	16.0%		
	Private housing	1031	77.3%	22.7%		

[44] Total average number of servings: average no. of fruit eaten per day + (average no. of bowls of vegetables eaten per day x 2) + (average no. of days per week having drunk one cups or more of fruit or vegetable juice divided by 7)

4.5 Consumption of soft drinks and sugary beverages

4.5.1 Frequency of drinking soft drinks and sugary beverages

The frequency of drinking soft drinks and sugary beverages is associated significantly with respondents' gender, age, marital status, educational attainment, occupation and monthly household income.

A relatively higher proportion of male respondents (16.9%), those aged between 18 and 34 (ranged from 17.2% to 19.1%), those who never married (17.6%), respondents with educational attainment of secondary level (completed or not) or above (ranged from 12.4% to 14.7%), service workers (17.8%), blue collar workers (17.6%) and those with monthly household income between $14,000 and $39,999 (ranged from 16.3% to 17.4%) reported that they drank soft drinks and sugary beverages 6-7 days a week on average when compared with their respective counterparts (Table 4.5.1).

Table 4.5.1 Number of days per week in which respondents drank soft drinks and sugary beverages (Q13)

Variable	Level	Base	0-1 day	2-3 days	4-5 days	6-7 days	p-value	
							Kruskal-Wallis test	Rank Correlation
Gender	Male	915	52.6%	20.1%	10.3%	16.9%	<0.001	
	Female	1085	63.6%	20.0%	7.1%	9.3%		
Age	18-24	250	31.9%	31.0%	19.9%	17.2%		<0.001
	25-34	425	43.3%	25.8%	11.7%	19.1%		
	35-44	464	55.2%	21.9%	8.3%	14.6%		
	45-54	511	70.5%	15.1%	5.0%	9.4%		
	55-64	332	82.7%	10.1%	2.4%	4.8%		
Marital status	Never married	651	41.1%	28.6%	12.7%	17.6%	<0.001	
	Married	1256	66.7%	16.3%	6.7%	10.3%		
	Divorced/ Separated/ Widowed	90	70.7%	10.7%	4.9%	13.8%		
Educational attainment	Primary or below	219	76.4%	10.4%	3.6%	9.6%		<0.001
	Had not completed secondary	332	64.7%	16.0%	4.6%	14.7%		
	Completed secondary (F5)	548	58.5%	19.7%	8.4%	13.4%		
	Matriculation	184	55.2%	19.4%	12.2%	13.2%		
	Tertiary or above	716	51.2%	25.2%	11.2%	12.4%		
Occupation	Managerial/ Professional worker	499	59.5%	20.9%	8.3%	11.2%	0.006	
	Clerk	268	48.2%	29.0%	7.4%	15.4%		
	Service worker	203	49.9%	22.6%	9.7%	17.8%		
	Blue collar worker	257	65.1%	9.5%	7.8%	17.6%		
	Non-working person	733	61.7%	19.6%	8.6%	10.1%		

Monthly household income	Below $8,000	129	70.2%	16.3%	4.7%	8.8%		0.023
	$8,000-$13,999	252	63.2%	17.4%	6.5%	13.0%		
	$14,000-$19,999	205	50.2%	21.6%	10.8%	17.4%		
	$20,000-$39,999	562	52.2%	23.3%	8.2%	16.3%		
	$40,000 or above	439	59.1%	21.0%	9.9%	9.9%		

4.5.2 Amount of soft drinks and sugary beverages consumed per day

In this survey, the average number of cups of soft drinks and sugary beverages consumed per day is associated significantly with respondents' gender, age, marital status and occupation.

Male respondents (3.4%), those aged 35-44 (4.5%), divorced/ separated/ widowed respondents (4.7%), service workers (4.7%) and blue collar workers (4.7%) were more likely than their respective counterparts to have consumed 3 or more cups of soft drinks and sugary beverages per day on average (Table 4.5.2).

Table 4.5.2: Amount of soft drinks and sugary beverages consumed per day (Q13 & Q14)

Variable	Level	Base	Less than 3 cups	3 cups or more	p-value	
					Chi-square test	Kruskal-Wallis test
Gender	Male	915	96.6%	3.4%	<0.001	
	Female	1082	99.0%	1.0%		
Age	18-24	249	98.0%	2.0%		0.002
	25-34	425	97.8%	2.2%		
	35-44	463	95.5%	4.5%		
	45-54	510	98.9%	1.1%		
	55-64	332	99.8%	0.2%		
Marital status	Never married	650	97.1%	2.9%	0.020	
	Married	1254	98.5%	1.5%		
	Divorced/ Separated/ Widowed	90	95.3%	4.7%		
Occupation	Managerial/Professional worker	499	98.6%	1.4%	<0.001	
	Clerk	267	99.2%	0.8%		
	Service worker	203	95.3%	4.7%		
	Blue collar worker	257	95.3%	4.7%		
	Non-working person	732	98.8%	1.2%		

4.6 Smoking habits

4.6.1 Smoking habits

Smoking is associated significantly with respondents' gender, age, marital status, educational attainment and occupation.

A relatively higher proportion of male respondents (22.2%), those aged 25-44 (ranged from 15.2% to 16.7%), divorced/ separated/ widowed respondents (17.0%), those who had not completed secondary education (23.2%) and blue collar workers (26.2%) were current smokers when compared with their respective counterparts (Table 4.6.1).

Table 4.6.1: Smoking habits (Q15a)

Variable	Level	Base	Yes, but not now	Yes, and still smoking	Never	p-value	
						Chi-square test	Kruskal-Wallis test
Gender	Male	922	16.2%	22.2%	61.5%	<0.001	
	Female	1091	5.9%	6.6%	87.5%		
Age	18-24	251	4.7%	9.4%	85.8%		0.013
	25-34	429	9.9%	15.2%	74.8%		
	35-44	465	9.4%	16.7%	73.9%		
	45-54	516	12.4%	13.0%	74.6%		
	55-64	334	14.7%	13.1%	72.2%		
Marital status	Never married	655	7.7%	13.5%	78.7%	0.028	
	Married	1263	11.7%	13.7%	74.6%		
	Divorced/ Separated/ Widowed	91	15.2%	17.0%	67.9%		
Educational attainment	Primary or below	220	10.0%	15.0%	75.0%		0.002
	Had not completed secondary	335	14.6%	23.2%	62.3%		
	Completed secondary (F5)	551	12.5%	15.2%	72.3%		
	Matriculation	186	5.7%	15.3%	79.0%		
	Tertiary or above	720	8.7%	7.6%	83.8%		
Occupation	Managerial/ Professional worker	502	10.1%	11.2%	78.8%	<0.001	
	Clerk	270	9.2%	10.8%	80.0%		
	Service worker	206	12.0%	18.5%	69.5%		
	Blue collar worker	259	17.8%	26.2%	56.0%		
	Non-working person	736	8.5%	10.2%	81.2%		

4.6.2 Number of cigarettes consumed

The number of cigarettes consumed is associated significantly with current smokers' gender, age, educational attainment, occupation, monthly household income and type of living quarters.

A relatively higher proportion of male respondents (7.0%), respondents aged 18-24 (10.7%) or 45-54 (10.0%), those who had not completed secondary education (9.3%), service workers (15.9%), those with monthly household income of $8,000-$19,999 (ranged from 8.2% to 9.9%) and those living in public rental flats (7.0%) reported that they smoked more than 20 cigarettes per day when compared with their respective counterparts (Table 4.6.2).

Table 4.6.2: Average number of cigarettes which the respondents smoked per day (Q15c)

Variable	Level	Base	Less than 1 cigarette per day now	1-10 cigarettes per day now	11-20 cigarettes per day now	More than 20 cigarettes per day now	p-value	
							Kruskal-Wallis test	Rank Correlation
Gender	Male	203	3.5%	47.1%	42.4%	7.0%	<0.001	
	Female	72	10.0%	75.7%	13.1%	1.2%		
Age	18-24	24	3.6%	64.2%	21.5%	10.7%		0.004
	25-34	65	7.7%	72.2%	13.9%	6.2%		
	35-44	76	5.2%	57.5%	34.9%	2.3%		
	45-54	67	0.9%	45.4%	43.7%	10.0%		
	55-64	43	9.0%	31.8%	59.2%	0.0%		
Educational attainment	Primary or below	31	0.0%	28.6%	71.4%	0.0%		<0.001
	Had not completed secondary	78	6.0%	42.1%	42.6%	9.3%		
	Completed secondary (F5)	84	2.5%	62.0%	30.5%	5.1%		
	Matriculation	28	2.8%	65.3%	24.2%	7.8%		
	Tertiary or above	55	12.6%	70.1%	14.9%	2.4%		

Occupation	Managerial/ Professional worker	56	10.0%	61.5%	21.4%	7.2%	0.002	
	Clerk	29	0.0%	89.9%	10.1%	0.0%		
	Service worker	38	0.0%	52.8%	31.3%	15.9%		
	Blue collar worker	66	2.6%	37.9%	54.6%	4.9%		
	Non-working person	75	6.8%	52.6%	38.3%	2.3%		
Monthly household income	Below $8,000	18	6.9%	30.0%	63.1%	0.0%		<0.001
	$8,000-$13,999	34	10.8%	33.6%	47.4%	8.2%		
	$14,000-$19,999	39	0.0%	40.2%	49.9%	9.9%		
	$20,000-$39,999	78	2.0%	64.9%	30.2%	2.8%		
	$40,000 or above	48	8.8%	73.3%	15.1%	2.8%		
Type of living quarters	Public rental flats	107	2.8%	43.0%	47.1%	7.0%	0.001	
	Subsidized sale flats	38	3.2%	59.2%	34.2%	3.4%		
	Private housing	125	7.1%	64.1%	23.9%	4.9%		

4.7 Pattern of alcohol consumption

4.7.1 Consumption of alcohol

Consumption of alcohol is associated significantly with respondents' gender, age, marital status, educational attainment, occupation and monthly household income.

Male respondents (47.1%), those aged 25-34 (40.2%), never married respondents (40.1%), those with tertiary educational attainment or above (40.8%), managerial/ professional workers (44.4%) and those with monthly household income of $14,000-$19,999 (40.7%) or above $39,999 (42.1%) were more likely than their respective counterparts to have consumed at least one alcoholic drink during the month prior to the survey (Table 4.7.1).

Table 4.7.1: Ever had at least one alcoholic drink (Q16a)

Variable	Level	Base	Yes, during the last month	Yes, during the previous 2 to 12 months	Yes, more than 12 months ago	No	p-value	
							Chi-square test	Kruskal-Wallis test
Gender	Male	922	47.1%	23.6%	14.2%	15.1%	<0.001	
	Female	1090	24.5%	19.9%	16.6%	39.0%		
Age	18-24	251	30.5%	28.6%	15.7%	25.1%		<0.001
	25-34	429	40.2%	26.9%	15.4%	17.5%		
	35-44	464	36.3%	21.2%	17.2%	25.3%		
	45-54	516	33.5%	20.3%	15.1%	31.1%		
	55-64	334	31.8%	12.5%	13.9%	41.7%		
Marital status	Never married	655	40.1%	26.4%	14.9%	18.7%	<0.001	
	Married	1262	32.8%	19.3%	15.3%	32.7%		
	Divorced/ Separated/ Widowed	91	26.2%	19.3%	23.7%	30.9%		
Educational attainment	Primary or below	220	30.4%	14.3%	14.4%	40.9%		<0.001
	Had not completed secondary	335	34.0%	16.7%	15.2%	34.1%		
	Completed secondary (F5)	550	31.0%	21.0%	16.2%	31.8%		
	Matriculation	186	30.4%	23.5%	13.6%	32.5%		
	Tertiary or above	720	40.8%	26.1%	15.8%	17.3%		

Occupation	Managerial/ Professional worker	502	44.4%	26.4%	12.9%	16.4%	<0.001	
	Clerk	270	30.9%	24.7%	18.3%	26.1%		
	Service worker	206	39.5%	17.2%	19.1%	24.2%		
	Blue collar worker	259	39.3%	21.7%	14.1%	24.9%		
	Non-working person	735	26.5%	18.4%	16.1%	39.0%		
Monthly household income	Below $8,000	130	28.1%	15.2%	14.4%	42.4%		<0.001
	$8,000-$13,999	255	23.1%	22.4%	18.8%	35.7%		
	$14,000-$19,999	205	40.7%	15.0%	15.6%	28.7%		
	$20,000-$39,999	564	33.7%	25.6%	15.3%	25.5%		
	$40,000 or above	440	42.1%	23.8%	15.9%	18.2%		

4.7.2 Frequency of alcohol consumption

Frequency of alcohol consumption per week during the thirty days prior to the survey is associated significantly with the drinkers' gender, age, educational attainment, occupation and monthly household income.[45]

A relatively higher proportion of male respondents (10.9%), those who had not completed secondary school (19.0%) and blue collar workers (16.3%) reported that they drank 6 days or more per week when compared with their respective counterparts. Also, the older and the lower the monthly household income of the respondents, the more likely that they drank 6 days or more per week (Table 4.7.2).

Table 4.7.2: Frequency of consuming at least one alcoholic drink during the last thirty days prior to the survey (Q16b)

Variable	Level	Base	6 or more days per week	4-5 days per week	2-3 days per week	1 day or less per week	p-value	
							Kruskal-Wallis test	Rank Correlation
Gender	Male	429	10.9%	8.1%	16.7%	64.4%	<0.001	
	Female	266	5.2%	1.4%	6.7%	86.7%		

[45] Drinkers are defined as those respondents who had ever had at least one alcoholic drink during the thirty days prior to the survey.

Age	18-24	77	1.1%	4.4%	11.0%	83.5%		<0.001
	25-34	169	2.1%	3.7%	12.6%	81.7%		
	35-44	167	8.6%	4.3%	12.2%	74.9%		
	45-54	172	12.2%	7.1%	14.6%	66.2%		
	55-64	106	19.7%	9.1%	13.3%	57.9%		
Educational attainment	Primary or below	66	15.6%	7.6%	17.9%	58.9%		<0.001
	Had not completed secondary	114	19.0%	6.0%	18.9%	56.1%		
	Completed secondary (F5)	171	8.7%	5.6%	7.0%	78.7%		
	Matriculation	54	11.3%	7.1%	12.3%	69.3%		
	Tertiary or above	290	2.6%	4.6%	12.9%	79.9%		
Occupation	Managerial/ Professional worker	218	5.9%	6.4%	12.8%	74.9%	<0.001	
	Clerk	83	4.3%	3.5%	6.8%	85.4%		
	Service worker	81	10.0%	7.0%	17.1%	66.0%		
	Blue collar worker	102	16.3%	10.9%	17.5%	55.3%		
	Non-working person	193	8.0%	2.5%	12.5%	76.9%		
Monthly household income	Below $8,000	37	14.8%	6.8%	8.8%	69.6%		0.008
	$8,000-$13,999	59	13.5%	6.6%	24.3%	55.6%		
	$14,000-$19,999	84	12.5%	5.2%	16.7%	65.6%		
	$20,000-$39,999	190	6.5%	3.4%	7.2%	82.9%		
	$40,000 or above	181	5.5%	4.7%	14.6%	75.2%		

4.7.3 Amount of alcoholic drinks consumed

The average number of standard drinks consumed on the days they drank alcohol during the thirty days prior to the survey is associated significantly with the drinkers' gender, age, marital status, educational attainment and occupation.

A relatively higher proportion of male respondents (12.0%), those who were aged 18-34 (ranged from 16.0% to 16.8%), never married respondents (14.9%), those who had completed matriculation (14.1%) and service workers (18.3%) reported that they drank 5-24 units on average on the days they drank alcohol during the thirty days prior to the survey when compared with their respective counterparts (Table 4.7.3).

Table 4.7.3: Average number of standard drinks consumed on the days they drank alcohol (Q16c)

Variable	Level	Base	Less than 3 cups	3-<5 cups	5-24 cups	p-value	
						Kruskal-Wallis test	Rank Correlation
Gender	Male	428	61.2%	26.8%	12.0%	<0.001	
	Female	264	82.3%	13.0%	4.6%		
Age	18-24	74	60.2%	23.8%	16.0%		<0.001
	25-34	171	55.1%	28.1%	16.8%		
	35-44	166	67.5%	29.4%	3.1%		
	45-54	171	77.8%	14.5%	7.7%		
	55-64	105	85.9%	9.5%	4.6%		
Marital status	Never married	258	55.0%	30.1%	14.9%	<0.001	
	Married	409	77.7%	16.7%	5.6%		
	Divorced/ Separated/ Widowed	24	75.9%	13.3%	10.7%		
Educational attainment	Primary or below	66	87.1%	10.9%	2.0%		0.025
	Had not completed secondary	114	64.0%	25.3%	10.7%		
	Completed secondary (F5)	170	72.7%	20.9%	6.4%		
	Matriculation	53	68.4%	17.5%	14.1%		
	Tertiary or above	289	65.2%	23.7%	11.1%		
Occupation	Managerial/ Professional worker	219	64.5%	25.6%	9.9%	0.015	
	Clerk	83	79.0%	15.6%	5.4%		
	Service worker	81	55.1%	26.5%	18.3%		
	Blue collar worker	100	72.7%	18.0%	9.3%		
	Non-working person	191	74.0%	19.0%	7.0%		

4.7.4 Consumption of at least 5 glasses/ cans of alcohol on one single occasion (binge drinking)

Binge drinking during the thirty days prior to the survey is associated significantly with the drinkers' gender, marital status, occupation and type of living quarters.

A relatively higher proportion of male respondents (27.5%), never married respondents (26.1%) and divorced /separated/widowed respondents (32.4%), service workers (31.1%) and those living in public rental flats (27.0%) reported that they had engaged in binge drinking during the thirty days prior to the survey when compared with their respective counterparts (Table 4.7.4).

Table 4.7.4: Consumption of at least 5 glasses/ cans of alcohol on one single occasion during the thirty days prior to the survey (Q16d)

Variable	Level	Base	Yes	No	p-value Chi-square test
Gender	Male	430	27.5%	72.5%	<0.001
	Female	268	9.6%	90.4%	
Marital status	Never married	261	26.1%	73.9%	0.004
	Married	412	16.6%	83.4%	
	Divorced/ Separated/ Widowed	24	32.4%	67.6%	
Occupation	Managerial/ Professional worker	218	22.3%	77.7%	0.003
	Clerk	83	9.4%	90.6%	
	Service worker	81	31.1%	68.9%	
	Blue collar worker	102	25.9%	74.1%	
	Non-working person	195	16.7%	83.3%	
Type of living quarters	Public rental flats	205	27.0%	73.0%	0.023
	Subsidized sale flats	103	16.2%	83.8%	
	Private housing	378	18.2%	81.8%	

4.7.5 Frequency of binge drinking

The frequency of binge drinking is associated significantly with the binge drinkers' gender.

Male binge drinkers (41.7%) were more likely than female binge drinkers to have engaged in binge drinking three times or more during the thirty days prior to the survey (Table 4.7.5).

Table 4.7.5: Frequency of binge drinking during the thirty days prior to the survey (Q16e)

Variable	Level	Base	Once	Twice	Three times or more	p-value Kruskal-Wallis test
Gender	Male	117	39.0%	19.2%	41.7%	0.016
	Female	26	68.2%	12.3%	19.5%	

4.7.6 Having drunk so much that they exhibited signs of drunkenness

Having drunk so much that the drinkers exhibited signs of drunkenness during the thirty days prior to the survey is associated significantly with the drinkers' gender, age, marital status and occupation.

A relatively higher proportion of male respondents (19.8%), those aged 18-24 (27.5%), divorced/ separated/ widowed respondents (31.0%) and service workers (28.4%) reported that they had drunk so much that they exhibited signs of drunkenness during the thirty days prior to the survey when compared with their respective counterparts (Table 4.7.6).

Table 4.7.6: Having drunk so much that they exhibited signs of drunkenness during the thirty days prior to the survey (Q16f)

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
Gender	Male	433	19.8%	80.2%	0.004	
	Female	268	11.5%	88.5%		
Age	18-24	77	27.5%	72.5%		<0.001
	25-34	171	16.4%	83.6%		
	35-44	168	18.7%	81.3%		
	45-54	173	15.1%	84.9%		
	55-64	106	9.0%	91.0%		
Marital status	Never married	261	20.7%	79.3%	0.006	
	Married	414	13.2%	86.8%		
	Divorced/ Separated/ Widowed	24	31.0%	69.0%		
Occupation	Managerial/ Professional worker	221	18.7%	81.3%	0.012	
	Clerk	83	12.1%	87.9%		
	Service worker	81	28.4%	71.6%		
	Blue collar worker	102	13.0%	87.0%		
	Non-working person	195	13.0%	87.0%		

4.7.7 Frequency of having signs of drunkenness

The frequency of having signs of drunkenness during the thirty days prior to the survey is associated significantly with the drinkers' age, marital status and educational attainment.

A relatively higher proportion of respondents who were aged 55-64 (68.5%), those who were divorced/ separated/ widowed (62.6%) and those who had not completed secondary education (33.5%) were more likely to have exhibited signs of drunkenness three times or more during the thirty days prior to the survey when compared with their respective counterparts (Table 4.7.7).

Table 4.7.7: Frequency of having signs of drunkenness (Q16g)

Variable	Level	Base	Once	Twice	Three times or more	p-value	
						Kruskal-Wallis test	Rank Correlation
Age	18-24	21	72.0%	24.0%	3.9%		0.002
	25-34	26	68.7%	15.7%	15.6%		
	35-44	30	69.7%	6.9%	23.4%		
	45-54	26	48.7%	28.6%	22.7%		
	55-64*	8	16.5%	15.1%	68.5%		
Marital status	Never married	49	71.7%	18.7%	9.6%	0.004	
	Married	55	56.5%	17.8%	25.7%		
	Divorced/ Separated/ Widowed *	7	23.6%	13.8%	62.6%		
Educational attainment	Primary or below	10	13.8%	61.9%	24.3%		0.015
	Had not completed secondary	15	50.3%	16.2%	33.5%		
	Completed secondary (F5)	28	59.8%	14.4%	25.9%		
	Matriculation	9	76.3%	9.1%	14.5%		
	Tertiary or above	49	71.5%	13.3%	15.2%		

Note: The sample size of the subgroup is small and may affect the precision of the estimates*

4.8 Eating out habits

4.8.1 Eating out for breakfast

The frequency of eating out for breakfast during the thirty days prior to the survey is associated significantly with respondents' gender, age, marital status, educational attainment and occupation.

A relatively higher proportion of the male respondents (35.5%), those aged 45-54 (37.4%), divorced/ separated/ widowed respondents (40.5%), those who had not completed secondary education (41.2%) and blue collar workers (47.8%) reported eating out for breakfast 5 times or more per week during the thirty days prior to the survey when compared with their respective counterparts (Table 4.8.1).

Table 4.8.1: Frequency of eating out for breakfast (Q17)

Variable	Level	Base	5 times or more a week	2-4 times a week	Once a week	2-3 times a month	Once a month or less	p-value	
								Kruskal-Wallis test	Rank Correlation
Gender	Male	869	35.5%	18.3%	13.3%	5.7%	27.1%	<0.001	
	Female	1032	22.6%	19.8%	13.3%	5.6%	38.6%		
Age	18-24	233	15.2%	18.1%	13.7%	10.5%	42.6%		0.002
	25-34	402	25.4%	21.2%	13.7%	4.5%	35.1%		
	35-44	436	25.6%	23.7%	14.4%	6.2%	30.1%		
	45-54	490	37.4%	17.0%	11.1%	4.8%	29.7%		
	55-64	322	32.1%	14.3%	14.2%	4.6%	34.8%		
Marital status	Never married	617	23.5%	19.4%	11.6%	7.1%	38.3%	<0.001	
	Married	1193	30.1%	19.5%	14.3%	5.1%	31.0%		
	Divorced/ Separated/ Widowed	88	40.5%	13.0%	11.0%	4.0%	31.6%		
Educational attainment	Primary or below	209	33.9%	17.2%	14.4%	5.5%	29.0%		<0.001
	Had not completed secondary	311	41.2%	16.6%	8.0%	4.3%	29.9%		
	Completed secondary (F5)	523	33.9%	18.1%	13.2%	6.1%	28.7%		
	Matriculation	170	14.3%	20.2%	12.7%	8.1%	44.7%		
	Tertiary or above	686	20.5%	21.3%	15.6%	5.4%	37.1%		

Occupation	Managerial/ Professional worker	483	25.7%	19.8%	15.7%	5.0%	33.8%	<0.001	
	Clerk	261	27.9%	20.2%	10.3%	4.6%	37.0%		
	Service worker	189	38.2%	18.0%	14.1%	7.0%	22.8%		
	Blue collar worker	248	47.8%	8.5%	11.6%	4.4%	27.6%		
	Non-working person	682	20.7%	22.4%	13.2%	6.2%	37.5%		

4.8.2 Eating out for lunch

The frequency of eating out for lunch during the thirty days prior to the survey is associated significantly with respondents' gender, age, marital status, educational attainment, occupation, monthly household income and type of living quarters.

Males (64.3%), respondents aged 18-24 (54.9%), never married respondents (56.5%), those with tertiary educational level or above (55.4%), managers or professional workers (61.6%) or blue collar workers (62.1%) and those living in private housing (49.5%) were more likely than their respective counterparts to have eaten out for lunch 5 times or more per week during the thirty days prior to the survey. Also, the higher the monthly household income, the more likely that the respondents ate out for lunch 5 times or more per week during the thirty days prior to the survey (Table 4.8.2).

Table 4.8.2: Frequency of eating out for lunch (Q18)

Variable	Level	Base	5 times or more a week	2-4 times a week	Once a week	2-3 times a month	Once a month or less	p-value	
								Kruskal-Wallis test	Rank Correlation
Gender	Male	906	64.3%	19.6%	6.1%	2.0%	8.0%	<0.001	
	Female	1059	33.1%	31.0%	11.7%	6.4%	17.9%		
Age	18-24	250	54.9%	34.0%	4.0%	1.0%	6.1%		<0.001
	25-34	426	48.7%	26.5%	11.1%	3.8%	10.0%		
	35-44	454	45.6%	27.7%	9.9%	3.4%	13.4%		
	45-54	498	51.7%	21.8%	8.4%	4.6%	13.5%		
	55-64	319	35.8%	21.7%	10.9%	8.2%	23.4%		
Marital status	Never married	648	56.5%	26.9%	8.4%	2.4%	5.8%	<0.001	
	Married	1230	43.4%	25.7%	9.4%	5.2%	16.4%		
	Divorced/ Separated/ Widowed	84	37.5%	18.4%	10.6%	7.3%	26.2%		

Educational attainment	Primary or below	209	35.3%	18.6%	10.3%	8.1%	27.8%		<0.001
	Had not completed secondary	319	41.1%	20.4%	10.6%	6.0%	22.0%		
	Completed secondary (F5)	540	46.3%	26.4%	8.2%	5.1%	14.0%		
	Matriculation	180	45.2%	28.1%	11.5%	3.8%	11.4%		
	Tertiary or above	716	55.4%	29.0%	8.2%	2.1%	5.2%		
Occupation	Managerial/ Professional worker	500	61.6%	23.9%	7.6%	1.6%	5.3%	<0.001	
	Clerk	267	56.4%	23.6%	8.4%	3.4%	8.1%		
	Service worker	200	56.2%	17.9%	8.3%	3.1%	14.5%		
	Blue collar worker	256	62.1%	12.9%	6.5%	4.6%	13.9%		
	Non-working person	703	26.5%	34.2%	11.9%	6.4%	21.1%		
Monthly household income	Below $8,000	122	20.4%	25.6%	11.1%	8.3%	34.6%		<0.001
	$8,000-$13,999	250	36.5%	23.3%	10.6%	6.2%	23.4%		
	$14,000-$19,999	197	45.6%	24.4%	8.6%	3.3%	18.1%		
	$20,000-$39,999	558	50.9%	29.0%	7.4%	4.4%	8.3%		
	$40,000 or above	435	58.3%	24.5%	9.4%	1.4%	6.3%		
Type of living quarters	Public rental flats	632	45.0%	25.2%	6.3%	4.9%	18.6%	0.001	
	Subsidized sale flats	288	46.4%	20.9%	14.0%	5.1%	13.6%		
	Private housing	1021	49.5%	27.2%	9.6%	3.8%	9.9%		

4.8.3 Eating out for dinner

Statistically significant associations exist between the frequency of eating out for dinner during the thirty days prior to the survey and respondents' gender, age, marital status, educational attainment, occupation, monthly household income and type of living quarters.

A relatively higher proportion of male respondents (12.4%), those aged 18-34 (ranged from 11.8% to 12.0%), never married respondents (13.8%) or divorced/ separated/ widowed respondents (12.9%), those who had attained tertiary education or above (11.9%), service workers (14.6%), those who had monthly household income of $14,000 or above (ranged from 9.8% to 10.6%) and those living in private housing (11.1%) reported that they ate out for dinner 5 times or more during the thirty days prior to the survey when compared to their respective counterparts (Table 4.8.3).

Table 4.8.3: Frequency of eating out for dinner (Q19)

Variable	Level	Base	5 times or more a week	2-4 times a week	Once a week	2-3 times a month	Once a month or less	p-value	
								Kruskal-Wallis test	Rank Correlation
Gender	Male	916	12.4%	36.3%	15.6%	11.0%	24.7%	<0.001	
	Female	1082	6.9%	34.9%	17.3%	13.4%	27.4%		
Age	18-24	250	11.8%	42.4%	13.1%	8.4%	24.3%		<0.001
	25-34	429	12.0%	50.1%	16.9%	6.4%	14.6%		
	35-44	459	8.8%	38.0%	18.8%	11.7%	22.8%		
	45-54	510	9.4%	30.1%	17.5%	15.3%	27.7%		
	55-64	332	5.6%	17.0%	14.0%	19.0%	44.4%		
Marital status	Never married	653	13.8%	45.7%	14.6%	7.8%	18.1%	<0.001	
	Married	1253	6.9%	31.7%	17.8%	14.0%	29.6%		
	Divorced/ Separated/ Widowed	90	12.9%	16.4%	14.0%	21.9%	34.8%		
Educational attainment	Primary or below	220	2.6%	14.5%	11.2%	18.0%	53.7%		<0.001
	Had not completed secondary	327	7.4%	22.6%	13.6%	14.5%	42.0%		
	Completed secondary (F5)	549	10.0%	34.5%	16.3%	14.7%	24.5%		
	Matriculation	184	9.9%	31.7%	20.5%	10.9%	27.1%		
	Tertiary or above	718	11.9%	49.7%	18.7%	8.2%	11.4%		
Occupation	Managerial/ Professional worker	501	12.2%	49.3%	18.5%	8.5%	11.5%	<0.001	
	Clerk	269	12.6%	43.3%	16.4%	11.1%	16.6%		
	Service worker	201	14.6%	39.8%	11.9%	11.5%	22.2%		
	Blue collar worker	258	7.5%	19.9%	15.0%	14.4%	43.2%		
	Non-working person	731	5.8%	27.2%	17.2%	15.0%	34.8%		

Monthly household income	Below $8,000	128	6.1%	11.2%	14.0%	16.2%	52.5%		<0.001
	$8,000-$13,999	252	7.9%	24.0%	15.5%	13.7%	38.9%		
	$14,000-19,999	203	10.6%	30.4%	14.4%	14.2%	30.3%		
	$20,000-$39,999	561	9.9%	41.3%	13.9%	11.0%	23.9%		
	$40,000 or above	437	9.8%	47.8%	23.5%	9.5%	9.4%		
Type of living quarter	Public rental flats	651	7.4%	27.8%	13.5%	13.0%	38.4%	<0.001	
	Subsidized sale flats	293	7.2%	37.3%	18.6%	14.5%	22.3%		
	Private housing	1030	11.1%	40.4%	17.9%	11.1%	19.5%		

4.9 Eating habits in relation to salt

4.9.1 Requesting soy sauce/ seasoning to be separated from dishes when served

The dietary habit of requesting soy sauce/ seasoning to be separated from dishes when served during the thirty days prior to the survey when eating out is associated significantly with respondents' gender, age, marital status, educational attainment and occupation.

When eating out, male respondents (74.5%), those aged 18-34 (ranged from 75.0% to 75.7%), never married respondents (73.1%) or divorced/ separated/ widowed respondents (72.9%), those who had educational attainment of matriculation or above (ranged from 72.0% to 72.4%) and blue collar workers (76.7%) were more likely than their respective counterparts to never request soy sauce/ seasoning to be separated from dishes when served during thirty days prior to the survey (Table 4.9.1).

Table 4.9.1: Requesting soy sauce/ seasoning to be separated from dishes when served (Q20)

Variable	Level	Base	Never	Seldom	Sometimes	Often	Always	p-value	
								Kruskal-Wallis test	Rank Correlation
Gender	Male	901	74.5%	7.8%	5.6%	6.5%	5.5%	<0.001	
	Female	1023	64.0%	11.7%	7.7%	7.7%	8.9%		
Age	18-24	246	75.0%	10.6%	7.9%	2.7%	3.8%		<0.001
	25-34	416	75.7%	11.5%	4.5%	4.9%	3.5%		
	35-44	444	69.3%	9.3%	6.3%	7.2%	7.8%		
	45-54	493	62.6%	9.8%	8.4%	10.7%	8.4%		
	55-64	306	65.2%	8.5%	5.9%	8.5%	11.9%		
Marital status	Never married	644	73.1%	10.7%	6.7%	4.6%	4.8%	<0.001	
	Married	1194	66.5%	9.5%	6.8%	8.5%	8.8%		
	Divorced/ Separated/ Widowed	82	72.9%	8.3%	4.6%	8.4%	5.8%		

Educational attainment	Primary or below	201	67.4%	10.2%	7.4%	6.6%	8.4%		0.030
	Had not completed secondary	304	67.3%	10.7%	5.4%	7.6%	9.0%		
	Completed secondary (F5)	531	65.3%	10.6%	7.9%	7.4%	8.9%		
	Matriculation	179	72.4%	10.7%	4.3%	6.9%	5.7%		
	Tertiary or above	707	72.0%	8.6%	6.8%	7.1%	5.5%		
Occupation	Managerial/ Professional worker	491	69.1%	8.9%	6.2%	8.9%	6.9%	0.019	
	Clerk	262	73.0%	5.6%	7.1%	7.3%	7.0%		
	Service worker	194	62.1%	12.4%	8.2%	7.5%	9.8%		
	Blue collar worker	247	76.7%	8.9%	4.0%	4.9%	5.5%		
	Non-working person	691	66.2%	11.4%	7.3%	7.1%	8.1%		

4.9.2 Adding salt, soy sauce, oyster sauce, ketchup, chilli sauce, bean chilli paste or other seasonings containing salt to food

The dietary habit of adding salt, soy sauce, oyster sauce, ketchup, chilli sauce, bean chilli paste or other seasonings containing salt to food when eating out during the thirty days prior to the survey is associated significantly with respondents' age, marital status and educational attainment.

When eating out, respondents who were aged 18-44 (ranged from 52.4% to 53.1%), never-married respondents (51.1%), and divorced/ separated/ widowed respondents (51.6%) were less likely than their respective counterparts to report that they never add salt, soy sauce, oyster sauce, ketchup, chilli sauce, bean chilli paste or other seasonings containing salt to food during the thirty days prior to the survey. Also, the higher the educational attainment of respondents, the less likely that they had never added the above seasonings containing salt to food when eating out during the thirty days prior to the survey (Table 4.9.2).

Table 4.9.2: Adding salt, soy sauce, oyster sauce, ketchup, chilli sauce, bean chilli paste or other seasonings containing salt to food (Q21)

Variable	Level	Base	Never	Seldom	Sometimes	Often	Always	p-value	
								Kruskal-Wallis test	Rank Correlation
Age	18-24	249	52.4%	24.9%	14.8%	5.1%	2.7%		<0.001
	25-34	418	52.2%	29.9%	12.1%	3.9%	1.8%		
	35-44	448	53.1%	23.9%	14.9%	4.6%	3.5%		
	45-54	501	57.9%	21.9%	12.3%	4.9%	3.0%		
	55-64	317	66.3%	17.5%	6.1%	7.1%	2.9%		
Marital status	Never married	647	51.1%	28.6%	14.0%	4.1%	2.1%	0.001	
	Married	1218	59.4%	21.7%	10.6%	5.5%	2.9%		
	Divorced/ Separated/ Widowed	84	51.6%	17.5%	19.0%	5.5%	6.4%		
Educational attainment	Primary or below	207	64.2%	15.1%	12.0%	4.7%	4.0%		0.033
	Had not completed secondary	311	58.9%	19.8%	11.2%	6.7%	3.4%		
	Completed secondary (F5)	537	56.7%	22.3%	12.2%	5.8%	3.0%		
	Matriculation	180	56.1%	26.0%	10.0%	4.8%	3.1%		
	Tertiary or above	716	52.8%	28.4%	12.9%	3.8%	2.0%		

4.9.3 Requesting rice with 'siu-mei' or steamed rice with some meat in pot to be served without adding 'siu-mei' sauce/ soy sauce

The eating out habit of requesting rice with 'siu-mei' or steamed rice with some meat in pot to be served without adding 'siu-mei' sauce/ soy sauce during the thirty days prior to the survey is associated significantly with respondents' gender, age, marital status, educational attainment, occupation and monthly household income.

When eating out, male respondents (78.7%), never married respondents (80.1%), those with educational attainment of matriculation or above (ranged from 76.9% to 77.7%) and clerks (78.3%) were more likely than their respective counterparts to report that they never requested rice with 'siu-mei' or steamed rice with some meat in pot to be served without adding 'siu-mei' sauce/ soy sauce during the thirty days prior to the survey. Also, the younger and the higher the monthly household income of the respondents, the more likely that they had never had the practice (Table 4.9.3).

Table 4.9.3: Requesting rice with 'siu-mei' or steamed rice with some meat in pot to be served without adding 'siu-mei' sauce/ soy sauce (Q22)

Variable	Level	Base	Never	Seldom	Some-times	Often	Always	p-value	
								Kruskal-Wallis test	Rank Correlation
Gender	Male	817	78.7%	10.4%	3.3%	3.0%	4.5%	<0.001	
	Female	866	63.3%	12.1%	6.8%	6.3%	11.4%		
Age	18-24	219	80.0%	10.0%	2.3%	4.2%	3.4%		<0.001
	25-34	384	78.0%	11.1%	5.1%	1.7%	4.1%		
	35-44	394	74.6%	12.3%	4.5%	4.2%	4.5%		
	45-54	416	62.7%	12.0%	7.0%	6.9%	11.4%		
	55-64	256	59.8%	10.0%	5.7%	6.6%	17.9%		
Marital status	Never married	575	80.1%	9.7%	3.7%	2.4%	4.2%	<0.001	
	Married	1038	66.3%	12.1%	5.7%	5.9%	10.0%		
	Divorced/ Separated/ Widowed	67	62.6%	11.3%	8.7%	5.7%	11.6%		

Educational attainment	Primary or below	168	58.5%	11.5%	8.2%	7.7%	14.2%		<0.001
	Had not completed secondary	256	69.2%	7.6%	6.3%	5.7%	11.2%		
	Completed secondary (F5)	478	65.8%	13.2%	7.1%	4.7%	9.2%		
	Matriculation	151	77.7%	10.3%	2.1%	4.6%	5.2%		
	Tertiary or above	628	76.9%	11.4%	3.0%	3.6%	5.1%		
Occupation	Managerial/ Professional worker	432	73.9%	12.0%	3.6%	4.1%	6.5%	<0.001	
	Clerk	239	78.3%	8.2%	4.4%	2.7%	6.5%		
	Service worker	170	70.9%	12.0%	5.8%	4.4%	6.8%		
	Blue collar worker	212	74.3%	9.4%	3.6%	4.7%	7.9%		
	Non-working person	594	63.6%	12.9%	6.7%	6.4%	10.5%		
Monthly household income	Below $8,000	94	60.2%	10.9%	4.2%	10.0%	14.8%		0.014
	$8,000-$13,999	221	68.1%	13.2%	6.3%	3.8%	8.6%		
	$14,000-19,999	177	70.3%	12.5%	6.2%	3.9%	7.1%		
	$20,000-$39,999	483	71.5%	10.0%	5.5%	5.6%	7.5%		
	$40,000 or above	375	73.0%	13.3%	4.5%	3.3%	6.0%		

4.9.4 Frequency of eating snacks with high salt content

The number of days eating snacks with high salt content per week during the thirty days prior to the survey is associated significantly with respondents' gender, age, marital status and educational attainment.

Female respondents (12.0%), those who were aged 18-34 (ranged from 14.2% to 15.8%), never-married respondents (14.9%) and those with educational attainment of matriculation (15.3%) were more likely to report that they eat snack with high salt content three or more days per week during the thirty days prior to the survey when compared with their respective counterparts (Table 4.9.4).

Table 4.9.4: Average number of days eating snacks with high salt content per week (Q24)

Variable	Level	Base	Less than 1 day per week	1 day per week	2 days per week	3 or more days per week	p-value	
							Kruskal-Wallis test	Rank Correlation
Gender	Male	519	37.8%	36.7%	15.8%	9.8%	0.016	
	Female	660	45.1%	30.5%	12.4%	12.0%		
Age	18-24	192	27.6%	32.9%	23.7%	15.8%		<0.001
	25-34	296	30.2%	40.4%	15.2%	14.2%		
	35-44	292	44.1%	33.0%	14.7%	8.3%		
	45-54	277	54.6%	29.1%	7.5%	8.8%		
	55-64	112	58.3%	25.1%	8.7%	7.8%		
Marital status	Never married	476	30.2%	35.3%	19.5%	14.9%	<0.001	
	Married	662	49.7%	31.8%	10.2%	8.3%		
	Divorced/ Separated/ Widowed	39	46.6%	34.7%	8.2%	10.4%		
Educational attainment	Primary or below	82	57.1%	24.6%	7.1%	11.1%		<0.001
	Had not completed secondary	163	55.7%	25.4%	11.9%	6.9%		
	Completed secondary (F5)	317	41.3%	36.3%	10.8%	11.6%		
	Matriculation	113	32.0%	36.9%	15.7%	15.3%		
	Tertiary or above	503	37.4%	34.4%	17.2%	11.0%		

4.10 Heat stroke and sunburn

4.10.1 Whether had heat stroke

Whether the respondents had heat stroke during the twelve months prior to the survey is significantly associated with marital status.

Divorced/ separated/ widowed respondents (5.3%) were more likely than never married and married respondents to report that they had heat stroke during the twelve months prior to the survey (Table 4.10.1).

Table 4.10.1 Whether had heat stroke in the past twelve months (Q25)

Variable	Level	Base	Yes	No	p-value Chi-square test
Marital status	Never married	655	2.6%	97.4%	0.033
	Married	1263	1.6%	98.4%	
	Divorced/ Separated/ Widowed	91	5.3%	94.7%	

4.10.2 Whether had sunburn

Whether the respondents had sunburn during the twelve months prior to the survey is significantly associated with gender, age, marital status, educational attainment, occupation and type of living quarters.

Male respondents (14.3%), respondents who were aged 18-34 (ranged from 14.4% to 17.3%), never-married respondents (16.6%), those with tertiary educational level or above (14.5%), managerial/ professional workers (13.0%) or blue collar workers (11.3%) and those living in the subsidized sale flats (12.4%) or public rental flats (11.2%) were more likely than their respective counterparts to report that they had sunburn during the twelve months prior to the survey (Table 4.10.2).

Table 4.10.2 Whether had sunburn in the past twelve months (Q27)

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
Gender	Male	922	14.3%	85.7%	<0.001	
	Female	1091	6.1%	93.9%		
Age	18-24	251	14.4%	85.6%		<0.001
	25-34	429	17.3%	82.7%		
	35-44	465	7.5%	92.5%		
	45-54	516	6.5%	93.5%		
	55-64	334	5.6%	94.4%		
Marital status	Never married	655	16.6%	83.4%	<0.001	
	Married	1263	6.7%	93.3%		
	Divorced / Separated/ Widowed	91	4.3%	95.7%		
Educational attainment	Primary or below	220	6.7%	93.3%		<0.001
	Had not completed secondary	335	8.2%	91.8%		
	Completed secondary (F5)	551	6.2%	93.8%		
	Matriculation	186	9.2%	90.8%		
	Tertiary or above	720	14.5%	85.5%		
Occupation	Managerial / Professional worker	502	13.0%	87.0%	0.025	
	Clerk	270	9.3%	90.7%		
	Service worker	206	7.1%	92.9%		
	Blue collar worker	259	11.3%	88.7%		
	Non-working person	736	8.0%	92.0%		
Type of living quarters	Public rental flats	655	11.2%	88.8%	0.040	
	Subsidized sale flats	295	12.4%	87.6%		
	Private housing	1038	8.3%	91.7%		

4.11 Oral health practices

4.11.1 Brushing teeth

The frequency of brushing teeth is associated significantly with respondents' gender, educational attainment, occupation, monthly household income and type of living quarters.

Male respondents (22.9%), those who had not completed secondary education or below (ranged from 21.8% to 21.9%), blue collar workers (25.5%), those with monthly household income of below $8,000 (31.2%) and those living in public rental flats (20.3%) were more likely than their respective counterparts to report that they brushed their teeth 1 time or less a day (Table 4.11.1)

Table 4.11.1: Frequency of brushing teeth (Q34)

Variable	Level	Base	1 time or less per day (including never)	2 times per day	More than 2 times per day	p-value	
						Kruskal-Wallis test	Rank Correlation
Gender	Male	920	22.9%	75.2%	2.0%	<0.000	
	Female	1091	9.8%	85.6%	4.6%		
Educational attainment	Primary or below	220	21.8%	75.3%	2.9%		0.002
	Had not completed secondary	335	21.9%	75.5%	2.7%		
	Completed secondary (F5)	550	15.5%	80.3%	4.2%		
	Matriculation	186	11.9%	83.4%	4.7%		
	Tertiary or above	720	12.4%	84.7%	2.9%		
Occupation	Managerial/ Professional worker	502	13.5%	83.7%	2.8%	<0.001	
	Clerk	270	10.2%	87.9%	2.0%		
	Service worker	204	18.5%	79.1%	2.4%		
	Blue collar worker	259	25.5%	72.6%	1.9%		
	Non-working person	736	15.1%	79.7%	5.2%		

Monthly household income	Below $8,000	130	31.2%	64.2%	4.6%		0.002
	$8,000-$13,999	255	17.2%	80.5%	2.3%		
	$14,000-$19,999	205	18.8%	77.1%	4.0%		
	$20,000-$39,999	564	13.3%	83.1%	3.6%		
	$40,000 or above	440	13.4%	83.2%	3.4%		
Type of living quarters	Public rental flats	654	20.3%	77.9%	1.8%	<0.001	
	Subsidized sale flats	295	12.4%	84.6%	3.0%		
	Private housing	1037	13.9%	81.7%	4.4%		

4.11.2 Using dental floss

The practice of using dental floss is associated significantly with respondents' gender, marital status, educational attainment, occupation, monthly household income and type of living quarters.

Male respondents (68.2%), divorced/ separated/ widowed respondents (66.9%), blue collar workers (77.2%) and those living in public rental flats (67.6%) were more likely than their respective counterparts to report that they had never used or did not currently use dental floss. Also, the lower the educational attainment and the monthly household income of the respondents, the more like they had never used or did not currently use dental floss (Table 4.11.2).

Table 4.11.2: Frequency of using dental floss (Q35)

Variable	Level	Base	Never / do not currently use	Less than 1 time per day	1 time per day	More than 1 time per day	p-value	
							Kruskal-Wallis test	Rank Correlation
Gender	Male	921	68.2%	10.9%	14.4%	6.4%	<0.001	
	Female	1091	52.5%	13.7%	22.7%	11.1%		
Marital status	Never married	655	62.3%	14.1%	16.9%	6.6%	0.003	
	Married	1262	58.0%	11.7%	20.5%	9.9%		
	Divorced/ Separated/Widowed	91	66.9%	10.1%	10.3%	12.7%		
Educational attainment	Primary or below	220	73.0%	6.5%	12.5%	8.0%		<0.001
	Had not completed secondary	335	67.2%	12.2%	13.4%	7.2%		
	Completed secondary (F5)	551	57.9%	11.4%	20.1%	10.6%		
	Matriculation	186	56.6%	14.0%	19.5%	9.9%		
	Tertiary or above	719	54.4%	14.8%	22.3%	8.6%		
Occupation	Managerial/ Professional worker	501	54.8%	13.9%	22.7%	8.6%	<0.001	
	Clerk	270	50.8%	15.1%	26.1%	8.1%		
	Service worker	206	62.8%	14.1%	16.5%	6.6%		
	Blue collar worker	259	77.2%	5.6%	11.7%	5.5%		
	Non-working person	736	60.1%	11.6%	17.3%	10.9%		
Monthly household income	Below $8,000	130	72.1%	9.6%	9.9%	8.5%		<0.001
	$8,000-$13,999	255	69.6%	8.2%	13.8%	8.5%		
	$14,000-$19,999	205	62.6%	14.0%	14.7%	8.6%		
	$20,000-$39,999	564	59.7%	13.2%	19.5%	7.6%		
	$40,000 or above	439	50.9%	13.3%	26.5%	9.3%		
Type of living quarters	Public rental flats	654	67.6%	11.3%	13.1%	8.0%	<0.001	
	Subsidized sale flats	295	60.4%	12.6%	21.1%	5.9%		
	Private housing	1038	54.7%	12.8%	22.3%	10.2%		

4.11.3 Oral health status

The self perception of oral health status is associated significantly with respondents' gender, educational attainment, occupation, monthly household income and type of living quarters.

Male respondents (9.4%), blue collar workers (14.7%), those with monthly household income of below $8,000 (10.8%) and those living in subsidized sale flats (9.2%) were more likely than their respective counterparts to report that their oral health status was 'poor' or 'very poor'. Also, the lower the educational attainment of the respondents, the more likely that they reported that their oral health status was 'poor' or 'very poor' (Table 4.11.3).

Table 4.11.3: Perception about oral health status (Q36)

Variable	Level	Base	Good and Very good	Fair	Poor and Very poor	p-value	
						Kruskal-Wallis test	Rank Correlation
Gender	Male	921	30.8%	59.7%	9.4%	0.019	
	Female	1089	36.6%	56.3%	7.0%		
Educational attainment	Primary or below	220	25.7%	58.5%	15.8%		<0.001
	Had not completed secondary	335	27.4%	61.9%	10.6%		
	Completed secondary (F5)	549	32.4%	60.0%	7.6%		
	Matriculation	186	36.4%	57.6%	6.0%		
	Tertiary or above	718	40.2%	54.3%	5.6%		
Occupation	Managerial/ Professional worker	501	39.0%	54.2%	6.8%	<0.001	
	Clerk	270	33.8%	61.4%	4.8%		
	Service worker	206	29.9%	59.7%	10.4%		
	Blue collar worker	259	25.0%	60.3%	14.7%		
	Non-working person	736	34.9%	57.8%	7.3%		
Monthly household income	Below $8,000	130	32.1%	57.0%	10.8%		<0.001
	$8,000-$13,999	255	24.7%	66.9%	8.4%		
	$14,000-$19,999	205	30.8%	60.0%	9.1%		
	$20,000-$39,999	564	32.5%	58.3%	9.2%		
	$40,000 or above	439	43.9%	49.4%	6.7%		
Type of living quarters	Public rental flats	655	28.0%	63.1%	8.9%	<0.001	
	Subsidized sale flats	295	31.9%	58.9%	9.2%		
	Private housing	1037	38.4%	54.1%	7.5%		

4.11.4 Regular dental checkups

The habit of having a regular dental checkup is associated significantly with respondents' gender, educational attainment, occupation, monthly household income and type of living quarters.

Male respondents (53.2%), blue-collar workers (70.5%) and those living in public rental flats (67.5%) were more likely than their respective counterparts to report not having regular dental checkups. Also, the lower the monthly household income and the educational attainment of respondents, the more likely that they did not have regular dental checkups (Table 4.11.4).

Table 4.11.4: The habit of having regular dental checkups (Q37)

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
Gender	Male	922	46.8%	53.2%	0.009	
	Female	1091	52.6%	47.4%		
Educational attainment	Primary or below	220	32.0%	68.0%		<0.001
	Had not completed secondary	335	35.0%	65.0%		
	Completed secondary (F5)	551	49.4%	50.6%		
	Matriculation	186	51.4%	48.6%		
	Tertiary or above	720	62.5%	37.5%		
Occupation	Managerial/ Professional worker	502	68.6%	31.4%	<0.001	
	Clerk	270	53.0%	47.0%		
	Service worker	206	46.4%	53.6%		
	Blue collar worker	259	29.5%	70.5%		
	Non-working person	736	43.4%	56.6%		
Monthly household income	Below $8,000	130	25.5%	74.5%		<0.001
	$8,000-$13,999	255	32.4%	67.6%		
	$14,000-$19,999	205	45.3%	54.7%		
	$20,000-$39,999	564	54.7%	45.3%		
	$40,000 or above	440	68.8%	31.2%		
Type of living quarters	Public rental flats	655	32.5%	67.5%	<0.001	
	Subsidized sale flats	295	50.2%	49.8%		
	Private housing	1038	61.0%	39.0%		

4.11.5 Frequency of having regular dental checkups

Frequency of having regular dental checkups is associated significantly with respondents' age, educational attainment, monthly household income and type of living quarters.

Among those who claimed to have regular dental checkups, respondents aged 45-54 (9.5%), those with educational attainment of primary or below (12.8%) or matriculation level (11.4%), those with monthly household income of $19,999 or below (ranged from 10.0% to 11.7%) and those living in subsidized sale flats (12.2%) were more likely than their respective counterparts to have regular dental checkups less than once a year (Table 4.11.5).

Table 4.11.5: Frequency of having regular dental checkups (Q38)

Variable	Level	Base	More than once a year	Once a year	Less than once a year	p-value	
						Kruskal-Wallis test	Rank Correlation
Age	18-24	109	36.1%	60.8%	3.1%		<0.001
	25-34	223	31.7%	59.4%	8.9%		
	35-44	246	29.8%	62.4%	7.8%		
	45-54	272	23.7%	66.8%	9.5%		
	55-64	144	24.4%	67.6%	8.0%		
Educational attainment	Primary or below	70	22.5%	64.6%	12.8%		<0.001
	Had not completed secondary	117	20.1%	70.2%	9.6%		
	Completed secondary (F5)	273	30.4%	62.4%	7.3%		
	Matriculation	96	23.4%	65.2%	11.4%		
	Tertiary or above	448	31.4%	62.2%	6.4%		
Monthly household income	Below $8,000	33	28.2%	60.5%	11.3%		0.004
	$8,000-$13,999	83	25.9%	64.1%	10.0%		
	$14,000-$19,999	93	19.1%	69.3%	11.7%		
	$20,000-$39,999	309	27.4%	65.8%	6.7%		
	$40,000 or above	303	32.9%	60.4%	6.7%		
Type of living quarters	Public rental flats	213	27.1%	66.4%	6.5%	0.005	
	Subsidized sale flats	148	21.5%	66.3%	12.2%		
	Private housing	633	30.4%	62.2%	7.3%		

4.12 Prevalence of haemorrhoids

4.12.1 Whether had haemorrhoids at the time of survey

Whether the respondents had haemorrhoids at the time of survey is significantly associated with respondents' age, marital status, educational attainment, monthly household income and type of living quarters.

Married respondents (17.1%), those with educational attainment of not having completed secondary school or below (ranged from 18.1% to 20.2%) and those living in public rental flats (16.1%) were more likely than their respective counterparts to report that they had haemorrhoids. Also, the older and the lower the monthly household income of the respondents, the more likely that they had haemorrhoids (Table 4.12.1).

Table 4.12.1: Whether had haemorrhoids at the time of survey (Q39)

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
Age	18-24	250	2.4%	97.6%		<0.001
	25-34	429	9.5%	90.5%		
	35-44	458	15.5%	84.5%		
	45-54	515	16.4%	83.6%		
	55-64	331	19.6%	80.4%		
Marital status	Never married	652	6.6%	93.4%	<0.001	
	Married	1258	17.1%	82.9%		
	Divorced/ Separated/ Widowed	89	14.1%	85.9%		
Educational attainment	Primary or below	219	18.1%	81.9%		<0.001
	Had not completed secondary	332	20.2%	79.8%		
	Completed secondary (F5)	547	14.2%	85.8%		
	Matriculation	184	7.0%	93.0%		
	Tertiary or above	718	10.2%	89.8%		
Monthly household income	Below $8,000	130	17.1%	82.9%		0.038
	$8,000-$13,999	253	16.6%	83.4%		
	$14,000-$19,999	205	16.0%	84.0%		
	$20,000-$39,999	560	12.7%	87.3%		
	$40,000 or above	439	12.5%	87.5%		
Type of living quarters	Public rental flats	653	16.1%	83.9%	0.036	
	Subsidized sale flats	290	10.3%	89.7%		
	Private housing	1034	12.9%	87.1%		

4.12.2 Frequency of having haemorrhoid flare ups

The frequency of having haemorrhoid flare ups (i.e. having intense anal pain or bleeding) during the twelve months prior to the survey is significantly associated with the respondents' gender and age.

Male respondents (28.7%) and those aged 18-34 (23.8%) or 45-54 (22.0%) were more likely than their respective counterparts to report that they had haemorrhoid flare ups more than 5 times during the twelve months prior to the survey (Table 4.12.2).

Table 4.12.2: Frequency of having haemorrhoid flare ups during the twelve months prior to the survey (Q40)

Variable	Level	Base	No time	Once	Twice	3-5 times	More than 5 times	p-value	
								Kruskal-Wallis test	Rank Correlation
Gender	Male	113	30.4%	13.4%	11.7%	15.7%	28.7%	<0.001	
	Female	157	52.3%	10.9%	13.0%	11.3%	12.5%		
Age	18-34	47	34.0%	16.2%	17.5%	8.6%	23.8%		0.027
	35-44	71	39.9%	12.4%	9.5%	20.3%	17.9%		
	45-54	84	43.0%	11.6%	13.7%	9.7%	22.0%		
	55-64	64	53.5%	9.6%	11.1%	12.4%	13.4%		

4.13 Cervical screening (for female respondents only)

4.13.1 Experience of cervical screening

The experience of cervical screening is associated significantly with female respondents' age, marital status, educational attainment, monthly household income and type of living quarters.

Women aged 35-54 (ranged from 79.6% to 80.1%), married respondents (80.2%), those with educational attainment of having completed secondary school (F5) or below (ranged 68.6% to 73.3%), those who had monthly household income of $40,000 or above (71.8%) and those living in subsidized sale flats (70.6%) or private housing (66.4%) were more likely than their respective counterparts to have had a cervical smear (Table 4.13.1).

Table 4.13.1: Ever had cervical smear before (Q41)

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
Age	18-24	127	5.9%	94.1%		<0.001
	25-34	246	50.3%	49.7%		
	35-44	265	80.1%	19.9%		
	45-54	266	79.6%	20.4%		
	55-64	166	72.1%	27.9%		
Marital status	Never married	311	21.5%	78.5%	<0.001	
	Married	709	80.2%	19.8%		
	Divorced/ Separated/ Widowed	63	73.9%	26.1%		
Educational attainment	Primary or below	142	70.8%	29.2%		<0.001
	Had not completed secondary	183	73.3%	26.7%		
	Completed secondary (F5)	330	68.6%	31.4%		
	Matriculation	103	44.3%	55.7%		
	Tertiary or above	326	54.1%	45.9%		
Monthly household income	Below $8,000	81	59.7%	40.3%		0.019
	$8,000-$13,999	156	59.0%	41.0%		
	$14,000-$19,999	98	60.0%	40.0%		
	$20,000-$39,999	291	63.1%	36.9%		
	$40,000 or above	222	71.8%	28.2%		
Type of living quarters	Public rental flats	352	54.8%	45.2%	<0.001	
	Subsidized sale flats	162	70.6%	29.4%		
	Private housing	560	66.4%	33.6%		

4.13.2 Time since last cervical smear

Among those females who have had a cervical smear before, the time since their last cervical smear is significantly associated with their age, educational attainment and monthly household income.

Of those females who have had a cervical smear before, a relatively higher proportion of respondents with monthly household income of $40,000 or above (59.4%) reported that they had their last smear within 12 months when compared with their respective counterparts. Also, the younger or the higher the educational attainment of the respondents, the more likely that they had had their last smear within 12 months (Table 4.13.2).

Table 4.13.2: Length of time since last cervical smear (Q42)

Variable	Level	Base	1-12 months	13-36 months	37 months and above	p-value Rank Correlation
Age	18-24	7	75.0%	25.0%	0.0%	<0.001
	25-34	122	61.9%	29.3%	8.8%	
	35-44	210	58.4%	31.3%	10.3%	
	45-54	209	51.2%	36.7%	12.1%	
	55-64	117	37.7%	38.3%	23.9%	
Educational attainment	Primary or below	99	44.3%	39.9%	15.7%	0.009
	Had not completed secondary	130	47.3%	38.6%	14.1%	
	Completed secondary (F5)	222	54.8%	32.5%	12.6%	
	Matriculation	46	56.7%	27.4%	16.0%	
	Tertiary or above	176	59.1%	31.0%	9.9%	
Monthly household income	Below $8,000	46	41.4%	40.6%	18.1%	0.025
	$8,000-$13,999	92	54.7%	30.8%	14.5%	
	$14,000-$19,999	58	48.7%	38.1%	13.3%	
	$20,000-$39,999	182	52.5%	35.9%	11.7%	
	$40,000 or above	159	59.4%	31.5%	9.1%	

4.13.3 Regular cervical smear test

Among those females who have had a cervical smear before, whether they had the cervical smear at a regular interval is associated significantly with their age, educational attainment and monthly household income.

Of those females who have had a cervical smear before, respondents aged 35-44 (76.8%), those who had tertiary educational attainment or above (76.7%) and those with monthly household income of $40,000 or above (79.3%) were more likely than their respective counterparts to report that they had the smear at a regular interval (Table 4.13.3).

Table 4.13.3: Whether had had cervical smear at a regular interval (Q43)

Variable	Level	Base	Yes, at a regular interval	No, not at a regular interval	p-value Kruskal-Wallis test
Age	18-24	8	66.7%	33.3%	0.002
	25-34	124	67.9%	32.1%	
	35-44	213	76.8%	23.2%	
	45-54	212	69.9%	30.1%	
	55-64	119	60.4%	39.6%	
Educational attainment	Primary or below	101	66.9%	33.1%	0.020
	Had not completed secondary	134	62.9%	37.1%	
	Completed secondary (F5)	226	70.9%	29.1%	
	Matriculation	46	69.7%	30.3%	
	Tertiary or above	176	76.7%	23.3%	
Monthly household income	Below $8,000	48	56.4%	43.6%	<0.001
	$8,000-$13,999	92	68.3%	31.7%	
	$14,000-$19,999	59	64.4%	35.6%	
	$20,000-$39,999	184	73.6%	26.4%	
	$40,000 or above	159	79.3%	20.7%	

4.13.4 Frequency of having cervical smear

Among those females who have had a cervical smear at a regular interval, the frequency of having a cervical smear is associated significantly with their marital status, educational attainment, occupation, monthly household income and type of living quarters.

Of those females who have had a cervical smear at a regular interval, never married respondents (84.9%), those with educational attainment of matriculation or above (ranged from 69.1% to 71.1%), clerks (69.6%) or managerial/ professional workers (69.5%), those with monthly household income of $40,000 or above (69.4%) and those living in subsidized sale flats (68.9%) were more likely than their respective counterparts to report that they had the cervical smear test at least once a year (Table 4.13.4).

Table 4.13.4: Frequency of having cervical smear (Q44)

Variable	Level	Base	At least once a year	Once every 2 years	Once every 3-5 years	p-value	
						Kruskal-Wallis test	Rank Correlation
Marital status	Never married	41	84.9%	12.6%	2.5%	0.002	
	Married	402	62.6%	18.8%	18.7%		
	Divorced/ Separated/ Widowed	32	39.5%	34.5%	26.0%		
Educational attainment	Primary or below	66	46.8%	23.0%	30.2%		<0.001
	Had not completed secondary	84	56.4%	20.3%	23.3%		
	Completed secondary (F5)	159	65.9%	14.9%	19.2%		
	Matriculation	32	71.1%	21.1%	7.8%		
	Tertiary or above	134	69.1%	21.6%	9.4%		

Occupation	Managerial/ Professional worker	111	69.5%	21.5%	9.0%	0.019	
	Clerk	67	69.6%	20.8%	9.7%		
	Service worker	49	64.7%	19.2%	16.0%		
	Blue collar worker	28	41.2%	23.3%	35.4%		
	Non-working person	214	59.0%	17.2%	23.8%		
Monthly household income	Below $8,000	27	46.8%	22.0%	31.2%		<0.001
	$8,000-$13,999	63	53.7%	14.8%	31.5%		
	$14,000-$19,999	38	50.9%	23.0%	26.1%		
	$20,000-$39,999	134	64.3%	20.6%	15.1%		
	$40,000 or above	125	69.4%	19.7%	10.9%		
Type of living quarters	Public rental flats	126	54.0%	21.2%	24.8%	0.003	
	Subsidized sale flats	88	68.9%	13.0%	18.1%		
	Private housing	259	65.2%	20.5%	14.3%		

Chapter 5 Conclusion and Recommendations

5.1 Conclusion

5.1.1 Weight status

Using the World Health Organization (WHO)'s standard Asian classification of weight status, about half (48.8%) of the respondents were classified as "normal", 21.7% of the respondents were classified as "obese" and 18.7% were regarded as "overweight", while the remaining (10.8%) were classified as "underweight".

Regarding respondents' self-perceived current weight status, close to half (49.3%) of the respondents perceived themselves as "just right". In addition, 41.8% considered themselves as "overweight" while 8.9% considered themselves as "underweight". Females, the older respondents (aged 35 years or above), married or divorced/ separated/ widowed respondents and those with educational attainment of not having completed secondary school or below were more likely to view themselves as "overweight". Overall, 64.7% of the respondents perceived their weight status in a way consistent with the WHO's weight status classification for Asians, while 19.2% of the respondents overestimated and 16.1% of them underestimated their weight status.

5.1.2 Physical activities and leisure-time exercises

For people of all ages, genders and bodily conditions, regular physical activity improves health[46]. However, this survey revealed that over half (54.6%) of the respondents had not engaged in any moderate physical activity for at least 10 minutes a day and over three-fifths (61.6%) of respondents had not engaged in any vigorous physical activity for at least 10 minutes a day during the seven days prior to the survey. Overall, 18.1% of respondents reported that they had at least 30 minutes of moderate physical activity, or at least 20 minutes of vigorous physical activity, on 5 or more days a week.

Walking was the most common form of physical activity - 67.4% of the respondents had spent at least 10 minutes on walking every day during the seven days prior to the survey. On the other hand, the survey also revealed that over one-fifth (20.9%) of the respondents sat 10 or more hours per day during weekdays (Monday to Friday) in the seven days prior to the survey.

Overall, nearly two-thirds (64.2%) of the respondents' level of physical activity did not attain the WHO's recommended physical activity level for adults[47] ,

[46] "Fact Sheet on Physical Activity", Department of Health. (http://www.dh.gov.hk/english/useful/useful_dykt/useful_dykt_exercise.html)
[47] Global Recommendations on Physical activity for Health, WHO. (http://www.who.int/dietphysicalactivity/factsheet_recommendations/en/index.html)

Concerning leisure-time exercise, about two-fifths (42.8%) of the respondents reported that they exercised less than once a month in their leisure-time. On the other hand, 15.0% of respondents reported that they exercised 4 times or more a week and 31.3% exercised 1 to 3 times a week in their leisure-time. Females, older respondents, married respondents and divorced/ separated/ widowed respondents, respondents with lower educational attainment, blue collar workers and those with monthly household income below $14,000 were more likely to exercise less than once a month in leisure-time than their respective counterparts.

5.1.3 Fruit and vegetable consumption

Eating enough fruit and vegetables has many health benefits. Adequate consumption of fruit and vegetables as part of the daily diet could help prevent major non-communicable diseases (NCD) such as cardiovascular diseases and certain cancers. Eating a variety of fruit and vegetables could ensure an adequate intake of most micronutrients and dietary fibre.

While more than half (53.8%) of the respondents had eaten fruit every day, most respondents (80.5%) had eaten vegetables daily. Regular fruit or vegetable juice consumption was found to be uncommon amongst respondents, as only 2.2% of the respondents drank fruit or vegetable juice daily.

Excluding juice, the average daily intake of fruit and vegetables by the respondents was only 3.3 servings. About one-fifth (19.1%) of the respondents had a daily intake of 5 or more servings of fruit and vegetables per day. Females, those aged 55-64, divorced/ separated/ widowed respondents, non-working respondents and those living in private housing were more likely to have consumed at least the recommended 5 servings of fruit and vegetables a day.

5.1.4 Consumption soft drinks and sugary beverages

The risk of overweight and obesity increases with excessive energy intake from soft drinks and sugary beverages. Around one-tenth of the respondents (11.7%) drank pre-packaged soft drinks and sugary beverages every day. On average, 2.1% of respondents consumed three cups or more of soft drinks and sugary beverages per day and nearly one-seventh (13.4%) of the respondents consumed one to less than three cups of soft drinks and sugary beverages per day. Male respondents, those aged 35-44, divorced/ separated/ widowed respondents, service workers and blue collar workers were more likely to have consumed 3 or more cups of soft drinks and sugary beverages per day.

5.1.5 Smoking habits

More than one-eighth (13.8%) of the respondents were current smokers at the time of this survey. Among the current smokers, the vast majority (94.8%) of them were daily smokers. A relatively higher proportion of current smokers who reported smoking more than 20 cigarettes a day were found amongst male respondents, those aged 18-24 or 45-54, those who had not completed secondary education, service workers, those with monthly household income of $8,000-$19,999 and those living in public rental flats.

5.1.6 Pattern of alcohol consumption

More than one-third of the respondents (34.9%) were drinkers who had drunk at least one alcoholic drink during the thirty days prior to the survey. On the whole, drinking during the thirty days prior to the survey was more prevalent among males, those aged 25-34, never married respondents, those with tertiary educational attainment or above, managerial/ professional workers and those with monthly household income of $14,000-$19,999 or above $39,999.

Among the drinkers who had drunk alcohol during the thirty days prior to the survey, more than one-fifth (20.6%) of them reported that they had engaged in binge drinking (drinking 5 or more glasses/ cans of alcohol on one occasion) at least once during the thirty days prior to the survey. Binge drinking was more common among males, never married respondents or divorced/ separated/ widowed respondents, service workers and those who lived in public rental flats.

Also among the drinkers who had drunk alcohol during the thirty days prior to the survey, 16.6% of respondents reported that they had drunk so much that they exhibited signs of drunkenness. Drunkenness was more common among males, those aged 18-24, divorced/ separated/ widowed respondents and service workers.

5.1.7 Eating out habits

More than a quarter of the respondents (28.5%) ate out for breakfast 5 times or more a week and nearly half (47.5%) of the respondents ate out for lunch 5 times or more a week during the thirty days prior to the survey. Males and blue collar workers were more likely to report so.

Less than one-tenth (9.4%) of the respondents ate out for dinner 5 times or more a week during the thirty days prior to the survey. A relatively higher proportion of male respondents, those aged 18-34, never-married respondents or divorced/ separated/ widowed respondents, those who had tertiary education or above, service workers, those with monthly income of $14,000-39,999 and those living in private housing were more likely to report so.

5.1.8 Eating habits in relation to salt

When eating out during the thirty days prior to the survey, nearly four-fifths (78.8%) of the respondents reported that they never or seldom requested soy sauce/ seasoning to be separated from dishes when served; more than four-fifths (82.1%) of respondents never or seldom requested rice with 'siu-mei' or steamed rice with some meat in pot to be served without adding 'siu-mei' sauce/ soy sauce. Males, never married respondents and those who had educational attainment of matriculation or above were more likely to never use the above two ways to reduce the consumption of seasoning. On the other hand, less than one-tenth (7.8%) of respondents had always or often added salt, soy sauce, oyster sauce, ketchup, chilli sauce, bean chilli paste or other seasonings containing salt to food.

During the thirty days prior to the survey, 3.9% of respondents had eaten preserved vegetables three or more days per week, while more than one-tenth (11.0%) of respondents had eaten snacks with high salt content three or more days per week. Females, those aged 18-34, never-married respondents and those with matriculation educational attainment were more likely to eat snacks with high salt content three or more days per week.

5.1.9 Heat stroke and sunburn

During the twelve months prior to the survey, 2.1% of the respondents had heat stroke and 9.9% had sunburn. The average numbers of times for having heat stroke and sunburn were 1.8 and 1.7 respectively.

5.1.10 Use of solarium

Only 0.9% of the respondents had ever used solarium. Among these users, 92.4% reported that they had not used solarium within the twelve months prior to the survey.

5.1.11 Oral health practices

Most respondents (84.2%) brushed their teeth at least twice a day. However, nearly three-fifths (59.7%) of the respondents had never used or did not currently use dental floss. Males, divorced/ separated/ widowed respondents, blue collar workers and monthly household income and those living in public rental flats were more likely to report that they had never used or did not currently use dental floss. Also, the lower the educational attainment and the monthly household income of the respondents, the more like they reported so.

Over half (50.1%) of the respondents reported that they did not have regular dental checkups. These respondents were more likely to be males, those with lower educational attainment, blue-collar workers, those living in public rental flats and those with lower monthly household income.

In general, only about one-third (34.0%) of respondents considered that their general oral health status was "good" or "very good".

5.1.12 Prevalence of haemorrhoids

More than one-eighth (13.5%) of the respondents reported that they had haemorrhoids at the time of survey. These respondents were more likely to be older respondents, those married, those with educational attainment of not having completed secondary school or below, those with lower monthly household income and those living in public rental flats.

About one-fifth (19.3%) of the respondents with haemorrhoids mentioned that they had haemorrhoid flare-ups more than 5 times during the twelve months prior to the survey. Male respondents and those aged 18-34 or 45-54 were more likely to report so.

5.1.13 Cervical screening

Less than two-thirds (63.0%) of the female respondents reported that they had had a cervical smear before. Females aged 35-54, married respondents, those with educational attainment of having completed secondary education or below, those with monthly household income of $40,000 or above and those living in subsidized sale flats or private housing were more likely to have had a cervical smear.

Among those female respondents who had a cervical smear before, more than half (53.1%) of them had their last cervical smear taken within twelve months prior to the survey and more than two-thirds (70.2%) of them reported having a cervical smear at a regular interval. Among those female respondents who had cervical smears regularly, 59.2% of them had the test once a year.

5.1.14 Breast cancer risk

Overall, 4.0% of the female respondents claimed that they had first-degree relatives who had breast cancer at or before age 50; a total of 4.7% had received but stopped or were still receiving hormonal replacement therapy for menopause at the time of the survey. Among the female respondents who had children, 5.2% of them gave birth to their first children at the age of 35 or above and more than half (54.8%) reported that they had breastfed their children.

5.2 Recommendations

Some recommendations based on the survey findings are suggested below:

1. The benefits of regular physical activity are well-known, such as improving cardio-respiratory and muscular fitness, bone health and reducing the risk of developing chronic diseases and depression. However, only slightly more than one-third of respondents (35.8%) have done the recommended amount of physical activities suggested by the WHO. Therefore, health promotion programmes could focus on educating the community about the WHO's recommended level of physical activity and some healthy tips for being more active.

2. Diets rich in fruit and vegetables have been associated with a reduced risk of developing major non-communicable diseases, including cardiovascular diseases, type 2 diabetes and certain cancers. However, less than one-fifth of respondents reported that they had a daily average intake of five or more servings of fruit and vegetables per week as recommended by the DH. Therefore, the benefits of having at least 5 servings of fruit and vegetables a day should be further promoted.

3. Nearly half and more than a quarter of the respondents ate out for lunch and breakfast 5 times or more per week respectively. The Eatsmart@restaurant campaign should be continued and further supported, in order to encourage restaurants to provide healthier dishes with more fruit and vegetables, less oil, salt and sugar, and to make healthy diet an easier choice while eating out for the public.

4. Regularly consuming soft drinks and sugary beverages contributes to weight gain because these drinks are usually rich in added sugars. The survey showed that more than one-seventh of respondents consumed 1 cup or more of soft drinks and sugary beverages per day on average. Health promotion programmes could focus on encouraging the public to drink water or unsweetened tea instead of soft drinks and sugary beverages.

5. Excessive exposure to UV radiation reduces effectiveness of immune system and increases the risk of skin cancer and cataract[48]. The survey showed that almost one-tenth of respondents had sunburn in the twelve months prior to survey. The public should be reminded to take effective measures in summer to reduce the chance of having sunburn and other health problems related to excessive exposure to UV radiation.

6. Proper oral hygiene, including the use of dental floss to remove food remaining stuck between the teeth and avoid plaque formation, can help keep teeth clean and prevent periodontal problems. However, it was observed that only slightly more than a quarter (27.8%) of the respondents used dental floss at least once per day. Further oral health promotion campaigns could focus on educating the

[48] "Ultraviolet radiation and human health", World Health Organization (http://www.who.int/mediacentre/factsheets/fs305/en/index.html)

public the importance of oral hygiene including the proper use of dental floss at least once per day for the prevention of periodontal problems.

5.3 Limitations

1. Although the data were weighted by age and sex distribution in order to correct for over- or under-representation of certain age/sex groups in the sample, the data were not weighted for the number of eligible respondents in a household and the number of phones in a household, or to account directly for non-response.
2. The use of the "Next Birthday" rule to select respondent when there is more than one eligible respondent who resided in a household at the time of the telephone contact cannot cover people who are always not at home in the evening and weekends.
3. A household telephone survey, by definition, excludes the institutionalized population and households without fixed line telephones, so the findings cannot be generalized to these sub-populations. However, as the fixed line telephone coverage in households in Hong Kong still exceeds 80%, a household telephone survey should only exclude a relatively small proportion of households.
4. The survey relied on self-reported data and had certain limitations.
    i. Respondents might not be willing to disclose information to interviewers and deliberately under-report those behaviours that are socially undesirable or considered as unhealthy (such as high alcohol consumption). Conversely, respondents might over-report those behaviours that are considered desirable (such as consuming more fruit and vegetables).
    ii. Self-reporting behaviour or practices is also subject to recall bias and recall error (such as the consumption of fruit and vegetables or amount of physical activities). However, the recall period was kept quite short in this survey to reduce such bias.
5. Finally, this was a cross-sectional study. The causal or time relationship between various factors could not be established.

Annex A Survey Questionnaire

BEHAVIOURAL RISK FACTOR SURVEY APRIL 2010 QUESTIONNAIRE

Introduction

Hello! My name is _____, an interviewer from the Social Sciences Research Centre of the University of Hong Kong (SSRC). We are commissioned by the Department of Health to conduct a public survey on healthy living. This survey takes approximately 20 minutes to complete. All the information provided by you will be kept strictly confidential and for collective analysis only. If you have any queries on this survey, you can call the SSRC at phone number: 3921 2600 during office hours between 9 am and 6 pm. If you have questions about your rights as a research participant, please contact the Human Research Ethics Committee for Non-Clinical Faculties of the University at 2241 5267.

Respondent selection

[S1] Telephone No. _____

[S2] Interviewer No. _____

Because we are choosing a respondent randomly, please tell me how many household members aged 18-64 years there are at home right now?
[S3] _____ persons

Who is the one who will next have a birthday? (Interviewer: explain the "Next Birthday" rule if respondent questions)

Q1. Record the gender

1. Male
2. Female

Weight status

Q2a. What is your height without wearing shoes? _____ cm

Q2b. What is your weight wearing simple clothes? _____kg

Q2c. What is your waist circumference? _____ cm

Q3. What do you think about your current weight?

1. Overweight
2. Just right
3. Underweight

Physical activities and leisure-time exercises

Q4a. During the last 7 days, on how many days did you do vigorous physical activities? Vigorous physical activities are those that make you breathe much harder than normal, e.g., aerobics, football, swimming, heavy physical work, jogging, etc., and you did these activities for at least 10 minutes at a time.

_____ Days

Q4b. Ask those whose answers in Q4a are greater than or equal to "1"]
On those days that you have performed vigorous physical activity for at least 10 minutes, how much time on average per day did you usually spend on doing vigorous physical activities?

_____ Minutes

Q5a. During the last 7 days, on how many days did you do moderate physical activities? Moderate physical activities are those that make you breathe somewhat harder than normal, e.g., bicycling, washing cars/polishing, fast walking, cleaning windows, etc. and you did these activities for at least 10 minutes at a time.

_____ Days

Q5b.[Ask those whose answers in Q5a are greater than or equal to "1"]
On those days that you have performed moderate physical activity for at least 10 minutes, how much time on average per day did you usually spend on doing moderate physical activities?

_____ Minutes

Q6. During the past 7 days, how many days in total did you have moderate physical activities for at least 30 minutes , or vigorous physical activities for at least 20?

_____ Days

Q7a. During the last 7 days, on how many days did you walk for at least 10 minutes at a time? This includes walking to offices/schools, walking to travel from place to place, and walking for leisure.

_____ Days

Q7b. Ask those whose answers in Q7a are greater than or equal to "1"]
On those days that you have walked for at least 10 minutes, how much time on average did you usually spend on walking in one of those days?

_____Hours _____ Minutes

Q8. During the last 7 days, how much time on average did you usually spend on sitting on a weekday? This includes time spent sitting at work, at home, visiting friends, reading, travelling on public transport, and lying down to watch television. [If the respondent cannot answer the daily average time, then say: Please try to make an estimate as accurate as possible.]

_____ Hours _____ Minutes

Q9. During the past 30 days，how often did you exercise in your leisure time, which at least made you breathe somewhat harder than normal and sweat?

1. Once or more a day
2. 4-6 times/week
3. 2-3 times/week
4. Once a week
5. 2-3 times a month
6. Once a month
7. Less than one a month

Fruit and vegetable consumption

Q10a. On average, how many days do you eat fruit each week? (not including fruit juice)

1. 1 Day
2. 2 Days
3. 3 Days
4. 4 Days
5. 5 Days
6. 6 Days
7. 7 Days
8. None (skip to Q11a)

Q10b. [Ask those whose answers in Q10a are from "1" to "7"]
On average, how many fruit did you eat on one of those days?
(Interviewer: One fruit equals to 1 medium-sized apple or orange, 1 medium sized banana, or 2 kiwi fruits or plums, or 1 bowel of small fruits like grapes or strawberries. Ask exactly what they ate and then convert using table. The numbers can be recorded as half such as 0.5 or 1.5).

_____

Q11a. On average, how many days do you eat vegetables each week? (not including vegetable juice)

1. 1 Day
2. 2 Days
3. 3 Days
4. 4 Days
5. 5 Days
6. 6 Days
7. 7 Days
8. None (skip to Q12)

Q11b. [Ask those whose answers in Q11a are from "1" to "7"]
On average, how many bowls of cooked vegetables did you eat on one of those days? (Interviewer's prompts: one bowl refers to the size of a rice bowl The numbers can be recorded as half such as 0.5 or 1.5. For uncooked leafy vegetables, half the total)

_____Bowls

Q12. On average, how many days do you drink at least one cup of fruit or vegetable juice each week? "Juice" refers to freshly squeezed juice or those are labeled 100% or pure fruit/vegetable juice. A cup means 250 mls in volume or a standard-sized tetra pack of juice drink.

1. 1 Day
2. 2 Days
3. 3 Days
4. 4 Days
5. 5 Days
6. 6 Days
7. 7 Days
8. None

Consumption of soft drinks and sugary beverages

Q13. On average, how many days do you drink pre-packaged soft drinks and sugary beverages each week? They include lemon tea, chrysanthemum tea, Yakult, Vitasoy, soy drinks or cordials in tetra-packs, cans or bottles etc, but exclude pure milk.

1. 1 Day
2. 2 Days
3. 3 Days
4. 4 Days
5. 5 Days
6. 6 Days
7. 7 Days
8. None (Skip to Q15a)

Q14. [Ask those whose answers in Q13 are from "1" to "7"]
On average, how many cups of pre-packaged soft drinks and sugary beverages did you drink on one of those days? [Interviewer's prompts: 1 tetra-pack = 1 cup; 1 can of soft drinks = 1.5 cups; 1 bottle of soft drink =2 cups; the numbers can be recorded as half such as 0.5 or 1.5]

_____ cups

Smoking habits

Q15a. Have you smoked before? (Interviewer: read out the answers one by one)

1. Yes, but not now
2. Yes, and still smoking (skip to Q15c)
3. Never (skip to next section – Q16a)

Q15b. How long have you abstained from smoking? (Interviewer: read out the answers one by one)

1. Had abstained for less than 1 month
   (skip to next section – Q16a)
2. Had abstained for 1 month to l year
   (skip to next section – Q16a)
3. Had abstained for more than l year
   (skip to next section – Q16a)

Q15c. How many cigarettes do you smoke on average per day? (Interviewer: Do not read out the answers)

1. Less than 1 cigarette per day now
2. 1-10 cigarettes per day now
3. 11-20 cigarettes per day now
4. More than 20 cigarettes per day now

Pattern of alcohol consumption

Q16a. Have you ever had at least one alcoholic drink? (Interviewer: read out the answers one by one)

1. Yes, during the last month
2. Yes, during the previous 2 – 12 months (skip to next section – Q17)
3. Yes, more than 12 months ago (skip to next section – Q17)
4. No (skip to next section – Q17)

Q16b. On how many days per week during the last 30 days, on average, did you drink at least one alcoholic drink? (Interviewer: Do not read out the answers)

1. Daily
2. 6 days per week
3. 5 days per week
4. 4 days per week
5. 3 days per week
6. 2 days per week
7. 1 day per week
8. Less than 1 day per week

Q16c. How many standard units of drinks on average did you drink on those days? (Read out the types of standard drink) (A can or small bottle of beer is approximately equal to 1.5 standard drinks. Or 1 standard drink is approximately equal to one dining glass of wine, or 1 spirit nip of brandy/whisky, or one small glass of Chinese wine such as rice wine) (a can/ small bottle of beer approximately equals to about 330 – 375 mls. Be aware, a big bottle can range from 640 mls (most brands) to 960 mls (Blue Ribbon)). [Interviewer please refer to the standard drink information sheet- the illustrated guide to typical standard drinks- for other examples if needed]

_____ Unit of drinks

Q16d. In the last 30 days, did you drink at least 5 glasses or cans of alcohol on one occasion? That means the total number of glasses and cans of any type of alcohol, and one occasion means period of a few hours.

1. Yes
2. No (skip to Q16f)

Q16e. How many times did you do this in the last 30 days? (Interviewer: Do not read out the answers)

1. Once
2. Twice
3. Three times or more

Q16f. In the last 30 days, did you drink so much and exhibited signs of drunkenness, such as flushed face or reddened eyes, slurred or incoherent speech, unsteady feet or staggering gait, vomiting and hangover in the next day?

1. Yes
2. No (skip to next section – Q17)

Q16g. How many times did you do this in the last 30 days? (Interviewer: Do not read out the answers)

1. Once
2. Twice
3. Three times or more

Eating out habits

Q17. In the past 30 days, how often did you eat out for breakfast? "Eat out for breakfast" refers to the breakfast that is not made at home and excludes the bread that is bought from a bakery. (Interviewer: Do not read out the answers)

1. 5 times or more a week
2. 2-4 times a week
3. Once a week
4. 2-3 times a month
5. Once a month or less
6. Skipped breakfast

Q18. In the past 30 days, how often did you eat out for lunch? "Eat out for lunch" refers to the lunch that is not made at home. (Interviewer: Do not read out the answers)

1. 5 times or more a week
2. 2-4 times a week
3. Once a week
4. 2-3 times a month
5. Once a month or less
6. Skipped lunch

Q19. In the past 30 days, how often did you eat out for dinner? "Eat out for dinner" refers to the dinner that is not made at home. (Interviewer: Do not read out the answers)

1. 5 times or more a week
2. 2-4 times a week
3. Once a week
4. 2-3 times a month
5. Once a month or less
6. Skipped dinner

Eating habits in relation to salt

Q20. In the past 30 days, when eating out, how often did you request soy sauce/seasoning to be separated from dishes when served to reduce the consumption of seasoning (e.g. steamed rice-rolls with separated soy sauce/seasoning, vegetables cooked in water with separated oyster sauce, etc.)? (Interviewer: Read out 1-5 answers. Numbers in the brackets are for reference only, no need to read out.)

1. Never
2. Seldom (1-3 times out of ten)
3. Sometimes (4-6 times out of ten)
4. Often (7-9 times out of ten)
5. Always (10 times out of ten)
6. Do not remember
7. Do not eat food with soy sauce/seasoning
8. Do not eat out

Q21. In the past 30 days, when eating out, how often did you add salt, soy sauce, oyster sauce, ketchup, chili sauce, bean chili paste or other seasonings containing salt to food at the table? (Interviewer: Read out 1-5 answers. Numbers in the brackets are for reference only, no need to read out.)

1. Never
2. Seldom (1-3 times out of ten)
3. Sometimes (4-6 times out of ten)
4. Often (7-9 times out of ten)
5. Always (10 times out of ten)
6. Do not remember

Q22. In the past 30 days, when eating out, how often did you request rice with 'siu-mei' or steamed rice with some meat in pot to be served without adding 'siu-mei' sauce/soy sauce? (Interviewer: Read out 1-5 answers. Numbers in the brackets are for reference only, no need to read out.)

1. Never
2. Seldom (1-3 times out of ten)
3. Sometimes (4-6 times out of ten)
4. Often (7-9 times out of ten)
5. Always (10 times out of ten)
6. Do not remember
7. Do not eat rice with 'siu-mei' and steamed rice with some meat in pot

Q23. In the past 30 days, how many days on average did you eat preserved vegetables each week (e.g. Chinese preserved vegetables, pickled cucumber, olive, etc.)?

1. Less than 1 day per week
2. 1 day per week
3. 2 days per week
4. 3 days per week
5. 4 days per week
6. 5 days per week
7. 6 days per week
8. Daily
9. Do not remember
10. Do not eat preserved vegetables

Q24. In the past 30 days, how many days on average did you eat snacks with high salt content each week, such as potato crisps, prawn crackers, squid floss, dried pork jelly, snack type seaweeds or traditional Chinese preserved fruits, etc.?

1. Less than 1 day per week
2. 1 day per week
3. 2 days per week
4. 3 days per week
5. 4 days per week
6. 5 days per week
7. 6 days per week
8. Daily
9. Do not remember
10. Do not eat salty snacks

Heat stroke and sunburn

Q25. In the past 12 months, did you have a heat stroke? Symptoms of heat stroke may include high fever (>39℃); red, hot and dry skin; rapid pulses; throbbing headache; nausea; muscle cramps and dizziness.

1. Yes
2. No (skip Q27)

Q26. In the past 12 months, how many heat strokes did you have?

_____Times

Q27. In the past 12 months, did you have a sunburn? That included any time that even a small part of your skin was red or sore for more than 12 hours?

1. Yes
2. No (skip Q29)

Q28. In the past 12 months, how many sunburns did you have?

_____Times

Use of solarium

Q29. Have you ever used a solarium (sun bed or tanning bed)?

1. Yes
2. No (skip Q34)

Q30. How old were you the first time you used a solarium?

_____ Year

Q31. Up till now, how many times have you used a solarium?

1. Once
2. 2-5 times
3. 6-10 times
4. More than 10 times

Q32. In the past 12 months, how many times did you use a solarium?

1. Once
2. 2-5 times
3. 6-10 times
4. More than 10 times
5. No time (skip Q34)

Q33. About how much time did you spend on your last tanning session?

1. Less than 5 minutes
2. 5-10 minutes
3. 11-15 minutes
4. 16-20 minutes
5. 21-30 minutes
6. More than 30 minutes

Oral health practices

Q34. How many times a day do you brush your teeth?

1. 1 time per day
2. 2 times per day
3. 3 times per day
4. More than 3 times per day
5. Less than 1 per day
6. Never
7. No teeth
8. Don't remember

Q35. How many times a day do you use dental floss?

1. 1 time per day
2. 2 times per day
3. 3 times per day
4. More than 3 times per day
5. Less than 1 per day
6. Never
7. Do not currently use
8. No teeth
9. Don't remember

Q36. In general, would you say your oral health is: (Interviewer: Read out the answers)

1. Very good
2. Good
3. Fair
4. Poor
5. Very poor

Q37. Do you have regular dental checkup?

1. Yes
2. No (skip Q39)

Q38. If yes, how often do you have dental checkup?

1. More than once a year
2. Once a year
3. Once every 2 years
4. Once every 3 years
5. Once every 4 years
6. Once every 5 years
7. Once every 6-10 years
8. Less frequent than once every 10 years
9. Cannot say/remember

Prevalence of haemorrhoids

Q39. Do you currently have haemorrhoids?

1. Yes
2. No (skip Q41)

Q40. In the past 12 months, how many times did your haemorrhoids flare up (i.e. having intense anal pain or bleeding)?

1. Once
2. Twice
3. 3-5 times
4. More than 5 times
5. No time

Cervical screening

(For female respondents only)

Q41. Have you ever had a cervical smear before?

1. Yes
2. No (skip Q45)
3. Not sure (skip Q45)

Q42. [Ask those whose answers are "Yes" in Q41]
About how long ago did you have the last cervical smear? (Interviewer: Do not read out the answers)

1. Within 12 months
2. 13-24 months
3. 25-36 months
4. 37-48 months
5. 49-60 months
6. 61 months and above
7. Cannot remember

Q43. Do you have your cervical smear at a regular interval?

1. Yes, at a regular interval
2. No, not at a regular interval (skip Q45)

Q44. [Ask those whose answers "Yes, at regular interval" in Q43]
If regular, how often do you have cervical smear?

1. More than once a year
2. Once a year
3. Once every 2 years
4. Once every 3 years
5. Once every 4 years
6. Once every 5 years
7. Once every 6-10 years
8. Less frequent than once every 10 years
9. Cannot say/remember

Q45. Have you had a total hysterectomy (surgical removal of the entire uterus) before?

1. Yes
2. No

Breast cancer risk

(For female respondents only)

Q46. Have any of your first degree relatives had breast cancer at or before age 50? (first degree relatives mean father/mother/brothers/sisters/daughters/sons. Male breast cancers are included.)

1. Yes
2. No
3. Don't know

Q47. Have you ever taken hormonal replacement therapy for menopause?

1. Yes, and still taking
2. Yes, but has stopped now
3. No
4. Not sure

Q48. Do you have child(ren)? If yes, how old were you when your first child was born?

1. Yes, at _____years old
2. No (skip Q50)

Q49. Have you ever breastfed your child(ren)?

1. Yes
2. No
3. Not sure

Demographics

Q50. What is your age?

_____ Years

Q51. What is your highest educational attainment? (Interview: read out the answers one by one)

1. Primary or below
2. Had not completed secondary
3. Completed secondary (F5)
4. Matriculation
5. Tertiary (Non-degree, degree or above)

Q52. What is your marital status (Interview: read out the answers one by one)

1. Never married
2. Married and with child (ren)
3. Married and without child (ren)
4. Divorced or Separated
5. Widowed
6. Refuse to answer

Q53a. Are you currently engaged in a job?

1. Yes
2. No (skip to Q53c)

Q53b. What is your occupation? (Interviewer: record the details of occupation)

1. Employers/Managers/Administrator
2. Professional
3. Associate Professional
4. Clerk
5. Service worker
6. Shop sales worker
7. Skilled agricultural/fishery worker
8. Craft and related worker
9. Plant and machine operator and assembler
10. Un-skilled worker
11. Other: _____

(Skip to Q54)

Q53c. Are you a ……..? (Interviewer: read out the answers one by one)

1. Student
2. Home-maker
3. Unemployed person
4. Retired person
5. Others（Please specify_____）

(skip to Q55)

Q54. How much is your monthly personal income including all the income?

1. None
2. $1-1,999
3. $2,000-3,999
4. $4,000-5,999
5. $6,000-7,999
6. $8,000-9,999
7. $10,000-11,999
8. $12,000-13,999
9. $14,000-15,999
10. $16,000-17,999
11. $18,000-19,999
12. $20,000-24,999
13. $25,000-29,999
14. $30,000-34,999
15. $35,000-39,999
16. $40,000-44,999
17. $45,000-49,999
18. $50,000 or above
19. Refuse to answer

Q55. How much is your monthly household income including all the income?

1. Less than $2,000
2. $2,000-3,999
3. $4,000-5,999
4. $6,000-7,999
5. $8,000-9,999
6. $10,000-11,999
7. $12,000-13,999
8. $14,000-15,999
9. $16,000-17,999
10. $18,000-19,999
11. $20,000-24,999
12. $25,000-29,999
13. $30,000-34,999
14. $35,000-39,999
15. $40,000-44,999
16. $45,000-49,999
17. $50,000-54,999
18. $55,000-59,999
19. $60,000 or above
20. Don't Know
21. Refuse to answer

Q56. How many 'dependants' do you currently have?

_____ Persons (99→ Refuse to answer)

Q57. What is your type of living quarter?

1. Public rental flats
2. Housing Authority subsidized sale flats
3. Housing Society subsidized sale flats
4. Private residential flats
5. Villas/ Bungalows/ Modern village houses
6. Simple stone structures/ traditional village houses
7. Staff quarters
8. Non-domestic quarters

Q58. How many people are living in this household, including yourself but excluding live-in maids?

_____ Persons

END