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Behavioural Risk Factor Survey (April 2014)

Main Report

Commissioned by

衞生署
Department of Health

Surveillance and Epidemiology Branch
Centre for Health Protection
Department of Health

March 2015

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Executive Summary

Introduction

The Department of Health commissioned the Social Sciences Research Centre of the University of Hong Kong (SSRC) to conduct a survey in April 2014 to collect information on health-related behaviours and other relevant issues among the adult Hong Kong population.

The scope of this survey covered the following 10 areas:

1. Weight status, control and perception
2. Physical activities and leisure-time exercise
3. Fruit and vegetable consumption
4. Smoking pattern
5. Pattern of alcohol consumption
6. Level of psychological distress
7. Use of antibiotics
8. Cervical screening (for female respondents only)
9. Use of mobile phone
10. Demographic information: gender, age, education level, marital status, occupation, monthly personal income, monthly household income and type of living quarters

Research Methodology

This survey was conducted through Computer Assisted Telephone Interview (CATI). The target respondents were Cantonese, Putonghua or English speaking residents in Hong Kong aged 18-64 (excluding foreign domestic helpers). A bilingual (Chinese and English) questionnaire with 61 questions was used. Fieldwork took place between 1st April and 13th June 2014. A sample size of 4 134 successful interviews was achieved with an overall response rate of 19.5%. To make the findings more representative of the Hong Kong general population, weighting was applied to age, gender and type of living quarter.

Key Findings of the Survey

Weight status, control and perception

According to the locally adapted classification of weight status for Chinese adults in Hong Kong, about half (50.6%) of the respondents were classified as "normal", 18.6% as "overweight" and 21.2% as "obese", while the remaining 9.6% were classified as "underweight".

Regarding respondents' self-perceived current weight status, almost half (47.8%) of the respondents perceived themselves as "just right", 44.0% considered themselves as "overweight", and 8.2% considered themselves as "underweight". Overall, 66.0% of the respondents perceived their weight status in a way consistent with the locally adapted classification, while 19.6% of the respondents overestimated and 14.5% underestimated their weight status.

Physical activities and leisure-time exercise

During the seven days prior to the survey, about half (52.0%) and about three-fifths (60.2%) of the respondents had not engaged in any moderate and vigorous physical activity for at least 10 minutes a day respectively. On the other hand, close to three-quarters (72.9%) of the respondents had spent at least 10 minutes on walking every day during the seven days prior to the survey.

Overall, nearly two-fifths (37.5%) of the respondents' level of physical activity met the WHO's recommended physical activity level for adults. Over one-third (35.9%) of the respondents reported they exercised one to three times a week in their leisure-time.

Fruit and vegetable consumption

While about half (51.0%) of the respondents had eaten fruit every day, about four-fifths of the respondents (82.6%) had eaten vegetables daily. Regular fruit or vegetable juice consumption was found to be uncommon amongst respondents - only 2.1% of the respondents drank fruit or vegetable juice daily.

Excluding fruit or vegetable juice, the average (mean) daily intake of fruit and vegetables by the respondents was only 3.3 servings. Less than one-fifth (18.8%) of the respondents had a daily intake of 5 or more servings of fruit and vegetables.

Smoking pattern

About one-tenth (10.9%) of the respondents were current smokers at the time of this survey. Among the current smokers, the vast majority (92.2%) were daily smokers and nearly half (47.8%) of them reported smoking at least 11 cigarettes a day.

Pattern of alcohol consumption

During the past year prior to the survey, about three-fifths (62.7%) of the respondents reported having drunk at least one alcoholic drink. While nearly half (49.9%) of these drinkers drank less than monthly, 5.3% drank daily.

Among those who had drunk alcohol during the past year prior to the survey, more than one quarter (29.6%) reported that they had engaged in binge drinking (drinking 5 or more glasses/ cans of alcohol on one occasion) at least once during the past year prior to the survey.

Level of psychological distress

Based on the Kessler 6-items Psychological Distress Scale (K6), 13.1% of the respondents felt nervous, 8.2% felt restless or fidgety, 4.8% felt that everything was an effort, 3.6% felt so sad that nothing could cheer them up, 2.4% felt worthless and 2.4% felt hopeless "most" or "all of the time" during the thirty days prior to the survey. About one-fifth (20.4%) of the respondents did not experience any of the six psychological distress symptoms during the thirty days prior to the survey.

Overall, 4.8% of respondents were classified as having severe psychological distress (measured by K6 score of 13 or above) during the thirty days prior to the survey. Among these respondents, over four-fifths (87.2%) of them reported that they had not consulted a doctor or other health professional because of their feelings of psychological distress symptoms or emotional problems.

Use of antibiotics

About two-fifths (41.4%) of the respondents had taken antibiotics during the 12 months prior to the survey. Among the respondents who had taken any antibiotics, the vast majority (97.7%) of them reported that the antibiotics they took were prescribed by doctors.

Among the respondents who took antibiotics prescribed by doctors during the 12 months prior to the survey, more than four-fifths of the respondents reported that they had been reminded by their doctors of the dose to be taken every time (96.4%), the number of days to be taken (95.8%) and the need to finish all the antibiotics prescribed for them (95.7%). However, less than one-third (30.9%) of the respondents had been reminded by their doctors that improper usage of antibiotics would increase the chance of acquiring resistant bacteria. Overall, more than four-fifths (86.9%) of the respondents had taken the antibiotics according to the prescribed dose and number of days.

Cervical screening (for female respondents only)

Less than two-thirds (62.4%) of the female respondents reported that they had had a cervical smear before.

Among those female respondents who had a cervical smear before, about two-thirds

(67.6%) had a cervical smear at a regular interval. Among those who had cervical smears regularly, 45.3% had the test once a year.

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, less than two-fifths of respondents (37.5%) achieved the recommended amount of physical activities suggested by the WHO. Thus, increased effort should be made to educate the community about the health benefits and recommended level of physical activity as well as to facilitate the public to engage in a more active lifestyle.

2. Diet rich in fruit and vegetables is associated with a reduced risk of developing major non-communicable diseases, including cardiovascular diseases, type 2 diabetes and certain cancers. However, the survey found that less than one-fifth (18.8%) of the respondents had a daily average intake of 5 or more servings of fruit and vegetables. Therefore, increased effort should be made to educate the community about the health benefits of at least 5 servings of fruit and vegetable intake a day, and to promote increased intake.

3. Nearly three in ten (29.6%) drinkers who had drunk alcohol during the past year prior to the survey reported that they had engaged in binge drinking (drinking 5 or more glasses/ cans of alcohol on one occasion). Health promotion campaigns should be strengthened to educate the public about the harms of alcohol use, and in particular those of binge drinking.

4. Among the respondents who took antibiotics last time prescribed by doctors, less than one-third (30.9%) of them reported that they had been reminded by their doctors the increased risk of acquiring bacterial resistance if they failed to take the antibiotics as prescribed. Such observations reflect that there is room for improvement in prescribing behaviour.

Chapter 1 Introduction

The Department of Health commissioned the Social Sciences Research Centre of the University of Hong Kong (SSRC) to conduct a survey in April 2014 to collect information on health-related behaviours and other relevant issues among the adult Hong Kong population. The findings of a series of such surveys can detect any changing trends of the risk factors. This will provide information to facilitate the planning, implementation and evaluation of health promotion programmes on the prevention of diseases related to lifestyle.

The scope of this survey encompasses the following areas:

- Weight status, control and perception
- Physical activities and leisure-time exercise
- Fruit and vegetable consumption
- Smoking pattern
- Pattern of alcohol consumption
- Level of psychological distress
- Use of antibiotics
- Cervical screening (for female respondents only)
- Use of mobile phone
- Demographic information: gender, age, education, marital status, occupation, monthly personal income, monthly household income, and type of living quarters

Chapter 2 Research Methodology

2.1 Mode of survey and sampling method

The survey was conducted through Computer Assisted Telephone Interview (CATI). A random sample of telephone numbers was drawn from a sampling frame generated from the 2007 Hong Kong residential telephone directory (English version)[1] by dropping the last digit of the telephone numbers on the directory, removing the resulting duplicates, and then adding back all 10 possible final digits. The telephone numbers on the final list were then randomized and selected 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].

For each successfully contacted residential unit, when more than one eligible person resided in the household and more than one was present at the time of the telephone contact, the "Next Birthday" rule was applied i.e., the household member who had his/her birthday the soonest was selected.

2.2 Target respondents

Eligible respondents were residents in all 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 45 pre-coded questions and 16 open-ended questions (with 8 demographic questions) was used 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 50 successfully completed interviews was conducted on 12th and 13th March 2014 to test the length, logic, wording and format of the questionnaire. The data collected from these pilot interviews were not included in this survey report.

2.5 Fieldwork

Fieldwork took place in the call-centre of SSRC on all the weekdays and two Saturdays (3rd May 2014 and 10 th May 2014) between 1st April and 13th June 2014, except 18th April to 21st April, 1st May, 6th May and 2nd June, which are public holidays and 22nd April to 27th April because of avoiding holiday effect(a total of 45 weekdays and 2 Saturdays).

Because of the briefing on 1st April 2014, telephone calls were made between 5:30 p.m. and 10:30 p.m. on that day. On the weekdays, telephone calls were made between 4:00 p.m.

[1] The Chinese residential telephone directory was not used because the total number of telephone numbers is smaller than that in 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.

and 10:30 p.m. On the Saturdays, telephone calls were made between 2:00 p.m. and 6:00 p.m.

2.6 Response rate

A total of 53 719 telephone numbers were attempted. The number of successful interviews was 4 134. Refusal and mid-way termination cases amounted to 1 630. All "not available" (9 213), and "no answer" (6 342) cases were attempted six times before being classified as non-contact cases. The contact rate was 38.2%[3] and the overall response rate was 19.5%[4].

Table 2.6: Final status of telephone numbers attempted

Final status of contacts[5]	**Number of cases**
(A) No. of telephone numbers sampled	53 719
(B) No. of ineligible cases	30 195
a) Valid working telephone numbers	5 546
i) Claimed wrong number	0
ii) Language problem	82
iii) Non-residential line	3 207
iv) No target respondent	2 257
b) Invalid telephone numbers	24 649
i) Fax / data line	2 585
ii) Non-working / out of service number	22 064
(C) No. of eligible cases	14 977
a) Successfully completed interviews	4 134
b) Unsuccessful cases	10 843
i) Mid-way termination cases	240
ii) Non-contact cases such as selected eligible person not-at-home / not available	9 213
iii) Refusal cases	1 390

[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 ((B)(a)(ii), (B)(a)(iii), (B)(a)(iv), (C)(a), (C)(b)(i), (C)(b)(ii) and (C)(b)(iii)) / Total = (82 + 3 207 + 2 257 + 4 134 + 240 + 9 213 + 1 390) / 53 719 = 38.2%.

[4] Response rate = the number of completed interviews divided by the estimated total number of eligible cases, i.e. from Table 2.6, C(a) * (1 / (C + D * C / (B(a) + C))) * 100% = 4 134 * (1 / (14 977 + 8 547 * 14 977 / (5 546 + 14 977))) * 100% =19.5%.

[5] "Language problem": eligible respondents who were not able to speak clearly in any of the specified languages such as Cantonese, Putonghua or English. "Non-working / out of service number": not a valid telephone line (because we used a random method to generate telephone numbers, see section 2.1). "Mid-way termination": eligible respondents who initially accepted the interview but failed to complete the interview due to some reasons. "Not available": eligible respondents who were busy at the time of telephone contact. "Refusal cases": eligible respondents who refused the interview.

(D) No. of cases with unknown eligibility status[6]	8 547
a) Answering machine	44
b) Busy line	756
c) Call blocking, password needed	0
d) Immediate disconnection[7]	1 405
e) No answer	6 342

2.7 Sample size and sampling error

A sample size of 4 134 successful interviews was achieved (the target sample size was 4 000). The width of a 95% confidence interval for this sample size is at most +/− 1.5%[8]. This means that we can have 95% confidence that the true population proportion falls within the sample proportion plus or minus 1.5%. For example, 44.0% of the respondents perceived their weight status as "overweight", and then the *conservative* 95% confidence interval for the true percentage of the population that perceived their weight status as "overweight" between 44.0% ± 1.5%, i.e. 42.5% and 45.5%.

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 standard 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 the proportions of gender, age and type of living quarters when compared with the Hong Kong population data compiled by the Census and Statistics Department (C&SD) for the second quarter of 2014. The proportions of respondents among age groups 50-64 were much higher than the population while the proportions of respondents aged 25-39 years old were much lower. Table 2.9a (i) and table 2.9a (ii) show the differences in terms of age, gender and type of living quarters.

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

[6] Including only those telephone numbers with unknown eligibility status in all call attempts made so far. The breakdown of (D) shows only the latest / final call disposition of these cases.

[7] Including those cases which the calls disconnected before the cases could be classified as eligible.

[8] 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 then:

$$\pm 1.96 \times \sqrt{\frac{0.5 \times 0.5}{4134}} \times 100\% = \pm 1.5\%$$

Table 2.9a (i): Data of age, gender and type of living quarters of this survey

Gender/ Age group		This survey			
		Public rental flats	**Subsidized sale flats**	**Private housing**	**Total**
		% of Total	*% of Total*	*% of Total*	*% of Total*
Male	18-24	**2.36%**	**0.93%**	**2.80%**	6.09%
	25-29	**0.76%**	**0.37%**	**1.15%**	2.28%
	30-34	**0.64%**	**0.34%**	**1.33%**	2.31%
	35-39	**0.49%**	**0.34%**	**2.01%**	2.85%
	40-44	**0.76%**	**0.47%**	**2.28%**	3.51%
	45-49	**0.83%**	**0.42%**	**2.09%**	3.34%
	50-54	**1.50%**	**0.93%**	**3.17%**	5.60%
	55-59	**1.89%**	**0.69%**	**2.38%**	4.96%
	60-64	**1.96%**	**0.93%**	**2.77%**	5.67%
	Total	**11.19%**	**5.42%**	**19.98%**	36.59%
Female	18-24	**2.43%**	**1.18%**	**2.40%**	6.01%
	25-29	**1.67%**	**0.49%**	**1.45%**	3.61%
	30-34	**1.08%**	**0.76%**	**2.16%**	4.00%
	35-39	**1.45%**	**0.91%**	**2.82%**	5.18%
	40-44	**1.96%**	**1.15%**	**4.44%**	7.56%
	45-49	**2.38%**	**0.96%**	**4.12%**	7.46%
	50-54	**3.26%**	**1.79%**	**5.99%**	11.04%
	55-59	**2.63%**	**1.74%**	**4.22%**	8.59%
	60-64	**3.44%**	**1.50%**	**5.03%**	9.96%
	Total	**20.29%**	**10.48%**	**32.64%**	63.41%
Total	18-24	**4.79%**	**2.11%**	**5.20%**	12.10%
	25-29	**2.43%**	**0.86%**	**2.60%**	5.89%
	30-34	**1.72%**	**1.10%**	**3.48%**	6.31%
	35-39	**1.94%**	**1.25%**	**4.83%**	8.02%
	40-44	**2.72%**	**1.62%**	**6.72%**	11.07%
	45-49	**3.21%**	**1.37%**	**6.21%**	10.80%
	50-54	**4.76%**	**2.72%**	**9.15%**	16.64%
	55-59	**4.52%**	**2.43%**	**6.60%**	13.55%
	60-64	**5.40%**	**2.43%**	**7.80%**	15.63%
	Total	**31.48%**	**15.90%**	**52.61%**	100.00%

Table 2.9a (ii): Age, gender and type of housing from the Hong Kong land-based non-institutional population data (excluding foreign domestic helpers) compiled by the C&SD for the second quarter of 2014

Gender/ Age group		Hong Kong population data- from the C&SD (2nd quarter of 2014)			
		Public rental housing	**Subsidized home ownership housing**	**Private housing**	***Total***
		% of Total	*% of Total*	*% of Total*	*% of Total*
Male	18 - 24	**2.26%**	**1.07%**	**2.81%**	6.14%
	25 - 29	**1.55%**	**0.90%**	**2.14%**	4.59%
	30 - 34	**1.27%**	**0.87%**	**2.66%**	4.79%
	35 - 39	**1.04%**	**0.64%**	**3.00%**	4.67%
	40 - 44	**1.15%**	**0.64%**	**3.13%**	4.93%
	45 - 49	**1.38%**	**0.81%**	**3.14%**	5.33%
	50 - 54	**1.77%**	**1.18%**	**3.45%**	6.39%
	55 - 59	**1.80%**	**1.26%**	**2.94%**	6.00%
	60 - 64	**1.50%**	**0.91%**	**2.27%**	4.68%
	Total	**13.72%**	**8.26%**	**25.54%**	47.52%
Female	18 - 24	**2.12%**	**0.91%**	**3.01%**	6.03%
	25 - 29	**1.48%**	**1.00%**	**2.49%**	4.96%
	30 - 34	**1.41%**	**0.86%**	**3.30%**	5.57%
	35 - 39	**1.32%**	**0.67%**	**3.50%**	5.49%
	40 - 44	**1.72%**	**0.88%**	**3.59%**	6.20%
	45 - 49	**1.78%**	**1.12%**	**3.50%**	6.41%
	50 - 54	**2.02%**	**1.42%**	**3.53%**	6.98%
	55 - 59	**2.00%**	**1.33%**	**2.75%**	6.08%
	60 - 64	**1.56%**	**1.02%**	**2.18%**	4.76%
	Total	**15.41%**	**9.21%**	**27.86%**	52.48%
Overall	18 - 24	**4.38%**	**1.97%**	**5.83%**	12.17%
	25 - 29	**3.03%**	**1.89%**	**4.63%**	9.55%
	30 - 34	**2.68%**	**1.73%**	**5.95%**	10.36%
	35 - 39	**2.36%**	**1.30%**	**6.50%**	10.16%
	40 - 44	**2.88%**	**1.52%**	**6.73%**	11.13%
	45 - 49	**3.16%**	**1.93%**	**6.64%**	11.73%
	50 - 54	**3.78%**	**2.60%**	**6.98%**	13.37%
	55 - 59	**3.80%**	**2.59%**	**5.69%**	12.08%
	60 - 64	**3.06%**	**1.93%**	**4.46%**	9.45%
	Total	**29.13%**	**17.47%**	**53.40%**	100.00%

Table 2.9b: Weights by age, gender and type of living quarters applied in the analyses

Gender/ Age group		Type of living quarters		
		Public rental flats	**Subsidized sale flats**	**Private housing**
Male	18 - 24	0.958557821	1.145569895	1.005506652
	25 - 29	2.041308817	2.431497903	1.857775018
	30 - 34	1.987820645	2.521138379	2.004460637
	35 - 39	2.109352444	1.848834811	1.490136261
	40 - 44	1.515393929	1.371145434	1.373523418
	45 - 49	1.651098468	1.947702983	1.503784892
	50 - 54	1.179286586	1.262780714	1.089887470
	55 - 59	0.953885257	1.836829390	1.234578072
	60 - 64	0.765795783	0.970859428	0.820299596
	Missing	1.000000000	1.000000000	1.000000000
Female	18 - 24	0.870938713	0.768597048	1.252851419
	25 - 29	0.884870137	2.029516395	1.719216962
	30 - 34	1.302588163	1.133156820	1.526052701
	35 - 39	0.913022430	0.735899851	1.239377012
	40 - 44	0.878196535	0.763493679	0.809271491
	45 - 49	0.749410549	1.170066786	0.849883751
	50 - 54	0.618595106	0.794331270	0.590332129
	55 - 59	0.761839323	0.762259679	0.651294081
	60 - 64	0.453804908	0.684702609	0.433717789
	Missing	1.000000000	1.000000000	1.000000000

Statistical tests were applied to detect any significant differences between sub-groups. Associations between selected demographic information and responses of selected questions were also examined. Significance testing was conducted at the 5% level (2-tailed). The statistical software, IBM SPSS for Windows version 20.0 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, age and type of living quarters. 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 gender and age were applied to compile weightings in this survey, the distribution of gender and age reported in this report matches the Hong Kong Land-based Non-institutional Population (excluding foreign domestic helpers) compiled by the C&SD for the second quarter of 2014.

Overall, 52.6% of the respondents were females and 43.4% were aged between 30 and 49.

3.1.2 Marital status

Over three-fifths (63.3%) of the respondents were married – 55.6% had children and 7.7% did not have a child. Nearly one-third (32.5%) of the respondents were never married, 3.1% were divorced or separated and 1.1% were widowed.

3.1.3 Educational attainment

Most (76.6%) of the respondents had upper secondary education or above – 33.0% had upper secondary (S4-S6)/ matriculation and 43.7% attained tertiary education or above. The remaining of the respondents (23.4%) had lower secondary (S1-S3) or primary education or below.

3.1.4 Occupation

More than one-third (34.9%) of the respondents were not working. This included 8.4% students; 15.1% homemakers; 4.7% unemployed persons, 6.3% retired persons and 0.4% other non-working persons.

For working respondents, a relatively higher proportion of respondents were clerks (14.7%), followed by employers/ managers/ administrators (10.6%), service workers (8.4%), professionals (8.3%) and associate professionals (7.8%).

3.1.5 Income

Over half (53.0%) of the respondents had a monthly personal income below $20,000 – 37.7% had a monthly personal income of $10,000-$19,999 and 15.3% had a monthly personal income below $10,000.

Regarding the monthly household income, nearly half (46.8%) of the respondents had a monthly household income below $30,000 – 19.3% had a monthly household income of $20,000-$29,999, 19.3% had a monthly household income of $10,000-$19,999 and 8.1% had a monthly household income below $10,000.

3.1.6 Type of living quarters

As type of living quarters was applied as one of the weighting factors in this survey, the distribution of type of living quarters reported in this report matches the Hong Kong Land-based Non-institutional Population (excluding foreign domestic helpers) compiled by the C&SD for the second quarter of 2014.

More than half (53.4%) of the respondents were living in private housing, followed by public rental flats (29.1%) and Housing Authority/ Housing Society subsidized sale flats (17.5%).

Table 3.1: Demographic information (Q1, Q36-Q42)

Gender	**Base = 4 134**
Male	47.4%
Female	52.6%
Marital Status	**Base = 4 117**
Never married	32.5%
Married and with child(ren)	55.6%
Married and without child	7.7%
Divorced/ Separated	3.1%
Widowed	1.1%
Educational Attainment	**Base = 4 123**
Primary or below	9.2%
Lower secondary (S1- S3)	14.2%
Upper secondary (S4-S6)/Matriculation	33.0%
Tertiary (Non-degree, degree or above)	43.7%

Age	**Base = 4 132**
18-24	12.1%
25-29	9.4%
30-34	10.2%
35-39	10.2%
40-44	11.2%
45-49	11.7%
50-54	13.4%
55-59	12.2%
60-64	9.6%
Occupation	**Base = 4 084**
Employer/ Manager/ Administrator	10.6%
Professional	8.3%
Associate professional	7.8%
Clerk	14.7%
Service worker	8.4%
Shop sales worker	3.1%

Table 3.1: Demographic information (Q1, Q36-Q42)[9] (Continued)

Type of Living Quarters	**Base = 4 077**
Public rental flats	29.1%
Housing Authority subsidized sale flats	16.6%
Housing Society subsidized sale flats	0.8%
Private residential flats	46.7%
Villas/ Bungalows/ Modern village houses	3.4%
Simple stone structures/ Traditional village houses	1.8%
Staff quarters	1.5%

Skilled agricultural/fishery worker	0.2%
Craft and related worker	3.1%
Plant and machine operator and assembler	4.0%
Unskilled worker	5.0%
Student	8.4%
Homemaker	15.1%
Unemployed person	4.7%
Retired person	6.3%
Other non-working person	0.4%

Monthly Personal Income	**Base =2 452[10]**
Below $10,000	15.3%
$10,000-$19,999	37.7%
$20,000-$29,999	19.6%
$30,000-$49,999	15.7%
$50,000 or above	11.7%

Monthly Household Income	**Base =3 107**
Below $10,000	8.1%
$10,000-$19,999	19.3%
$20,000-$29,999	19.3%
$30,000-$49,999	25.6%
$50,000 or above	27.6%

[9] Refers to the question number in the survey questionnaire, see Annex A.
[10] For non-working respondents, they did not need to answer question Q40 (monthly personal income).

3.2 Weight status, control and perception

Four questions were asked in this survey to ascertain the respondents' height, weight, and waist circumference and their perception of their current weight. The respondents' body mass index (BMI) was calculated from the reported height and weight.

Those respondents with a body height out of the suggested range 100-190 cm, body weight out of the suggested range 37-120 kg or who were pregnant were treated as outliers and excluded from height, weight and BMI analyses (sections 3.2.1, 3.2.2 and 3.2.4). Subsequently, a total of 16 outlier cases for height or weight (including four pregnant women) were excluded from analyses in section 3.2.5. In addition, 65 cases were excluded from the BMI analyses due to missing data for height or weight.

3.2.1 Height (when not wearing shoes)

The self-reported height of the respondents ranged from 121.9 cm to 190.0 cm. More than two-fifths (41.0%) of the respondents were within the height range from 160.0 cm to less than 170.0 cm, followed by 27.3% in the range from 170.0 cm to less than 180.0 cm. The overall mean and median height were 164.7 cm and 164.0 cm 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	53	1.3%
150.0 – < 160.0	1 021	24.9%
160.0 – < 170.0	1 681	41.0%
170.0 – < 180.0	1 122	27.3%
180.0 – 190.0	226	5.5%
Total	***4 102****	***100%***
Mean	164.7 cm	
Median	164.0 cm	

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

3.2.2 Weight (when wearing light clothes)

The self-reported weight of the respondents ranged from 37.5 kg to 113.4 kg. Nearly one-third (32.6%) of the respondents fell into the weight range from 50 kg to less than 60 kg, followed by 26.3% in the range from 60 kg to less than 70 kg. The overall mean and median weight were 61.4 kg and 59.9 kg 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	11	0.3%
40.0 – < 50.0	699	17.2%
50.0 – < 60.0	1 328	32.6%
60.0 – < 70.0	1 070	26.3%
70.0 – < 80.0	656	16.1%
80.0 – 120.0	309	7.6%
Total	***4 073****	***100%***
Mean	61.4 kg	
Median	59.9 kg	

*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 50-120 cm (~19.7-47.2 inches) or who were pregnant were treated as outliers. A total of 12 cases (four of them were pregnant women) were treated as outliers.

The self-reported waist circumference of the respondents ranged from 50.8 cm to 116.8 cm. Over two-fifths (42.0%) of the respondents had their waist circumference in the range from 70 cm to less than 80 cm, followed by 26.6% in the range from 80 cm to less than 90 cm. The overall mean and median waist circumference were 76.7 cm and 76.2 cm 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	20	0.5%
60.0 – < 70.0	893	22.5%
70.0 – < 80.0	1 666	42.0%
80.0 – < 90.0	1 053	26.6%
90.0 – 120.0	332	8.4%
Total	***3 963****	***100%***
Mean	76.7 cm	
Median	76.2 cm	

*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 the World Health Organization (WHO) classification and locally adapted classification for Chinese adults in Hong Kong

According to the WHO classification, about seven-tenths (69.2%) of the respondents were classified as "normal", 17.8% as "overweight" and 3.4% as "obese". About one-tenth (9.6%) of the respondents were regarded as "underweight" (Table 3.2.4.1a).

Table 3.2.4.1a: Distribution of weight status by WHO classification (Q2a & Q2b)

Weight status	BMI	Number	% of Total
Underweight	BMI < 18.5	388	9.6%
Normal	BMI 18.5 – < 25.0	2 805	69.2%
Overweight	BMI 25.0 – < 30.0	722	17.8%
Obese	BMI ≥ 30.0	139	3.4%
Total		***4 053****	***100%***

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

Based on the locally adapted classification for Chinese adults in Hong Kong, about half (50.6%) of the respondents were classified as "normal", 21.2% as "obese" and 18.6% as "overweight", while the remaining 9.6% were classified as "underweight" (Table 3.2.4.1b).

Table 3.2.4.1b: Distribution of weight status by the locally adapted classification (Q2a & Q2b)

Weight status	BMI	Number	% of Total
Underweight	BMI < 18.5	388	9.6%
Normal	BMI 18.5 – < 23.0	2 051	50.6%
Overweight	BMI 23.0 – < 25.0	754	18.6%
Obese	BMI ≥ 25.0	860	21.2%
Total		***4 053****	***100%***

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

3.2.5 Perception of current weight status

When respondents were asked about their self-perceived current weight status, close to half (47.8%) of the respondents perceived it as "just right". However, 44.0% considered themselves as "overweight" while 8.2% 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	1 810	44.0%
Just right	1 970	47.8%
Underweight	338	8.2%
Total	***4 118****	***100%***

*Note: * All respondents excluding outliers for height and weight*

Table 3.2.5b shows the differences of weight status between the locally adapted classification and the respondents' perception. Nearly half (47.7%) of the respondents considered their weight status as "just right" while slightly more than half (50.6%) were classified as "normal". On the other hand, 44.1% of respondents perceived themselves as "overweight" while 39.8% were classified as "overweight" or "obese". Overall, 66.0% of the respondents perceived their weight status in a way consistent with the adapted criteria, while 19.6% of the respondents overestimated and 14.5% underestimated their weight status.

Table 3.2.5b: Comparison of weight status between the locally adapted classification and respondents' perception of their current weight (Q2a, Q2b & Q3)

Cross-tabulation		Weight status by the locally adapted classification				
		Underweight	Normal	Overweight	Obese	*Total*
Respondents' perception of current weight	**Overweight**	32	540	467	748	1 787
	% of Total	0.8%	13.3%	11.5%	18.4%	44.1%
	Just right	221	1 324	277	109	1 931
	% of Total	5.5%	32.7%	6.8%	2.7%	47.7%
	Underweight	134	187	10	4	335
	% of Total	3.3%	4.6%	0.2%	0.1%	8.3%
	Total	388	2 051	754	860	4 053
	% of Total	9.6%	50.6%	18.6%	21.2%	100.0%

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

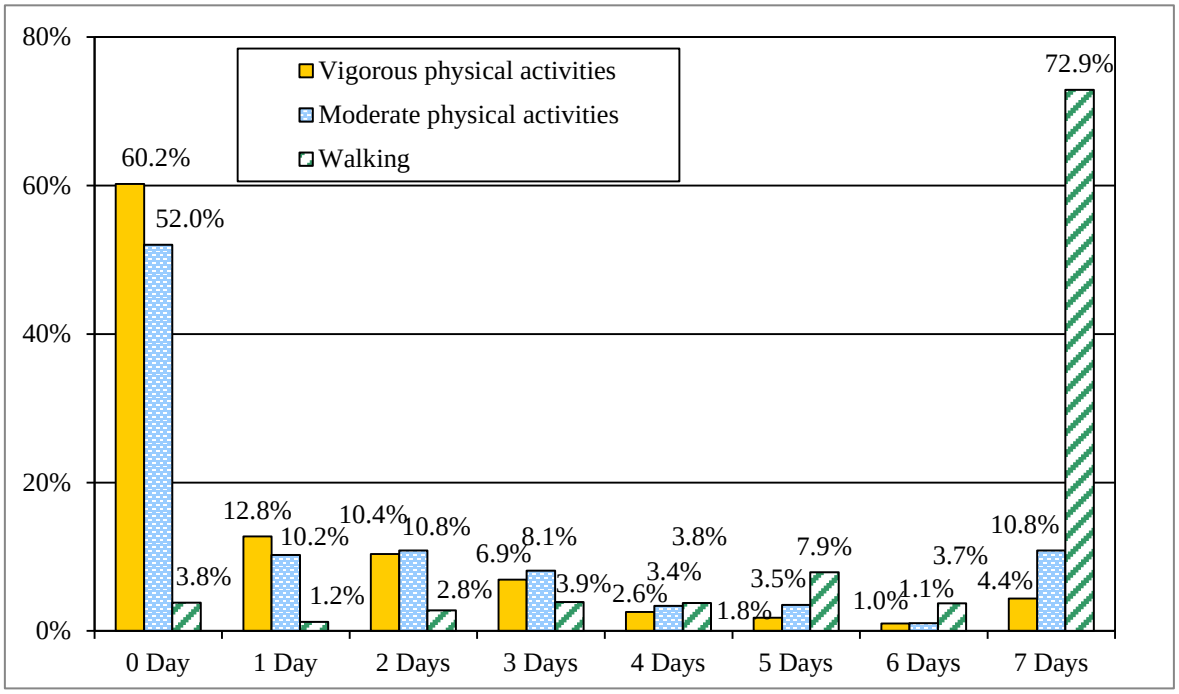
3.3 Physical activities and leisure-time exercise

Eight questions were asked to assess the frequency and duration of physical activities[11] that the respondents had engaged in. Seven of the questions were adopted from the International Physical Activity Questionnaire (IPAQ) short form (see Annex A, Q4a-Q8).

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, 72.9% of respondents spent at least 10 minutes walking every day. On the other hand, 39.8% and 48.0% 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 & Q6a)

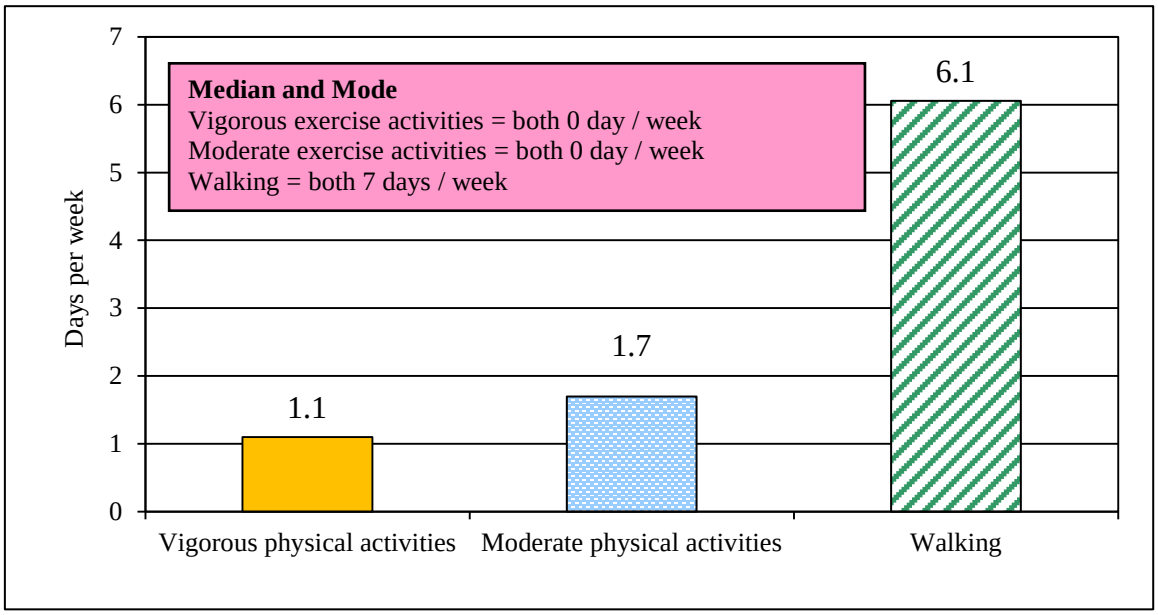


Base: All respondents (Vigorous physical activities = 4 134; Moderate physical activities = 4 134; Walking = 4 134)

[11] 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 and the heart beat much faster than normal, for example running, aerobics, football, swimming, heavy physical work and jogging. Moderate physical activities are defined as those that make people breathe somewhat harder and the heart beat somewhat faster 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 1.1 days per week on vigorous physical activities and 1.7 days per week on moderate physical activities. In contrast, the average number of days spent on walking was much higher at 6.1 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 & Q6a)



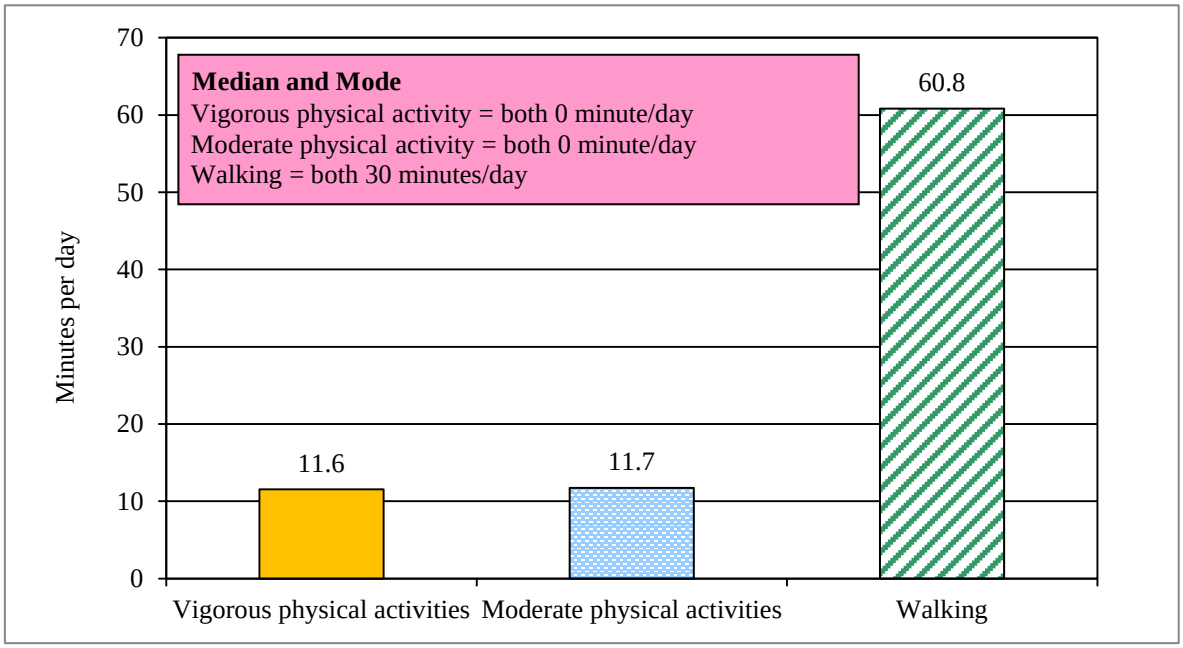
Base: All respondents (Vigorous physical activities = 4 134; Moderate physical activities = 4 134; Walking = 4 134)

3.3.2 Daily average time spent on physical activities[12]

On average, respondents spent 11.6 minutes per day on vigorous physical activities, 11.7 minutes on moderate physical activities and 60.8 minutes on walking. The median and mode average time spent per day were both zero minute 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 (9.5%) and moderate physical activities (8.7%), while 43.7% 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, Q6a & Q6b)



Base: All respondents excluding "don't know" (Vigorous physical activities = 4 127; Moderate physical activities = 4 131; Walking = 4 104)

[12] 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: (Q6a*Q6b)/7.

Table 3.3.2b: Daily average time spent on doing different types of physical activity (Q4a, Q4b, Q5a, Q5b, Q6a & Q6b)

Time spent (minutes)	Vigorous physical activity		Moderate physical activity		Walking	
	Number	% of Total	Number	% of Total	Number	% of Total
Below 10	3 104	75.2%	2 981	72.2%	417	10.2%
10 – < 16	165	4.0%	326	7.9%	467	11.4%
16 – < 31	465	11.3%	464	11.2%	1 424	34.7%
31 – < 61	269	6.5%	231	5.6%	977	23.8%
61 or above	124	3.0%	130	3.1%	818	19.9%
Total	***4 127****	***100%***	***4 131****	***100%***	***4 104****	***100%***

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

3.3.3 Sitting[13]

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 3.3.3 shows that more than half (56.0%) of the respondents reported that they sat for at least six hours per day during weekdays. The mean and median sitting hours were 6.4 and 6.0 respectively (Table 3.3.3).

Table 3.3.3: Average time spent on sitting per day during weekdays in the seven days prior to the survey (percentage, mean and median) (Q7)

Sitting time	Number	% of Total
10 mins - < 2 hrs	168	4.1%
2 - < 4 hrs	717	17.5%
4 - < 6 hrs	914	22.4%
6 - < 8 hrs	693	16.9%
8 - < 10 hrs	771	18.8%
10 hrs or above	826	20.2%
Total	***4 089****	***100%***
Other statistics	**Hours**	
Mean	6.4	
Median	6.0	

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

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

3.3.4 Analysis of the International Physical Activity Questionnaire

The analysis of the seven questions adopted from IPAQ is based on the guidelines for data processing and analysis of the IPAQ – Short Form (revised November 2005)[14] . 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, 40 cases were excluded from this part of analyses for being classified as "don't know" or refusal.

3.3.4.1 Categorical scoring

The categorical score comprises three levels of physical activity, namely "low", "moderate" and "high"[15]. Table 3.3.4.1a details the criteria of classification.

Table 3.3.4.1a: Categorical scoring classification of the level of physical activity

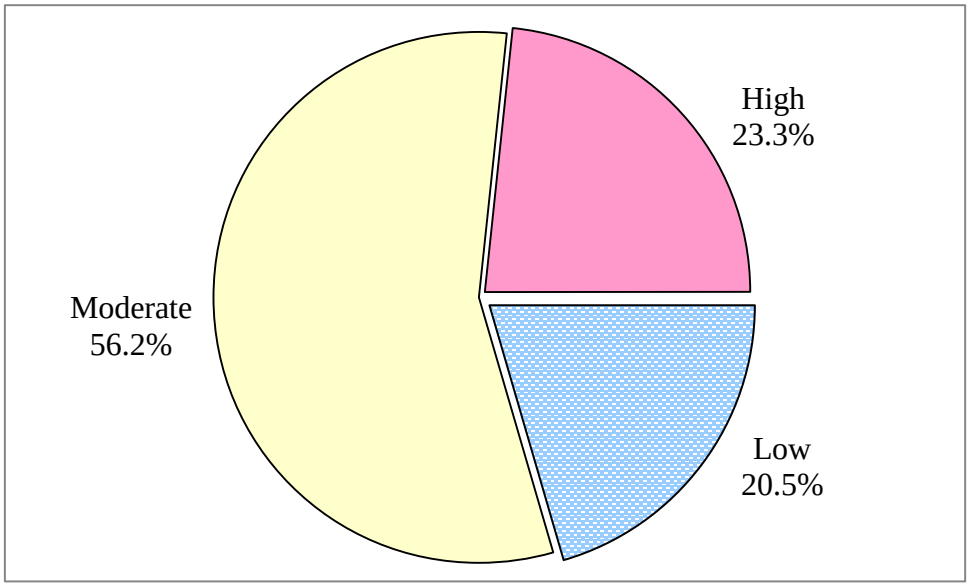
Level of physical activity	Categorical scoring classification criteria
Low	▪ No activity is reported OR ▪ Some activity is reported but not enough to meet categories "Moderate" or "High"
Moderate	Any one of the following 3 criteria ▪ 3 or more days of vigorous-intensity activity of at least 20 minutes 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

[14] This document for data processing and analysis of the IPAQ is available on the website: http://www.ipaq.ki.se/ipaq.htm.
[15] 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 3.3.4.1a, more than half (56.2%) of the respondents were classified as having "moderate" level of physical activity. The proportions of respondents having "high" and "low" level of physical activity were 23.3% and 20.5 % respectively (Fig. 3.3.4.1b).

Fig. 3.3.4.1b: Classification of respondents' physical activity level (Q4a, Q4b, Q5a, Q5b, Q6a & Q6b)



Base: All respondents excluding "don't know" according to the data processing rules of the IPAQ analysis guidelines = 4 094

3.3.4.2 Continuous scoring

Continuous scoring is another measurement of physical activity suggested in the IPAQ - short form data processing and analysis 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[16] is computed by multiplying the MET by the minutes performed. MET-minute scores are equivalent to kilocalories expended for a 60 kg 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 3.3.4.2a.

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

Table 3.3.4.2a: 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 data processing and analysis 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 3.3.4.2b 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 1 386 MET-minutes per week.

Table 3.3.4.2b: Medians of the IPAQ continuous score for each type of physical activity level (Q4a, Q4b, Q5a, Q5b, Q6a & Q6b)

Statistics	Continuous Score (MET-minutes/week)			
	Vigorous exercise	Moderate exercise	Walking	**Total**
Median	0	0	693	1 386

*Note: *All respondents excluding "don't know" according to the data processing rules of the IPAQ analysis guideline (Vigorous exercise = 4 127; Moderate exercise = 4 131; Walking = 4 104)*

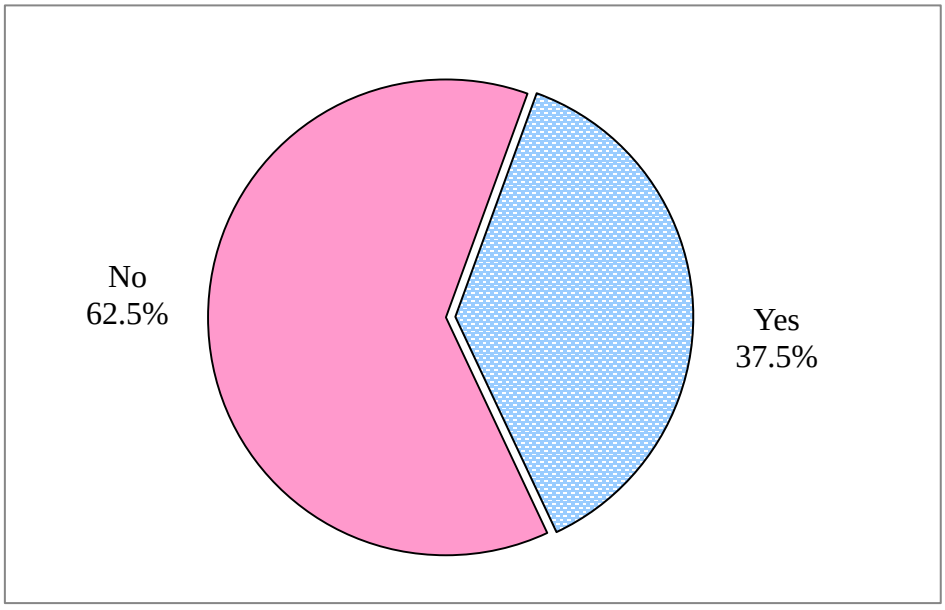
3.3.5 Analysis based on WHO's Global Recommendations on Physical Activity for Health

The WHO published the Global Recommendations on Physical Activity for Health in August 2010[17]. 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[18].

Overall, nearly two-fifths of the respondents (37.5%) attained the recommended amount physical activity during the seven days prior to the survey (Fig. 3.3.5).

Fig. 3.3.5: 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 = 4 128

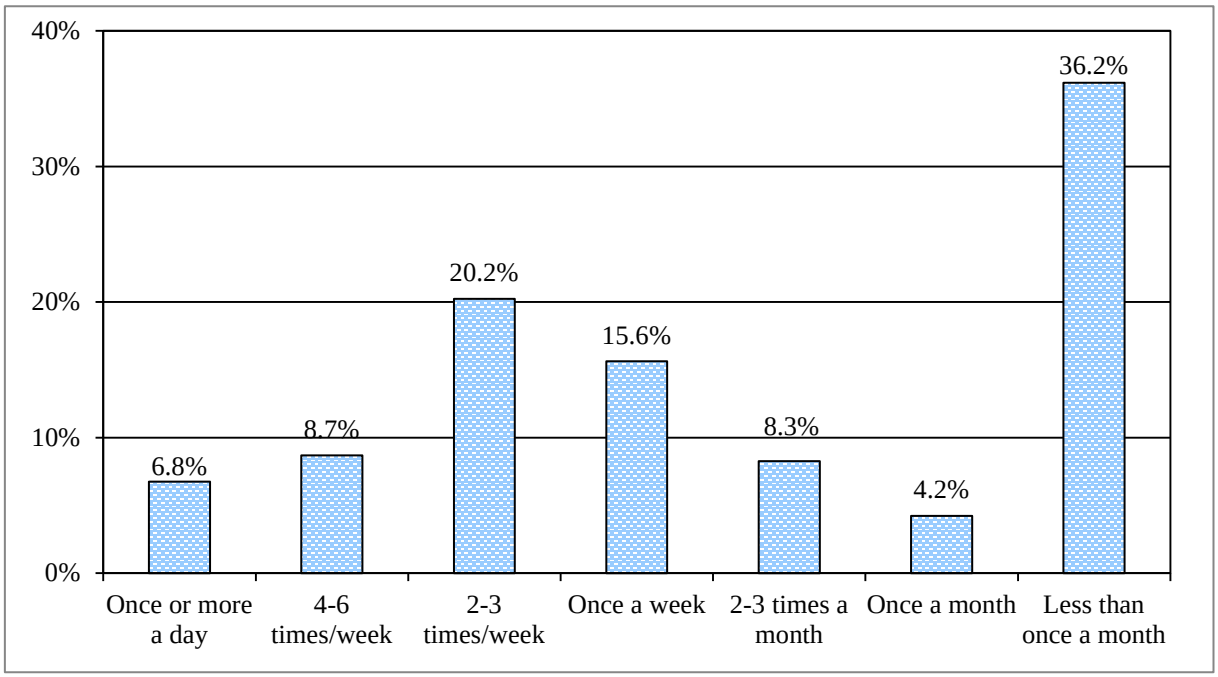
[17] "Global Recommendations on Physical Activity for Health", World Health Organization; 2010. (http://whqlibdoc.who.int/publications/2010/9789241599979_eng.pdf)

[18] 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)

3.3.6 Frequency of having exercise in leisure-time[19]

Respondents were asked how often they exercised in their leisure-time during the thirty days prior to the survey. Overall, more than one-third (36.2%) of the respondents reported that they exercised less than once a month in their leisure-time. On the other hand, 15.4% of respondents reported that they exercised 4 times or more a week and 35.9% exercised one to three times a week in their leisure-time (Fig. 3.3.6).

Fig. 3.3.6: Frequency of having exercise in leisure-time during the thirty days prior to the survey (Q8)



Base: All respondents excluding "don't know" and refusal = 4 127

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

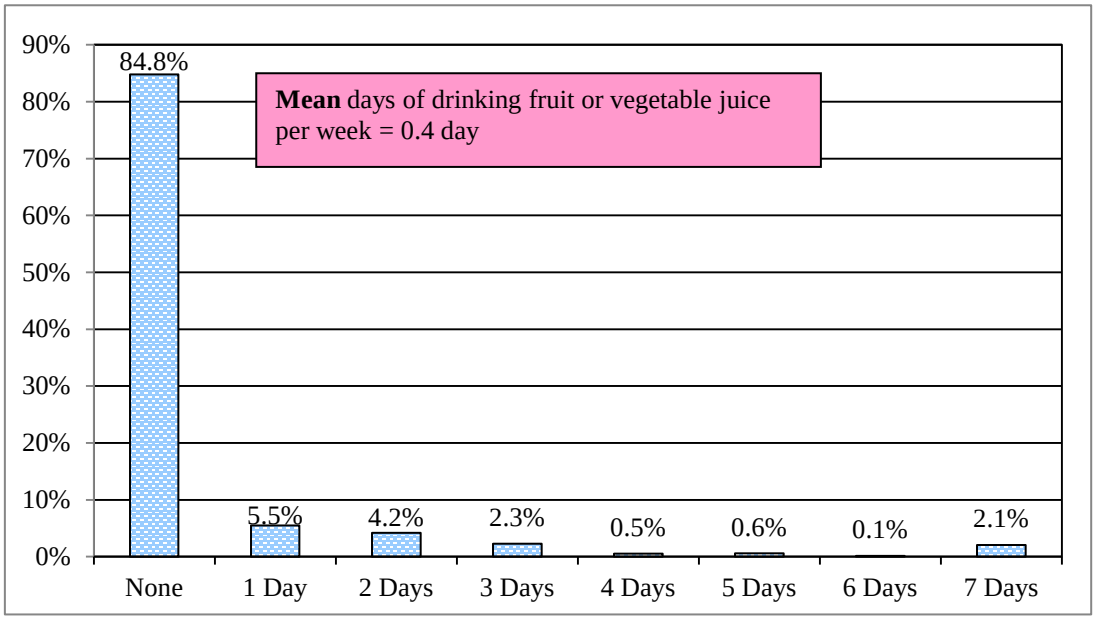
3.4 Fruit and vegetable consumption

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[20]

Overall, only 2.1% 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 0.4 day (Fig.3.4.1).

Fig. 3.4.1: Number of days in the week when respondents drank fruit or vegetable juice (Q11)



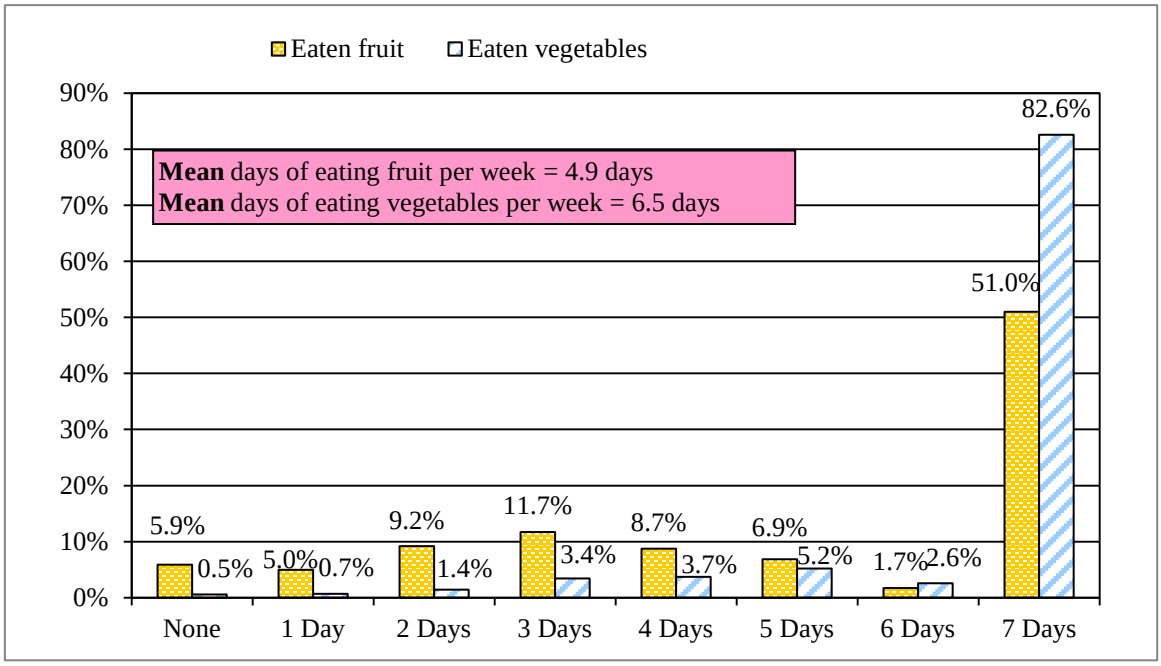
Base: All respondents = 4 134

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 (82.6%) of the respondents had consumed vegetables every day while about half the respondents (51.0%) had eaten fruit on a daily basis. On average, the number of days per week that respondents consumed vegetables (6.5 days per week) was higher than that for consuming fruit (4.9 days per week) (Fig. 3.4.2).

[20] 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 (Q9a & Q10a)



Base: All respondents (Eating fruit =4 134; Eating vegetables=4 134)

3.4.3 Amount of fruit and vegetables eaten per day[21]

On average, 47.8% and 30.6% of respondents consumed less than one fruit per day and less than one bowl of cooked vegetables[22] per day respectively. In addition, less than half (48.3%) of the respondents consumed 1-2 fruit per day and nearly two-thirds (64.2%) of the respondents ate 1-2 bowls of cooked vegetables per day on average. Overall, the daily average amount consumed was 1.0 fruit and 1.2 bowls of cooked vegetables (Table 3.4.3).

[21] Respondents were informed that one fruit was a medium-sized apple or orange, one medium-sized banana, two kiwi fruits or plums, or half 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 vegetables eaten on those days) / 7.

[22] 1 bowl of uncooked vegetable was coded as 0.5 bowl of cooked vegetable.

Table 3.4.3: Average amount of fruit and vegetables eaten per day (Q9a, Q9b, Q10a & Q10b)

Average no. of fruit/ no. of bowls of cooked vegetables eaten per day	**No. of respondents**			
	Fruit		**Vegetables**	
	Number	**% of Total**	**Number**	**% of Total**
Less than 1	1 974	47.8%	1 261	30.6%
1 – 2	1 997	48.3%	2 648	64.2%
More than 2	162	3.9%	213	5.2%
Total	***4 133****	***100%***	***4 122****	***100%***
Mean	1.0 fruit		1.2 bowls of vegetables	

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

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[23].

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 cooked vegetables eaten per day (i.e. one fruit equates to 1 serving and one bowl of cooked vegetables equates to 2 servings).

Overall, less than one-fifth (18.8%) 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) (Q9a, Q9b, Q10a & Q10b)

No. of servings (excluding juice)	**No. of respondents**	
	Number	**% of Total**
Less than 3	1 882 (0 serving = 13)	45.7% (0 serving = 0.3%)
3 - < 5	1 466	35.6%
5 or above	774	18.8%
Total	***4 121****	***100%***
	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

When fruit or vegetable juice was included, 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 cooked vegetables eaten per day (i.e. one fruit equates to 1 serving and 1 bowl of cooked vegetables equates 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)[24].

[23] Fruit, vegetables and NCD disease prevention. Geneva: World Health Organization; 2003. (http://www.who.int/dietphysicalactivity/media/en/gsfs_fv.pdf)

[24] 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, if fruit or vegetable juice is included in the total servings per day, 19.4% of the respondents consumed 5 or more servings of fruit and vegetables 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) (Q9a, Q9b, Q10a, Q10b & Q11)

No. of servings (including juice)	**No. of respondents**	
	Number	**% of Total**
Less than 3	1 852 (0 serving = 13)	44.9% (0 serving = 0.3%)
3 - < 5	1 470	35.7%
5 or above	800	19.4%
Total	***4 121****	***100%***
	No. of servings of fruit and vegetables eaten per day	
Mean	3.4 servings	
Median	3.0 servings	

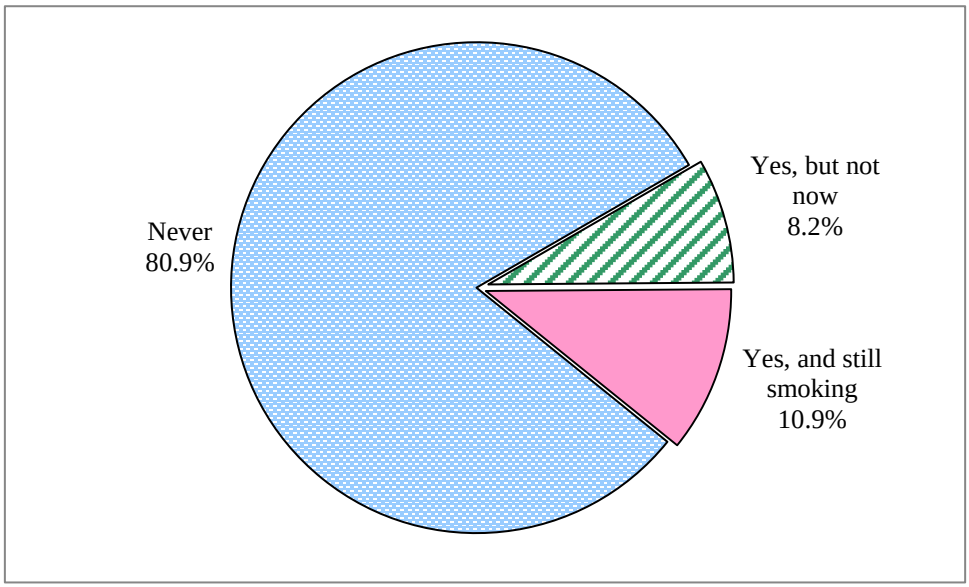
*Note: *All respondents excluding "don't know"*

3.5 Smoking pattern

In this survey, three questions were asked to assess respondents' smoking pattern.

About four-fifths (80.9%) of the respondents reported that they had never smoked, 8.2% smoked in the past but had now abstained and 10.9% of the respondents were current smokers (Fig. 3.5).

Fig. 3.5: Breakdown of smoking habits amongst respondents (Q12a)

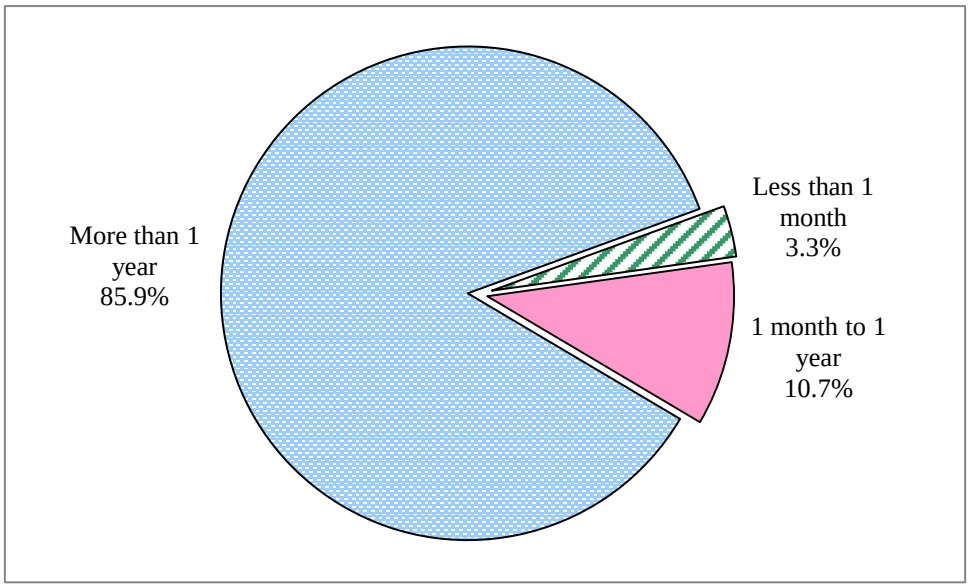


Base: All respondents = 4 134

3.5.1 Abstaining from smoking

Among those who had smoked before but had now abstained from smoking, most (85.9%) of them reported that they had abstained for more than one year and 10.7% had given up smoking for one month to one year. Only 3.3% of them reported that they had given up smoking for less than one month (Fig. 3.5.1).

Fig. 3.5.1: Length of time abstained from smoking (Q12b)

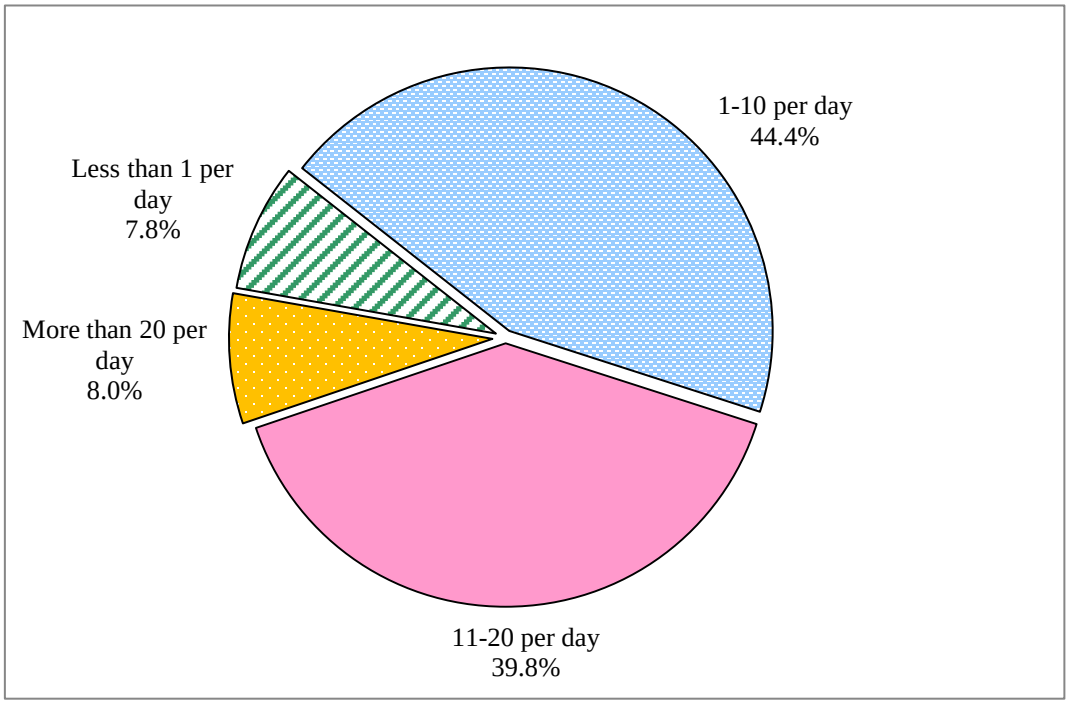


Base: All past smokers =339

3.5.2 Cigarette consumption

Among the current smokers, the vast majority (92.2%) of them were daily smokers. Nearly half (47.8%) of the current smokers reported that they smoked at least 11 cigarettes a day and over two-fifths (44.4%) of the current smokers reported that they smoked 1-10 cigarettes per day (Fig. 3.5.2).

Fig. 3.5.2: Number of cigarettes smoked on average per day by current smokers (Q12c)



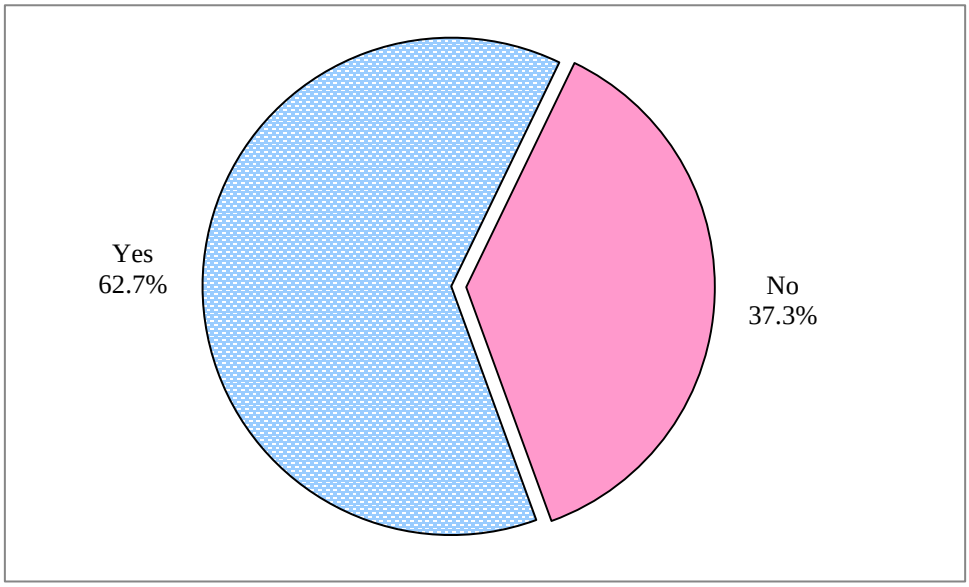
Base: All current smokers excluding "don't know" and refusal = 448

3.6 Pattern of alcohol consumption

In this survey, five questions were asked to identify the respondents' alcohol drinking patterns.

Overall, about three-fifths (62.7%) of the respondents reported that they had consumed at least one alcoholic drink during the past year prior to the survey. On the other hand, more than one-third (37.3%) of the respondents reported that they had never drunk alcohol during the past year prior to the survey (Fig. 3.6).

Fig. 3.6: Ever had at least one alcoholic drink during the past year prior to the survey (Q13)

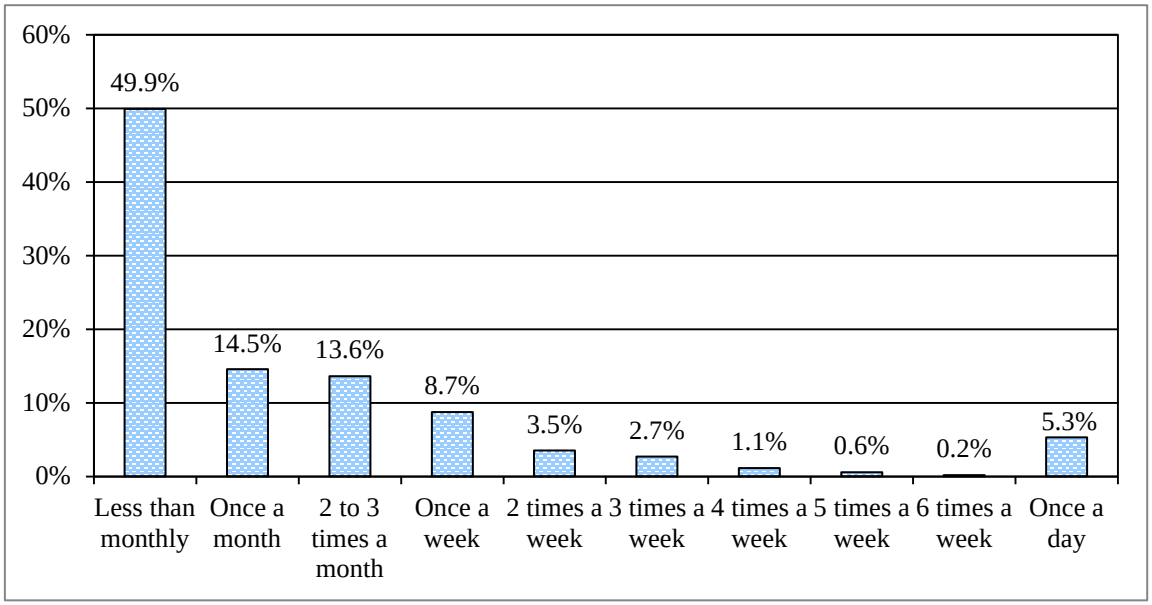


Base: All respondents = 4 134

3.6.1 Frequency of alcohol consumption

Among those respondents who had at least one alcoholic drink during the past year prior to the survey, less than one-tenth (5.3%) reported that they drank daily. On the other hand, nearly half (49.9%) of the drinkers reported that they drank less than monthly (Fig. 3.6.1).

Fig. 3.6.1: Frequency of drinkers consuming at least one alcoholic drink (Q14)

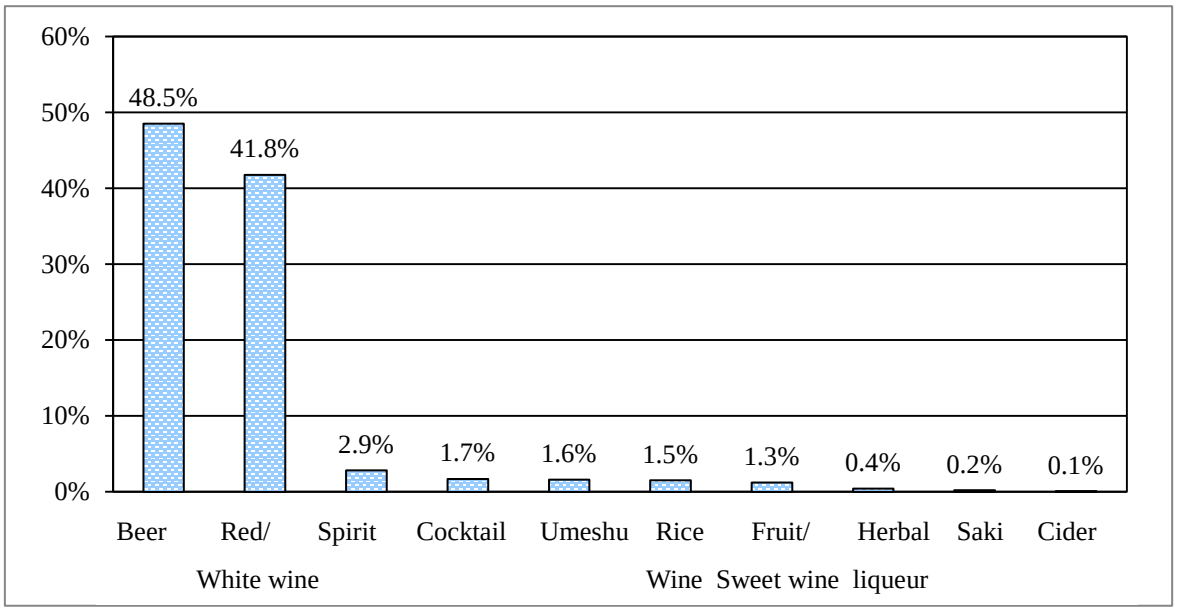


Base: Respondents who had at least one alcoholic drink during the past year prior to the survey excluding outliers and "don't know" = 2 580

3.6.2 Type of alcoholic drinks consumed by drinkers

Among those respondents who had at least one alcoholic drink during the past year prior to the survey, nearly half (48.5%) of them reported that they consumed beer and about two-fifths (41.8%) of them reported that they consumed red/white wine (Fig. 3.6.2).

Fig. 3.6.2: Type of alcoholic drinks consumed by drinkers (Q15)



Base: Respondents who had at least one alcoholic drink during the past year prior to the survey excluding outliers, "don't know" and refusal = 2 577

3.6.3 Amount of alcoholic drinks consumed

The respondents who drank at least one alcoholic drink during the past year prior to the survey were further asked about how many standard drinks[25] they would consume on each drinking day. Nearly four-fifths (79.5%) of them consumed less than 3 standard drinks on each drinking day while less than one-tenth (8.6%) consumed 5 or more standard drinks. On average, they consumed 2.1 standard drinks on each drinking day and the median was 1.3 standard drinks (Table 3.6.3).

Table 3.6.3: Average number of standard drinks consumed on the days respondents drank alcohol (percentage, mean and median) (Q15)

No. of standard drinks	No. of drinkers	
	Number	% of Total
Less than 3	2 042	79.5%
3 – < 5	307	12.0%
5 or above	220	8.6%
Total	***2 569****	***100%***
Mean	2.1 standard drinks	
Median	1.3 standard drinks	

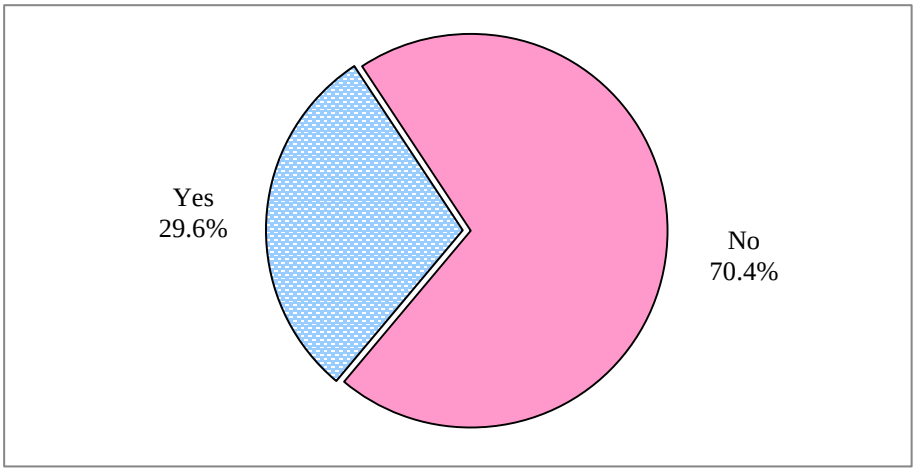
*Note: * Respondents who had at least one alcoholic drink during the past year prior to the survey excluding outliers and "don't know"*

[25] The number of standard drinks consumed was estimated as follows: one can of beer of about 330 ml is equal to 1.3 standard drinks; one dining glass of wine of 125 ml is approximately equal to 1.2 standard drinks. For details, please refer to the survey questions (Q15).

3.6.4 Drinking at least 5 glasses / cans of alcohol on one occasion (Binge drinking)[26]

Among those respondents who had at least one alcoholic drink during the past year prior to the survey, nearly three in ten (29.6%) of them had consumed at least 5 glasses / cans of alcohol on one occasion during the past year prior to the survey (Fig. 3.6.4a).

Fig. 3.6.4a: Consumption of at least 5 glasses / cans of alcohol on one occasion by drinkers during the past year prior to the survey (Q16)

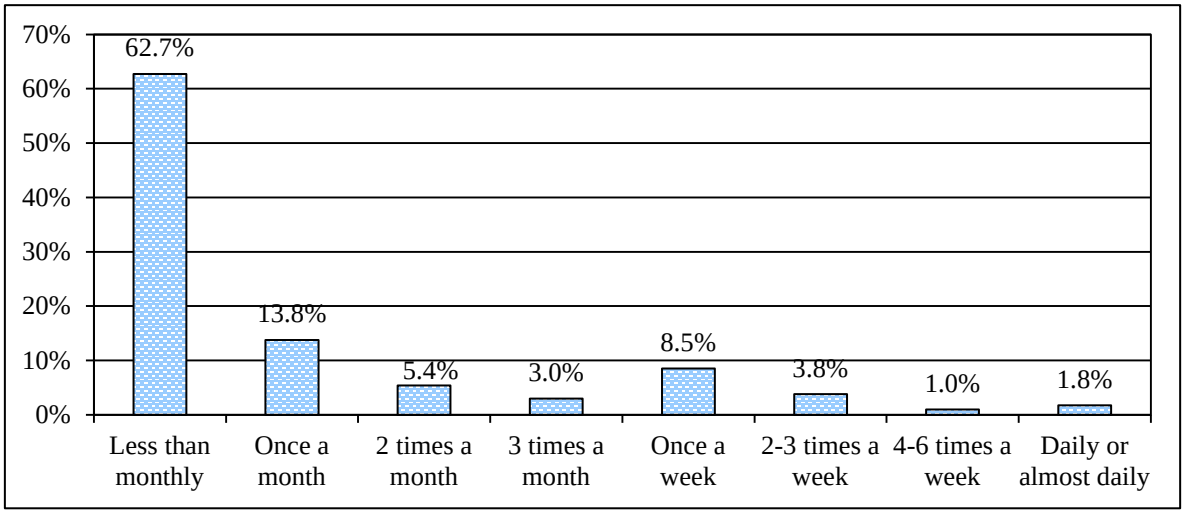


Base: Respondents who had at least one alcoholic drink during the past year prior to the survey, excluding outliers and "don't know" = 2 551

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

Among these binge drinking respondents, about three-fifths (62.7%) of them had binge drinking less than monthly and over one-third (37.3%) of them had the experience at least once a month during the past year prior to the survey (Fig. 3.6.4b).

Fig. 3.6.4b: Frequency of binge drinking among those who had the experience during the past year prior to the survey (Q16)

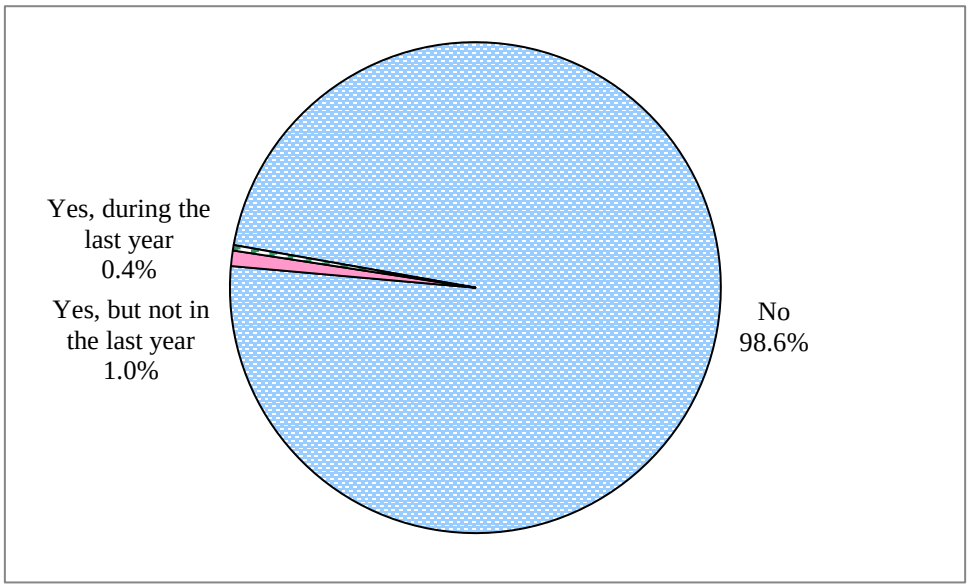


Base: Drinkers who had binge drinking during the past year prior to the survey excluding outliers and "don't know" = 755

3.6.5 Whether the respondents or someone else had ever been injured because of the respondents' drinking

Among those respondents who had at least one alcoholic drink during the past year prior to the survey, 1.4% of them reported that they or someone else had ever been injured because of their drinking (Fig. 3.6.5).

Fig. 3.6.5: Whether the respondents or someone else had ever been injured because of the respondents' drinking (Q17)



Base: Respondents who had at least one alcoholic drink during the past year prior to the survey = 2 593

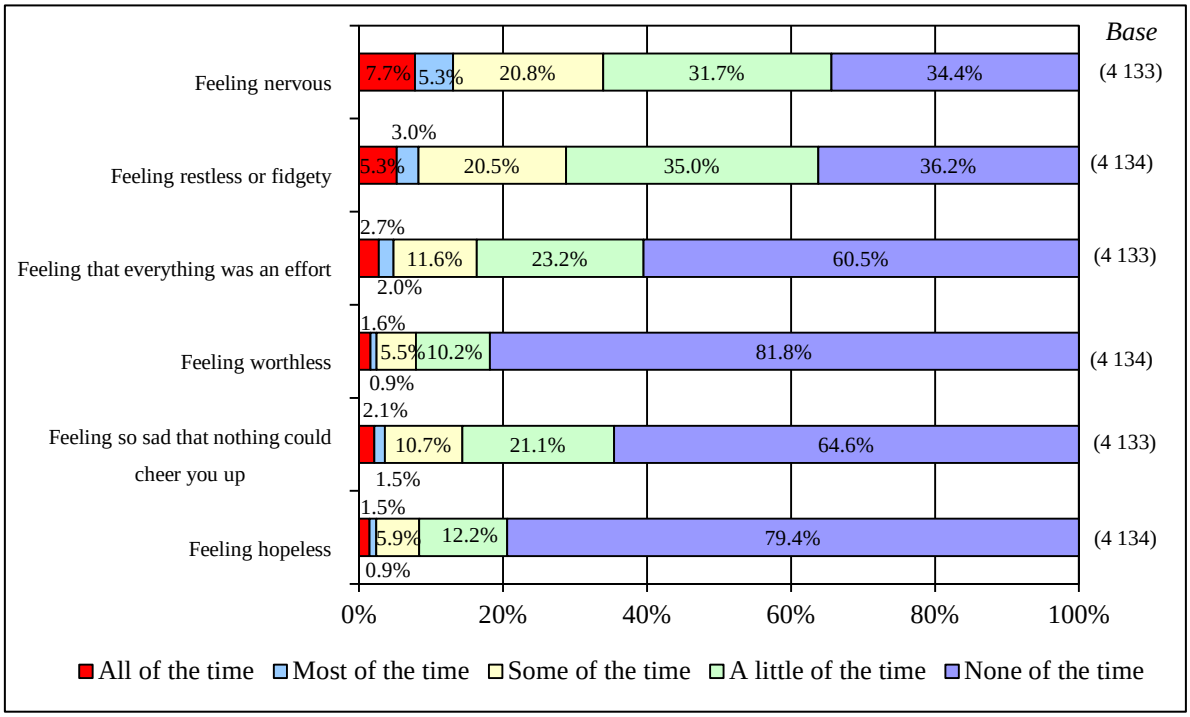
3.7 Level of psychological distress

The questions about psychological distress covered in this survey were adopted from the Kessler 6-items Psychological Distress Scale (K6). The scale asks about symptoms related to feeling of anxiety, restlessness, depression and hopelessness and is scored on the basis of their frequency during the thirty days prior to the survey in which "none of the time" is given a score of 0 and "all of the time" a score of 4. The K6 score is the total score which ranges from 0 to 24. Higher K6 score indicates a higher level of psychological distress. As suggested, a K6 score of 13 or above will be used to indicate "severe psychological distress". Details about the instrument could be found at the designated website. [27]

3.7.1 Frequency of experiencing six of the psychological distress symptoms

During the thirty days prior to the survey, 13.1% of the respondents frequently ("most" or "all of the time") felt nervous, 8.2% frequently felt restless or fidgety, 4.8% frequently felt that everything was an effort, 3.6% frequently felt so sad that nothing could cheer them up, 2.4% frequently felt worthless and 2.4% frequently felt hopeless. Overall, about one-fifth (20.4%) of the respondents did not experience any of the six psychological distress symptom during the thirty days prior to the survey (Fig. 3.7.1).

Fig. 3.7.1: Frequency of experiencing six of the psychological distress symptoms during the thirty days prior to the survey (Q18-Q23)



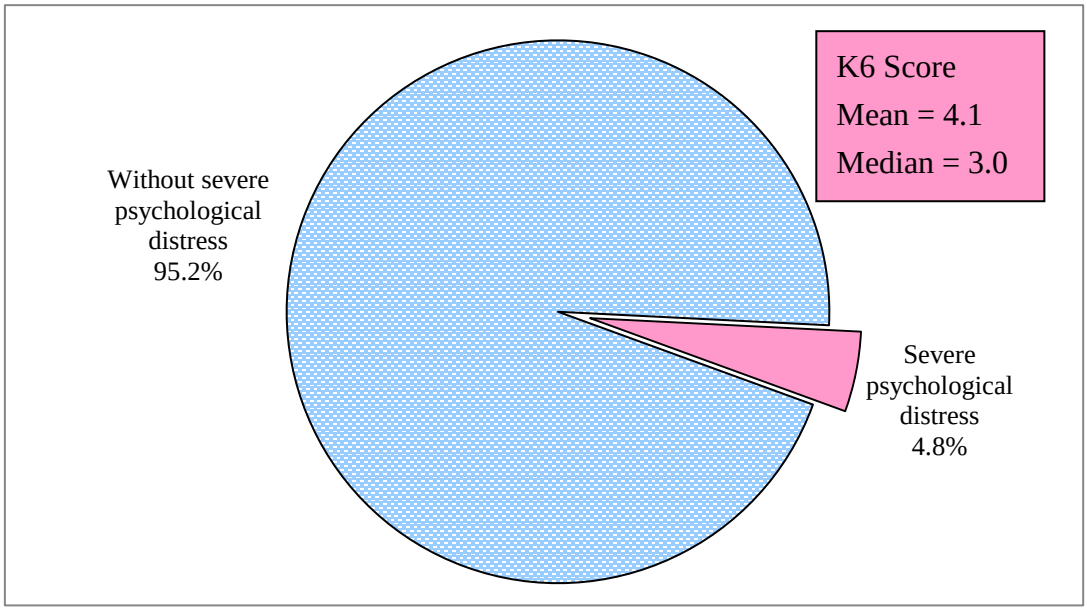
Base: All respondents excluding "don't know" and refusal

[27] Kessler 6-item Psychological Distress Scale (K6) could be found at http://www.hcp.med.harvard.edu/ncs/k6_scales.php

3.7.2 K6 score and prevalence of severe psychological distress (SPD)

The mean and median K6 scores of respondents were 4.1 and 3.0 respectively. Overall, 4.8% of respondents were classified as having SPD (Fig. 3.7.2).

Fig. 3.7.2: Prevalence of severe psychological distress (Q18-Q23)



Base: All respondents excluding "don't know" and refusal = 4 132

3.7.3 Number of times that respondents consulted a doctor or other health professional because of their feelings of psychological distress symptoms or emotional problems during the thirty days prior to the survey

For those respondents who had experienced any of the six psychological distress symptoms during the thirty days prior to the survey, most (97.9%) of the respondents reported that they had not consulted a doctor or other health professional because of their feelings of psychological distress symptoms or emotional problems. And for the respondents with severe psychological distress, over four-fifths (87.2%) of the respondents reported that they had not consulted a doctor or other health professional because of their feelings of psychological distress symptoms or emotional problems (Fig. 3.7.3).

Fig.: 3.7.3: Number of times that respondents consulted a doctor or other health professional because of their psychological distress symptoms during the thirty days prior to the survey (Q24)

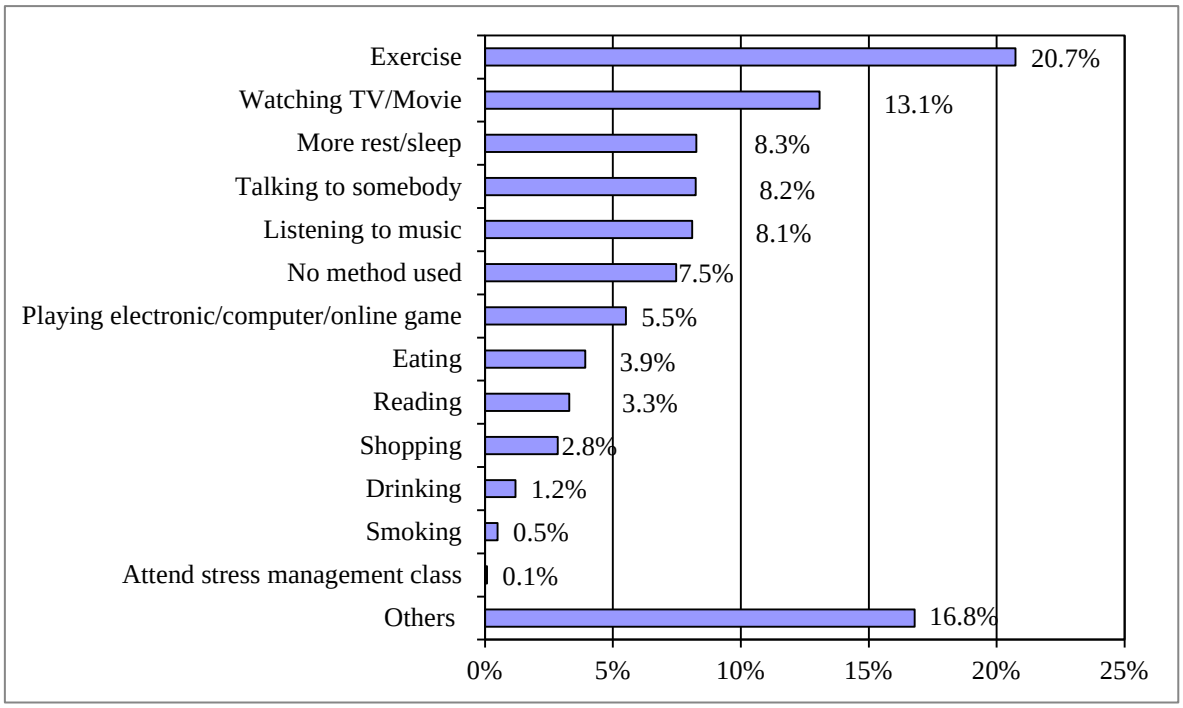
No. of times consulting a doctor or other health professional	Respondents with any psychological distress symptoms (K6 score below 13)		Respondents with severe psychological distress (K6 score of 13 or above)	
	Number	% of Total	Number	% of Total
None	3 219	97.9%	172	87.2%
Once	51	1.6%	18	8.9%
More than once	19	0.6%	8	3.9%
Total	***3 289****	***100%***	***197***	***100%***

*Note: * All respondents who had experienced any of the six psychological distress symptoms during the thirty days prior to the survey, excluding "don't know"/refusal*

3.7.4 Most frequently adopted stress coping mechanism

Overall, 20.7% of the respondents took exercises to cope with stress. Other frequently cited methods by respondents were 'watching TV/movie' (13.1%), taking 'more rest / sleep' (8.3%), 'talking to somebody' (8.2%) and 'listening to music' (8.1%). However, 7.5% of these respondents reported that they had not used any method to cope with stress (Fig. 3.7.4).

Fig. 3.7.4: Most frequently adopted stress coping mechanism (Q25)



Base: All respondents excluding "not applicable as no stress" and "don't know" = 3 763

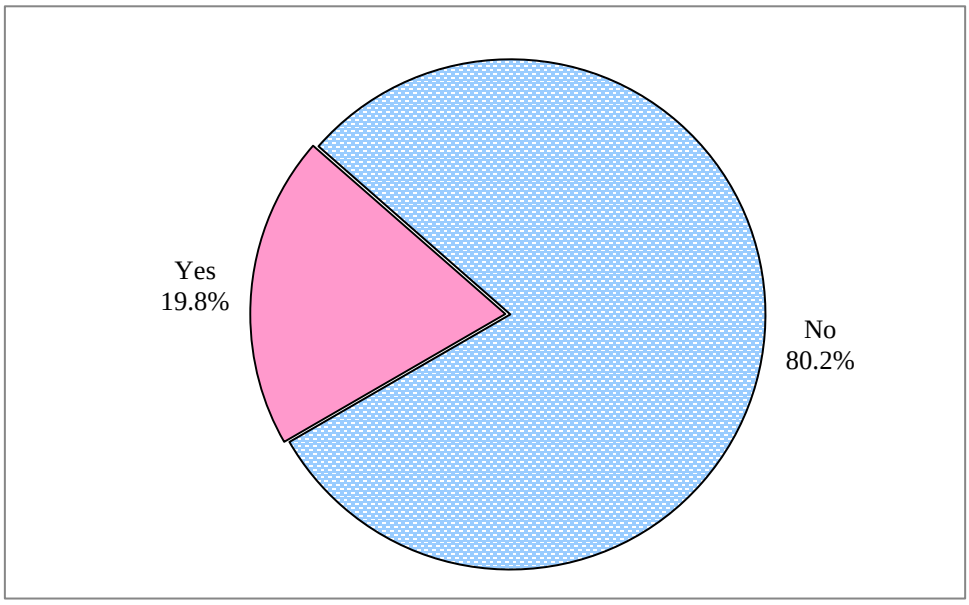
3.8 Use of antibiotics

Eleven questions were asked to understand the use of antibiotics by respondents.

3.8.1 Whether the respondents had actively asked the doctor if the medicine prescribed included antibiotics during last visit to a medical doctor in the past 12 months

Overall, nearly one-fifth (19.8%) of the respondents had actively asked the doctor if the medicine prescribed included antibiotics during their last visit to a medical doctor in the past 12 months (Fig. 3.8.1).

Fig. 3.8.1: Whether the respondents had actively asked the doctor if the medicine prescribed included antibiotics during last visit to a medical doctor in the past 12 months (Q26)

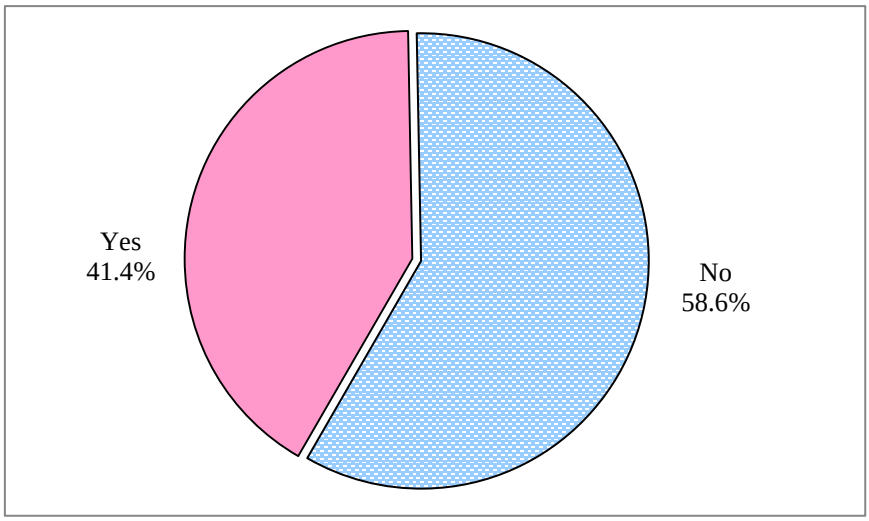


Base: All respondents excluding "did not see a doctor" and "cannot remember" = 3 568

3.8.2 Whether the respondents had taken antibiotics within the past 12 months

Overall, about two-fifths (41.4%) of the respondents had taken antibiotics during the 12 months prior to the survey (Fig. 3.8.2).

Fig. 3.8.2: Whether the respondents had taken antibiotics within the past 12 months (Q27)

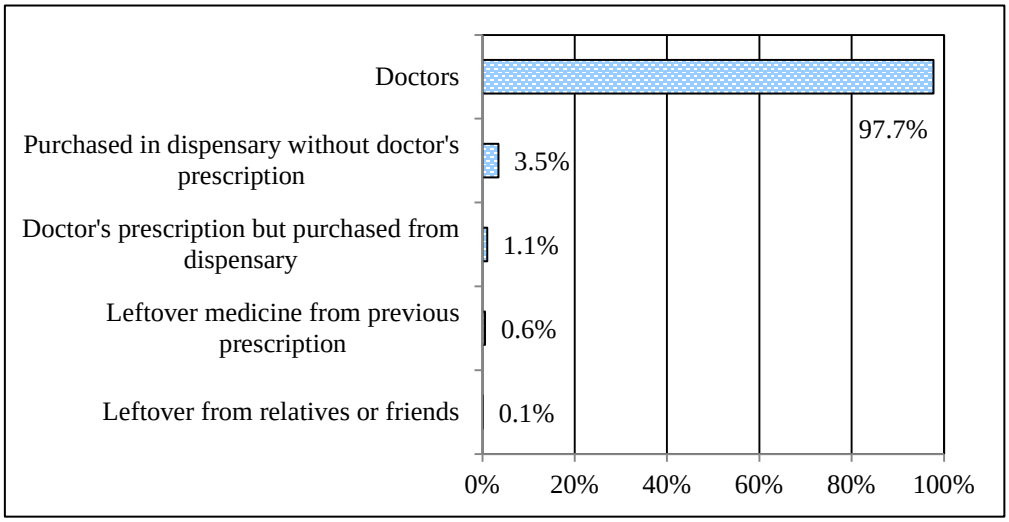


Base: All respondents excluding "don't know/cannot remember" = 3 805

3.8.3 The channels which respondents obtained the antibiotics within the past 12 months

Among those respondents who had taken any antibiotics during the 12 months prior to the survey, the vast majority (97.7%) of them reported that they obtained the antibiotics from doctors. On the other hand, a small proportion of those respondents purchased antibiotics by themselves from dispensary without doctor's prescription (3.5%) or with doctor's prescription (1.1%) and took the leftover from previous prescription (0.6%) or relatives or friends (0.1%) (Fig. 3.8.3).

Fig. 3.8.3: The channels which respondents obtained the antibiotics within the past 12 months (Q28)



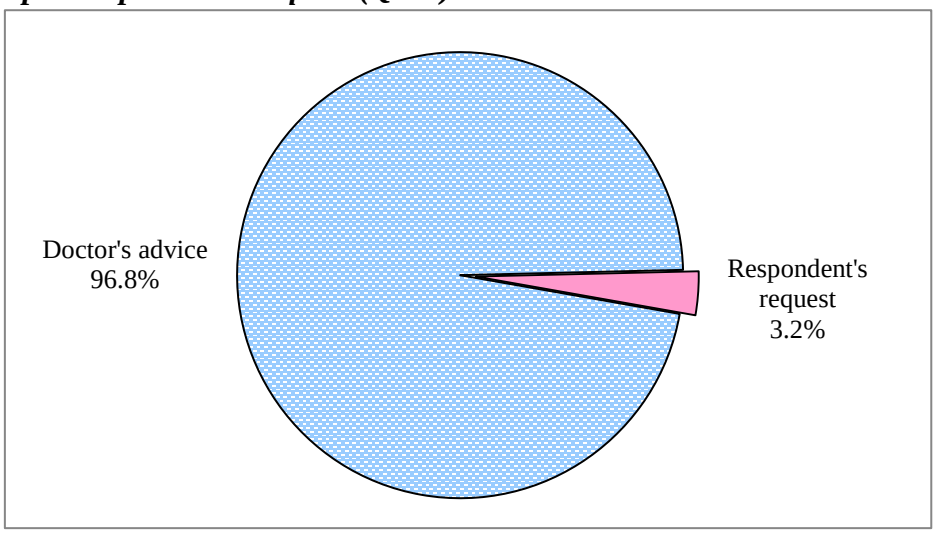
Base: Respondents who had taken antibiotics within the past 12 months=1 574

Note: Respondents could choose more than one channel.

3.8.4 Whether the last prescription of antibiotics was upon the doctor's advice or upon respondent's request

Among those respondents who had taken any antibiotics during the 12 months prior to the survey, most (96.8%) of them reported that the last prescription of antibiotics was upon the doctor's advice (Fig. 3.8.4).

Fig. 3.8.4: Whether the last prescription of antibiotics was upon the doctor's advice or upon respondent's request (Q29a)

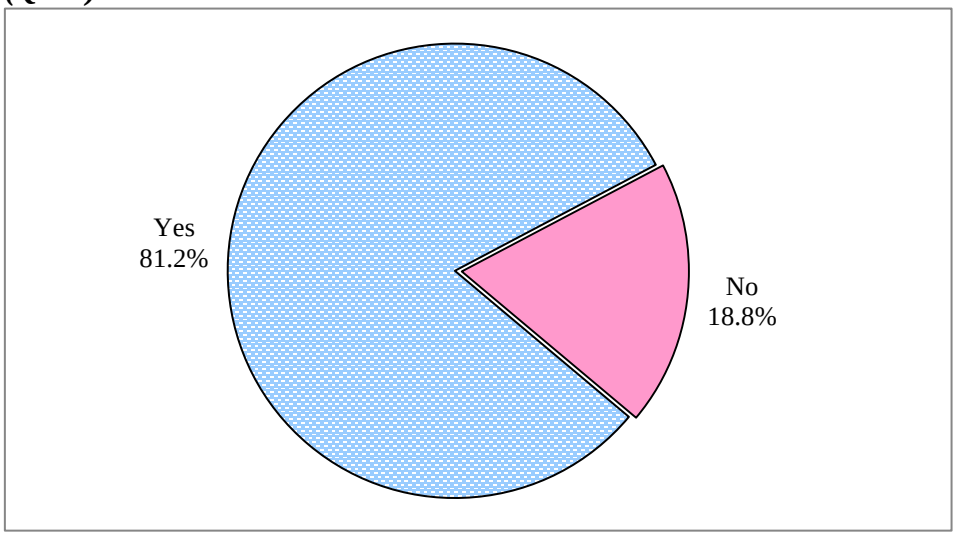


Base: Respondents who had taken antibiotics within the past 12 months excluding "cannot remember" = 1 561

3.8.5 Whether the doctors explained why they prescribed antibiotics last time

Among those respondents who had taken any antibiotics upon doctor's advice during the 12 months prior to the survey, over four-fifths (81.2%) of them reported that the doctors had explained why they prescribed antibiotics last time (Fig. 3.8.5).

Fig. 3.8.5: Whether the doctors explained why they prescribed antibiotics last time (Q29b)

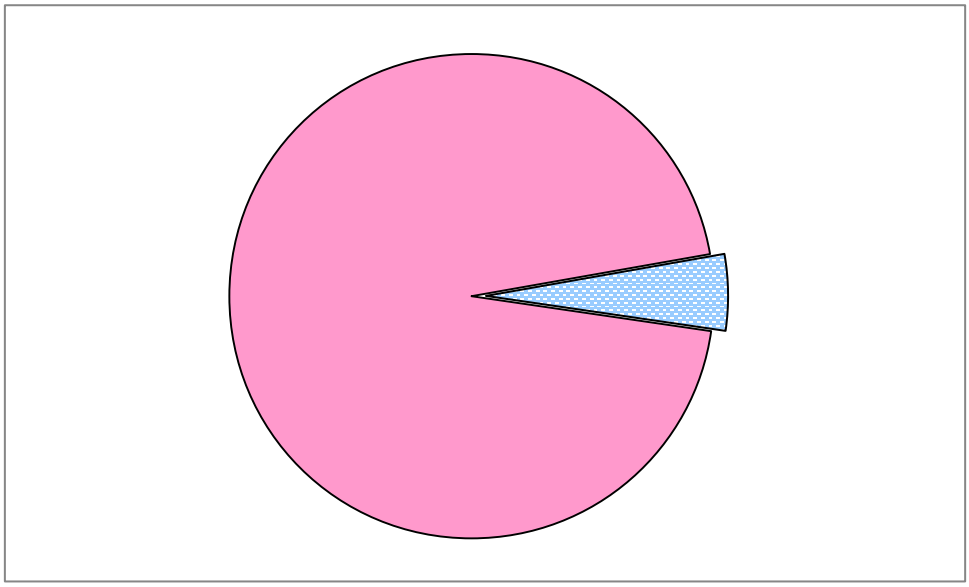


Base: Respondents who had taken antibiotics upon doctor's advice within the past 12 months excluding "cannot remember" =1 495

3.8.6 Whether the respondents directly asked their doctors if the doctors did not explain why the antibiotics were prescribed

Among those respondents who had taken any antibiotics upon doctor's advice during the past 12 months prior to the survey but the doctors had not explained why they prescribed antibiotics last time, the vast majority (94.9%) of them reported that they had not directly asked their doctors why the antibiotics were prescribed (Fig. 3.8.6).

Fig. 3.8.6: Whether the respondents directly asked their doctors if the doctors did not explain why the antibiotics were prescribed (Q29c)

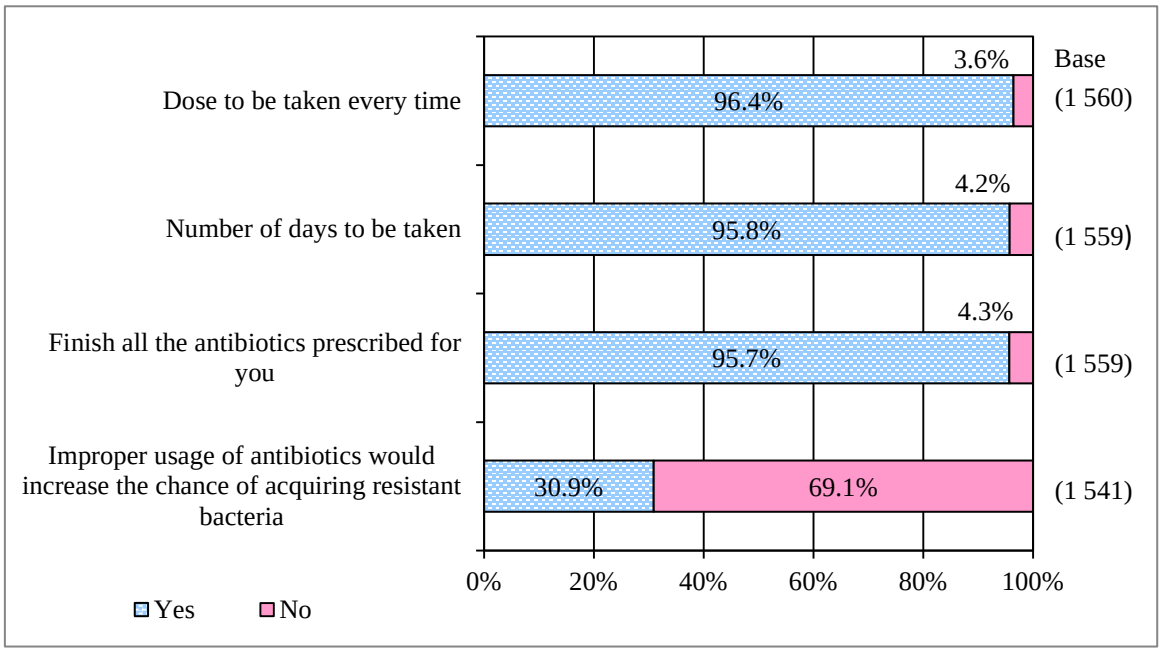


Base: Respondents who had taken antibiotics upon doctor's advice without explanation from doctors within the past 12 months= 282

3.8.7 Whether the doctors reminded the respondents of the following when the doctors last prescribed antibiotics

Among those respondents who had taken any antibiotics during the 12 months prior to the survey, more than four-fifths of the respondents reported that they had been reminded by their doctors of the dose to be taken every time (96.4%), the number of days to be taken (95.8%) and the need to finish all the antibiotics prescribed for them (95.7%). However, less than one-third (30.9%) of the respondents had been reminded by their doctors that improper usage of antibiotics would increase the chance of acquiring resistant bacteria (Fig. 3.8.7).

Fig. 3.8.7: Whether the doctors reminded the respondents of the following when the doctors last prescribed antibiotics (Q30a, Q30b, Q30c & Q30d)

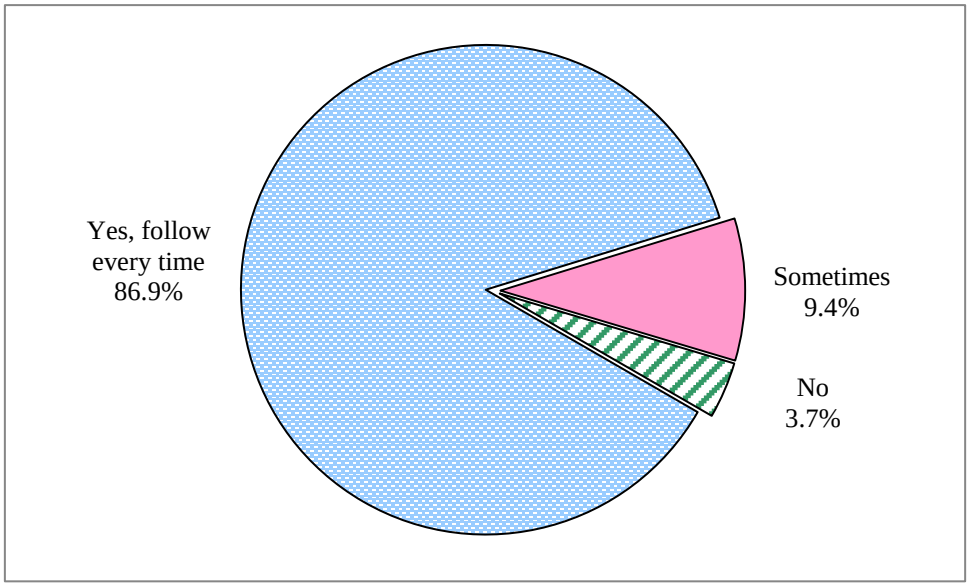


Base: Respondents who had taken antibiotics within the past 12 months excluding "cannot remember"

3.8.8 Whether the respondents had taken the antibiotics according to the prescribed dose and number of days

Among those respondents who had taken any antibiotics during the 12 months prior to the survey, more than four-fifths (86.9%) of the respondents had taken the antibiotics according to the prescribed dose and number of days every time (Fig. 3.8.8).

Fig. 3.8.8: Whether the respondents had taken the antibiotics according to the prescribed dose and number of days (Q31)



Base: Respondents who had taken antibiotics within the past 12 months excluding "cannot remember" = 1 569

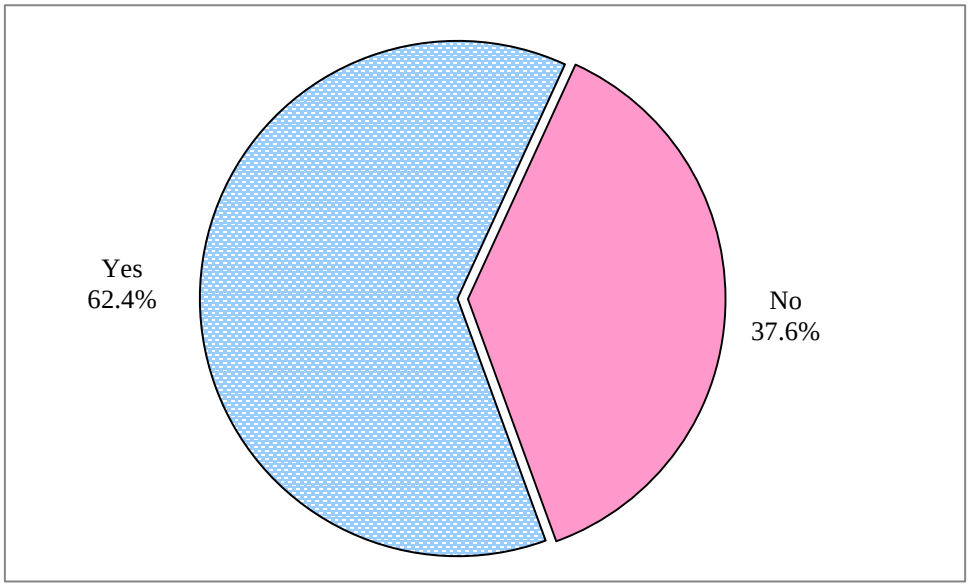
3.9 Cervical Screening (for female respondents only)

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

3.9.1 Whether had a cervical smear before

Overall, less than two-thirds (62.4%) of the female respondents reported that they had a cervical smear before (Fig. 3.9.1).

Fig. 3.9.1: Whether had a cervical smear before (Q32a)

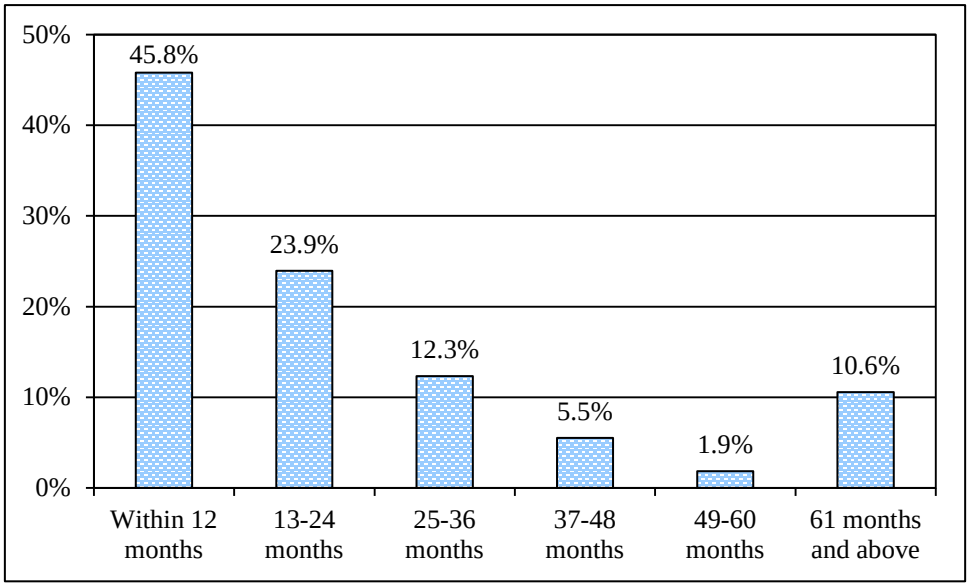


Base: All female respondents excluding "not sure" = 2 157

3.9.2 Length of time since last cervical smear if ever had a smear

Of those female respondents who had had a cervical smear before, less than half (45.8%) had their last cervical smear taken within twelve months prior to the survey. More than one-third (36.3%) of them had the examination within 13-36 months, while 17.9% had their last cervical smear at least 37 months ago (Fig. 3.9.2).

Fig. 3.9.2: Length of time since last cervical smear if ever had a smear (Q32b)

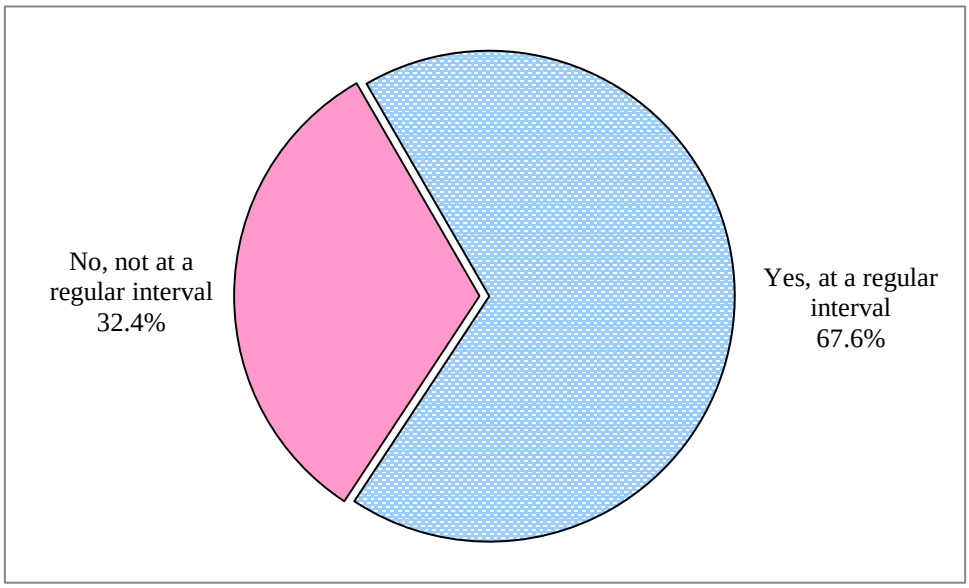


Base: Female respondents who ever had a cervical smear before, excluding "cannot remember" and refusal = 1 323

3.9.3 Cervical smear at a regular interval

About two-thirds (67.6%) of respondents who had a cervical smear before had the test at a regular interval (Fig. 3.9.3a).

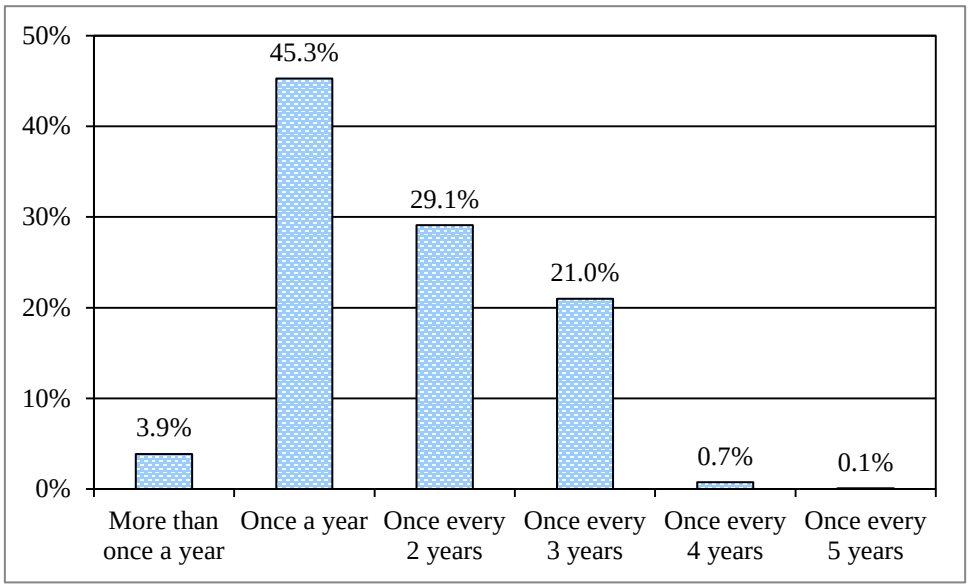
Fig. 3.9.3a: Whether had a cervical smear at a regular interval (Q32c)



Base: Female respondents who ever had a cervical smear before, excluding refusal = 1 346

Among those female respondents who had a cervical smear at a regular interval, more than two-fifths (45.3%) of the respondents reported that they had a cervical smear once a year. About half (50.1%) of them had it once every two or three years. Another 3.9% had the test more than once a year (Fig. 3.9.3b).

Fig. 3.9.3b: Frequency of having cervical smear at a regular interval (Q32d)

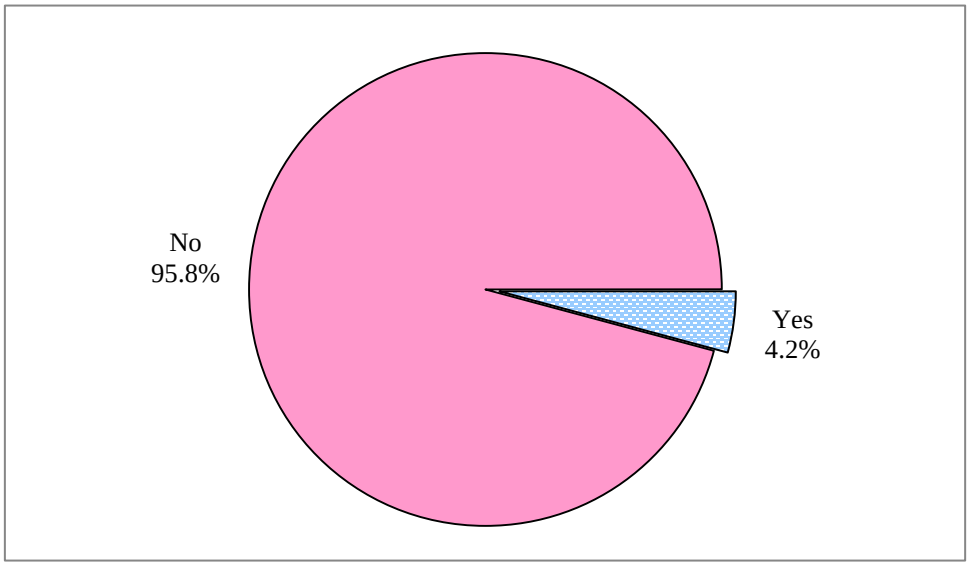


Base: Female respondents who had cervical smear at a regular interval, excluding "cannot say/ remember" = 892

3.9.4 Whether had a total hysterectomy

Among all female respondents, 4.2% of them had had a total hysterectomy (surgical removal of the entire uterus) (Fig. 3.9.4).

Fig. 3.9.4: Whether had a total hysterectomy (Q33)



Base: All female respondents excluding refusal = 2 174

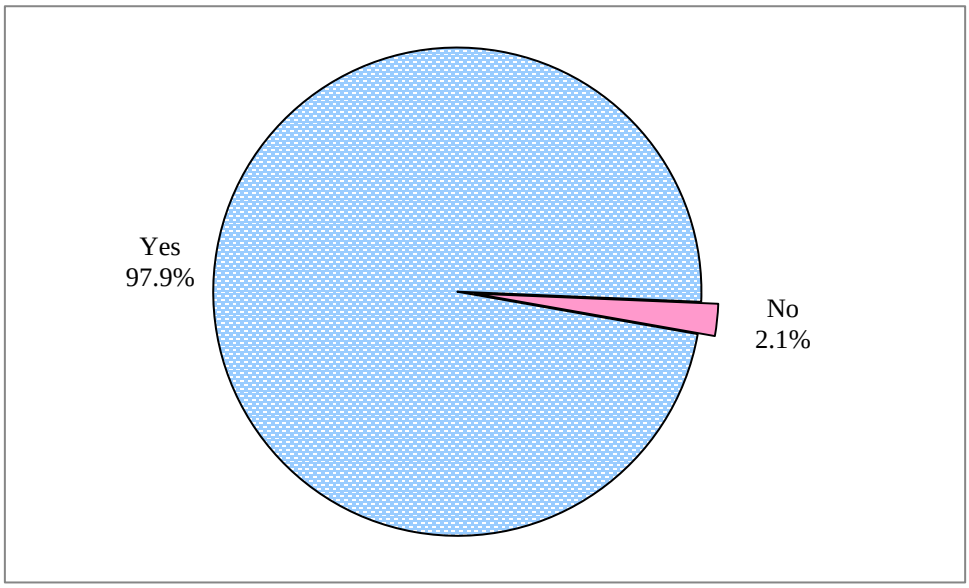
3.10 Use of mobile phone

In this section, two questions were asked to understand the use of mobile phone by respondents.

3.10.1 Whether currently using a mobile phone

Most respondents (97.9%) reported that they were currently using a mobile phone (Fig. 3.10.1).

Fig. 3.10.1: Whether currently using a mobile phone (Q34)

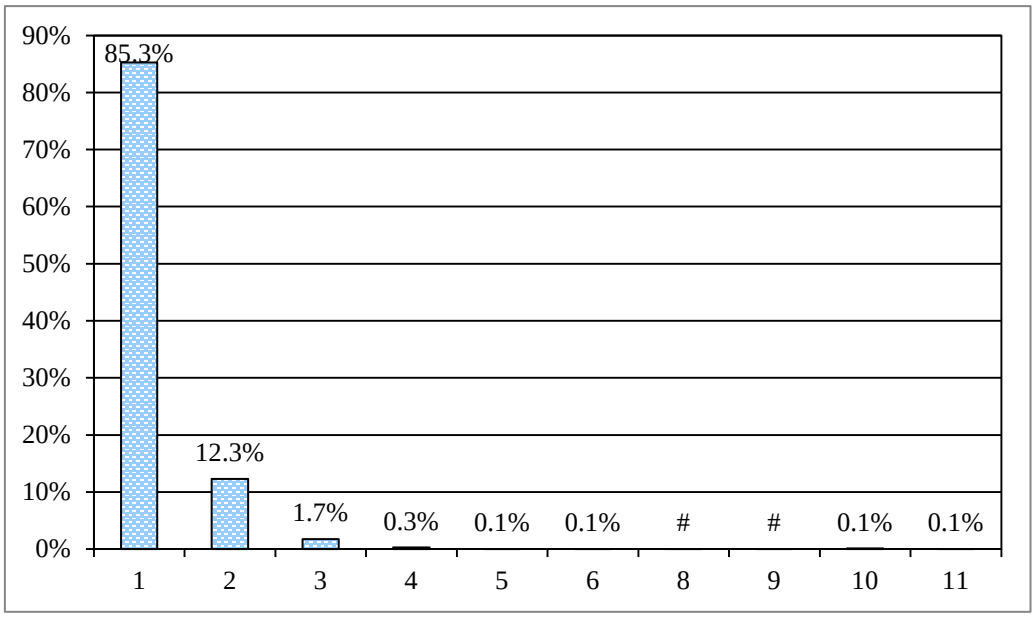


Base: All respondents = 4 134

3.10.2 Number of mobile phone numbers in total which the respondents were using personally and would usually answer

Among those respondents who were currently using a mobile phone, over four-fifths of the respondents (85.3%) had only one mobile phone number which they were using personally and would usually answer (Fig. 3.10.2).

Fig. 3.10.2: Number of mobile phone numbers in total which the respondents were using personally and would usually answer (Q35)



Base: Respondents who currently used a mobile phone excluding refusal = 4 040

Note: # Less than 0.05%

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, educational attainment, marital status, 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.

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 response of 'don't know', 'not sure', 'not applicable', 'refuse to answer', 'cannot say/remember' 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, Q36 – Q42)

Demographic variable	Original level	Re-grouped level	Sample size after re-grouping (weighted)
Gender	Male	Male	1 960
	Female	Female	2 174
Age group	No grouping	18 – 24	498
		25 – 34	813
		35 – 44	885
		45 – 54	1 037
		55 – 64	898
Educational attainment	Primary or below	Primary or below	377
	Lower secondary (S1 – S3)	Lower secondary (S1 – S3)	586
	Upper secondary (S4 – S6)/ Matriculation	Upper secondary (S4 – S6)/ Matriculation	1 359
	Tertiary (Non-degree, degree or above)	Tertiary (Non-degree, degree or above)	1 801
Marital status	Never married	Never married	1 338
	Married with child(ren)	Married	2 607
	Married without child		
	Divorced/ Separated	Divorced/ Separated/ Widowed	172
	Widowed		

Table 4.1a: Re-grouping the responses of demographic information (Q1, Q36 – Q42) (Continued)

Demographic variable	Original level	Re-grouped level	Sample size after re-grouping (weighted)
Occupation	Employer/ Manager/ Administrator	Managerial/ Professional worker	1 086
	Professional		
	Associate professional		
	Clerk	Clerk	599
	Service worker	Service worker / Shop sales worker	472
	Shop sales worker		
	Skilled agricultural/ Fishery worker	Blue collar worker	502
	Craft and related worker		
	Plant and machine operator and assembler		
	Unskilled worker		
	Student	Not working	1 425
	Home-maker		
	Unemployed person		
	Retired person		
	Other non-working person		
Monthly household income	Less than $2,000	Below $8,000	181
	$2,000 - $3,999		
	$4,000 - $5,999		
	$6,000 - $7,999		
	$8,000 - $9,999	$8,000 - $13,999	316
	$10,000 - $11,999		
	$12,000 - $13,999		
	$14,000 - $15,999	$14,000 - $19,999	357
	$16,000 - $17,999		
	$18,000 - $19,999		
	$20,000 - $24,999	$20,000 - $39,999	1 068
	$25,000 - $29,999		
	$30,000 - $34,999		
	$35,000 - $39,999		
	$40,000 - $44,999	$40,000 or above	1 185
	$45,000 - $49,999		
	$50,000 - $54,999		
	$55,000 - $59,999		
	$60,000 or above		
Type of living quarters	Public rental flats	Public rental flats	1 187
	Housing Authority subsidized sale flats	Subsidized sale flats	712
	Housing Society subsidized sale flats		
	Private residential flats	Private housing	2 178
	Villas/ Bungalows/ Modern village houses		
	Simple stone structures/ Traditional village houses		
	Staff quarters		

Table 4.1b: Re-grouping the responses of questions

Question No.	Question content	Original level	Re-grouped level
Q4a, Q5a, Q6a **Q9a, Q10a**	Average days per week spent on vigorous/ moderate physical activities and walking Average days per week that respondents eat fruit/vegetable	0 day	0 - 1 day
		1 day	
		2 days	2 - 3 days
		3 days	
		4 days	4 - 5 days
		5 days	
		6 days	6 - 7 days
		7 days	
Q7	Average time spent on sitting on a weekday	No grouping	10 mins - < 2 hrs
			2 - < 4 hrs
			4 - < 6 hrs
			6 - < 8 hrs
			8 - < 10 hrs
			10 hrs or above
Q8	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
Q11	Average days per week that respondents drink fruit or vegetable juice	0 day	0 - 1 day
		1 day	
		2 days	2 - 3 days
		3 days	
		4 days	4 - 7 days
		5 days	
		6 days	
		7 days	

Table 4.1b: Re-grouping the responses of questions (Continued)

Question No.	Question content	Original level	Re-grouped level
Q12c	Average number of cigarettes respondents smoked per day	Less than 1 per day	Less than 1 per day
		1-10 per day	1-10 per day
		11-20 per day	11 or more per day
		More than 20 per day	
Q14	Frequency of having a drink containing alcohol	Less than monthly	Once or less per week
		Once a month	
		2 to 3 times a month	
		Once a week	
		2 times a week	2-3 times per week
		3 times a week	
		4 times a week	4 times or more per week
		5 times a week	
		6 times a week	
		Once a day	
Q16	Frequency of having at least 5 or more drinks on one occasion	Less than monthly	Once or less a month
		Once a month	
		2 times a month	Twice or more a month
		3 times a month	
		Once a week	
		2-3 times a week	
		4-6 times a week	
		Daily or almost daily	
Q17	Whether respondents or someone else had been injured because of their drinking	No	No
		Yes, but not in the last year	Yes
		Yes, during the last year	
Q24	Number of times respondents saw a doctor or other health professional because of these feelings/emotional problems in the past 30 days	No grouping	None
			At least once
Q32b	How long ago respondents had the last cervical smear	Within 12 months	1-12 months
		13-24 months	13-36 months
		25-36 months	
		37-48 months	37 months and above
		49-60 months	
		61 months and above	

Table 4.1b: Re-grouping the responses of questions (Continued)

Question No.	Question content	Original level	Re-grouped level
Q32d	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	Less than once every 2 years
		Once every 4 years	
		Once every 5 years	
		Once every 6-10 years	
		Less frequent than once every 10 years	
Q35	Number of mobile phone numbers in total which respondents are using personally and would usually answer	No grouping	One
			Two or more

Three types of statistical tests are used for sub-group analysis in this report, namely Pearson's chi-square test, Kruskal-Wallis test and Spearman's rank correlation [28].

When both variables are nominal, Pearson's 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 and expected values $\geq$5 are presented in this chapter. While the

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

Pearson's Chi-square test:

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

where O_{ij} is the observed value corresponding to the ith column and the jth row, e_{ij} is the expected value corresponding to the ith column and the jth row. The calculation of e_{ij} is as follow: expected value = (ith column total x jth 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 ith sample, n_i is the number of observations of the ith 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 ith 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.

Pearson's 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.

4.2 Weight status, control and perception

4.2.1 Weight status

When the locally adapted classification of weight status for Chinese adults in Hong Kong is used, weight status is associated significantly with five demographic variables: gender, age, educational attainment, marital status and occupation (Table 4.2.1).

More male respondents (28.4%) were classified as “obese” while more female respondents (13.8%) were classified as “underweight”. Besides, the older the respondents, the more likely that they were classified as “overweight” or “obese”. In contrast, the younger the respondents, the more likely that they were classified as “underweight”.

The lower the educational attainment of the respondents, the more likely that they were classified as “obese”. Besides, a relatively higher proportion of the divorced/separated/widowed respondents (27.1%) and married respondents (25.2%) than never married respondents (12.8%) were classified as “obese”.

Regarding the respondents’ occupation, a relatively higher proportion of blue collar workers (32.9%) were classified as “obese”.

On the contrary, the higher the educational attainment of the respondents, the more likely that they were classified as “underweight”. Never married respondents (16.5%) were more likely to be “underweight” than the divorced/separated/widowed respondents (7.4%) and the married respondents (6.2%).

Table 4.2.1: Weight status by BMI according to the locally adapted classification

Variable	Level	Base	Underweight	Normal	Overweight	Obese	p-value	
							Kruskal-Wallis test	Rank Correlation
Gender	Male	1 931	4.9%	44.7%	22.0%	28.4%	0.000	
	Female	2 122	13.8%	56.0%	15.5%	14.7%		
Age group	18-24	492	20.8%	62.8%	9.9%	6.5%		0.000
	25-34	791	14.9%	56.8%	13.9%	14.5%		
	35-44	863	8.8%	52.6%	18.0%	20.6%		
	45-54	1 021	4.2%	44.5%	25.0%	26.3%		
	55-64	883	5.5%	43.4%	20.9%	30.2%		

Table 4.2.1: Weight status by BMI according to adapted classification (Continued)

Variable	Level	Base	Under-weight	Normal	Over-weight	Obese	p-value	
							Kruskal-Wallis test	Rank Correlation
Educational attainment	Primary or below	363	4.0%	43.6%	19.7%	32.7%		0.000
	Lower secondary (S1-S3)	570	5.7%	45.4%	20.4%	28.6%		
	Upper secondary (S4-S6) / Matriculation	1 333	9.8%	49.2%	18.6%	22.4%		
	Tertiary (Non-degree, degree or above)	1 777	11.8%	54.6%	17.8%	15.7%		
Marital status	Never married	1 309	16.5%	57.5%	13.3%	12.8%	0.000	
	Married	2 563	6.2%	47.3%	21.2%	25.2%		
	Divorced/Separated/ Widowed	164	7.4%	45.8%	19.8%	27.1%		
Occupation	Managerial/Professional worker	1 076	7.4%	50.5%	18.6%	23.5%	0.000	
	Clerk	585	10.7%	51.8%	19.5%	18.0%		
	Service/Shop sales worker	463	10.2%	52.3%	19.8%	17.6%		
	Blue collar worker	492	4.8%	39.4%	22.9%	32.9%		
	Not working	1 390	12.3%	53.7%	16.1%	17.9%		

4.2.2 Perception about current weight status

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

A relatively higher proportion of female respondents (47.5%), respondents aged 35-64 (ranging from 45.8% to 50.3%), those with lower secondary education (50.5%) and married or divorced/separated/widowed respondents (ranging from 48.5% to 48.7%) and those living in subsidized sale flats (47.4%) considered themselves as "overweight".

Table 4.2.2: Perception about current weight status (Q3)

Variable	Level	Base	Overweight	Just right	Underweight	p-value	
						Kruskal-Wallis test	Rank Correlation
Gender	Male	1 954	40.0%	48.8%	11.2%	0.000	
	Female	2 164	47.5%	46.9%	5.5%		
Age group	18-24	497	28.0%	58.8%	13.2%		0.000
	25-34	808	39.6%	50.6%	9.8%		
	35-44	880	45.8%	48.3%	5.9%		
	45-54	1 036	50.3%	43.6%	6.1%		
	55-64	895	47.5%	43.7%	8.8%		
Educational attainment	Primary or below	375	48.1%	44.5%	7.4%		0.000
	Lower secondary (S1-S3)	586	50.5%	40.7%	8.8%		
	Upper secondary (S4-S6) / Matriculation	1 352	45.5%	46.3%	8.2%		
	Tertiary (Non-degree, degree or above)	1 794	39.7%	52.1%	8.2%		
Marital status	Never married	1 331	34.6%	53.6%	11.8%	0.000	
	Married	2 598	48.5%	44.9%	6.6%		
	Divorced/Separated/ Widowed	172	48.7%	46.0%	5.3%		
Type of living quarters	Public rental flats	1 180	40.7%	49.0%	10.2%	0.023	
	Subsidized sale flats	712	47.4%	46.3%	6.2%		
	Private housing	2 169	44.6%	47.5%	7.8%		

4.3 Physical activities and leisure-time exercise

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 six of the respondents' demographic characteristics: gender, age, educational attainment, occupation, monthly household income and type of living quarters.

The older the respondents and the lower the educational attainment of the respondents, the more likely that they engaged in vigorous physical activities for at least 10 minutes for one day or less during the seven days prior to the survey. Also, female respondents (78.6%), clerks or service/shop sales workers (ranging from 76.2% to 77.2%), those with monthly household income below $8,000 (83.1%) and those living in public rental flats (77.6%) were more likely than their respective counterparts to have engaged in vigorous physical activities for at least 10 minutes for one day or less during the seven days before interview (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	1960	66.7%	20.9%	5.4%	7.0%	0.000	
	Female	2 174	78.6%	14.0%	3.4%	3.9%		
Age group	18-24	498	58.3%	33.1%	4.1%	4.5%		0.000
	25-34	813	70.3%	19.6%	4.8%	5.2%		
	35-44	885	73.7%	15.8%	4.8%	5.7%		
	45-54	1 037	75.2%	15.5%	4.3%	5.0%		
	55-64	898	80.2%	10.0%	3.7%	6.1%		
Educational attainment	Primary or below	377	84.3%	6.0%	2.9%	6.9%		0.000
	Lower secondary (S1-S3)	586	76.4%	11.9%	4.0%	7.7%		
	Upper secondary (S4-S6) / Matriculation	1 359	72.9%	16.4%	4.8%	5.9%		
	Tertiary (Non-degree, degree or above)	1 801	69.5%	22.2%	4.4%	3.9%		

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)(Continued)

Variable	Level	Base	0-1 day	2-3 days	4-5 days	6-7 days	p-value	
							Kruskal-Wallis test	Rank Correlation
Occupation	Managerial/Professional worker	1 086	68.8%	21.5%	5.1%	4.6%	0.000	
	Clerk	599	76.2%	16.6%	5.1%	2.1%		
	Service/Shop sales worker	472	77.2%	17.5%	2.4%	2.9%		
	Blue collar worker	502	72.4%	10.4%	4.7%	12.6%		
	Not working	1 425	73.4%	17.1%	3.9%	5.6%		
Monthly household income	Below $8,000	181	83.1%	8.2%	3.6%	5.0%		0.000
	$8,000-$13,999	316	77.4%	10.6%	4.4%	7.6%		
	$14,000-$19,999	357	74.1%	13.9%	2.7%	9.3%		
	$20,000-$39,999	1 068	75.3%	16.3%	3.8%	4.6%		
	$40,000 or above	1 185	67.2%	23.3%	5.3%	4.2%		
Type of living quarters	Public rental flats	1 187	77.6%	12.8%	3.5%	6.1%	0.000	
	Subsidized sale flats	712	72.5%	19.2%	4.5%	3.8%		
	Private housing	2 178	70.6%	19.3%	4.6%	5.5%		

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 and occupation.

Those aged 35-44 (65.2%) and clerks (65.2%) were more likely than their respective counterparts to have spent on moderate physical activities for at least 10 minutes for one day or less 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 group	18-24	498	59.5%	23.6%	7.5%	9.4%		0.005
	25-34	813	63.2%	20.2%	6.5%	10.0%		
	35-44	885	65.2%	18.0%	6.6%	10.3%		
	45-54	1 037	62.0%	19.2%	6.6%	12.2%		
	55-64	898	60.2%	16.0%	7.4%	16.3%		
Occupation	Managerial/Professional worker	1 086	61.4%	21.0%	6.7%	10.9%	0.048	
	Clerk	599	65.2%	18.8%	7.4%	8.7%		
	Service/Shop sales worker	472	63.3%	17.3%	6.2%	13.2%		
	Blue collar worker	502	63.3%	16.4%	7.0%	13.3%		
	Not working	1 425	60.7%	19.1%	7.0%	13.1%		

4.3.3 Walking

Significant associations exist between the number of days on which respondents walked at least 10 minutes during the seven days prior to the survey and respondents' educational attainment, marital status and occupation.

A relatively higher proportion of those with primary education or below (7.6%), divorced/separated/widowed respondents (6.0%) and blue collar workers (6.4%) reported that they walked at least 10 minutes for one day or less 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 walking for at least 10 minutes during the seven days prior to the survey (Q6a)

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	377	7.6%	5.1%	7.9%	79.4%		0.008
	Lower secondary (S1-S3)	586	5.2%	4.5%	11.9%	78.3%		
	Upper secondary (S4-S6) / Matriculation	1 359	4.1%	7.1%	11.4%	77.4%		
	Tertiary (Non-degree, degree or above)	1 801	5.1%	7.4%	12.7%	74.9%		
Marital status	Never married	1 338	5.0%	5.9%	14.8%	74.3%	0.041	
	Married	2 607	4.9%	7.0%	10.4%	77.7%		
	Divorced/Separated/ Widowed	172	6.0%	7.9%	6.6%	79.5%		
Occupation	Managerial/Professional worker	1 086	5.0%	7.7%	12.1%	75.2%	0.000	
	Clerk	599	5.4%	4.9%	10.7%	79.0%		
	Service/Shop sales worker	472	4.3%	3.4%	10.2%	82.0%		
	Blue collar worker	502	6.4%	4.8%	9.7%	79.1%		
	Not working	1 425	4.7%	8.5%	13.1%	73.7%		

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, age, educational attainment, marital status, occupation, monthly household income and type of living quarters.

A relatively higher proportion of female respondents (68.1%), those aged 35-54 (ranging from 65.2% to 65.9%), those with primary education or below (70.5%), divorced/separated/widowed respondents (69.1%), clerks (67.6%) or service/shop sales workers (67.8%), respondents with monthly household income of below $8,000 (66.4%) or $20,000-$39,999 (66.7%) and those living in public rental flats (66.6%) were found to have not 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	Kruskal-Wallis test
Gender	Male	1 958	43.7%	56.3%	0.000	
	Female	2 170	31.9%	68.1%		
Age group	18-24	498	51.0%	49.0%		0.000
	25-34	813	38.6%	61.4%		
	35-44	883	34.8%	65.2%		
	45-54	1 036	34.1%	65.9%		
	55-64	896	35.5%	64.5%		
Educational attainment	Primary or below	376	29.5%	70.5%		0.000
	Lower secondary (S1-S3)	585	36.8%	63.2%		
	Upper secondary (S4-S6) / Matriculation	1 356	35.7%	64.3%		
	Tertiary (Non-degree, degree or above)	1 800	40.7%	59.3%		
Marital status	Never married	1 338	43.8%	56.2%	0.000	
	Married	2 602	34.8%	65.2%		
	Divorced/Separated/Widowed	171	30.9%	69.1%		
Occupation	Managerial/Professional worker	1 085	41.3%	58.7%	0.000	
	Clerk	599	32.4%	67.6%		
	Service/Shop sales worker	471	32.2%	67.8%		
	Blue collar worker	499	36.5%	63.5%		
	Not working	1 424	39.1%	60.9%		
Monthly household income	Below $8,000	181	33.6%	66.4%		0.003
	$8,000-$13,999	315	36.0%	64.0%		
	$14,000-$19,999	356	38.7%	61.3%		
	$20,000-$39,999	1 066	33.3%	66.7%		
	$40,000 or above	1 184	42.2%	57.8%		
Type of living quarters	Public rental flats	1 183	33.4%	66.6%	0.002	
	Subsidized sale flats	712	38.5%	61.5%		
	Private housing	2 176	39.3%	60.7%		

4.3.5 Sitting

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

Male respondents (21.4%), those aged 25-34 (27.0%), never married respondents (27.3%), clerks (37.0%), those having $40,000 or above (24.5%) and those living in subsidized sale flats or private housing (ranging from 21.3% to 22.0%) were more likely than their respective counterparts to sit for 10 hours or more on a weekday on average during the seven days prior to the survey. Also, the higher the educational attainment of the respondents, the more likely that they had sat for 10 hours or more on a weekday (Table 4.3.5).

Table 4.3.5: Average time spent on sitting on a weekday during the seven days prior to the survey (Q7)

Variable	Level	Base	10 mins - < 2hrs	2 - < 4 hrs	4 - < 6 hrs	6 - < 8 hrs	8 - < 10 hrs	10 hrs or more	p-value	
									Kruskal-Wallis test	Rank Correlation
Gender	Male	1 941	3.9%	15.7%	21.4%	17.4%	20.2%	21.4%	0.000	
	Female	2 148	4.4%	19.2%	23.2%	16.5%	17.6%	19.1%		
Age group	18-24	493	1.0%	6.9%	19.2%	26.3%	24.2%	22.3%		0.000
	25-34	803	3.8%	14.7%	14.7%	14.5%	25.4%	27.0%		
	35-44	872	4.6%	16.0%	24.2%	15.6%	19.6%	20.1%		
	45-54	1 028	4.2%	19.9%	23.8%	15.8%	15.7%	20.5%		
	55-64	890	5.6%	24.8%	27.6%	16.5%	12.9%	12.6%		
Educational attainment	Primary or below	373	9.3%	32.2%	27.3%	13.9%	8.9%	8.3%		0.000
	Lower secondary (S1-S3)	582	7.5%	29.0%	29.1%	14.1%	8.3%	12.0%		
	Upper secondary (S4-S6) / Matriculation	1 347	3.8%	19.6%	25.1%	16.1%	16.7%	18.6%		
	Tertiary (Non-degree, degree or above)	1 777	2.1%	9.1%	17.0%	19.1%	26.0%	26.6%		
Marital status	Never married	1 325	2.5%	10.0%	16.6%	19.4%	24.1%	27.3%	0.000	
	Married	2 577	4.7%	21.1%	25.0%	15.6%	16.7%	16.9%		
	Divorced/ Separated/Widowed	170	6.7%	22.8%	25.6%	18.6%	11.6%	14.8%		

Table 4.3.5: Average time spent on sitting on a weekday during the seven days prior to the survey (Q7)(Continued)

Variable	Level	Base	10 mins - < 2hrs	2 - < 4 hrs	4 - < 6 hrs	6 - < 8 hrs	8 - < 10 hrs	10 hrs or more	p-value	
									Kruskal-Wallis test	Rank Correlation
Occupation	Managerial/ Professional worker	1 067	2.0%	10.1%	17.9%	17.3%	25.6%	27.2%	0.000	
	Clerk	593	1.6%	5.0%	12.0%	14.4%	30.1%	37.0%		
	Service/Shop sales worker	471	8.4%	28.2%	24.7%	15.7%	10.7%	12.4%		
	Blue collar worker	497	6.1%	30.5%	28.3%	12.4%	12.2%	10.7%		
	Not working	1 413	4.6%	20.2%	27.0%	19.9%	14.4%	13.9%		
Monthly household income	Below $8,000	180	6.3%	27.4%	23.7%	13.7%	10.8%	18.0%		0.000
	$8,000-$13,999	314	6.3%	23.2%	25.2%	16.1%	17.8%	11.3%		
	$14,000-$19,999	354	8.1%	21.7%	28.2%	16.0%	10.3%	15.8%		
	$20,000-$39,999	1 059	3.6%	19.3%	21.8%	15.0%	18.8%	21.5%		
	$40,000 or above	1 168	2.2%	11.1%	18.4%	18.2%	25.6%	24.5%		
Type of living quarters	Public rental flats	1 170	5.2%	21.6%	25.7%	16.2%	15.0%	16.3%	0.000	
	Subsidized sale flats	706	4.9%	19.3%	21.2%	15.4%	17.9%	21.3%		
	Private housing	2 157	3.2%	14.7%	20.9%	17.6%	21.5%	22.0%		

4.3.6 Leisure-time exercise

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

Female respondents (41.9%), divorced/separated/widowed respondents (50.0%), blue collar workers (49.8%) and those living in public rental flats (44.4%) 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 the respondents, the lower the educational attainment and the lower the monthly household income of the respondents, the more likely that they had had leisure-time exercise less than once a month (Table 4.3.6).

Table 4.3.6: Frequency of doing exercise in leisure-time during the thirty days prior to the survey (Q8)

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	1 959	16.5%	40.9%	12.7%	29.8%	0.000	
	Female	2 168	14.5%	31.3%	12.3%	41.9%		
Age group	18-24	498	14.4%	47.6%	19.2%	18.8%		0.000
	25-34	812	11.6%	40.9%	15.7%	31.8%		
	35-44	884	13.7%	35.0%	14.0%	37.3%		
	45-54	1 034	14.8%	35.3%	11.6%	38.3%		
	55-64	897	22.0%	26.3%	5.5%	46.1%		
Educational attainment	Primary or below	377	20.4%	16.9%	4.0%	58.7%		0.000
	Lower secondary (S1-S3)	585	20.2%	24.2%	8.8%	46.8%		
	Upper secondary (S4-S6) / Matriculation	1 354	14.9%	34.2%	11.8%	39.1%		
	Tertiary (Non-degree, degree or above)	1 800	13.3%	45.0%	15.9%	25.8%		
Marital status	Never married	1 336	14.1%	42.4%	17.2%	26.4%	0.000	
	Married	2 603	16.1%	33.5%	10.3%	40.1%		
	Divorced/Separated/ Widowed	171	17.4%	23.3%	9.3%	50.0%		
Occupation	Managerial/Professional worker	1 083	13.9%	45.0%	15.9%	25.1%	0.000	
	Clerk	599	11.4%	38.4%	15.2%	35.0%		
	Service/Shop sales worker	472	12.3%	31.7%	12.5%	43.5%		
	Blue collar worker	502	16.1%	24.9%	9.2%	49.8%		
	Not working	1 421	19.2%	33.4%	9.9%	37.5%		
Monthly household income	Below $8,000	180	18.9%	23.5%	6.4%	51.2%		0.000
	$8,000-$13,999	316	14.0%	27.9%	13.1%	45.1%		
	$14,000-$19,999	356	16.5%	28.7%	10.6%	44.1%		
	$20,000-$39,999	1 066	14.8%	35.1%	13.1%	37.0%		
	$40,000 or above	1 184	14.5%	44.6%	14.1%	26.8%		
Type of living quarters	Public rental flats	1 185	14.6%	29.5%	11.5%	44.4%	0.000	
	Subsidized sale flats	710	13.0%	39.9%	13.4%	33.8%		
	Private housing	2 175	16.8%	38.2%	12.7%	32.3%		

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, marital status, occupation and type of living quarters.

A relatively higher proportion of married respondents (91.6%), blue collar workers (93.0%) and those living in public rental flats (92.5%) reported that they drank fruit or vegetable juice one day or less in a week on average when compared with their respective counterparts. The older the respondents and the lower the educational attainment of the respondents, the more likely they drank fruit or vegetable juice one day or less in a week on average (Table 4.4.1).

Table 4.4.1: Number of days per week in which respondents drank fruit or vegetable juice (Q11)

Variable	Level	Base	0-1 day	2-3 days	4-7 days	p-value	
						Kruskal-Wallis test	Rank Correlation
Age group	18-24	498	85.0%	10.8%	4.3%		0.000
	25-34	813	87.2%	9.3%	3.5%		
	35-44	885	90.7%	6.7%	2.7%		
	45-54	1 037	91.8%	4.9%	3.2%		
	55-64	898	93.8%	3.1%	3.1%		
Educational attainment	Primary or below	377	95.8%	1.6%	2.6%		0.000
	Lower secondary (S1-S3)	586	92.1%	4.6%	3.4%		
	Upper secondary (S4-S6) / Matriculation	1 359	90.7%	7.2%	2.1%		
	Tertiary (Non-degree, degree or above)	1 801	88.1%	7.6%	4.3%		
Marital status	Never married	1 338	88.0%	8.2%	3.8%	0.000	
	Married	2 607	91.6%	5.5%	2.9%		
	Divorced/Separated/Widowed	172	86.6%	8.6%	4.8%		

Table 4.4.1: Number of days per week in which respondents drank fruit or vegetable juice (Q11) (Continued)

	Managerial/Professional worker	1 086	87.3%	7.5%	5.2%	0.000	
	Clerk	599	91.5%	5.2%	3.3%		
	Service/Shop sales worker	472	88.9%	9.1%	2.0%		
	Blue collar worker	502	93.0%	5.2%	1.8%		
	Not working	1 425	91.7%	5.7%	2.6%		
	Public rental flats	1 187	92.5%	5.7%	1.8%	0.002	
	Subsidized sale flats	712	90.3%	5.8%	3.9%		
	Private housing	2 178	89.1%	7.1%	3.7%		

4.4.2 Frequency of consuming fruit per week

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

The proportion of people consuming fruit one day or less a week was higher among male respondents (14.0%), those aged 25-34 (14.9%), never married respondents (14.9%), those with primary education or below (13.8%), service/shop sales workers or blue collar workers (ranging from 15.1% to 15.5%) and those living in public rental flats (14.8%) (Table 4.4.2).

Table 4.4.2: Number of days per week in which respondents consumed fruit (excluding fruit juice) (Q9a)

Variable	Level	Base	0-1 day	2-3 days	4-5 days	6-7 days	p-value	
							Kruskal-Wallis test	Rank Correlation
Gender	Male	1 960	14.0%	25.3%	16.5%	44.3%	0.000	
	Female	2 174	8.0%	16.9%	14.8%	60.4%		
Age group	18-24	498	13.0%	26.5%	17.2%	43.4%		0.000
	25-34	813	14.9%	24.6%	17.8%	42.7%		
	35-44	885	10.5%	24.7%	18.0%	46.7%		
	45-54	1 037	9.0%	17.8%	14.5%	58.7%		
	55-64	898	8.5%	14.0%	11.5%	66.0%		
Educational attainment	Primary or below	377	13.8%	16.6%	9.7%	59.9%		0.002
	Lower secondary (S1-S3)	586	12.0%	16.8%	12.1%	59.0%		
	Upper secondary (S4-S6) / Matriculation	1 359	12.4%	20.3%	16.0%	51.3%		
	Tertiary (Non-degree, degree or above)	1 801	8.8%	23.5%	17.6%	50.1%		
Marital status	Never married	1 338	14.9%	25.7%	16.5%	42.8%	0.000	
	Married	2 607	8.6%	18.3%	15.0%	58.1%		
	Divorced/Separated/ Widowed	172	13.4%	20.4%	16.6%	49.6%		
Occupation	Managerial/Professional worker	1 086	9.2%	25.0%	17.2%	48.6%	0.000	
	Clerk	599	9.6%	21.2%	18.6%	50.7%		
	Service/Shop sales worker	472	15.1%	22.5%	14.4%	48.0%		
	Blue collar worker	502	15.5%	19.6%	11.9%	53.0%		
	Not working	1 425	9.4%	17.5%	14.8%	58.4%		
Type of living quarters	Public rental flats	1 187	14.8%	19.4%	14.5%	51.3%	0.029	
	Subsidized sale flats	712	9.2%	21.5%	13.0%	56.3%		
	Private housing	2 178	9.3%	21.4%	17.1%	52.2%		

4.4.3 Frequency of consuming vegetables per week

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

The proportion of people consuming vegetables one day or less a week was higher among male respondents (1.5%) and those aged 25-34 (1.6%) (Table 4.4.3).

Table 4.4.3: Number of days per week in which respondents consumed vegetables (excluding vegetable 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	1 960	1.5%	6.0%	10.6%	81.9%	0.000	
	Female	2 174	1.0%	3.7%	7.3%	88.0%		
Age group	18-24	498	1.3%	4.8%	13.5%	80.3%		0.001
	25-34	813	1.6%	5.8%	8.8%	83.7%		
	35-44	885	1.1%	4.0%	8.2%	86.7%		
	45-54	1 037	1.2%	4.3%	8.2%	86.3%		
	55-64	898	0.9%	5.2%	7.8%	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, 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)[29]

Male respondents (86.3%), those aged 18-24 or 35-44 (ranging from 83.6% to 83.8%), service/shop sales workers (85.9%) and those living in public rental flats or subsidized sales flats (ranging from 82.7% to 83.3%) were more likely than their respective counterparts to have consumed less than 5 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 or vegetable juice) (Q9a, Q9b, Q10a & Q10b)

Variable	Level	Base	Less than 5 servings	5 servings or more	p-value	
					Kruskal-Wallis test	Rank Correlation
Gender	Male	1 950	86.3%	13.7%	0.000	
	Female	2 171	76.7%	23.3%		
Age group	18-24	498	83.6%	16.4%		0.000
	25-34	810	80.6%	19.4%		
	35-44	884	83.8%	16.2%		
	45-54	1 035	82.6%	17.4%		
	55-64	893	76.3%	23.7%		
Occupation	Managerial/Professional worker	1 084	80.6%	19.4%	0.001	
	Clerk	596	82.2%	17.8%		
	Service/Shop sales worker	472	85.9%	14.1%		
	Blue collar worker	499	84.6%	15.4%		
	Not working	1 423	78.6%	21.4%		
Type of living quarters	Public rental flats	1 185	83.3%	16.7%	0.047	
	Subsidized sale flats	710	82.7%	17.3%		
	Private housing	2 171	79.9%	20.1%		

[29] 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)[30]

Male respondents (85.5%), those aged 35-44 (83.5%), service/shop sales workers (85.5%) and those living in public rental flats (83.1%) were more likely than their respective counterparts to have consumed less than 5 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 or vegetable juice) (Q9a, Q9b, Q10a, Q10b & Q11)

Variable	Level	Base	Less than 5 servings	5 servings or more	p-value	
					Kruskal-Wallis test	Rank Correlation
Gender	Male	1 950	85.5%	14.5%	0.000	
	Female	2 171	76.2%	23.8%		
Age group	18-24	498	82.9%	17.1%		0.000
	25-34	810	79.9%	20.1%		
	35-44	884	83.5%	16.5%		
	45-54	1 035	81.9%	18.1%		
	55-64	893	75.6%	24.4%		
Occupation	Managerial/Professional worker	1 084	79.6%	20.4%	0.001	
	Clerk	596	81.6%	18.4%		
	Service/Shop sales worker	472	85.5%	14.5%		
	Blue collar worker	499	84.6%	15.4%		
	Not working	1 423	77.9%	22.1%		
Type of living quarters	Public rental flats	1 185	83.1%	16.9%	0.017	
	Subsidized sale flats	710	81.9%	18.1%		
	Private housing	2 171	79.0%	21.0%		

[30] 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 Smoking pattern

4.5.1 Smoking habits

Smoking is associated significantly with respondents' gender, age, educational attainment, marital status, occupation, monthly household income and type of living quarters.

A relatively higher proportion of male respondents (19.1%), those aged 35-44 (13.2%), those with lower secondary education (18.8%), divorced/separated/widowed respondents (16.3%), blue collar workers (29.2%), those with monthly household income of $14,000-$19,999 (18.4%) and those living in public rental flats (15.4%) were current smokers when compared with their respective counterparts (Table 4.5.1).

Table 4.5.1: Smoking habits (Q12a)

Variable	Level	Base	Yes, but not now	Yes, and still smoking	Never	p-value	
						Chi-square test	Kruskal-Wallis test
Gender	Male	1 960	13.3%	19.1%	67.6%	0.000	
	Female	2 174	3.6%	3.6%	92.8%		
Age group	18-24	498	2.8%	4.4%	92.8%		0.000
	25-34	813	6.6%	12.0%	81.4%		
	35-44	885	8.7%	13.2%	78.1%		
	45-54	1 037	8.1%	12.2%	79.8%		
	55-64	898	12.3%	10.0%	77.6%		
Educational attainment	Primary or below	377	11.4%	13.8%	74.8%		0.000
	Lower secondary (S1-S3)	586	10.9%	18.8%	70.3%		
	Upper secondary (S4-S6) / Matriculation	1 359	8.7%	14.2%	77.2%		
	Tertiary (Non-degree, degree or above)	1 801	6.3%	5.4%	88.3%		
Marital status	Never married	1 338	4.4%	9.7%	85.9%	0.000	
	Married	2 607	10.1%	11.1%	78.8%		
	Divorced/Separated/ Widowed	172	9.3%	16.3%	74.4%		

Table 4.5.1: Smoking habits (Q12a) (Continued)

Variable	Level	Base	Yes, but not now	Yes, and still smoking	Never	p-value	
						Chi-square test	Kruskal-Wallis test
Occupation	Managerial/Professional worker	1 086	9.0%	8.8%	82.2%	0.000	
	Clerk	599	5.1%	7.4%	87.4%		
	Service/Shop sales worker	472	10.0%	14.9%	75.1%		
	Blue collar worker	502	14.1%	29.2%	56.7%		
	Not working	1 425	6.2%	6.1%	87.7%		
Monthly household income	Below $8,000	181	10.7%	13.6%	75.6%		0.012
	$8,000-$13,999	316	7.9%	13.3%	78.8%		
	$14,000-$19,999	357	9.3%	18.4%	72.4%		
	$20,000-$39,999	1 068	9.8%	10.3%	79.9%		
	$40,000 or above	1 185	8.1%	7.9%	83.9%		
Type of living quarters	Public rental flats	1 187	8.4%	15.4%	76.2%	0.000	
	Subsidized sale flats	712	7.5%	9.5%	82.9%		
	Private housing	2 178	8.4%	9.0%	82.6%		

4.5.2 Number of cigarettes consumed

The number of cigarettes consumed is associated significantly with current smokers' gender and age.

A relatively higher proportion of male smokers (52.1%) reported that they smoked 11 or more cigarettes per day when compared with female smokers. The older the smokers, the more likely that they smoked 11 or more cigarettes per day (Table 4.5.2).

Table 4.5.2: Average number of cigarettes smokers smoked per day (Q12c)

Variable	Level	Base	Less than 1 per day	1-10 per day	11 or more per day	p-value	
						Kruskal-Wallis test	Rank Correlation
Gender	Male	371	7.7%	40.2%	52.1%	0.000	
	Female	77	8.3%	64.5%	27.2%		
Age group	18-24	22	23.8%	35.3%	40.8%		0.042
	25-34	97	5.4%	53.7%	40.9%		
	35-44	115	6.6%	48.8%	44.6%		
	45-54	125	6.2%	40.4%	53.3%		
	55-64	88	10.4%	36.1%	53.5%		

4.6 Pattern of alcohol consumption

4.6.1 Consumption of alcohol

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

Male respondents (73.2%), those aged 25-34 (72.1%), never married respondents (67.7%), managerial/professional worker (74.6%) and those living in private housing (67.0%) were more likely than their respective counterparts to have had a drink containing alcohol during the past year prior to the survey. The higher the educational attainment and the monthly household income of the respondents, the more likely that they had a drink containing alcohol during the past year prior to the survey (Table 4.6.1).

Table 4.6.1: Whether you ever had a drink containing alcohol during the past year prior to the survey (Q13)

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
Gender	Male	1 960	73.2%	26.8%	0.000	
	Female	2 174	53.2%	46.8%		
Age group	18-24	498	65.3%	34.7%		0.000
	25-34	813	72.1%	27.9%		
	35-44	885	61.6%	38.4%		
	45-54	1 037	62.1%	37.9%		
	55-64	898	54.5%	45.5%		
Educational attainment	Primary or below	377	46.8%	53.2%		0.000
	Lower secondary (S1-S3)	586	55.1%	44.9%		
	Upper secondary (S4-S6) / Matriculation	1 359	58.6%	41.4%		
	Tertiary (Non-degree, degree or above)	1 801	71.8%	28.2%		
Marital status	Never married	1 338	67.7%	32.3%	0.000	
	Married	2 607	60.6%	39.4%		
	Divorced/Separated/Widowed	172	55.7%	44.3%		

Table 4.6.1: Whether you ever had a drink containing alcohol during the past year prior to the survey (Q13)(Continued)

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
Occupation	Managerial/Professional worker	1 086	74.6%	25.4%	0.000	
	Clerk	599	64.6%	35.4%		
	Service/Shop sales worker	472	65.3%	34.7%		
	Blue collar worker	502	65.5%	34.5%		
	Not working	1 425	51.2%	48.8%		
Monthly household income	Below $8,000	181	44.4%	55.6%		0.000
	$8,000-$13,999	316	51.5%	48.5%		
	$14,000-$19,999	357	60.9%	39.1%		
	$20,000-$39,999	1 068	63.4%	36.6%		
	$40,000 or above	1 185	72.7%	27.3%		
Type of living quarters	Public rental flats	1 187	55.8%	44.2%	0.000	
	Subsidized sale flats	712	61.5%	38.5%		
	Private housing	2 178	67.0%	33.0%		

4.6.2 Frequency of alcohol consumption

Among the respondents who had at least one alcoholic drink during the past year prior to the survey, frequency of alcohol consumption in days per week is associated significantly with the drinkers' gender, age, educational attainment and occupation.

A relatively higher proportion of male respondents (10.5%), and blue collar workers (17.9%) reported that they drank 4 times or more per week when compared with their respective counterparts. The older the respondents and the lower the educational attainment of the respondents, the more likely that they drank 4 times or more per week (Table 4.6.2).

Table 4.6.2: Frequency of consuming alcohol per week among those respondents who had at least one alcoholic drink (Q14)

Variable	Level	Base	Once or less per week	2-3 times per week	4 times or more per week	p-value	
						Kruskal-Wallis test	Rank Correlation
Gender	Male	1 429	81.3%	8.3%	10.5%	0.000	
	Female	1 151	93.5%	3.6%	2.9%		
Age group	18-24	324	94.7%	3.8%	1.6%		0.000
	25-34	586	89.5%	5.9%	4.7%		
	35-44	540	89.8%	5.0%	5.1%		
	45-54	641	83.9%	7.1%	8.9%		
	55-64	486	78.6%	8.1%	13.3%		
Educational attainment	Primary or below	174	71.2%	7.7%	21.1%		0.000
	Lower secondary (S1-S3)	321	83.4%	6.4%	10.2%		
	Upper secondary (S4-S6) / Matriculation	793	87.5%	5.8%	6.7%		
	Tertiary (Non-degree, degree or above)	1 288	89.2%	6.1%	4.6%		
Occupation	Managerial/Professional worker	807	87.1%	6.9%	5.9%	0.000	
	Clerk	385	94.1%	2.7%	3.2%		
	Service/Shop sales worker	305	88.1%	5.1%	6.8%		
	Blue collar worker	327	74.2%	7.9%	17.9%		
	Not working	726	87.6%	7.0%	5.4%		

4.6.3 Amount of alcoholic drinks consumed

The average number of standard drinks consumed on the days the respondents drank alcohol is associated significantly with drinkers' gender, age, marital status, occupation and type of living quarters.

A relatively higher proportion of male respondents (12.8%), those aged 25-34 (14.1%), never married respondents (12.7%), blue collar worker (15.7%) and those living in public rental flats (11.8%) reported that they drank on average 5-24 units on the days they drank alcohol when compared with their respective counterparts (Table 4.6.3).

Table 4.6.3: Average number of standard drinks consumed on the days drinkers drank alcohol (Q15)

Variable	Level	Base	Less than 3 units of drinks	3 - < 5 units of drinks	5-24 units of drinks	p-value	
						Kruskal-Wallis test	Rank Correlation
Gender	Male	1 426	72.8%	14.5%	12.8%	0.000	
	Female	1 143	87.8%	8.9%	3.3%		
Age group	18-24	320	71.1%	18.0%	10.9%		0.000
	25-34	578	72.2%	13.8%	14.1%		
	35-44	543	79.4%	11.8%	8.8%		
	45-54	641	86.7%	8.8%	4.5%		
	55-64	485	84.2%	10.2%	5.6%		
Marital status	Never married	896	71.7%	15.6%	12.7%	0.000	
	Married	1 566	83.8%	9.8%	6.4%		
	Divorced/Separated/Widowed	95	78.7%	14.6%	6.7%		
Occupation	Managerial/Professional worker	800	79.8%	12.9%	7.2%	0.000	
	Clerk	386	84.4%	8.9%	6.7%		
	Service/Shop sales worker	304	72.3%	17.2%	10.5%		
	Blue collar worker	326	72.0%	12.3%	15.7%		
	Not working	725	83.0%	10.4%	6.6%		
Type of living quarters	Public rental flats	656	74.6%	13.6%	11.8%	0.002	
	Subsidized sale flats	434	76.7%	13.6%	9.7%		
	Private housing	1 445	82.5%	10.6%	7.0%		

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

Among the respondents who had at least one alcoholic drink during the twelve months prior to the survey, binge drinking on at least one occasion is associated significantly with their gender, age, educational attainment, marital status and occupation.

A relatively higher proportion of male respondents (40.6%), those aged 25-34 (43.6%), never married respondents (38.1%) and blue collar workers (40.4%) reported that they had engaged in binge drinking on at least one occasion when compared with their respective counterparts. Also, the higher the educational attainment of the respondents, the more likely that they had engaged in binge drinking on at least one occasion (Table 4.6.4a).

Table 4.6.4a: Consumption of at least 5 glasses/cans of alcohol on at least one occasion by drinkers (Q16)

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
Gender	Male	1 408	40.6%	59.4%	0.000	
	Female	1 143	16.0%	84.0%		
Age group	18-24	317	34.2%	65.8%		0.000
	25-34	576	43.6%	56.4%		
	35-44	533	28.9%	71.1%		
	45-54	639	21.7%	78.3%		
	55-64	483	21.3%	78.7%		
Educational attainment	Primary or below	174	22.4%	77.6%		0.004
	Lower secondary (S1-S3)	314	27.2%	72.8%		
	Upper secondary (S4-S6) / Matriculation	786	31.1%	68.9%		
	Tertiary (Non-degree, degree or above)	1 274	30.2%	69.8%		
Marital status	Never married	888	38.1%	61.9%	0.000	
	Married	1 557	24.7%	75.3%		
	Divorced/Separated/Widowed	94	31.2%	68.8%		
Occupation	Managerial/Professional worker	798	32.8%	67.2%	0.000	
	Clerk	382	23.3%	76.7%		
	Service/Shop sales worker	301	29.3%	70.7%		
	Blue collar worker	322	40.4%	59.6%		
	Not working	718	24.7%	75.3%		

The frequency of binge drinking is associated significantly with binge drinkers' gender, age, educational attainment and type of living quarters.

Male binge drinkers (27.5%) and those living in public rental flats (32.8%) were more likely to have engaged in binge drinking twice or more a month when compared with their respective counterparts. The older the binge drinkers and the lower the educational attainment of the binge drinkers, the more likely that they had engaged in binge drinking twice or more a month (Table 4.6.4b).

Table 4.6.4b: Frequency of binge drinking among the binge drinkers (Q16)

Variable	Level	Base	Once or less a month	Twice or more a month	p-value	
					Kruskal-Wallis test	Rank Correlation
Gender	Male	572	72.5%	27.5%	0.000	
	Female	183	89.1%	10.9%		
Age group	18-24	108	83.4%	16.6%		0.001
	25-34	251	80.7%	19.3%		
	35-44	154	76.0%	24.0%		
	45-54	139	74.7%	25.3%		
	55-64	103	62.1%	37.9%		
Educational attainment	Primary or below	39	48.9%	51.1%		0.000
	Lower secondary (S1-S3)	85	64.8%	35.2%		
	Upper secondary (S4-S6) / Matriculation	245	80.1%	19.9%		
	Tertiary (Non-degree, degree or above)	385	79.6%	20.4%		
Type of living quarters	Public rental flats	203	67.2%	32.8%	0.042	
	Subsidized sale flats	127	82.3%	17.7%		
	Private housing	419	78.9%	21.1%		

4.6.5 Being injured because of respondents' own drinking

Among the respondents who had drunk during the twelve months prior to the survey, whether the respondents or someone else having been injured because of the respondents' own drinking during the twelve months prior to the survey is associated significantly with their gender.

Male drinkers (2.1%) were more likely to report that they or someone else had been injured because of their own drinking during the twelve months prior to the survey (Table 4.6.5).

Table 4.6.5: Whether respondents or someone else being injured because of respondents' own drinking (Q17)

Variable	Level	Base	Yes	No	p-value Chi-square test
Gender	Male	1 435	2.1%	97.9%	0.001
	Female	1 157	0.5%	99.5%	

4.7 Level of psychological distress

4.7.1 Severe psychological distress

Experience of severe psychological distress (i.e. K6 score of 13 or above) during the thirty days prior to the survey is associated significantly with respondents' gender, educational attainment, marital status, occupation, monthly household income and type of living quarters.

Female respondents (5.6%), those with primary education or below (7.7%), never married respondents (6.9%), not working respondents (6.5%) and those living in public rental flats (6.5%) were more likely to report that they had severe psychological distress during the thirty days prior to the survey when compared with their counterparts. The lower the total monthly household income of the respondents, the more likely that they had severe psychological distress (Table 4.7.1).

Table 4.7.1: Experience of severe psychological distress during the thirty days prior to the survey (Q18-Q23)

Variable	Level	Base	Without severe psychological distress	With severe psychological distress	p-value	
					Chi-square test	Kruskal-Wallis test
Gender	Male	1 958	96.2%	3.8%	0.008	
	Female	2 174	94.4%	5.6%		
Educational attainment	Primary or below	377	92.3%	7.7%		0.023
	Lower secondary (S1-S3)	586	95.4%	4.6%		
	Upper secondary (S4-S6) / Matriculation	1 359	95.3%	4.7%		
	Tertiary (Non-degree, degree or above)	1 800	95.8%	4.2%		
Marital status	Never married	1 337	93.1%	6.9%	0.000	
	Married	2 606	96.4%	3.6%		
	Divorced/Separated/ Widowed	172	94.8%	5.2%		
Occupation	Managerial/Professional worker	1 086	97.0%	3.0%	0.000	
	Clerk	599	95.0%	5.0%		
	Service/Shop sales worker	472	94.6%	5.4%		
	Blue collar worker	502	97.3%	2.7%		
	Not working	1 424	93.5%	6.5%		

Table 4.7.1: Experience of severe psychological distress during the thirty days prior to the survey (Q18-Q23)(Continued)

Variable	Level	Base	Without severe psychological distress	With severe psychological distress	p-value	
					Chi-square test	Kruskal-Wallis test
Monthly Household Income	Below $8,000	180	88.2%	11.8%		0.000
	$8,000-$13,999	316	93.5%	6.5%		
	$14,000-$19,999	356	94.8%	5.2%		
	$20,000-$39,999	1 068	95.0%	5.0%		
	$40,000 or above	1 185	97.4%	2.6%		
Type of living quarters	Public rental flats	1 187	93.5%	6.5%	0.004	
	Subsidized sale flats	711	96.2%	3.8%		
	Private housing	2 177	95.8%	4.2%		

4.7.2 Seeing a doctor or other health professional because of these feelings/emotional problems in the past 30 days

Among those respondents who claimed that they experienced any of the six psychological distress symptoms, seeing a doctor or other health professional because of these feelings/emotional problems during the thirty days prior to the survey is associated significantly with respondents' age, educational attainment, marital status, monthly household income and type of living quarters.

Those aged 45 or above (ranging from 3.0% to 3.1%), divorced/separated/widowed respondents (6.7%) and those living in public rental housing (2.9%) were more likely to report that they had seen a doctor or other health professional because of these feelings/emotional problems during the thirty days prior to the survey when compared with their respective counterparts. The lower the educational attainment and the monthly household income of the respondents, the more likely that they had seen a doctor or other health professional because of these feelings/emotional problems at least once during the thirty days prior to the survey (Table 4.7.2).

Table 4.7.2: Seeing a doctor or other health professional because of these feelings/emotional problems during the thirty days prior to the survey (Q24)

Variable	Level	Base	None	At least once	p-value	
					Kruskal-Wallis test	Rank Correlation
Age group	18-24	455	98.4%	1.6%		0.004
	25-34	720	98.3%	1.7%		
	35-44	710	98.9%	1.1%		
	45-54	796	97.0%	3.0%		
	55-64	607	96.9%	3.1%		
Educational attainment	Primary or below	263	95.7%	4.3%		0.000
	Lower secondary (S1-S3)	418	96.4%	3.6%		
	Upper secondary (S4-S6) / Matriculation	1 052	97.2%	2.8%		
	Tertiary (Non-degree, degree or above)	1 548	99.1%	0.9%		
Marital status	Never married	1 168	98.5%	1.5%	0.000	
	Married	1 972	97.8%	2.2%		
	Divorced/Separated/Widowed	136	93.3%	6.7%		
Monthly Household Income	Below $8,000	131	93.4%	6.6%		0.001
	$8,000-$13,999	245	96.5%	3.5%		
	$14,000-$19,999	292	97.4%	2.6%		
	$20,000-$39,999	839	98.3%	1.7%		
	$40,000 or above	980	98.7%	1.3%		
Type of living quarters	Public rental flats	954	97.1%	2.9%	0.034	
	Subsidized sale flats	551	98.9%	1.1%		
	Private housing	1 741	98.0%	2.0%		

4.8 Use of antibiotics

4.8.1 Whether had actively asked the doctor if the prescribed medicine included antibiotics during their last visit to a medical doctor in the past 12 months

Whether had actively asked the doctor if the prescribed medicine included antibiotics during their last visit to a medical doctor in the past 12 months is associated with respondents' gender, educational attainment, marital status, occupation, monthly household income and type of living quarters.

A relatively higher proportion of female respondents (21.3%), married respondents (21.5%), managerial/professional workers (24.1%) and those living in private housing (22.6%) reported that they had actively asked the doctor if the prescribed medicine included antibiotics during their last visit to a medical doctor in the past 12 months. Also, the higher the educational attainment and the monthly household income of respondents, the more likely that they had actively asked the doctor if the prescribed medicine included antibiotics during their last visit to a medical doctor in the past 12 months (Table 4.8.1).

Table 4.8.1: Whether had actively asked the doctor if the prescribed medicine included antibiotics during their last visit to a medical doctor in the past 12 months (Q26)

	Male	1 691	18.1%	81.9%	0.016	
	Female	1 877	21.3%	78.7%		
	Primary or below	319	11.9%	88.1%		0.000
	Lower secondary (S1-S3)	479	16.8%	83.2%		
	Upper secondary (S4-S6) / Matriculation	1 152	19.1%	80.9%		
	Tertiary (Non-degree, degree or above)	1 609	22.7%	77.3%		
	Never married	1 176	16.7%	83.3%	0.003	
	Married	2 224	21.5%	78.5%		
	Divorced/Separated/Widowed	153	17.4%	82.6%		

Table 4.8.1: Whether had actively ask the doctor if the prescribed medicine included antibiotics during their last visit to a medical doctor in the past 12 months (Q26) (Continued)

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
Occupation	Managerial/Professional worker	943	24.1%	75.9%	0.000	
	Clerk	534	23.9%	76.1%		
	Service/Shop sales worker	414	19.4%	80.6%		
	Blue collar worker	421	13.3%	86.7%		
	Not working	1 214	17.3%	82.7%		
Monthly Household Income	Below $8,000	152	13.7%	86.3%		0.000
	$8,000-$13,999	276	15.8%	84.2%		
	$14,000-$19,999	301	16.4%	83.6%		
	$20,000-$39,999	938	19.4%	80.6%		
	$40,000 or above	1 047	24.8%	75.2%		
Type of living quarters	Public rental flats	1 015	14.4%	85.6%	0.000	
	Subsidized sale flats	618	20.3%	79.7%		
	Private housing	1 889	22.6%	77.4%		

4.8.2 Whether had taken any antibiotics

Whether respondents had taken any antibiotics during the 12 months prior to the survey is associated with respondents' age, educational attainment, occupation, monthly household income and type of living quarters.

A relatively higher proportion of those aged 25-34 (48.0%), those with tertiary education (46.0%), managerial/professional workers (49.2%), those with monthly household income of $40,000 or above (49.3%) and those living in private housing (44.5%) reported that they had taken any antibiotics during the 12 months prior to the survey (Table 4.8.2).

Table 4.8.2: Whether had taken any antibiotics during the 12 months prior to the survey (Q27)

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
Age group	18-24	461	40.4%	59.6%		0.004
	25-34	754	48.0%	52.0%		
	35-44	816	42.5%	57.5%		
	45-54	959	40.0%	60.0%		
	55-64	814	36.4%	63.6%		
Educational attainment	Primary or below	331	37.5%	62.5%		0.000
	Lower secondary (S1-S3)	543	29.3%	70.7%		
	Upper secondary (S4-S6) / Matriculation	1 248	41.2%	58.8%		
	Tertiary (Non-degree, degree or above)	1 676	46.0%	54.0%		
Occupation	Managerial/Professional worker	1 013	49.2%	50.8%	0.000	
	Clerk	556	43.3%	56.7%		
	Service/Shop sales worker	436	40.5%	59.5%		
	Blue collar worker	455	36.1%	63.9%		
	Not working	1 303	36.5%	63.5%		
Monthly Household Income	Below $8,000	162	24.4%	75.6%		0.000
	$8,000-$13,999	290	39.4%	60.6%		
	$14,000-$19,999	322	35.0%	65.0%		
	$20,000-$39,999	1 002	38.7%	61.3%		
	$40,000 or above	1 113	49.3%	50.7%		
Type of living quarters	Public rental flats	1 078	35.9%	64.1%	0.000	
	Subsidized sale flats	661	40.5%	59.5%		
	Private housing	2 021	44.5%	55.5%		

4.8.3 Whether had taken the antibiotics according to the prescribed dose and number of days

Whether the respondents had taken the antibiotics according to the prescribed dose and number of days is associated with respondents' age and type of living quarters.

Those aged 25-34 (6.6%) and those living in public rental flats (6.2%) were more likely than their respective counterparts to report that they had not taken the antibiotics according to the prescribed dose and number of days (Table 4.8.3).

Table 4.8.3: Whether had taken the antibiotics according to the prescribed dose and number of days (Q31)

Variable	Level	Base	Yes, follow every time	Sometimes	No	p-value	
						Kruskal-Wallis test	Rank Correlation
Age group	18-24	186	80.6%	14.5%	4.9%		0.000
	25-34	362	79.2%	14.2%	6.6%		
	35-44	345	89.7%	7.0%	3.4%		
	45-54	381	89.8%	8.6%	1.6%		
	55-64	296	93.4%	3.9%	2.6%		
Type of living quarters	Public rental flats	383	83.0%	10.9%	6.2%	0.003	
	Subsidized sale flats	268	83.6%	12.5%	3.9%		
	Private housing	899	89.4%	7.9%	2.7%		

4.9 Cervical Screening (for female respondents only)

4.9.1 Experience of cervical screening

Whether female respondents have ever had cervical screening is associated significantly with their age, educational attainment, marital status, occupation, monthly household income and type of living quarters.

Women aged 18-24 (94.9%), those with tertiary education (49.7%), never married respondents (80.4%), clerks (42.5%), those with monthly household income below $8,000 (52.1%) and those living in public rental flats (45.5%) were more likely to have not had a cervical smear when compared with their respective counterparts (Table 4.9.1).

Table 4.9.1: Ever had cervical smear before (Q32a)

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
Age group	18-24	245	5.1%	94.9%		0.000
	25-34	425	47.2%	52.8%		
	35-44	483	76.5%	23.5%		
	45-54	550	79.6%	20.4%		
	55-64	453	71.8%	28.2%		
Educational attainment	Primary or below	230	70.5%	29.5%		0.000
	Lower secondary (S1-S3)	324	73.0%	27.0%		
	Upper secondary (S4-S6) / Matriculation	757	68.7%	31.3%		
	Tertiary (Non-degree, degree or above)	841	50.3%	49.7%		
Marital status	Never married	644	19.6%	80.4%	0.000	
	Married	1 389	81.2%	18.8%		
	Divorced/Separated/Widowed	120	74.4%	25.6%		
Occupation	Managerial/Professional worker	392	66.6%	33.4%	0.010	
	Clerk	406	57.5%	42.5%		
	Service/Shop sales worker	246	60.8%	39.2%		
	Blue collar worker	94	74.5%	25.5%		
	Not working	992	62.1%	37.9%		

Table 4.9.1: Ever had cervical smear before (Q32a) (Continued)

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
Monthly Household Income	Below $8,000	102	47.9%	52.1%		0.000
	$8,000-$13,999	183	63.7%	36.3%		
	$14,000-$19,999	187	65.9%	34.1%		
	$20,000-$39,999	547	60.3%	39.7%		
	$40,000 or above	549	70.2%	29.8%		
Type of living quarters	Public rental flats	622	54.5%	45.5%	0.000	
	Subsidized sale flats	373	63.9%	36.1%		
	Private housing	1 129	66.1%	33.9%		

4.9.2 Length of 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 educational attainment, marital status, occupation, monthly household income and type of living quarters.

A relatively higher proportion of divorced/separated/widowed respondents (28.0%), blue collar workers (26.5%), those with monthly household income of below $8,000 (28.6%) and those living in public rental flats (25.2%) reported that they had their last smear at least 37 months ago when compared with their respective counterparts. The lower the educational attainment of the respondents, the more likely that they had their last smear at least 37 months ago (Table 4.9.2).

Table 4.9.2: Length of time since last cervical smear (Q32b)

Variable	Level	Base	1-12 months	13-36 months	37 months and above	p-value	
						Kruskal-Wallis test	Rank Correlation
Educational attainment	Primary or below	157	37.9%	38.3%	23.9%		0.000
	Lower secondary (S1-S3)	232	40.0%	37.6%	22.4%		
	Upper secondary (S4-S6) / Matriculation	513	45.3%	35.2%	19.4%		
	Tertiary (Non-degree, degree or above)	417	52.2%	36.2%	11.6%		
Marital status	Never married	126	54.1%	27.7%	18.2%	0.003	
	Married	1 111	45.6%	37.3%	17.2%		
	Divorced/Separated/Widowed	84	35.4%	36.6%	28.0%		
Occupation	Managerial/Professional worker	261	49.5%	37.2%	13.2%	0.000	
	Clerk	229	54.5%	32.1%	13.3%		
	Service/Shop sales worker	148	45.3%	35.8%	18.8%		
	Blue collar worker	67	36.1%	37.4%	26.5%		
	Not working	605	42.2%	36.8%	20.9%		
Monthly Household Income	Below $8,000	49	31.3%	40.2%	28.6%		0.000
	$8,000-$13,999	115	40.0%	36.3%	23.7%		
	$14,000-$19,999	123	41.2%	31.8%	27.0%		
	$20,000-$39,999	323	44.3%	37.7%	18.0%		
	$40,000 or above	384	54.5%	33.8%	11.8%		
Type of living quarters	Public rental flats	334	37.4%	37.5%	25.2%	0.000	
	Subsidized sale flats	234	51.2%	31.3%	17.5%		
	Private housing	734	48.3%	36.6%	15.1%		

4.9.3 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 educational attainment, marital status, occupation, monthly household income and type of living quarters.

Divorced/separated/widowed respondents (43.7%), service/shop sales workers (40.1%) and those living in public rental flats (38.0%) were more likely to report that they did not have the smear at a regular interval when compared with their respective counterparts. Also, the lower the educational attainment and the lower the monthly household income of respondents, the more likely that they did not have cervical smear at a regular interval (Table 4.9.3).

Table 4.9.3: Whether had had cervical smear at a regular interval (Q32c)

Variable	Level	Base	Yes, at a regular interval	No, not at a regular interval	p-value	
					Chi-square test	Kruskal-Wallis test
Educational attainment	Primary or below	162	57.5%	42.5%		0.001
	Lower secondary (S1-S3)	237	66.3%	33.7%		
	Upper secondary (S4-S6) / Matriculation	520	68.9%	31.1%		
	Tertiary (Non-degree, degree or above)	423	70.3%	29.7%		
Marital status	Never married	127	60.1%	39.9%	0.007	
	Married	1 127	69.3%	30.7%		
	Divorced/Separated/Widowed	89	56.3%	43.7%		
Occupation	Managerial/Professional worker	261	71.1%	28.9%	0.011	
	Clerk	233	75.2%	24.8%		
	Service/Shop sales worker	149	59.9%	40.1%		
	Blue collar worker	70	67.2%	32.8%		
	Not working	617	65.3%	34.7%		
Monthly Household Income	Below $8,000	49	58.9%	41.1%		0.000
	$8,000-$13,999	117	63.6%	36.4%		
	$14,000-$19,999	123	63.4%	36.6%		
	$20,000-$39,999	330	68.0%	32.0%		
	$40,000 or above	385	74.1%	25.9%		
Type of living quarters	Public rental flats	339	62.0%	38.0%	0.028	
	Subsidized sale flats	239	68.7%	31.3%		
	Private housing	745	70.1%	29.9%		

4.9.4 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 educational attainment, occupation, monthly household income and type of living quarters.

Blue collar workers (37.9%), those with monthly household income of $8,000 to $1,3999 (35.4%) and those living in public rental flats (33.3%) were more likely to report that they had cervical smear less than once every 2 years when compared with their respective counterparts. Also, the lower the educational attainment of the respondents, the more likely that they had the cervical smear test less than once every 2 years (Table 4.9.4).

Table 4.9.4: Frequency of having cervical smear (Q32d)

Variable	Level	Base	At least once a year	Once every 2 years	Less than once every 2 years	p-value	
						Kruskal-Wallis test	Rank Correlation
Educational attainment	Primary or below	90	34.5%	27.9%	37.5%		0.000
	Lower secondary (S1-S3)	154	38.1%	28.0%	33.9%		
	Upper secondary (S4-S6) / Matriculation	350	50.1%	29.1%	20.9%		
	Tertiary (Non-degree, degree or above)	294	57.9%	30.5%	11.7%		
Occupation	Managerial/Professional worker	183	59.0%	29.6%	11.4%	0.000	
	Clerk	174	51.7%	28.3%	20.1%		
	Service/Shop sales worker	88	49.7%	27.8%	22.4%		
	Blue collar worker	46	35.7%	26.4%	37.9%		
	Not working	393	44.9%	29.5%	25.6%		
Monthly Household Income	Below $8,000	29	42.2%	34.4%	23.5%		0.000
	$8,000-$13,999	72	43.3%	21.3%	35.4%		
	$14,000-$19,999	76	38.1%	32.3%	29.7%		
	$20,000-$39,999	222	45.8%	29.9%	24.2%		
	$40,000 or above	284	58.7%	29.6%	11.6%		
Type of living quarters	Public rental flats	203	40.3%	26.4%	33.3%	0.000	
	Subsidized sale flats	159	38.3%	32.7%	29.0%		
	Private housing	518	56.1%	29.1%	14.8%		

4.10 Use of mobile phone

4.10.1 Whether the respondents currently used a mobile phone

Whether the respondents currently used a mobile phone is associated significantly with their educational attainment, and type of living quarters.

Those living in subsidized sale flats (99.2%) were more likely to report that they currently used a mobile phone when compared with their respective counterparts. The higher the educational attainment of the respondents, the more likely that they currently used a mobile phone (Table 4.10.1).

Table 4.10.1: Whether the respondents currently used a mobile phone (Q34)

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
Educational attainment	Primary or below	377	89.8%	10.2%		0.000
	Lower secondary (S1-S3)	586	96.6%	3.4%		
	Upper secondary (S4-S6) / Matriculation	1 359	98.8%	1.2%		
	Tertiary (Non-degree, degree or above)	1 801	99.4%	0.6%		
Type of living quarters	Public rental flats	1 187	96.0%	4.0%	0.000	
	Subsidized sale flats	712	99.2%	0.8%		
	Private housing	2 178	98.6%	1.4%		

4.10.2 Number of mobile phone numbers in total which the respondents are using personally and would usually answer

Number of mobile phone numbers in total which the respondents are using personally and would usually answer is associated significantly with their gender, age, educational attainment, occupation, monthly household income and type of living quarters.

Male respondents (21.4%), those aged 25-34 (19.4%), managerial/professional workers (26.4%) and those living in subsidized sale flats (16.8%) are more likely to have two or more mobile phone numbers in total which the respondents are using personally and would usually answer when compared with their respective counterparts. The higher the educational attainment and the monthly household income of the respondents, the more likely that they had two or more mobile phone numbers in total which the respondents are using personally and would usually answer (Table 4.10.2).

Table 4.10.2: Number of mobile phone numbers in total which the respondents are using personally and would usually answer (Q35)

Variable	Level	Base	One	Two or more	p-value	
					Kruskal-Wallis test	Rank Correlation
Gender	Male	1 921	78.6%	21.4%	0.000	
	Female	2 119	91.3%	8.7%		
Age group	18-24	496	92.3%	7.7%		0.015
	25-34	804	80.6%	19.4%		
	35-44	873	82.6%	17.4%		
	45-54	1 017	85.2%	14.8%		
	55-64	848	88.5%	11.5%		
Educational attainment	Primary or below	339	93.3%	6.7%		0.000
	Lower secondary (S1-S3)	566	88.4%	11.6%		
	Upper secondary (S4-S6) / Matriculation	1 338	87.3%	12.7%		
	Tertiary (Non-degree, degree or above)	1 787	81.3%	18.7%		
Occupation	Managerial/Professional worker	1 075	73.6%	26.4%	0.000	
	Clerk	598	90.5%	9.5%		
	Service/Shop sales worker	466	86.3%	13.7%		
	Blue collar worker	487	82.0%	18.0%		
	Not working	1 366	93.2%	6.8%		
Monthly Household Income	Below $8,000	159	92.8%	7.2%		0.000
	$8,000-$13,999	302	90.9%	9.1%		
	$14,000-$19,999	351	88.2%	11.8%		
	$20,000-$39,999	1 063	86.4%	13.6%		
	$40,000 or above	1 177	79.2%	20.8%		
Type of living quarters	Public rental flats	1 136	88.1%	11.9%	0.003	
	Subsidized sale flats	705	83.2%	16.8%		
	Private housing	2 146	84.4%	15.6%		

Chapter 5 Conclusion and Recommendations

5.1 Conclusion

5.1.1 Weight status, control and perception

According to the locally adapted classification of weight status for Chinese adults in Hong Kong, about half (50.6%) of the respondents were classified as "normal", 18.6% as "overweight" and 21.2% as "obese", while the remaining 9.6% were classified as "underweight".

Regarding respondents' self-perceived current weight status, almost half (47.8%) of the respondents perceived themselves as "just right", 44.0% considered themselves as "overweight", and 8.2% considered themselves as "underweight". Overall, 66.0% of the respondents perceived their weight status in a way consistent with the locally adapted classification, while 19.6% of the respondents overestimated and 14.5% underestimated their weight status.

5.1.2 Physical activities and leisure-time exercise

During the seven days prior to the survey, about half (52.0%) and about three-fifths (60.2%) of the respondents had not engaged in any moderate and vigorous physical activity for at least 10 minutes a day respectively. On the other hand, close to three-quarters (72.9%) of the respondents had spent at least 10 minutes on walking every day during the seven days prior to the survey.

Overall, nearly two-fifths (37.5%) of the respondents' level of physical activity met the WHO's recommended physical activity level for adults. Over one-third (35.9%) of the respondents reported they exercised one to three times a week in their leisure-time.

5.1.3 Fruit and vegetable consumption

While about half (51.0%) of the respondents had eaten fruit every day, about four-fifths of the respondents (82.6%) had eaten vegetables daily. Regular fruit or vegetable juice consumption was found to be uncommon amongst respondents - only 2.1% of the respondents drank fruit or vegetable juice daily.

Excluding fruit or vegetable juice, the average (mean) daily intake of fruit and vegetables by the respondents was only 3.3 servings. Less than one-fifth (18.8%) of the respondents had a daily intake of 5 or more servings of fruit and vegetables.

5.1.4 Smoking pattern

About one-tenth (10.9%) of the respondents were current smokers at the time of this survey. Among the current smokers, the vast majority (92.2%) were daily smokers and nearly half (47.8%) of them reported smoking at least 11 cigarettes a day.

5.1.5 Pattern of alcohol consumption

During the past year prior to the survey, about three-fifths (62.7%) of the respondents reported having drunk at least one alcoholic drink. While nearly half (49.9%) of these drinkers drank less than monthly, 5.3% drank daily.

Among those who had drunk alcohol during the past year prior to the survey, more than one quarter (29.6%) reported that they had engaged in binge drinking (drinking 5 or more glasses/ cans of alcohol on one occasion) at least once during the past year prior to the survey.

5.1.6 Level of psychological distress

Based on the Kessler 6-items Psychological Distress Scale (K6), 13.1% of the respondents felt nervous, 8.2% felt restless or fidgety, 4.8% felt that everything was an effort, 3.6% felt so sad that nothing could cheer them up, 2.4% felt worthless and 2.4% felt hopeless “most” or “all of the time” during the thirty days prior to the survey. About one-fifth (20.4%) of the respondents did not experience any of the six psychological distress symptoms during the thirty days prior to the survey.

Overall, 4.8% of respondents were classified as having severe psychological distress (measured by K6 score of 13 or above) during the thirty days prior to the survey. Among these respondents, over four-fifths (87.2%) of them reported that they had not consulted a doctor or other health professional because of their feelings of psychological distress symptoms or emotional problems.

5.1.7 Use of antibiotics

About two-fifths (41.4%) of the respondents had taken antibiotics during the 12 months prior to the survey. Among the respondents who had taken any antibiotics, the vast majority (97.7%) of them reported that the antibiotics they took were prescribed by doctors.

Among the respondents who took antibiotics prescribed by doctors during the 12 months prior to the survey, more than four-fifths of the respondents reported that they had been reminded by their doctors of the dose to be taken every time (96.4%), the number of days to be taken (95.8%) and the need to finish all the antibiotics prescribed for them (95.7%). However, less than one-third (30.9%) of the respondents had been reminded by their doctors that improper usage of antibiotics would increase the chance of acquiring resistant bacteria. Overall, more than four-fifths (86.9%) of the respondents had taken the antibiotics according to the prescribed dose and number of days.

5.1.8 Cervical screening (for female respondents only)

Less than two-thirds (62.4%) of the female respondents reported that they had had a cervical smear before.

Among those female respondents who had a cervical smear before, about two-thirds (67.6%) had a cervical smear at a regular interval. Among those who had cervical smears regularly, 45.3% had the test once a year.

5.2 Recommendations

Some recommendations based on the survey findings are suggested below:

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, less than two-fifths of respondents (37.5%) achieved the recommended amount of physical activities suggested by the WHO. Thus, increased effort should be made to educate the community about the health benefits and recommended level of physical activity as well as to facilitate the public to engage in a more active lifestyle.

2. Diet rich in fruit and vegetables is associated with a reduced risk of developing major non-communicable diseases, including cardiovascular diseases, type 2 diabetes and certain cancers. However, the survey found that less than one-fifth (18.8%) of the respondents had a daily average intake of 5 or more servings of fruit and vegetables. Therefore, increased effort should be made to educate the community about the health benefits of at least 5 servings of fruit and vegetable intake a day, and to promote increased intake.

3. Nearly three in ten (29.6%) drinkers who had drunk alcohol during the past year prior to the survey reported that they had engaged in binge drinking (drinking 5 or more glasses/ cans of alcohol on one occasion). Health promotion campaigns should be strengthened to educate the public about the harms of alcohol use, and in particular those of binge drinking.

4. Among the respondents who took antibiotics last time prescribed by doctors, less than one-third (30.9%) of them reported that they had been reminded by their doctors the increased risk of acquiring bacterial resistance if they failed to take the antibiotics as prescribed. Such observations reflect that there is room for improvement in prescribing behaviour.

5.3 Limitations

1. Although the data were weighted by the distribution of age, gender and type of living quarters in order to correct for over- or under-representation of all groups in the population, 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 resided in a household by 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 is still around 80%, a household telephone survey should only exclude a small proportion of households.
4. The survey relied on self-reported data and had certain limitations.
    i. Respondents might not be willing to disclose to interviewers and deliberately under-report those behaviours that are socially undesirable or considered as unhealthy (such as binge drinking). Conversely, respondents might over-report those behaviours that are considered desirable.
    ii. Self-reporting behaviour or practices are also subject to recall bias and recall error. However, the recall period was kept quite short in this survey which should reduce such bias.
5. Finally, this was a cross-sectional study. The causal or time relationship between various factors could not be identified.

Annex A Survey Questionnaire

BEHAVIOURAL RISK FACTOR SURVEY APRIL 2014 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 questionnaire survey to assess the public's awareness of healthy living. Questions related to your personal health and the risks of diseases will be asked. All the information provided by you will be kept strictly confidential and for collective analysis only. This survey will take approximately 15 minutes to complete. If you have any queries on this survey, you can call the SSRC at phone number: 3917 1600 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 of Hong Kong 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 are there at home right now? (Members not at home and foreign domestic helpers were excluded)

[S3]_____ Persons

Who is the one who will next have a birthday? Could you pass the phone to him or her? (Interviewer: if respondent questions, explain the "Next Birthday" rule: a method to select respondent)

Q1. Record the gender

1. Male
2. Female

Section 1: Weight Status, Control and Perception

Q2a. Your height is?

_____ cm /or _____ ft _____ in

Q2b. Your weight is?

_____ kg /or _____ lb

Q2c. Your waist circumference is?

_____ cm /or _____ in

Q3. What do you think about your current weight; is it overweight, just right, or underweight?

1. Overweight
2. Just right
3. Underweight

Section 2: Physical Activity and Leisure-time Exercise

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 and your heart beat much faster than normal, e.g., running, aerobics, football, swimming, heavy physical work, jogging, etc., and you did these activities for at least 10 minutes at a time.

_____ Days

Q4b. [Only ask those whose answers in Q4a are greater than or equal to "1"]

On those days that you have performed vigorous physical activities for at least 10 minutes, how much time on average per day did you usually spend 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 and your heart beat somewhat faster 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. [Only ask those whose answers in Q5a are greater than or equal to "1"]

On those days that you have performed moderate physical activities for at least 10 minutes, how much time on average per day did you usually spend doing moderate physical activities?

_____ Minutes

Q6a. 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

Q6b. [Ask those whose answers in Q6a are greater than or equal to "1"]

On those days that you have walked for at least 10 minutes at a time, how much time on average did you usually spend walking in one of those days?

_____ Hours _____ Minutes

Q7. During the last 7 days, how much time on average did you usually spend sitting on a weekday? This includes time spent sitting at work, at home or other places, visiting friends, traveling on public transport, reading 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

Q8. During the past 30 days, how often did you <u>exercise in your leisure time</u>, 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 once a month

Section 3: Fruit and Vegetables Consumption

Q9a. On average, how many days do you eat fruit each week? (excluding 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 Q10a)

Q9b. 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 half bowl 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).

_____ Pieces

Q10a. On average, how many days do you eat vegetables each week? (excluding 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 Q11)

Q10b. 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

Q11. On average, how many days in the week do you drink at least one cup of fruit or vegetable juice? "Juice" refers to freshly squeezed juice or those that are labeled 100% or pure fruit/vegetable juice. A cup means 250 ml 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

Section 4: Smoking Pattern

Q12a. Have you ever smoked before? [Interviewer: read out the answers one by one]

1. Yes, but not now
2. Yes, and still smoking (skip to Q12c)
3. Never (skip to Q13)

Q12b. How long have you stopped smoking? [Interviewer: read out the answers one by one]

1. Less than 1 month (skip to Q13)
2. 1 month to 1 year (skip to Q13)
3. More than 1 year (skip to Q13)

Q12c. How many cigarettes do you smoke on average per day? [Interviewer: Do not read out the answers]

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

Section 5: Pattern of Alcohol Consumption

Q13. During the past year, did you have a drink containing alcohol?

1. Yes
2. No (skip to Q18)

Q14. How often do you have a drink containing alcohol?

1. Less than monthly
2. Once a month
3. 2 to 3 times a month
4. Once a week
5. 2 times a week
6. 3 times a week
7. 4 times a week
8. 5 times a week
9. 6 times a week
10. Once a day

Q15. On a typical day when you are drinking, what type of drinks containing alcohol and how much do you have? [Interviewer: please make reference of the following pictures for calculating the number of drinks appropriately. One unit equals to 10 grams of ethanol.]

Beer				Red/White wine	Spirit		Rice wine		Shorgum	Saki
1 can ~330 ml	1 pint ~568 ml	0.5 pint ~284 ml	1 glass ~180 ml	1 glass ~125 ml	1 peg ~40-50 ml	1 shot ~22 ml	1 glass ~180 ml	1 small glass ~ 20 ml	1 small glass ~20 ml	1 small glass ~20 ml
( ) can	( ) glass	( ) glass	( ) glass	( ) glass	( ) glass	( ) glass	( ) glass	( ) glass	( ) glass	( ) glass
1.3 units	2.2 units	1.1 units	0.7 units	1.2 units	1.3 units	0.7 units	5.7 units	0.6 units	0.8 units	0.3 units

_____ Units of drinks

Q16. How often do you have at least 5 or more drinks 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. Never
2. Less than monthly
3. Once a month
4. 2 times a month
5. 3 times a month
6. Once a week
7. 2-3 times a week
8. 4-6 times a week
9. Daily or almost daily

Q17. Have you or someone else been injured because of your drinking? [Interviewer: Please read out answer "2" and "3" if the respondent replies "Yes" only.]

1. No
2. Yes, but not in the last year
3. Yes, during the last year

Section 6: Level of Psychological Stress

Q18. In the past 30 days, how often did you feel nervous? [Interviewer: Read out the answers]

1. All of the time
2. Most of the time
3. Some of the time
4. A little of the time
5. None of the time

Q19. In the past 30 days, how often did you feel hopeless? [Interviewer: Read out the answers]

1. All of the time
2. Most of the time
3. Some of the time
4. A little of the time
5. None of the time

Q20. In the past 30 days, how often did you feel restless or fidgety? [Interviewer: Read out the answers]

1. All of the time
2. Most of the time
3. Some of the time
4. A little of the time
5. None of the time

Q21. In the past 30 days, how often did you feel so sad that nothing could cheer you up? [Interviewer: Read out the answers]

1. All of the time
2. Most of the time
3. Some of the time
4. A little of the time
5. None of the time

Q22. In the past 30 days, how often did you feel that everything was an effort? [Interviewer: Read out the answers]

1. All of the time
2. Most of the time
3. Some of the time
4. A little of the time
5. None of the time

Q23. In the past 30 days, how often did you feel worthless? [Interviewer: Read out the answers]

1. All of the time
2. Most of the time
3. Some of the time
4. A little of the time
5. None of the time

[Interviewer's prompt: For those respondents who claim did not experience the six kinds of feelings mentioned above -> Please go to Q25.]

Q24. In the past 30 days, how many times did you see a doctor or other health professional because of these feelings/emotional problems?

_____ Times

Q25. What is your most frequently adopted stress coping mechanism? [Interviewer: No prompt, one answer only]

1. Exercise
2. More rest/sleep
3. Talking to somebody
4. Smoking
5. Drinking
6. Eating
7. Shopping
8. Reading
9. Watching TV/Movie
10. Listening to music
11. Attend stress management class
12. Playing electronic/computer/online game
13. Others (please specify: _____)
14. No method used
15. Not applicable as no stress

Section 7: Use of antibiotics

Q26. During your last visit to a medical doctor in the past 12 months, did you actively ask the doctor if the medicine prescribed includes antibiotics?

1. Yes
2. No
3. Did not see a doctor
4. Cannot remember

Q27. Have you taken antibiotics within the past 12 months?

1. Yes
2. No (skip to Q32a)
3. Don’t know / Cannot remember (skip to Q32a)

Q28. How did you obtain the antibiotics within the past 12 months? (Can choose more than one answer)

1. Doctors
2. Doctor's prescription but purchased from dispensary
3. Purchased in dispensary without doctor's prescription
4. Leftover medicine from previous prescription
5. Leftover from relatives or friends

Q29. The last time antibiotics were prescribed,

a) was it upon the doctor's advice or upon your request ?
   1. Doctor's advice
   2. Your request (skip to Q30)
   3. Cannot remember (skip to Q30)

b) when your doctor prescribed antibiotics, did he/she explain why?
   1. Yes (skip to Q30)
   2. No
   3. Cannot remember (skip to Q30)

c) if your doctor did not explain why, have you directly asked him/her ?
   1. Yes
   2. No
   3. Cannot remember

Q30. When your doctor last prescribed antibiotics, did he/she remind you of the following:

a) Dose to be taken every time?
   1. Yes
   2. No
   3. Cannot remember

b) Number of days to be taken?
   1. Yes
   2. No
   3. Cannot remember

c) Finish all the antibiotics prescribed for you?
   1. Yes
   2. No
   3. Cannot remember

d) Improper usage of antibiotics would increase the chance of acquiring resistant bacteria?
   1. Yes
   2. No
   3. Cannot remember

Q31. Have you taken the antibiotics according to the prescribed dose and number of days? [Interviewer: read out the answer "1" to "3"]
1. Yes, follow every time
2. Sometimes
3. No
4. Cannot remember

Section 8: Cervical Screening (For female respondents only)

Q32a. Have you ever had a cervical smear before?
1. Yes
2. No (skip to Q33)
3. Not sure (skip to Q33)

Q32b. 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

Q32c. Do you have your cervical smear at a regular interval?

1. Yes, at a regular interval
2. No, not at a regular interval (skip to Q33)

Q32d. 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

Q33. Have you had a total hysterectomy (surgical removal of the entire uterus) before?

1. Yes
2. No

Section 9: Use of mobile phone

Q34. Do you currently use a mobile phone?

1. Yes
2. No (skip to Q36)

Q35. How many mobile phone numbers in total which you are using personally and would usually answer?

_____

Section 10: Demographic Characteristics

Q36. What is your age?

_____ Years

Q37. What is your highest educational attainment? [Interviewer: read out the answers one by one]

1. Primary or below
2. Lower secondary (S1-S3)
3. Upper secondary (S4-S6) / Matriculation
4. Tertiary (Non-degree, degree or above)
5. Refuse to answer

Q38. What is your marital status? (Interviewer: read out the answers one by one)

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

Q39a. Are you currently engaged in a job?

1. Yes
2. No (skip to Q39c)

Q39b. What is your occupation? [Interviewer: record the details of occupation]

1. Employer/Manager/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: _____

Q39c. You are a … [Interviewer: read out the answers one by one]

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

Q40. How much is your monthly personal income, including all sources of 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

Q41. How much is your monthly household income, including all sources of 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

Q42. What is your type of living quarter?

1. Public rental flats
2. Housing Authority subsidised sale flats
3. Housing Society subsidised 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
9. Refuse to answer

END