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RESEARCH REPORT

SUBMITTED TO

CENTRE FOR HEALTH PROTECTION
DEPARTMENT OF HEALTH

General Public's Knowledge, Attitude and Practice Survey on Antimicrobial Resistance 2016/17

Submitted by

Social Sciences Research Centre

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Executive Summary

Introduction

The Department of Health commissioned the Social Science Research Centre of the University of Hong Kong ("HKUSSRC") to conduct a territory-wide telephone survey to gauge the general public's awareness of Antimicrobial Resistance ("AMR") problem; knowledge, attitude and practice on antibiotic use; and their views on potential control measures and AMR-related health promotion.

Research Methodology

The survey was an anonymous telephone survey conducted using the Computer Assisted Telephone Interviews (CATI). The sample was drawn randomly from a list of telephone numbers, which included unlisted and new numbers. The target respondents were Cantonese, Putonghua or English-speaking non-institutional Hong Kong residents (excluding foreign domestic helpers) aged 15 or above. A bilingual (Chinese and English) questionnaire was used to collect data.

Fieldwork took place in the call-centre of HKUSSRC on all the weekdays (Monday to Friday, except Public Holidays) and one Saturday (14th January 2017) between 23rd December 2016 and 19th January 2017 (a total of 17 weekdays and 1 Saturday). In total, 1,255 eligible respondents completed the interview. The response rate was 10.8%.

Weighting was applied based on age and gender in order to make our findings more representative, using the Hong Kong population data compiled by the Census and Statistics Department General Household Survey Q2 2016 as reference. Associations between selected demographic information and responses to selected questions were examined by the Pearson's chi-square test, Kruskal-Wallis test and Spearman's rank correlation.

Results of Survey

Knowledge of antibiotics

Which medical conditions should antibiotics be used to treat

The majority of respondents correctly identified the following medical conditions as treatable with antibiotics:

- Skin or wound infection (Can be treated: 71.8% vs Cannot be treated: 15.3%)
- Bladder/urinary tract infection (UTI) (69.1% vs 13.7%)

In contrast, only 26.5% correctly identified gonorrhoea as a condition treatable with antibiotics.

Over half of all respondents mistakenly identified the following medical conditions treatable with antibiotics:

- Cold and flu (54.0% vs 37.3%)

The majority of all respondents (87.9%) thought they should stop taking antibiotics only when they have taken all of the antibiotics as directed, while one-tenth of them (10.4%) thought they should stop taking antibiotics when they felt better and the rest (1.7%) did not know.

It is reassuring that the majority of all respondents correctly identified the following two false knowledge statements about antibiotics as incorrect:

- It's okay to use antibiotics that were given to a friend or family member, as long as they were used to treat the same illness (False: 93.1% vs True: 5.9%)
- It's okay to buy the same antibiotics, or request them from a doctor, if you're sick and they helped you get better when you had the same symptoms before (False: 83.1% vs True: 13.6%)

Use of antibiotics and views on health education materials

When respondents last took antibiotics, and how and where they obtained antibiotics

One-third of respondents (33.0%) reported having antibiotics within the past six months, while 7% reported that they never took any antibiotics. Among those respondents who had ever taken antibiotics, a vast majority of them (97.9%) reported they obtained their antibiotics from a doctor. Among 28 respondents who did not get their last antibiotics from a doctor or couldn't remember, one of them took leftover antibiotics and the remaining 27 obtained their antibiotics from a medical store or pharmacy.

Whether respondents received advice from a doctor, nurse or pharmacist on how to take antibiotics

Among those respondents who obtained their antibiotics (or antibiotic prescriptions) from a doctor, the majority (65.4%) reported that they had received advice from a medical professional (i.e. a doctor, nurse or pharmacist) on how to take antibiotics.

Among those respondents who had received advice from a medical professional, only less than half of them received the following advice on precautionary measures while taking antibiotics:

- Wearing a mask when having respiratory infection symptoms (Received: 48.6% vs Didn't receive: 50.7%)
- Children with signs and symptoms of infectious diseases should avoid contact with other children (25.4% vs 73.6%)
- Disinfect and cover all wounds (18.7% vs 80.7%)
- Eat or drink only thoroughly cooked or boiled items (15.1% vs 84.4%)
- Practise frequent hand hygiene (14.2% vs 84.7%)

However, the majority of those respondents who obtained their antibiotics from a doctor (73.8%) reported that they want to receive more information on precautionary measures while taking antibiotics.

Usefulness of specified actions that would help respondents to comply with the antibiotics treatment

The majority of all respondents reported that the following actions are either very useful or slightly useful for helping them to comply with the antibiotics treatment:

- Print educational information on the antibiotic prescription bags (very useful or slightly useful: 79.0% vs very useless or slightly useless: 6.6%)

- Doctors give related advice when prescribing antibiotics (76.9% vs 4.3%)
- Pharmacists give related advice when dispensing antibiotics (70.9% vs 7.3%)

Practices and attitude towards antibiotic use

About one-third of all respondents (36.3%) reported that they preferred to consult a doctor that has declared to use antibiotics responsibly.

Among those respondents (59.7%) who reported that they had consulted a doctor (for cold or flu) in the past 12 months, only a very small proportion of them (2.5%, 19 respondents) had asked for antibiotics during that consultation.

Among those respondents (21.4%) who reported that they had brought someone aged 15 years old or below to consult a doctor (for cold or flu) in the past 12 months, only 2 respondents (0.9%) had asked for antibiotics for that person during that consultation.

When a doctor's initial assessment indicated that antibiotics are not needed, the vast majority of respondents (96.9%) would accept the doctor's advice to observe for a few more days or to wait for the diagnostic test result before deciding whether to prescribe antibiotics or not.

The majority of respondents (84.3%) did not want to receive any antibiotics prescription if the doctors' initial diagnosis for them is viral infection e.g. cold/flu, while 10.3% of them wanted to get an antibiotics prescription.

The majority of respondents (73.9%) wanted their doctor to discuss and make a shared decision with them on antibiotics prescription.

The effectiveness of promotion on safe use of antibiotics at a list of places

A large proportion of all respondents rated the effectiveness of promotion on safe use of antibiotics at the following places as either very useful or slightly useful:

- Hospital or Clinic pharmacies (while waiting for drug dispensing) (very useful or slightly useful: 75.6% vs very useless or slightly useless: 8.8%)
- Waiting areas of clinics or A&E departments (70.4% vs 12.9%)
- Wards (65.4% vs 13.1%)
- Community pharmacies (51.9% vs 23.0%)

The effectiveness of different media for promotion of safe use of antibiotics

A large proportion of all respondents rated the effectiveness of the following promotion methods on safe use for antibiotics as very useful or slightly useful:

- Videos (e.g. TV API or programs) (very useful or slightly useful: 77.3% vs very useless or slightly useless: 9.5%)
- Websites or social medias, e.g. Facebook (57.9% vs 19.8%)
- Printed materials, e.g. posters or pamphlets (48.3% vs 22.5%)
- Articles, e.g. columns in newspapers or magazines (46.2% vs 23.1%)

Knowledge of antimicrobial resistance

Awareness of the terms commonly used in relation to the issue of antimicrobial resistance

A large proportion of respondents have heard of the Chinese term of superbugs (超級細菌) (82.2%), antibiotic-resistant bacteria (抗藥性細菌)(76.2%) or antibiotic resistance (抗生素耐藥性) (67.8%). However, only a minority of respondents have heard of antimicrobial resistance (抗菌素耐藥性) (36.8%) or 抗微生物藥物耐藥性 (12.6%, in Chinese only for those respondents who speak Putonghua or Cantonese). The media was the most common source from which they had heard about these terms.

Levels of understanding of the issue of antimicrobial resistance

A large proportion of respondents correctly identified the following true statements:

- Many infections are becoming increasingly resistant to treatment by antibiotics (True: 79.9% vs False: 8.4%)
- If bacteria are resistant to antibiotics, it can be very difficult or impossible to treat the infections they cause (73.8% vs 15.9%)
- Antibiotic-resistant infections could make medical procedures like surgery, organ transplants and cancer treatment much more dangerous (72.3% vs 11.6%)
- Antibiotic resistance is an issue that could affect me or my family (68.6% vs 18.3%)

One third of respondents misunderstood that bacteria which are resistant to antibiotics cannot be spread from person to person (36.9%)

A large proportion of respondents (76.5%) mistakenly identified "Antibiotic resistance occurs when your body becomes resistant to antibiotics and they no longer work as well" was a true statement. Nonetheless, the majority of them recognised "Antibiotic resistance is an issue in other countries but not here" (81.8%) and "Antibiotic resistance is only a problem for people who take antibiotics regularly" (53.2%) were false statements.

Views on potential AMR control measures and impact on personal level

The majority of respondents strongly agreed or slightly agreed that the following actions would help address the problem of antibiotic resistance:

- Doctors should only prescribe antibiotics when they are needed (strongly agreed or slightly agreed: 97.6% vs strongly disagreed or slightly disagreed: 0.2%)
- People should wash their hands regularly (90.6% vs 4.1%)
- People should use antibiotics only when they are prescribed by a doctor (87.3% vs 4.4%)
- Parents should make sure all of their children's vaccinations are up-to-date (83.9% vs 5.1%)
- People should not keep antibiotics and use them later for other illnesses (83.5% vs 11.9%)
- Farmers should give fewer antibiotics to food-producing animals (82.6% vs 6.6%)
- Pharmaceutical companies should develop new antibiotics (59.1% vs 12.9%)
- Governments should reward the development of new antibiotics (53.9% vs 13.7%)

Views on the scale of AMR problem and its impact on personal level

The majority of respondents strongly agreed or slightly agreed with the following three statements:

- Everyone should take responsibility for using antibiotics responsibly (strongly agreed or slightly agreed: 88.7% vs strongly disagreed or slightly disagreed: 3.3%)
- I am worried about the impact that antibiotic resistance will have on my health, and that of my family (73.5% vs 10.2%)
- Antibiotic resistance is one of the biggest problems the world faces (71.3% vs 6.0%)

Around half of the respondents strongly agreed or slightly agreed with the following three statements:

- There is not much people like me can do to stop antibiotic resistance (strongly agreed or slightly agreed:51.4% vs strongly disagreed or slightly disagreed: 23.5%)
- Medical experts will solve the problem of antibiotic resistance before it becomes too serious (46.5% vs 15.5%)
- I am not at risk of getting an antibiotic-resistant infection, as long as I take their antibiotics correctly (45.7% vs 25.5%)

Use of antibiotics in agriculture

Half of the respondents (50.9%) thought that antibiotics were widely used in agriculture (including in food-producing animals) in Hong Kong, while a quarter (25.0%) did not think so.

Recommendations

This study showed that the majority of respondents were aware of antibiotic resistance and its risk, although not familiar with the Chinese terminology of antimicrobial resistance (抗菌素耐藥性) and 抗微生物藥物耐藥性. However, half of them considered themselves incapable of stopping the AMR problem. This study also identified that misunderstanding on indications of antibiotics remain prevalent with over half of the respondents mistaking cold and flu as conditions treatable with antibiotics. Awareness-raising activities of the general public should be strengthened to fill this knowledge gap in future health promotion programmes. It is noteworthy that most respondents would comply with doctor's advice on the need of antibiotics for cold and flu or viral infections. Therefore, health advice and education provided during medical consultations can also serve as a powerful intervention in reducing inappropriate antibiotic use.

Most respondents showed support to potential AMR control measures, including shared decision-making on antibiotic prescription, and most accepted "no antibiotic prescription with watchful-waiting" when the initial medical assessment indicated antibiotics is not needed. To carry this forward, guidelines and training for primary care providers and patient materials can facilitate shared decision-making and "no antibiotic prescription with watchful waiting" practice in community setting. More studies should also be conducted to further assess the needs of prescribers and how the above interventions can be facilitated.

Finally, traditional mode of message delivery by videos (TV API or television programmes), website or social media were considered useful by most respondents. Future health promotion should also explore and expand channels of delivery in waiting area of hospital, pharmacies clinics and emergency departments which were considered effective for delivery of health message on proper antibiotic use.

It would be helpful to repeat a similar KAP survey in order to monitor trend in local population, assess the effectiveness of interventions and guide future actions.

Chapter One Introduction

The Social Science Research Centre of The University of Hong Kong ("HKUSSRC") was commissioned by the Department of Health ("DH") to conduct a territory-wide telephone survey in December 2016. This survey was designed to measure the knowledge, attitude and practice ("KAP") of the general public on antibiotics and their awareness of Antimicrobial Resistance ("AMR").

The objectives of the survey are:

A. To collect information on KAP of the general public regarding antibiotic use and AMR including:
    a. General public understanding on the effect of antibiotics;
    b. General public attitude and practice on antibiotic use; and
    c. General public awareness of antimicrobial resistance problem.
B. To explore the general public views on potential measures against AMR

Chapter Two 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 White Pages residential directory (English and Chinese) for seed numbers by dropping the last digit of the telephone numbers in the directory, removing the resulting duplicates, and then adding back all 10 possible final digits. The telephone numbers on the final list were then randomised and selected as needed. This method provides an equal probability sample that covers unlisted and new numbers[1].

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 non-institutional residents in all districts of Hong Kong aged 15 and above who spoke Cantonese, Putonghua or English. Foreign domestic helpers were excluded.

2.3 Questionnaire design

Chinese version of the WHO "Antibiotic Resistance: Multi-country Public Awareness Survey" was adopted with local adaptation. A structured bilingual (Chinese and English) questionnaire was designed and feedback from the pilot study were used to modify the questionnaire. The final questionnaire consisted of 27 questions covering: i) awareness and ownership of AMR; ii) knowledge, attitude and history on antibiotic use; and iii) views on potential control measures and AMR-related health promotion.A copy of the questionnaire is enclosed in the Annex.

2.4 Pilot study

A pilot study comprising 31 successfully completed interviews was conducted on 8th and 12th December 2016 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 HKUSSRC on all the weekdays and one Saturday (14th January 2017) between 23rd December 2016 and 19th January 2017, except 26th December 2016, 27th December 2016 and 2nd January 2017, which are public holidays (a total of 17 weekdays and 1 Saturday).

[1] 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.

On the weekdays, telephone calls were made between 4:00 p.m. and 10:30 p.m. On the Saturday, telephone calls were made between 1:00 p.m. and 6:00 p.m.

2.6 Response rate

A total of 22,966 telephone numbers were attempted. The number of fully enumerated cases was 1,255 while there were 168 partially enumerated cases and 392 refusal cases. 6,242 cases were classified as non-contact cases in which eligible persons were not-at-home or not available. An unanswered telephone call had been tried at least 5 contact attempts before classifying as non-contact case, including one contact attempt in day time to eliminate the business telephone numbers in non-contact cases. The contact rate was 40.0%[2] and the overall response rate was 10.8%[3]. Table 2.1 shows the detailed breakdown of final telephone contact status.

Table 2.1: Final status of telephone numbers attempted

Final status of contacts[4]	**Number of cases**
(A) No. of telephone numbers sampled	22,966
(B) No. of ineligible cases	10,857
a) Valid working telephone numbers	1,125
i) Claimed wrong number	0
ii) Language problem	32
iii) Non-residential line	1,042
iv) No target respondent	51
b) Invalid telephone numbers	9,732
i) Fax / data line	945
ii) Non-working / out of service number	8,787
(C) No. of eligible cases	8,057
a) Successfully completed interviews	1,255
b) Unsuccessful cases	6,802
i) Mid-way termination cases	168

[2] 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 = (32+1,042+51+1,255+168+6,242+392) / 22,966 = 40.0%.

[3] 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% = 1,255 * (1 / (8,057+4,052*8,057/ (1,125+8,057))) * 100% =10.8%.

[4] "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.

Final status of contacts[4]	Number of cases
ii) Non-contact cases such as selected eligible person not-at-home / not available	6,242
iii) Refusal cases	392
(D) No. of cases with unknown eligibility status[5]	4,052
a) Answering machine	0
b) Busy line	0
c) Call blocking, password needed	0
d) Immediate disconnection[6]	1
e) No answer	4,051

2.7 Sample size and sampling error

A sample size of 1,255 successful interviews was achieved (the target sample size was 1,070) The width of a 95% confidence interval for this sample size is at most +/− 2.8%[7]. This means that we can have 95% confidence that the true population proportion falls within the sample proportion plus or minus 2.8%. For example, 36.3% of the respondents reported that they preferred to consult a doctor that has declared to use antibiotics responsibly and then the conservative 95% confidence interval for the true percentage of the population falls between 36.3% ± 2.8%, i.e. 39.1% and 33.5%.

2.8 Quality control

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

The HKUSSRC 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 gender and age proportions when compared with the Hong Kong population data compiled by the Census and Statistics Department (C&SD) General Household Survey Q2 2016. The proportions of respondents among age groups 50-54, 60-64, 65-69 and 70-74 were much higher than the population while the proportions of respondents aged 15-19, 25-29, 30-34, 35-39 and 80 years and above were much lower.

[5] 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.
[6] Including those cases which the calls disconnected before the cases could be classified as eligible.
[7] 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:

$$\pm 1.96 \times \sqrt{\frac{0.5 \times 0.5}{1255}} \times 100\% = \pm 2.8\%$$

The sample also contained a higher proportion of females when compared with the population. Table 2.2 shows the differences in terms of age and gender.

Table 2.2: Distribution differences of age and gender between this survey and the Hong Kong population data compiled by the C&SD General Household Survey Q2 2016

Age Group	This survey			Hong Kong population data – from the C&SD General Household Survey Q2 2016[8]		
	Male	**Female**	***Total***	**Male**	**Female**	***Total***
	% of Total	% of Total	*% of Total*	% of Total	% of Total	*% of Total*
15-19	**2.33%**	**1.45%**	*3.78%*	**2.81%**	**2.62%**	*5.43%*
20-24	**2.65%**	**3.78%**	*6.44%*	**3.39%**	**3.47%**	*6.86%*
25-29	**1.45%**	**2.17%**	*3.62%*	**3.69%**	**3.90%**	*7.59%*
30-34	**1.53%**	**3.78%**	*5.31%*	**3.81%**	**4.43%**	*8.23%*
35-39	**1.37%**	**3.54%**	*4.91%*	**3.73%**	**4.38%**	*8.11%*
40-44	**3.30%**	**5.39%**	*8.69%*	**3.89%**	**4.77%**	*8.66%*
45-49	**3.06%**	**5.87%**	*8.93%*	**3.99%**	**4.98%**	*8.97%*
50-54	**3.78%**	**9.01%**	*12.79%*	**4.82%**	**5.49%**	*10.32%*
55-59	**4.67%**	**6.03%**	*10.70%*	**5.03%**	**5.06%**	*10.08%*
60-64	**3.62%**	**7.48%**	*11.10%*	**3.93%**	**4.00%**	*7.93%*
65-69	**3.54%**	**5.79%**	*9.33%*	**3.09%**	**3.16%**	*6.24%*
70-74	**2.90%**	**3.94%**	*6.84%*	**1.77%**	**1.72%**	*3.49%*
75-79	**1.37%**	**2.33%**	*3.70%*	**1.59%**	**1.65%**	*3.24%*
80+	**1.69%**	**2.17%**	*3.86%*	**1.95%**	**2.89%**	*4.84%*
Total	**37.25%**	**62.75%**	*100.00%*	**47.49%**	**52.51%**	*100.00%*

**Provisional figures obtained from the C&SD*

In order to calculate the sample weight for the corresponding gender and age, HKUSSRC need to calculate the population ratio[9] and sample ratio[10] for the corresponding gender and age. After we calculate the population ratio and sample ratio, the calculation for the sample weight is as follows:

[8] Domestic household consists of a group of persons who live together and make common provision for essentials for living. These persons need not be related. If a person makes provision for essentials for living without sharing with other persons, he/she is also regarded as a household. In this case, the household is a one-person household. Figures on domestic households for the reference year of 2001 and thereafter do not include households comprising Mobile Residents only.

[9] **Population ratio:**

$$= \frac{Population\ size\ for\ the\ corresponding\ gender\ and\ age}{Total\ population\ aged\ 15\ and\ above}$$

[10] **Sample ratio:**

$$= \frac{Sample\ size\ for\ the\ corresponding\ gender\ and\ age}{Total\ sample\ size}$$

$$Sample\ weight\ \ for\ the\ corresponding\ gender\ and\ age = \frac{Population\ ratio}{Sample\ ratio}$$

If respondents refused to provide their age information, the sample weight is set as 1.

Table 2.3 Weights by age and gender applied in the analyses

Age	Male	Female
15-19	1.204094649	1.812665338
20-24	1.278277713	0.916834404
25-29	2.551031232	1.794703021
30-34	2.489540970	1.171071531
35-39	2.725371371	1.237784327
40-44	1.178354114	0.885566770
45-49	1.305053872	0.847553329
50-54	1.276015699	0.609544959
55-59	1.077066933	0.837884775
60-64	1.084618223	0.534579274
65-69	0.871936742	0.544888806
70-74	0.612820761	0.436336899
75-79	1.164200955	0.705235105
80+	1.155703138	1.330740187
Age data missing	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 23.0 was used to perform all statistical analyses.

Chapter Three Findings of the Survey

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

3.1 Demographics

This section briefly describes the characteristics of the 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 population data compiled by the C&SD General Household Survey Q2 2016 (Table 2.2).

Overall, 52.8% of the respondents were females and 51.9% were aged between 25 and 54.

3.1.2 Marital status

Over half of the respondents (59.4%) were married with child(ren) (53.9%) or without child (5.6%), while over a third (34.6%) of them were never married and 1.6% were divorced or separated. The remaining 4.4% of the respondents were widowed.

3.1.3 Educational attainment

About half of the respondents (46.7%) had tertiary education, followed by upper secondary education (31.1%) and lower secondary education (10.8%). The remaining (11.4%) had primary education or below.

3.1.4 Occupation

Over half of the respondents (55.0%) were currently engaged in a job. Of these, 13.2% were clerks, 9.6% were employer/ managers/ administrators and 8.5% were professionals.

The rest (45.0%) of the respondents were not currently engaged in a job including the retired persons (20.2%) and homemakers (13.7%).

3.1.5 Income

About two thirds of the respondents (66.0%) had a monthly personal income below $20,000, while slightly over one fifth (21.2%) had a personal income of $30,000 or above.

For the monthly household income, over a quarter of the respondents (27.4%) had an average monthly household income below $20,000, while over two fifths (44.4%) had a household income of $40,000 or above.

3.1.6 Type of living quarters

Over half of the respondents (51.3%) were living in private residential flats, followed by public rental flats (27.8%) and Housing Authority / Society subsidized sale flat (15.6%).

Table 3.1: Demographic information

Gender	**Base =1,255**
Male	47.2%
Female	52.8%
Age group	**Base =1,243**
15-24	12.3%
25-34	15.8%
35-44	16.7%
45-54	19.3%
55-64	18.0%
65 or above	17.8%
Marital Status	**Base = 1,238**
Never married	34.6%
Married and with child(ren)	53.9%
Married and without child	5.6%
Divorced/ separated	1.6%
Widowed	4.4%

Currently engaged in a job	**Base = 1,253**
Yes	55.0%
No	45.0%
Occupation	**Base =1,196**
Employer / Managers / Administrators	9.6%
Professionals	8.5%
Associate professionals	7.4%
Clerks	13.2%
Service workers	6.2%
Shop sales worker	1.2%
Craft and related workers	2.1%
Plant and machine operators and assemblers	1.4%
Un-skilled worker	3.5%
Students	9.0%
Homemakers	13.7%
Unemployed persons	3.9%
Retired persons	20.2%

Table 3.1: Demographic information (Continued)

Educational attainment	**Base = 1,251**
Primary or below	11.4%
Lower secondary (S1-S3)	10.8%
Upper secondary (S4-S6)/Matriculation	31.1%
Tertiary (Non-degree, degree or above)	46.7%
Household composition	**Base =1,208**
Single adult only	7.8%
Single adult and at least 1 child under 16	0.2%
Married / domestic partnership - adults only	12.1%
Married / domestic partnership and at least 1 child under 16	14.1%
Multiple adults aged 16+ only	54.2%
Multiple adults aged 16+ and at least 1 child under 16	11.6%
Monthly Personal Income	**Base = 1,159**
Below $ 10,000	48.2%
$10,000-$19,999	17.8%
$20,000-$29,999	12.8%
$30,000-$49,999	10.6%
$50,000 or above	10.6%

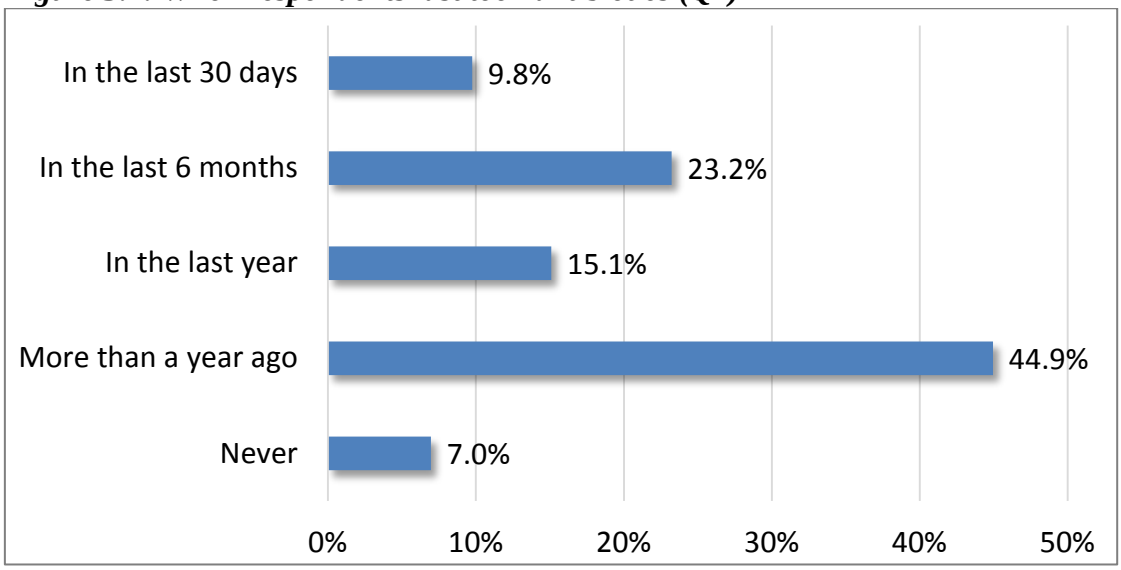
Type of Housing	**Base =1,217**
Public rental flats	27.8%
Housing Authority subsidized sale flat	12.9%
Housing Society subsidized sale flat	2.7%
Private residential flats	51.3%
Villas/Bungalows/Modern village houses	2.5%
Simple stone structures/Traditional village houses	1.4%
Staff Quarters	1.3%
Non-domestic quarters	0.1%
Monthly Household Income	**Base =940**
Below $ 10,000	14.0%
$10,000-$19,999	13.4%
$20,000-$39,999	28.2%
$40,000-$59,999	17.7%
$60,000 or above	26.6%

3.2 Use of antibiotics and views of health education materials

This section presents when respondents last took antibiotics, and how and where they obtained them.

Figure 3.1 shows that a third of the respondents (33.0%) reported that they last took antibiotics within the past six months, while 15.1% reported that they last took antibiotics within the past seven to twelve months.

Figure 3.1: When respondents last took antibiotics (Q1)

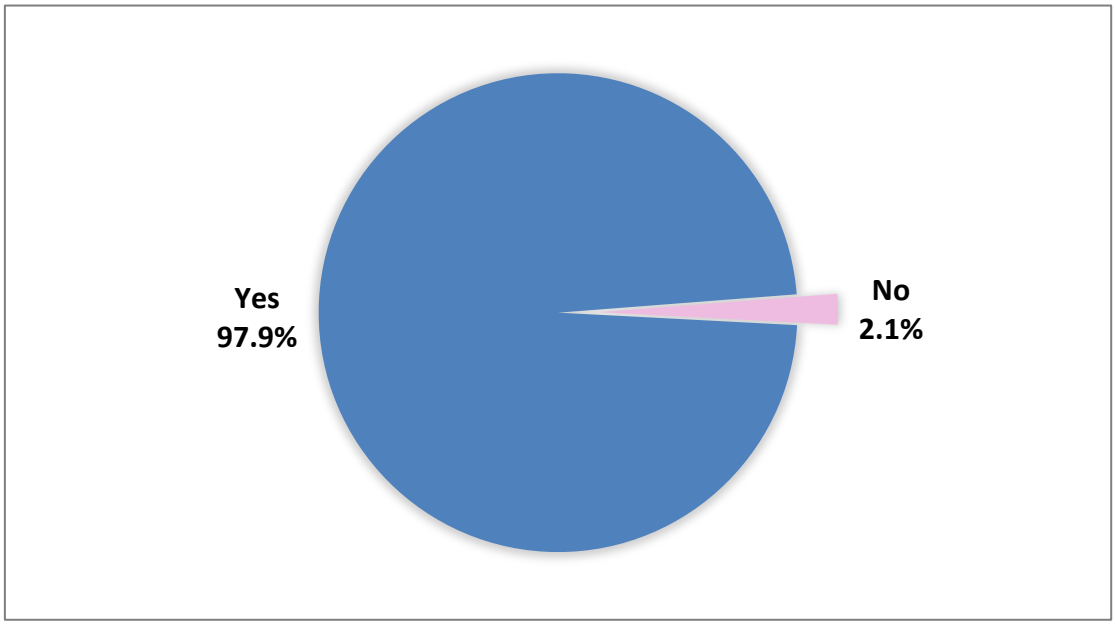


(Base: All respondents excluding "can't remember" = 1,107)

Among those respondents who had ever taken antibiotics, they were further asked whether they got the antibiotics (or a prescription for them) from a doctor.

Figure 3.2 shows that a vast majority of them (97.9%) reported they got their antibiotics from a doctor, while the rest (2.1%) did not get any antibiotics from a doctor.

Figure 3.2: Whether respondents got the antibiotics from a doctor (Q2)

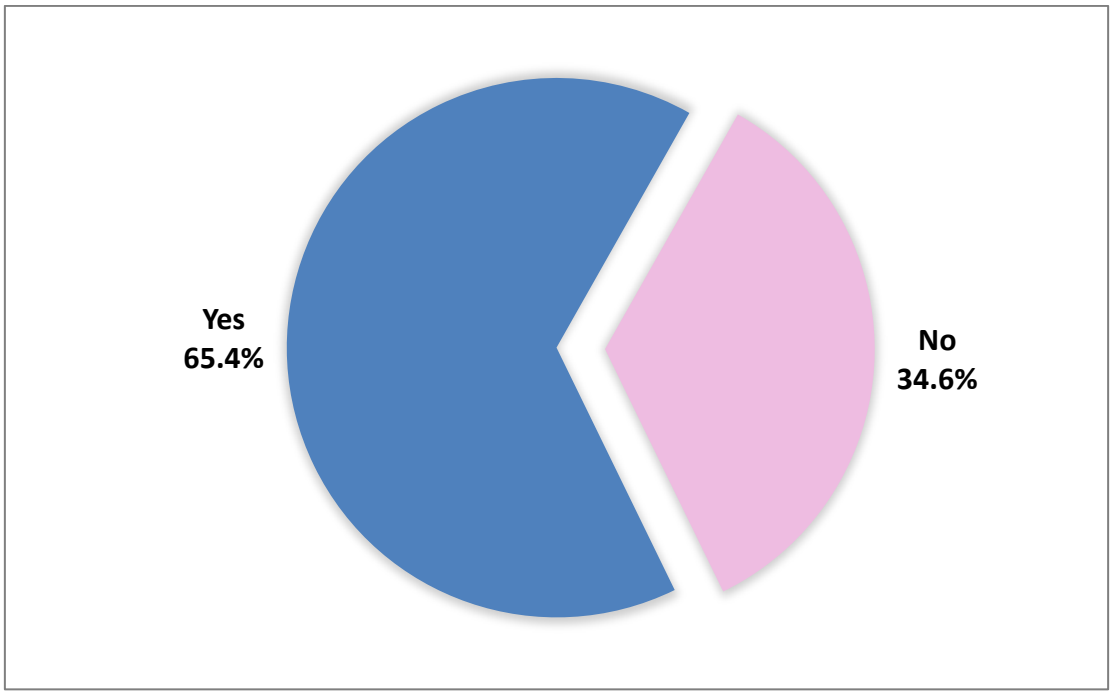


(Base: All respondents who had ever taken antibiotics excluding "can't remember" = 1,023)

Among those respondents who obtained their antibiotics from a doctor, they were further asked whether they received advice from a doctor, nurse or pharmacist on how to take them.

Figure 3.3 shows that the majority of them (65.4%) reported that they had received advice from a medical professional (i.e. a doctor, nurse or pharmacist) on how to take antibiotics. The rest (34.6%) did not get any advice.

Figure 3.3: Whether respondents received advice from a doctor, nurse or pharmacist on how to take antibiotics (Q3)



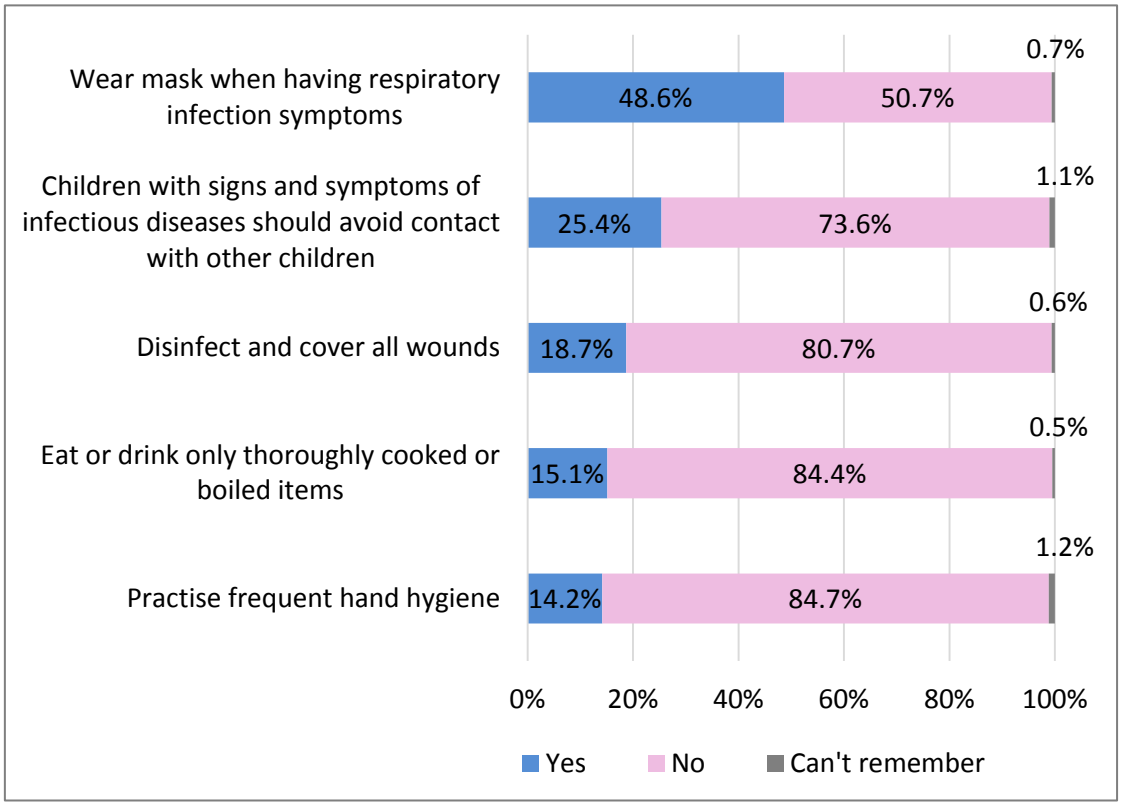
(Base: All respondents who had gotten their antibiotics from a doctor excluding "can't remember" = 979)

Among those respondents who had received advice from a medical professional (i.e. a doctor, nurse or pharmacist) on how to take antibiotics, they were further asked which advice received from a medical professional as part of the instruction on taking antibiotics.

Figure 3.4 shows that about half of them (48.6%) had received advice of wearing a mask when having respiratory infection symptoms while the rest (50.7%) did not receive this advice. However, only a minority of them received the following advice from a medical professional as part of the instruction on taking antibiotics:

- Children with signs and symptoms of infectious diseases should avoid contact with other children (Yes: 25.4% vs No: 73.6%);
- Disinfect and cover all wounds (18.7% vs 80.7%);
- Eat or drink only thoroughly cooked or boiled items (15.1% vs 84.4%); and
- Practise frequent hand hygiene (14.2% vs 84.7%).

Figure 3.4 Which advice respondents received from a doctor, nurse or pharmacist as part of how to take antibiotics (Q4)

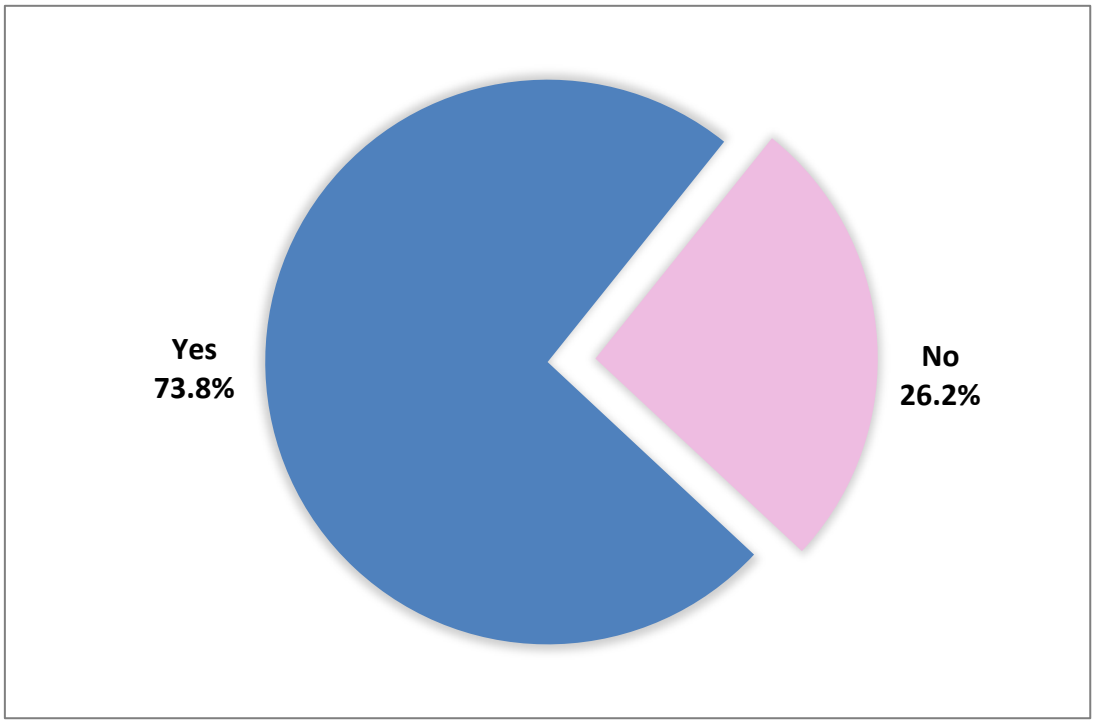


(Base: All respondents who had gotten advice from a doctor, nurse or pharmacist on how to take antibiotics = 640)

Among those respondents who obtained their antibiotics from a doctor, when a doctor prescribes antibiotics for them, they were further asked whether they wanted to receive more information on precautionary measures while taking antibiotics.

Figure 3.5 shows that the majority of them (73.8%) reported that they wanted to receive more information on precautionary measures while taking antibiotics. The rest (26.2%) did not want to receive more information.

Figure 3.5: When a doctor prescribes antibiotics for the respondents, whether they want to receive more information on precautionary measures while taking antibiotics (Q5)

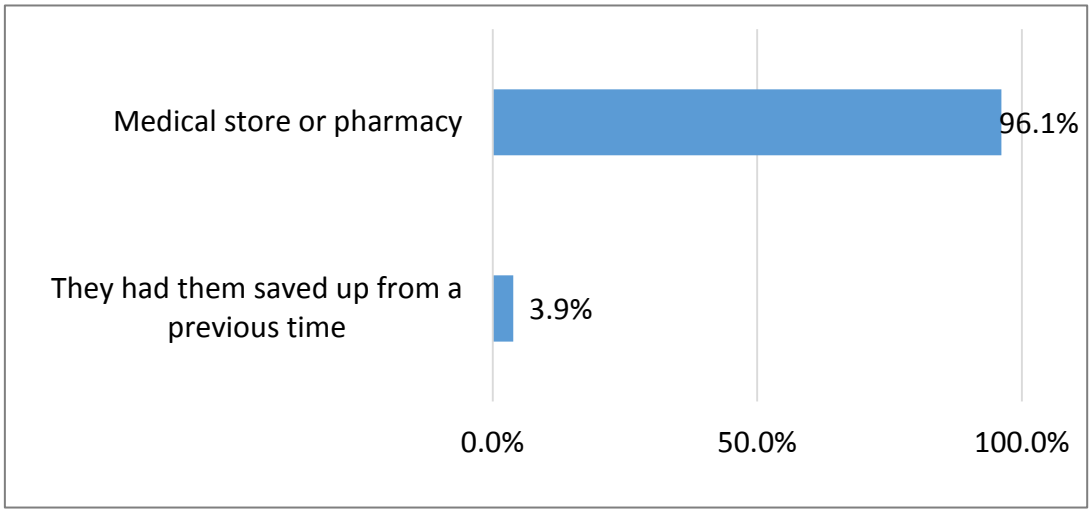


(Base: All respondents who had obtained their antibiotics from a doctor = 1,002)

Among those respondents who did not obtain their last antibiotics from a doctor or couldn't remember, they were further asked where they last obtained their antibiotics from.

Figure 3.6 shows that the majority of them (96.1%, 27 respondents) reported that they obtained the antibiotics they last took from a medical store or pharmacy, while the remaining one respondent (3.9%) said that he had the antibiotics saved up from a previous time.

Figure 3.6: Where respondents last obtained antibiotics (Q6)



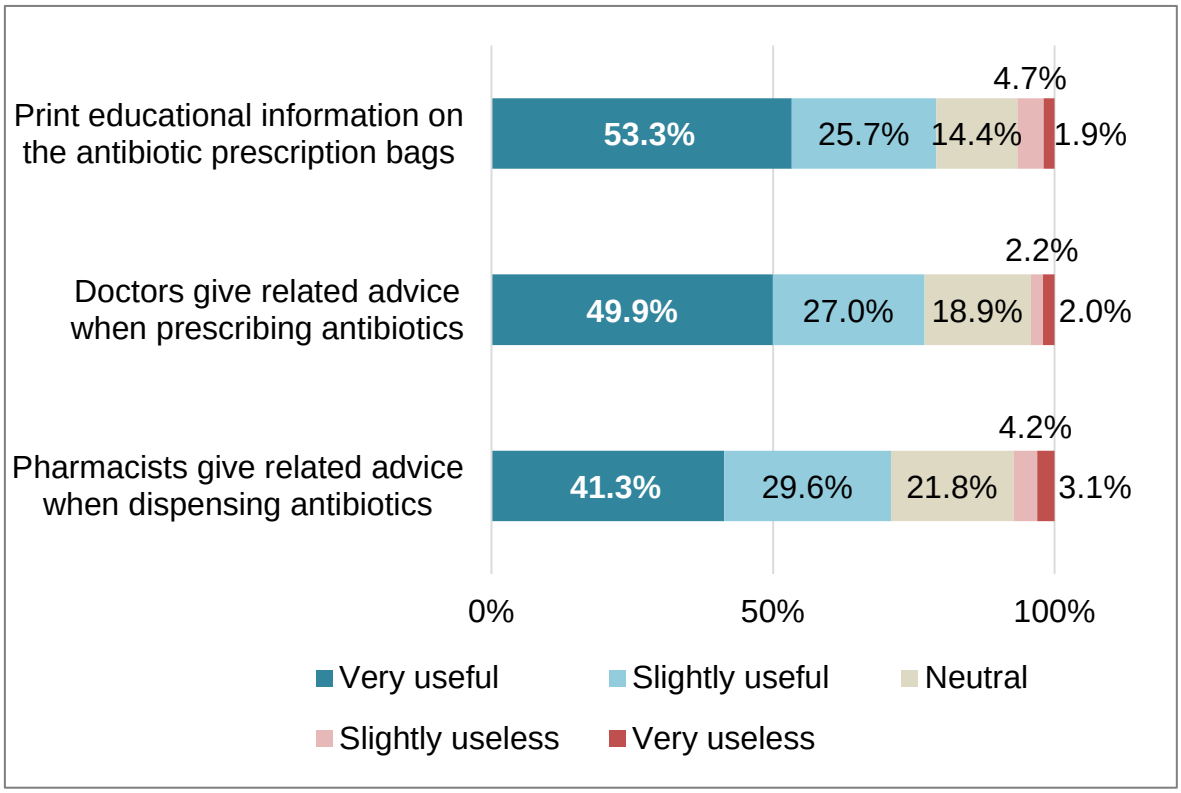
(Base: All respondents who had not obtained or can't remember their last antibiotics from a doctor = 28)

All respondents were asked to rate their agreement level that three specified actions would help them to comply with the antibiotics treatment.

Figure 3.7 shows that the majority of respondents reported that the following actions were either very useful or slightly useful for helping them to comply with the antibiotics treatment:

- Print educational information on the antibiotic prescription bags (very useful or slightly useful: 79.0% vs very useless or slightly useless: 6.6%)
- Doctors give related advice when prescribing antibiotics (76.9% vs 4.3%)
- Pharmacists give related advice when dispensing antibiotics (70.9% vs 7.3%)

Figure 3.7: Usefulness of specified actions that would help respondents to comply with the antibiotics treatment (Q7)

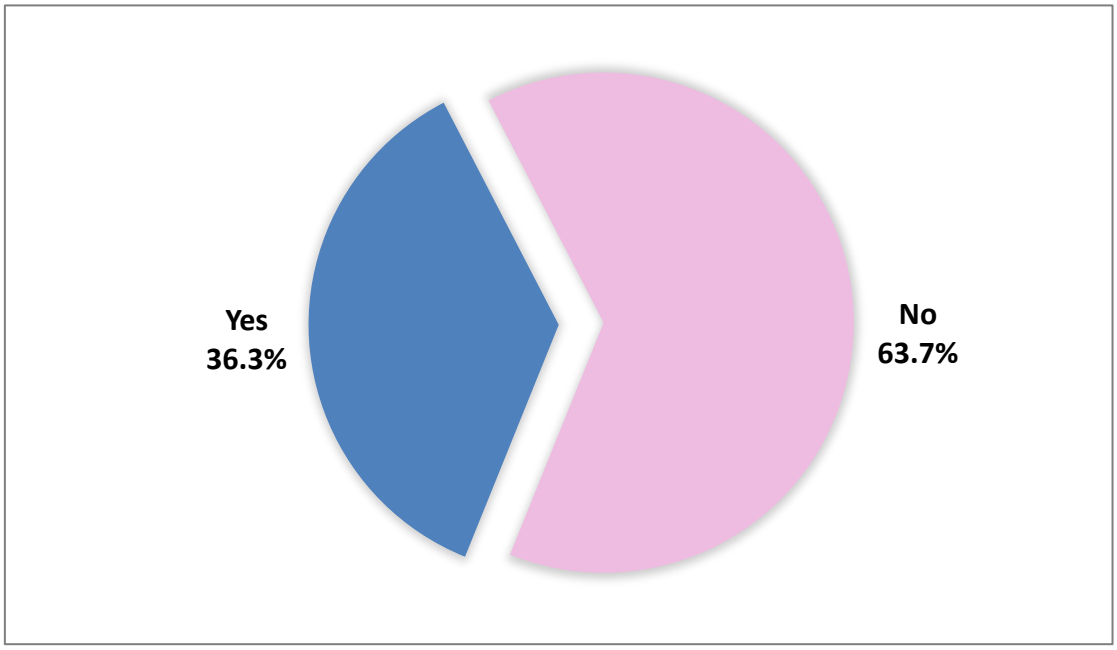


(Base: All respondents = 1,255)

All respondents were asked whether they preferred to consult a doctor that has declared to use antibiotics responsibly.

Figure 3.8 shows that the about one-third of respondents (36.3%) reported that they preferred to consult a doctor that has declared to use antibiotics responsibly, while the rest (63.7%) did not prefer to do so.

Figure 3.8: Whether respondents preferred to consult a doctor that had declared to use antibiotics responsibly (Q8)

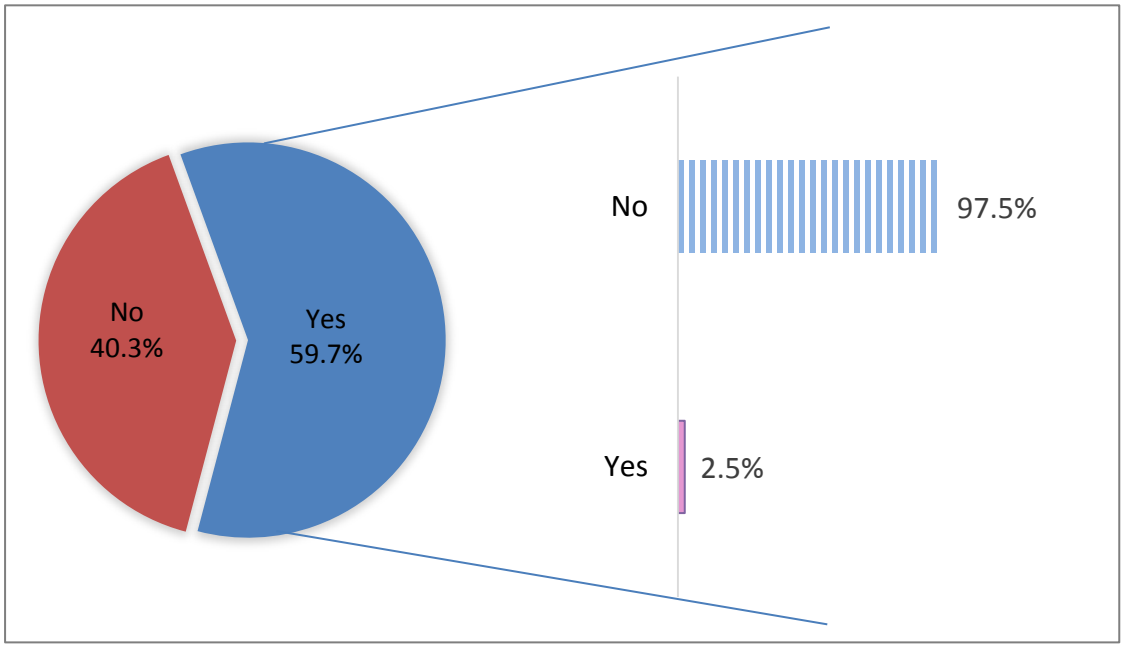


(Base: All respondents excluding "don't know" = 1,174)

All respondents were asked whether respondents had consulted a doctor (for cold or flu) in the past 12 months and whether they had asked for antibiotics during that consultation.

Figure 3.9 shows that over half of respondents (59.7%) reported that they had consulted a doctor (for cold or flu) in the past 12 months. Among them, only a very small proportion of them (2.5%, 19 respondents) had asked for antibiotics during that consultation.

Figure 3.9: Whether respondents had consulted a doctor (for cold or flu) in the past 12 months and whether they had asked for antibiotics during that consultation (Q9 and Q10)



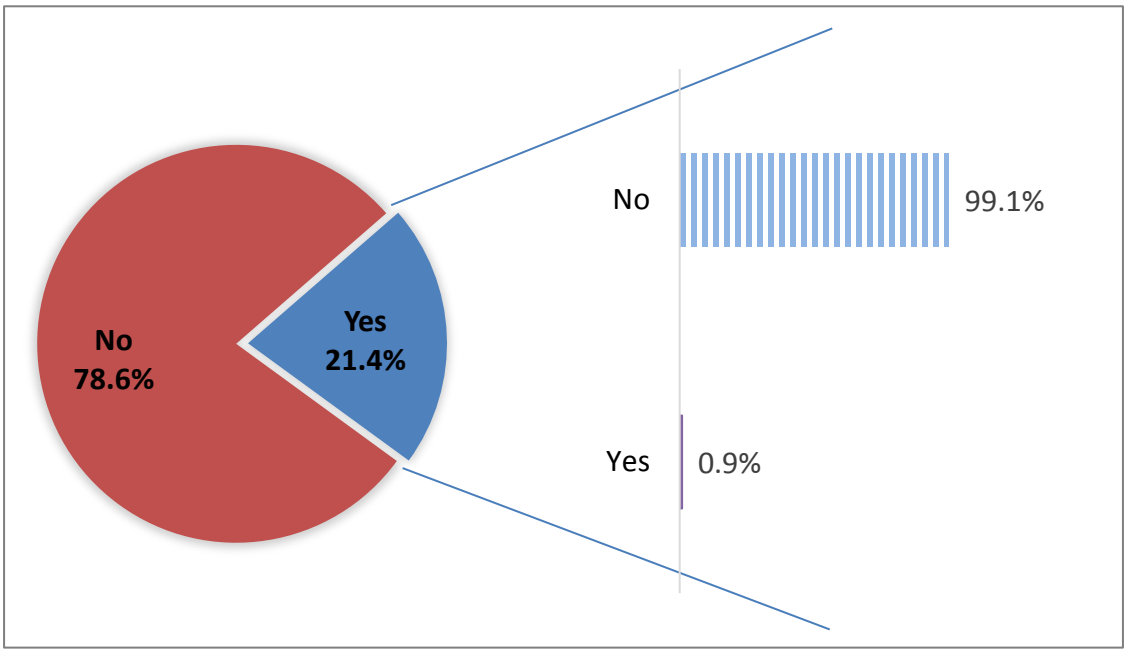
(Base for asking whether respondents had consulted a doctor (for cold or flu) in the past 12 months: All respondents excluding can't remember = 1,249)

(Base for asking whether respondents had asked for antibiotics during that consultation: All respondents who had consulted a doctor (for cold or flu) in the past 12 months = 746)

All respondents were asked whether respondents had brought anyone aged 15 years old or below to consult a doctor (for cold or flu) in the past 12 months and whether they had asked for antibiotics for that person during that consultation.

Figure 3.10 shows that less than one-forth of respondents (21.4%) reported that they had brought someone aged 15 years old or below to consult a doctor (for cold or flu) in the past 12 months. Among them, only 2 respondents (0.9%) had asked for antibiotics for that person during that consultation.

Figure 3.10 Whether respondents had brought anyone aged 15 years old or below to consult a doctor (for cold or flu) in the past 12 months and whether they had asked for antibiotics for the youngster during that consultation (Q11 and Q12)



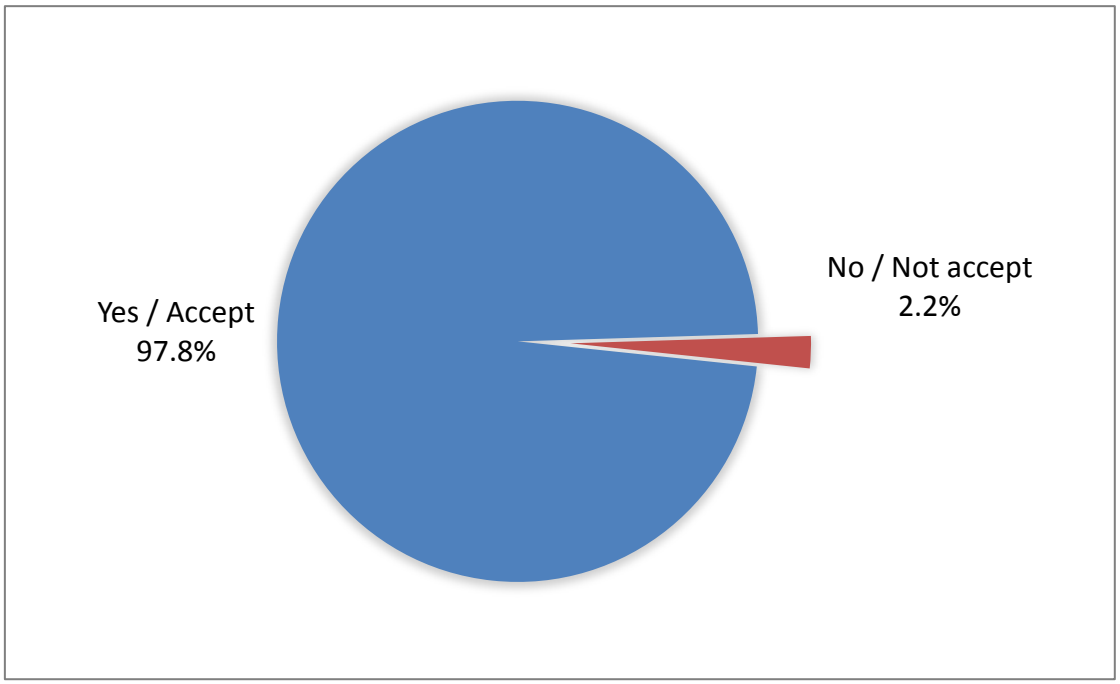
(Base for asking whether respondents had brought anyone aged 15 years old or below to consult a doctor (for cold or flu) in the past 12 months: All respondents = 1,255)

(Base for asking whether respondents had asked for antibiotics for the youngster during that consultation: All respondents who had brought anyone aged 15 years old or below to consult a doctor (for cold or flu) in the past 12 months = 269)

All respondents were asked when they consulted a doctor and their initial assessment indicated that antibiotics are not needed at the moment, whether they would accept if the doctor tells them to observe for few more days or to wait for the diagnostic test result before deciding whether to prescribe antibiotics or not.

Figure 3.11 shows that the vast majority of respondents (97.8%) would accept if the doctor tells them to observe for few more days or to wait for the diagnostic test result before deciding whether to prescribe antibiotics or not, while only 27 respondents (2.2%) would not accept this.

Figure 3.11 When the respondents consult a doctor and their initial assessment indicates that antibiotics are not needed at the moment, whether they would accept if the doctor tells them to observe for few more days or to wait for the diagnostic test result before deciding whether to prescribe antibiotics or not (Q13)



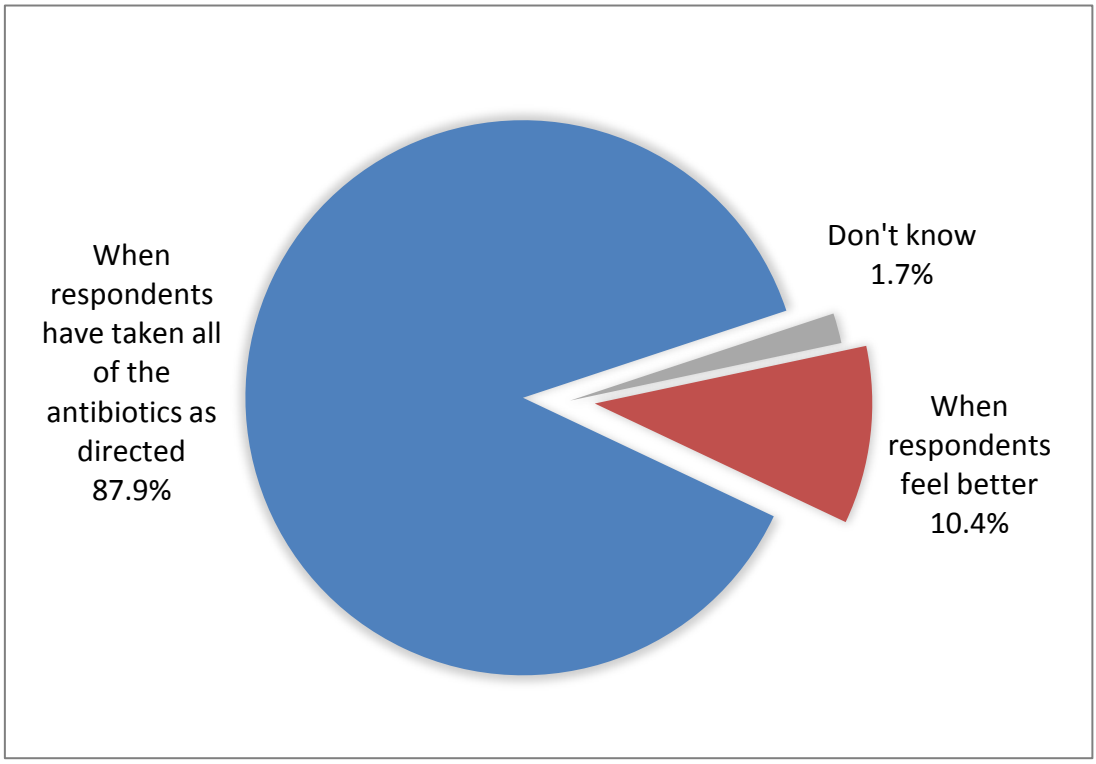
(Base: All respondents excluding "don't know" = 1,243)

3.3 Knowledge about antibiotics

All respondents were asked when they thought they should stop taking antibiotics once they had begun treatment.

Figure 3.12 shows that the majority of respondents (87.9%) think they should stop taking antibiotics when they have taken all of the antibiotics as directed, while one tenth of them (10.4%) think they should stop taking antibiotics when they feel better. The remaining 1.7% did not know when they should stop taking antibiotics.

Figure 3.12: When respondents think they should stop taking antibiotics once they have begun treatment (Q14)



(Base: All respondents = 1,255)

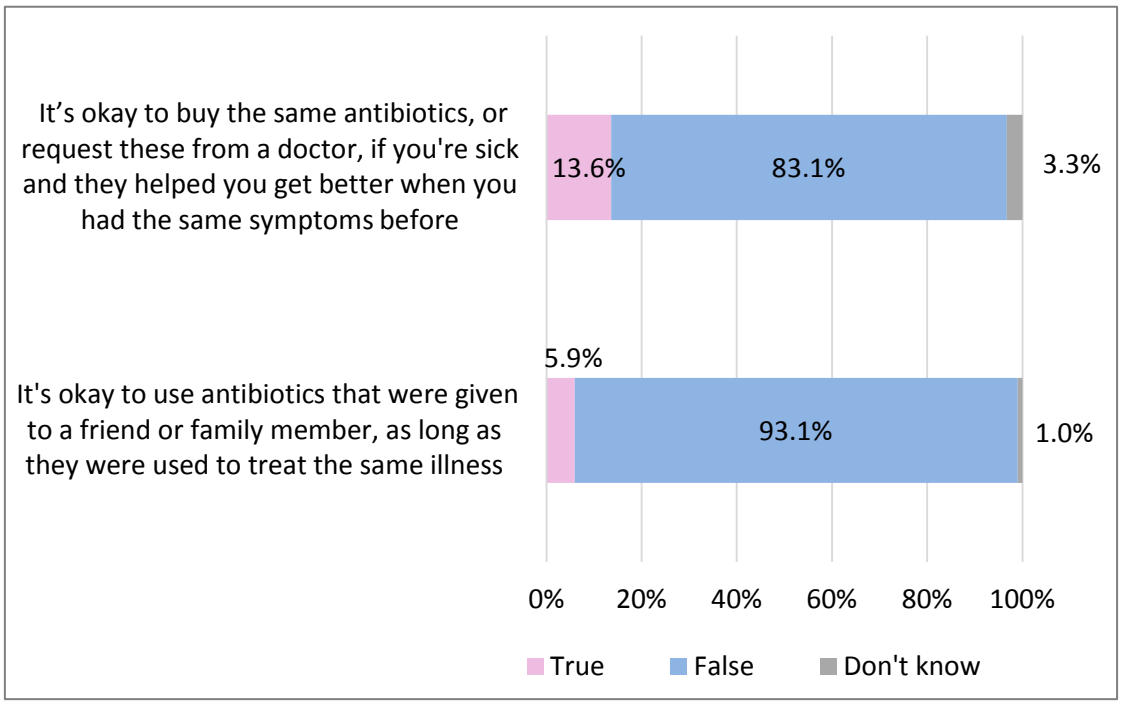
This section presents respondents' knowledge about using of antibiotics including how and when to use antibiotics and what they should be used for.

Respondents were asked whether they thought the two given false knowledge statements were true or false.

Figure 3.13 shows that the majority of respondents (83.1%) correctly identified that the false statement "It's okay to buy the same antibiotics, or request these from a doctor, if you're sick and they helped you get better when you had the same symptoms before" was false, while over one tenth of respondents (13.6%) mistakenly believed that it was true.

The vast majority of respondents (93.1%) correctly identified that the false statement "It's okay to use antibiotics that were given to a friend or family member, as long as they were used to treat the same illness" was false, while about 6% of them (5.9%) mistakenly believed that it was true.

Figure 3.13 Two false knowledge statements were used to examine respondents' knowledge (Q15 and Q16)



(Base: All respondents = 1,255)

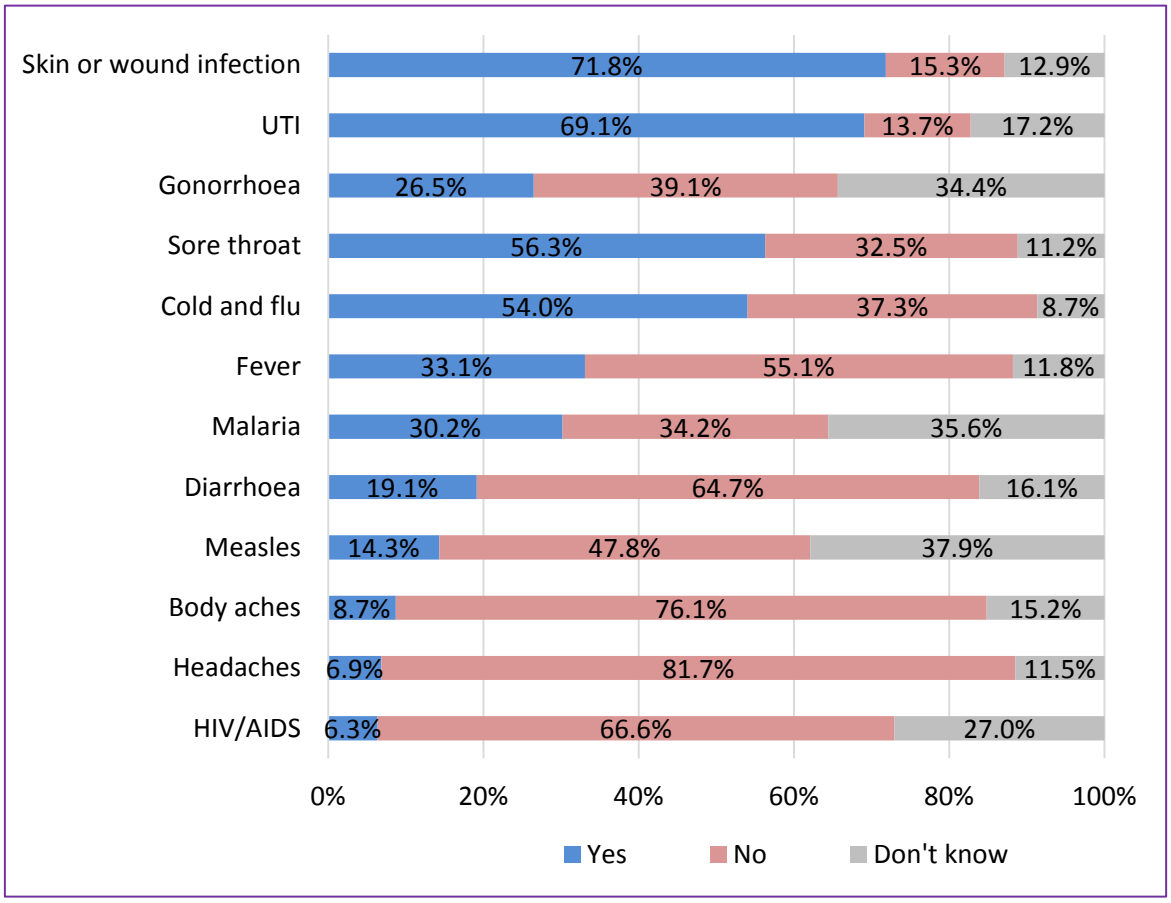
Respondents were asked which of a list of medical conditions can be treated with antibiotics. In the list, the medical conditions of bladder/urinary tract infection (UTI), skin or wound infection and gonorrhoea can be treated with antibiotics but the rest should not be treated with antibiotics.

Figure 3.14 show that about two fifths of respondents (39.1%) mistakenly identified that gonorrhoea should not be treated with antibiotics. Small proportions of respondents mistakenly identified that both skin or wound infection and bladder/urinary tract infection (UTI) should not be treated with antibiotics (15.3% and 13.7% respectively).

Large proportions of respondents thought that both sore throat and cold and flu should be treated with antibiotics (56.3% and 54.0% respectively). About a third of them also mistakenly identified that both fever and malaria should be treated with antibiotics (33.1% and 30.2% respectively).

Large proportions of respondents correctly identified that headaches (81.7%), body aches (76.1%), HIV/AIDS (66.6%), diarrhoea (64.7%) and measles (47.8%) should not be treated with antibiotics.

Figure 3.14 Which medical conditions should antibiotics be used to treat (Q17)

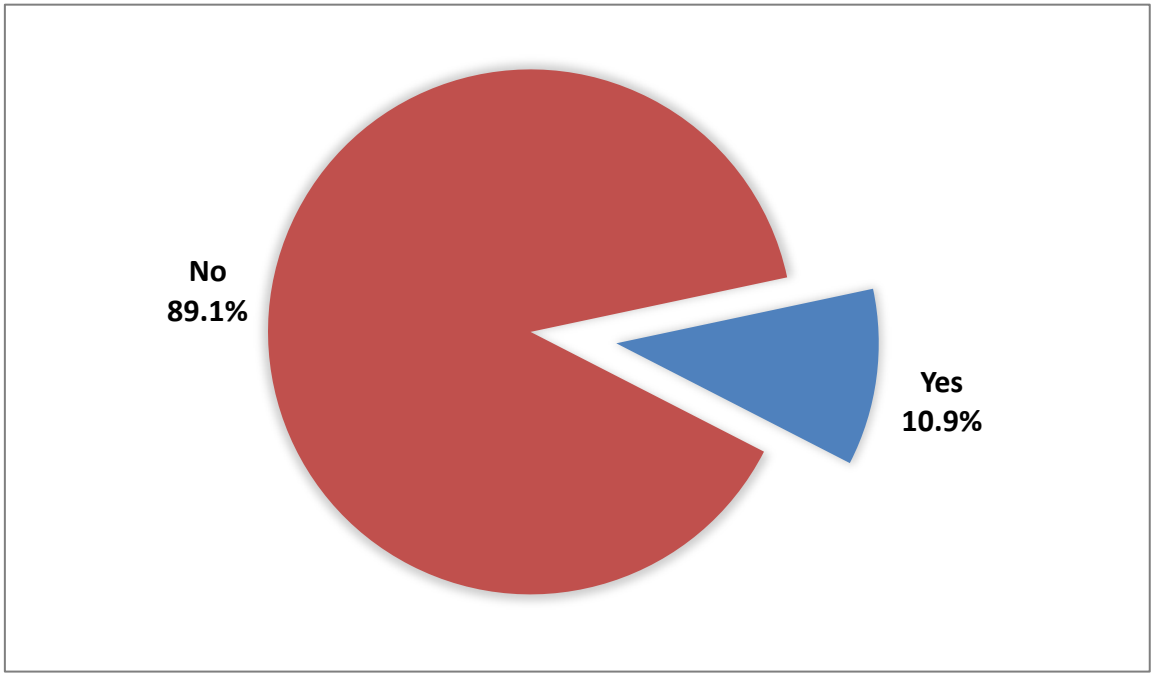


(Base: All respondents = 1,255)

All respondents were asked whether they wanted to get antibiotics prescription if the doctors' initial diagnosis for them were viral infection.

Figure 3.15 shows that the majority of respondents (89.1%) reported that they did not want to get antibiotics prescription if the doctors' initial diagnosis for them as viral infection e.g. cold/flu, while 10.9% of them wanted to get antibiotics prescription.

Figure 3.15 Whether respondents wanted to get antibiotics prescription if the doctors' initial diagnosis for them were viral infection (Q18)

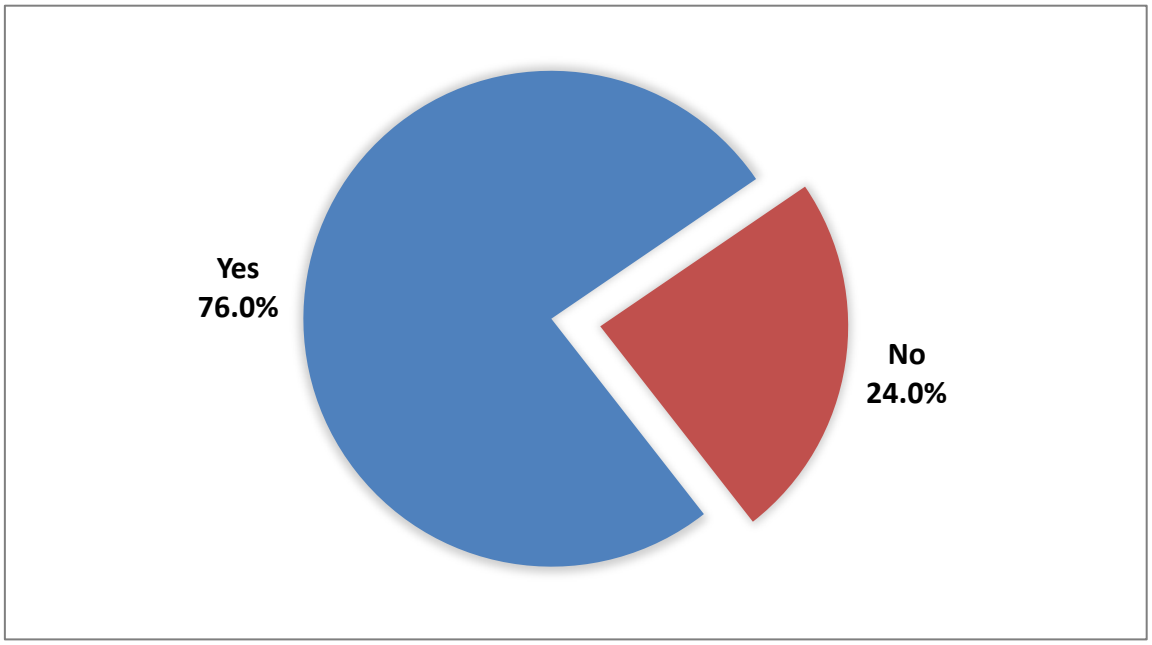


(Base: All respondents excluding "don't know" = 1,187)

All respondents were asked whether they wanted their doctor to discuss and share decision making with them on antibiotics prescription.

Figure 3.16 show that slightly over three quarters of respondents (76.0%) want their doctor to discuss and share decision making with them on antibiotics prescription, while about a quarter (24.0%) of them do not want this.

Figure 3.16: Whether respondents wanted their doctor to discuss and share decision making with them on antibiotics prescription (Q19)



(Base: All respondents excluding "don't know" = 1,219)

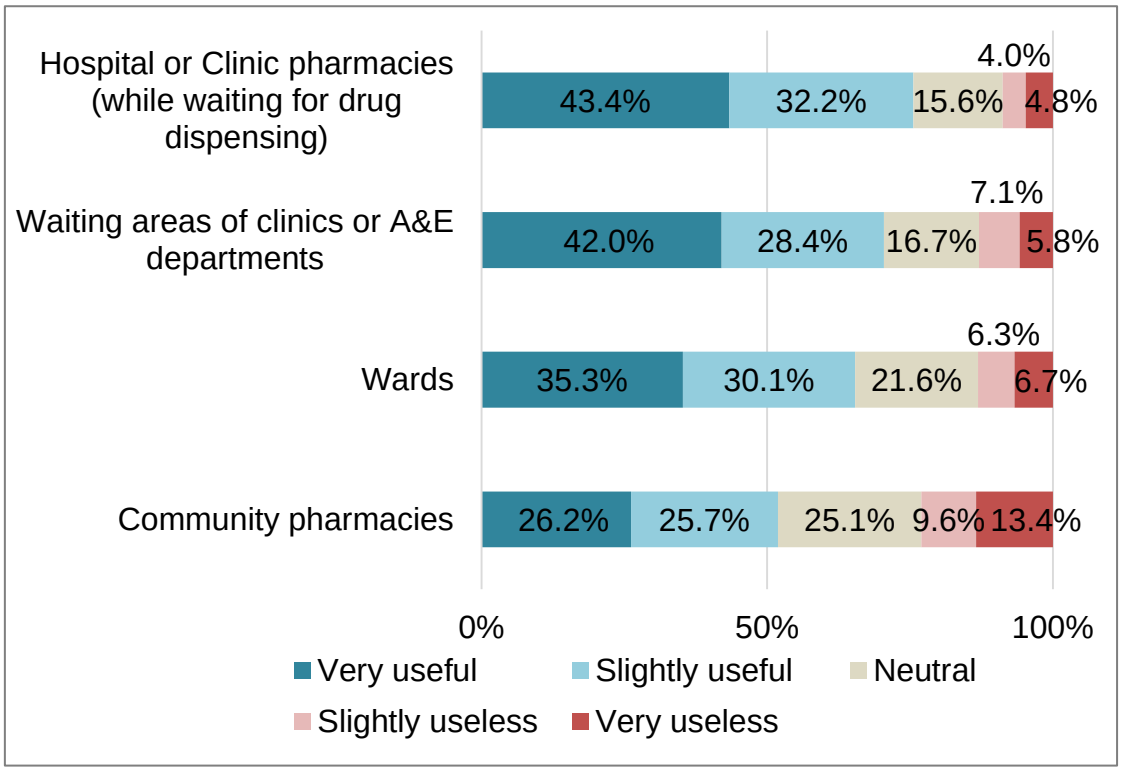
Respondents were asked to rate the effectiveness of promotion on safe use of antibiotics at four given places.

Figure 3.17 shows that large proportions of respondents rated the effectiveness of promotion on safe use of antibiotics at the following places were either very useful or slightly useful:

- Hospital or Clinic pharmacies (while waiting for drug dispensing) (very useful or slightly useful: 75.6% vs very useless or slightly useless: 8.8%)
- Waiting areas of clinics or A&E departments (70.4% vs 12.9%)
- Wards (65.4% vs 13.1%)

Over half of respondents (51.9%) rated the effectiveness of promotion on safe use of antibiotics at community pharmacies is either very useful or slightly useful, while about a quarter (23.0%) rated this place as either very useless or slightly useless.

Figure 3.17: The effectiveness of promotion on safe use of antibiotics at a list of places (Q20)



(Base: All respondents = 1,255)

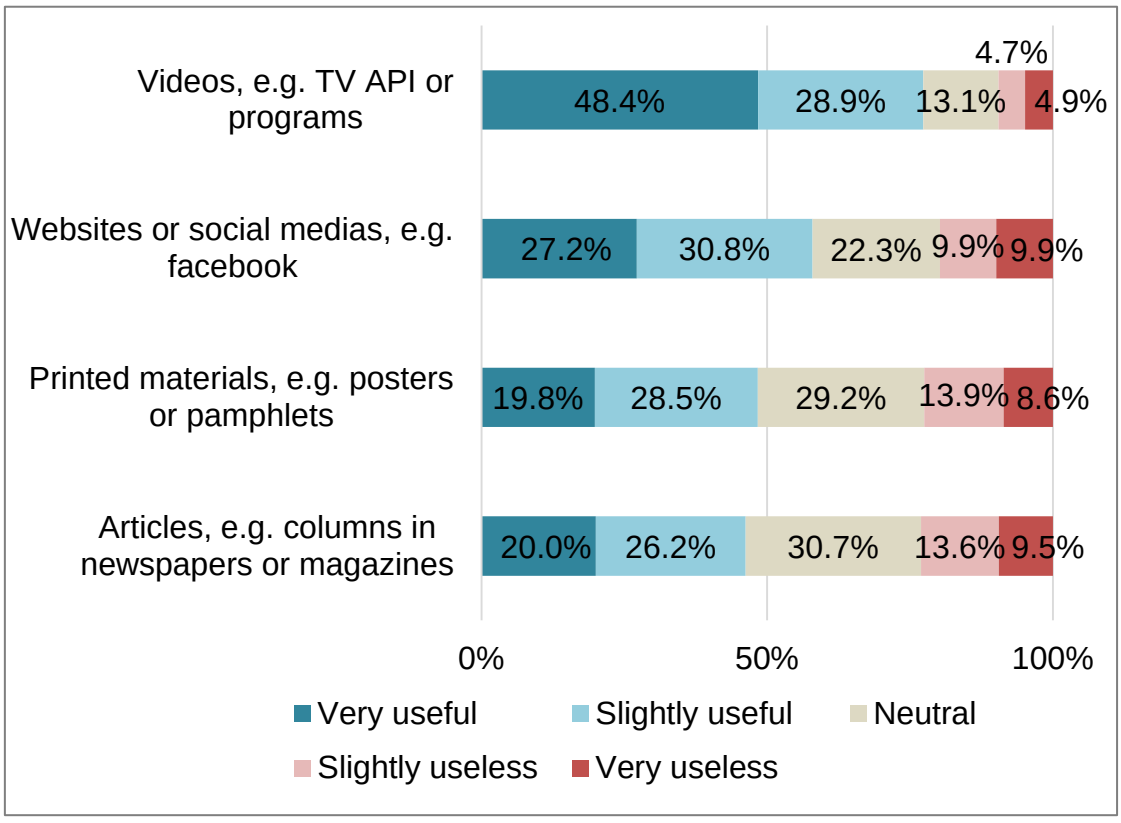
Respondents were asked to rate the effectiveness of four given promotion methods for safe use of antibiotics.

Figure 3.18 shows that the majority of respondents (77.3%) rated the effectiveness of videos (e.g. TV API or programs) as a promotion method for safe use of antibiotics at the following places as either very useful or slightly useful, while 9.5% rated this promotion method as either very useless or slightly useless.

Over two fifths of respondents rated the effectiveness of the following promotion methods on safe use for antibiotics as very useful or slightly useful:

- Websites or social medias, e.g. Facebook (very useful or slightly useful: 57.9% vs very useless or slightly useless: 19.8%)
- Printed materials, e.g. posters or pamphlets (48.3% vs 22.5%)
- Articles, e.g. columns in newspapers or magazines (46.2% vs 23.1%)

Figure 3.18: The effectiveness of a list of promotion methods for safe use of antibiotics (Q21)



(Base: All respondents = 1,255)

3.4 Knowledge about antibiotic resistance

Respondents were asked whether they had heard of the following terms commonly used in relation to the issue of antibiotic resistance and from which sources they had heard about them:

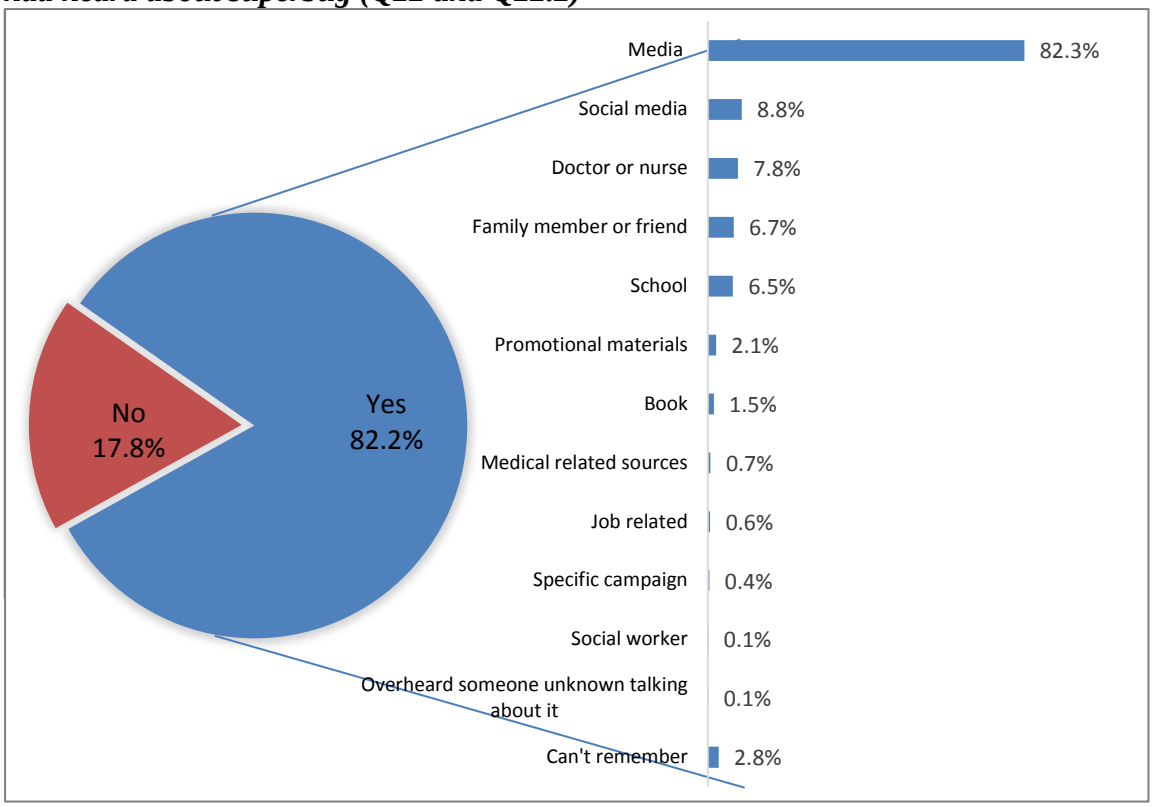
- Antibiotic resistance
- Superbugs
- Antimicrobial resistance
- Antibiotic-resistant bacteria
- 抗微生物藥物耐藥性 (only for those respondents who speak Putonghua or Cantonese)

Figures 3.19 to 3.21 show that large proportions of respondents had heard of superbugs (82.2%), antibiotic-resistant bacteria (76.2%) and antibiotic resistance (67.8%). Media was the most common source from which they had heard about these three terms.

Figure 3.22 shows that only about a third of respondents (36.8%) had heard of antimicrobial resistance, while the rest (63.2%) had not heard about this term. Similarly, media was the most common source from which they had heard about this term.

Figure 3.23 shows that only a small proportion of those respondents who speaks Putonghua or Cantonese (12.6%) had heard of 抗微生物藥物耐藥性, while the rest (87.4%) had not heard about this term. Media was also the most common source from which they had heard about this term.

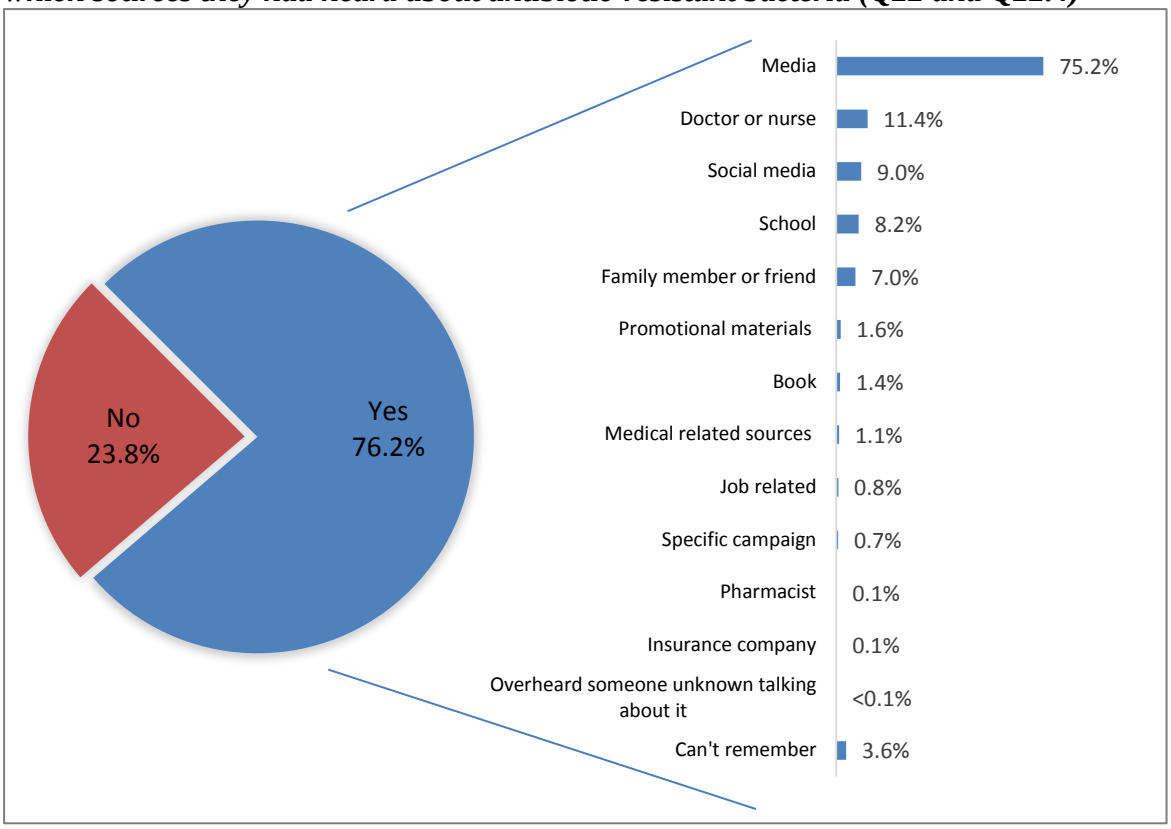
Figure 3.19: Whether respondents had heard of superbugs and from which sources they had heard about superbug (Q22 and Q22.2)



(Base: All respondents = 1,255)

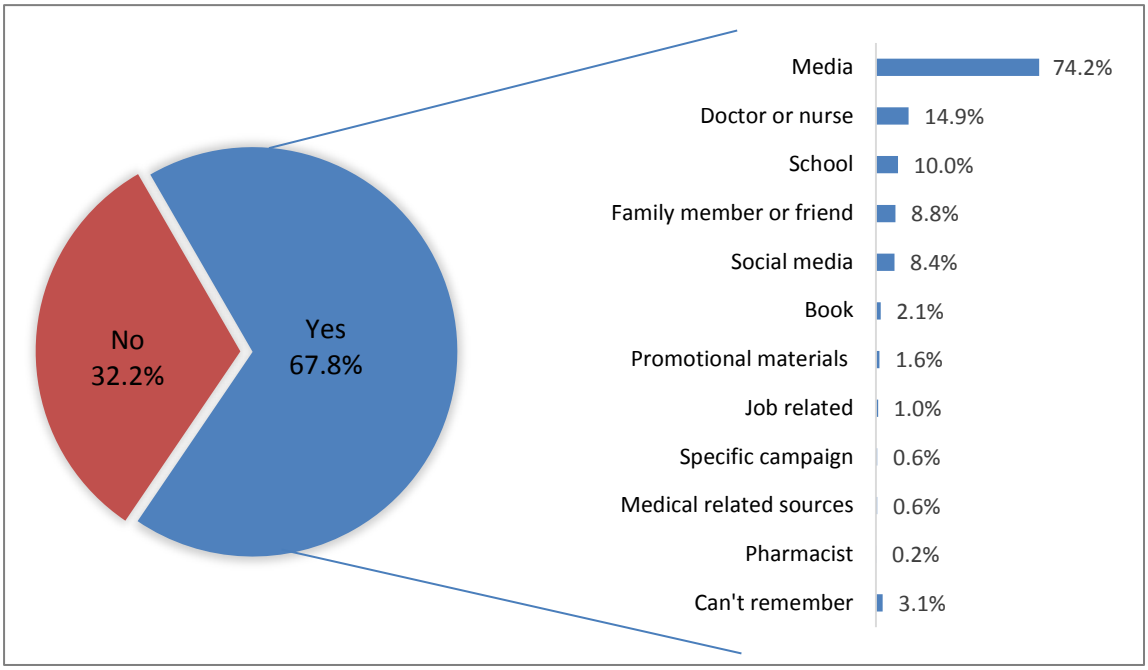
Multiple responses were allowed (Base: All respondents who had heard of superbugs = 1,032)

Figure 3.20: Whether respondents had heard of antibiotic-resistant bacteria and from which sources they had heard about antibiotic-resistant bacteria (Q22 and Q22.4)



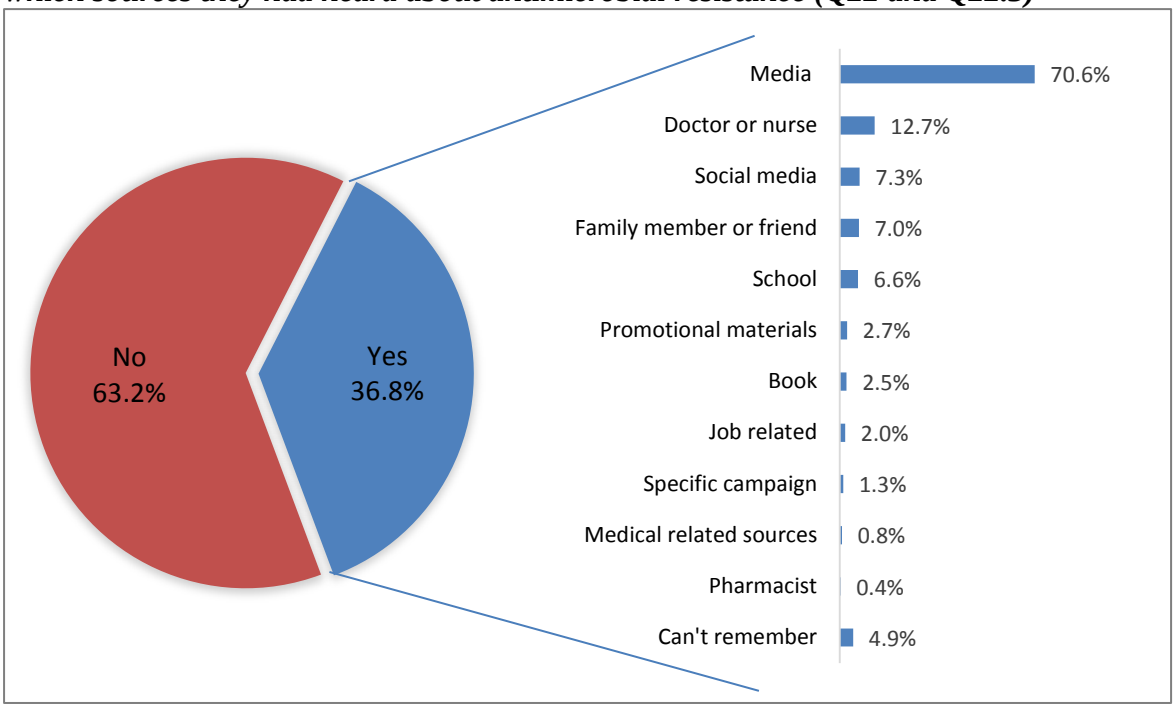
(Base: All respondents = 1,255) *Multiple responses were allowed (Base: All respondents who had heard of antibiotic-resistant bacteria = 957)*

Figure 3.21: Whether respondents had heard of antibiotic resistance and from which sources they had heard about antibiotic resistance (Q22 and Q22.1)



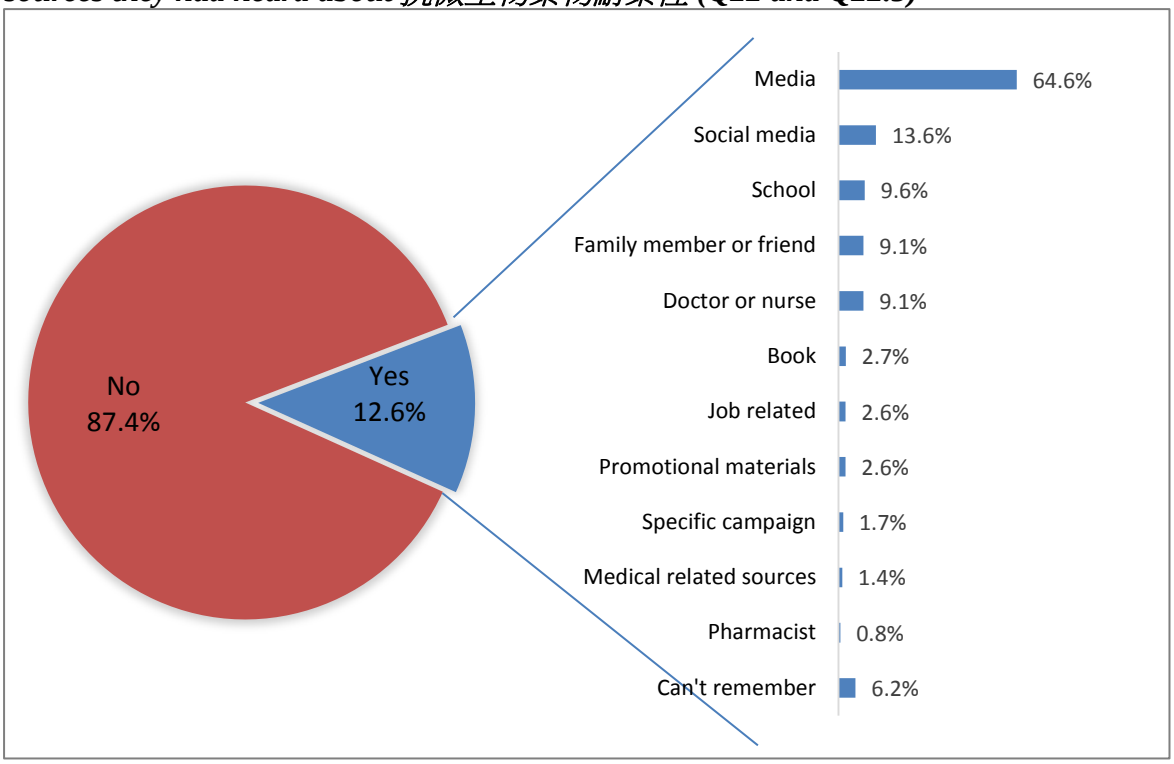
(Base: All respondents = 1,255) *Multiple responses were allowed (Base: All respondents who had heard of antibiotic resistance = 851)*

Figure 3.22: Whether respondents had heard of antimicrobial resistance and from which sources they had heard about antimicrobial resistance (Q22 and Q22.3)



(Base: All respondents = 1,255) *Multiple responses were allowed (Base: All respondents who had heard of antimicrobial resistance = 462)*

Figure 3.23: Whether respondents had heard of 抗微生物藥物耐藥性 and from which sources they had heard about 抗微生物藥物耐藥性 (Q22 and Q22.5)



(Base: All respondents who had spoken Putonghua or Cantonese = 1,236)

Multiple responses were allowed (Base: All respondents who had heard of 抗微生物藥物耐藥性 = 156)

Respondents were asked whether the eight given statements about antibiotic resistance were true or false.

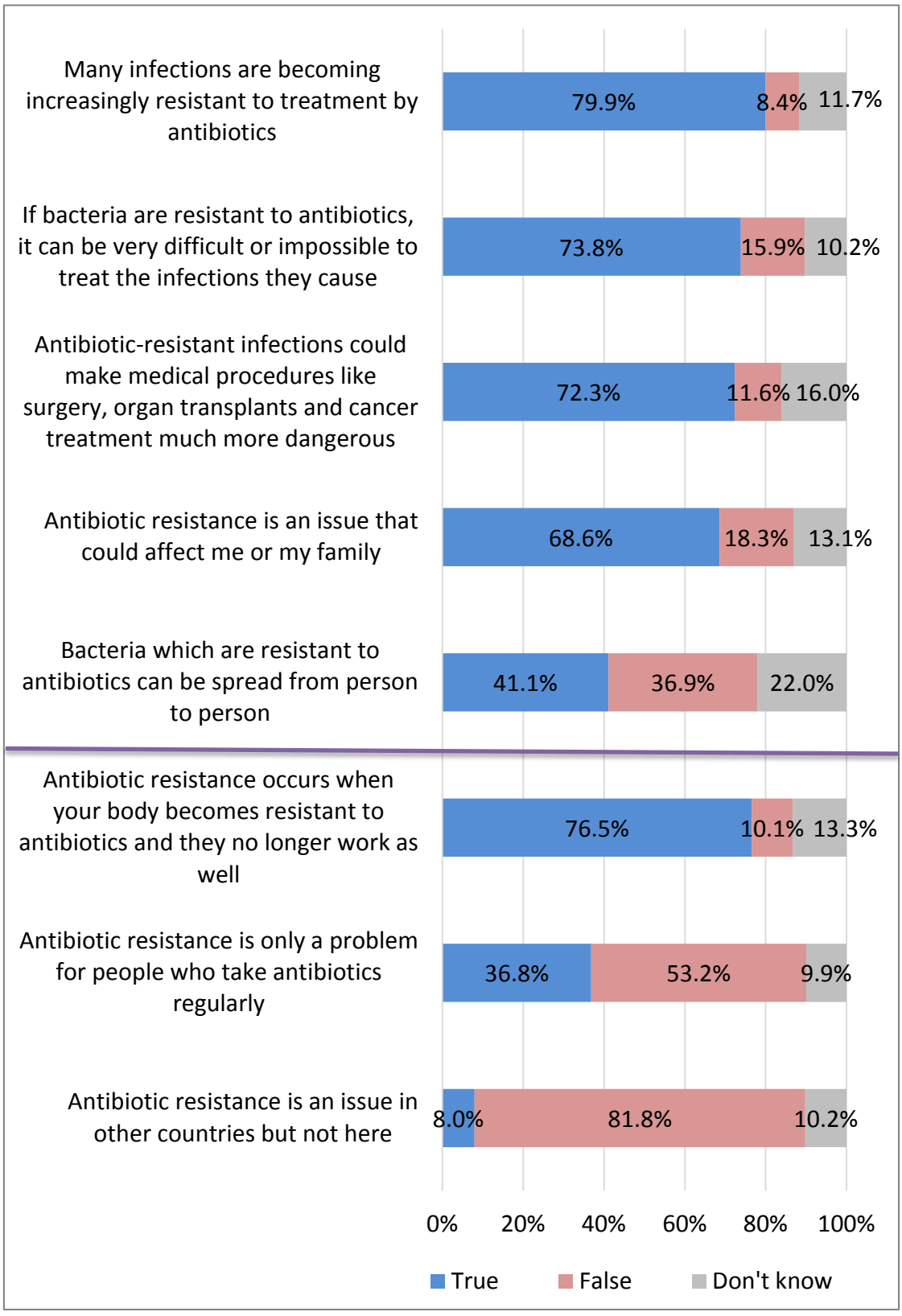
A large proportion of respondents correctly identified the following true statements: (Figure 3.24):

- Many infections are becoming increasingly resistant to treatment by antibiotics (True: 79.9% vs False: 8.4%)
- If bacteria are resistant to antibiotics, it can be very difficult or impossible to treat the infections they cause (73.8% vs 15.9%)
- Antibiotic-resistant infections could make medical procedures like surgery, organ transplants and cancer treatment much more dangerous (72.3% vs 11.6%)
- Antibiotic resistance is an issue that could affect me or my family (68.6% vs 18.3%)

One third of respondents misunderstood that bacteria which are resistant to antibiotics cannot be spread from person to person (36.9%)

Among the three false statements, large proportion of respondents (76.5%) mistakenly identified "Antibiotic resistance occurs when your body becomes resistant to antibiotics and they no longer work as well" was a true statement, but majority of them (81.8%) correctly identified "Antibiotic resistance is an issue in other countries but not here" was a false statement. Also, over half of respondents correctly identified (53.2%) "Antibiotic resistance is only a problem for people who take antibiotics regularly" was a false statement. (Figure 3.24)

Figure 3.24: Whether the eight given statements about antibiotic resistance were "true" or "false" (Q23)



(Base: All respondents = 1,255)

All respondents were asked to rate their agreement level with the eight given actions would help address the problem of antibiotic resistance.

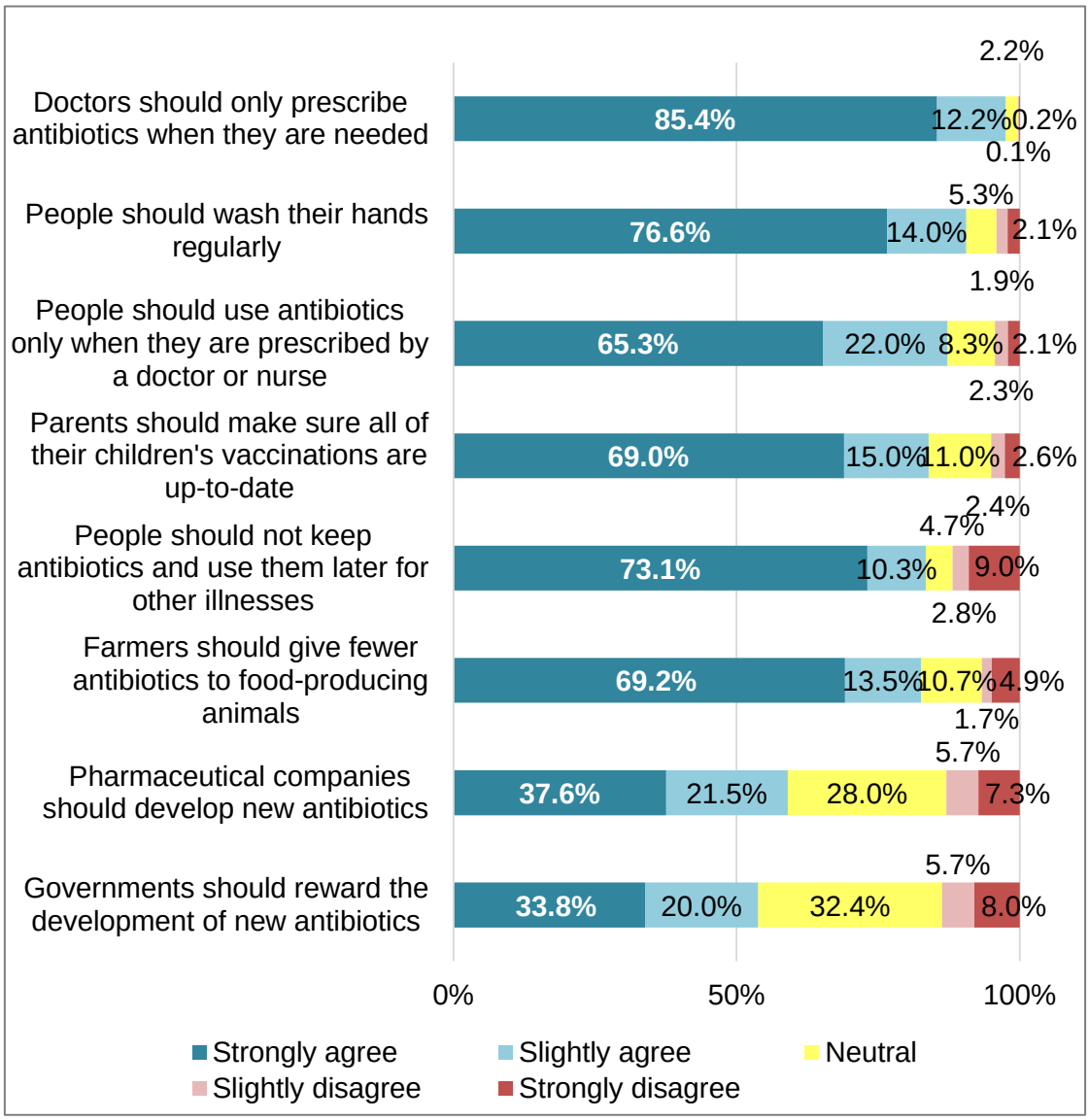
Figure 3.25 shows that the majority of respondents strongly agreed or slightly agreed with the following six actions would help address the problem of antibiotic resistance:

- Doctors should only prescribe antibiotics when they are needed (strongly agreed or slightly agreed: 97.6% vs strongly disagreed or slightly disagreed: 0.2%)
- People should wash their hands regularly (90.6% vs 4.1%)
- People should use antibiotics only when they are prescribed by a doctor or nurse (87.3% vs 4.4%)
- Parents should make sure all of their children's vaccinations are up-to-date (83.9% vs 5.1%)
- People should not keep antibiotics and use them later for other illnesses (83.5% vs 11.9%)
- Farmers should give fewer antibiotics to food-producing animals (82.6% vs 6.6%)

Over half of respondents strongly agreed or slightly agreed with the following two actions would help address the problem of antibiotic resistance:

- Pharmaceutical companies should develop new antibiotics (59.1% vs 12.9%)
- Governments should reward the development of new antibiotics (53.9% vs 13.7%)

Figure 3.25: Agreement level with a list of eight actions would help address the problem of antibiotic resistance (Q24)



(Base: All respondents = 1,255)

All respondents were asked to rate their agreement level with the six specified statements connected to the issue of antibiotic resistance.

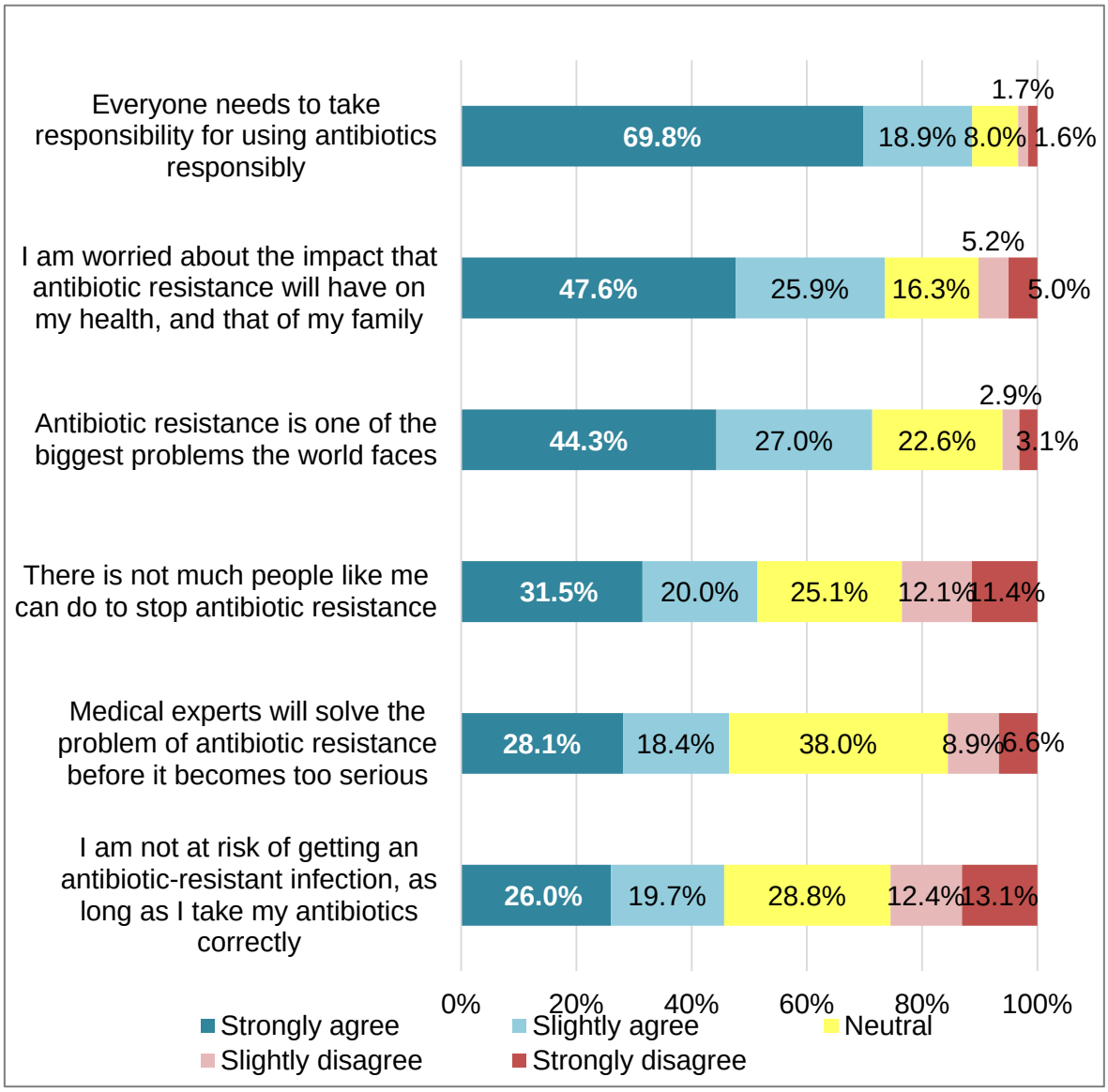
Figure 3.26 shows that the majority of respondents strongly agreed or slightly agreed with the following three statements:

- Everyone should take responsibility for using antibiotics responsibly (strongly agreed or slightly agreed: 88.7% vs strongly disagreed or slightly disagreed: 3.3%)
- I am worried about the impact that antibiotic resistance will have on my health, and that of my family (73.5% vs 10.2%)
- Antibiotic resistance is one of the biggest problems the world faces (71.3% vs 6.0%)

Around half of respondents strongly agreed or slightly agreed with the following three statements:

- There is not much people like me can do to stop antibiotic resistance (51.4% vs 23.5%)
- Medical experts will solve the problem of antibiotic resistance before it becomes too serious (46.5% vs 15.5%)
- I am not at risk of getting an antibiotic-resistant infection, as long as I take my antibiotics correctly (45.7% vs 25.5%)

Figure 3.26: Agreement level with a list of six actions connected to the issue of antibiotic resistance (Q25)



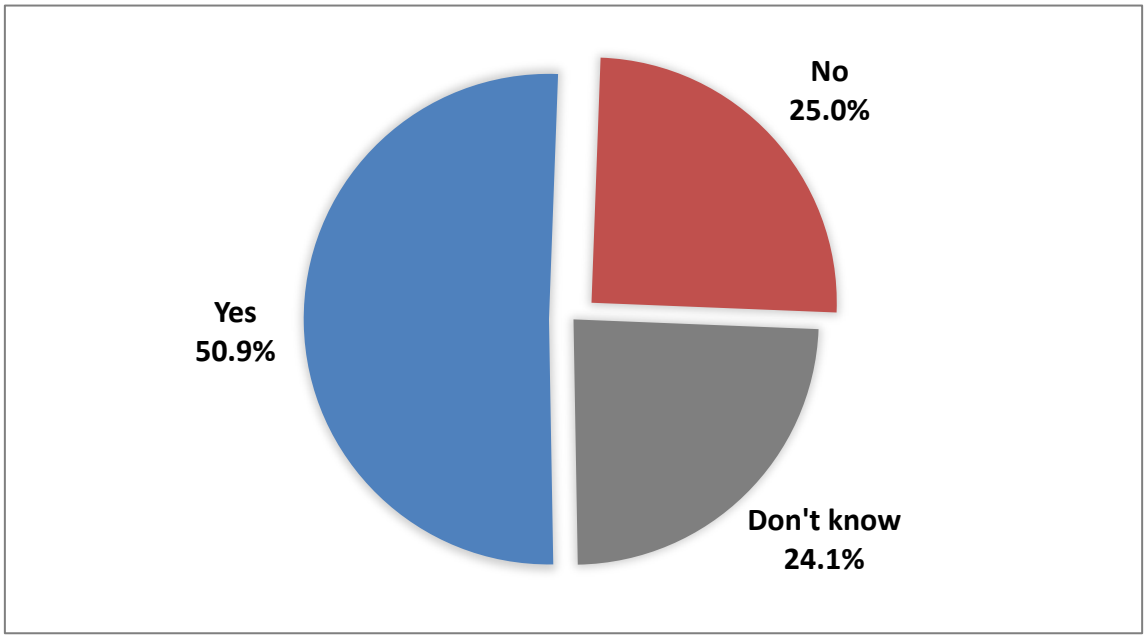
(Base: All respondents = 1,255)

3.5 Use of antibiotics in agriculture

All respondents were asked whether they thought antibiotics were widely used in agriculture (including in food-producing animals) in Hong Kong.

Figure 3.27 shows that shows that half of the respondents (50.9%) thought that antibiotics were widely used in agriculture (including in food-producing animals) in Hong Kong, while a quarter (25.0%) did not think so.

Figure 3.27: Whether respondents thought antibiotics were widely used in agriculture (including in food-producing animals) in Hong Kong (Q26)



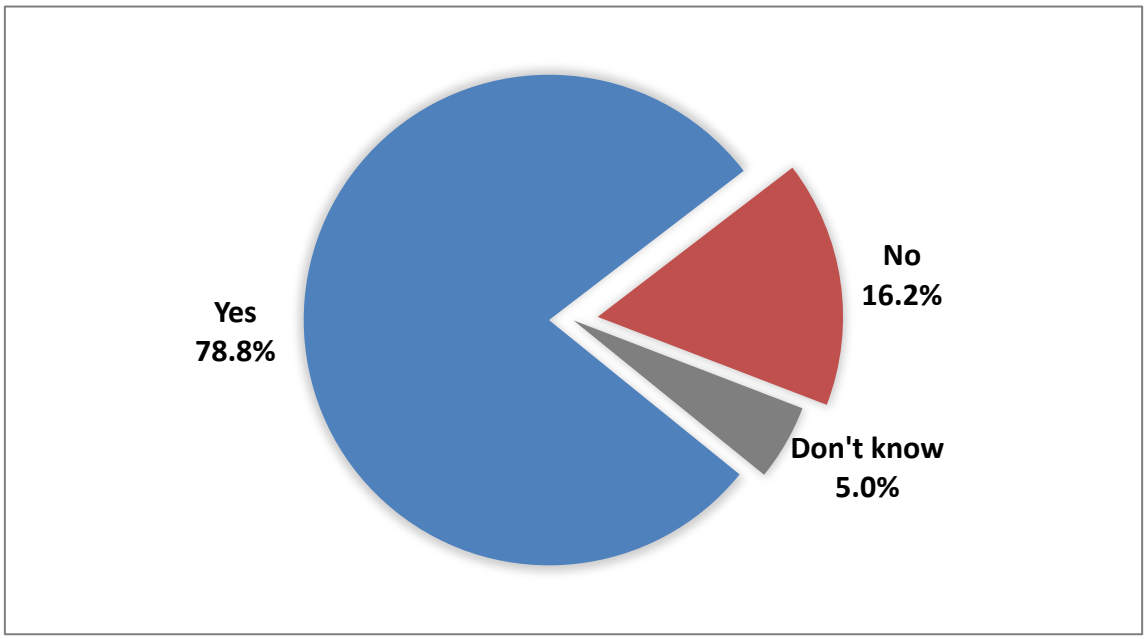
(Base: All respondents = 1,255)

3.6 Food labeling of antibiotics

All respondents were asked whether they prefer to buy food that was labelled as 'antibiotic-free'.

Figure 3.28 shows that the majority of respondents (78.8%) thought that they preferred to buy food that is labelled as 'antibiotic-free', while 16.2% do not prefer to do so.

Figure 3.28: Whether respondents preferred to buy food that was labelled as 'antibiotic-free'. (Q27)



(Base: All respondents = 1,255)

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

In this chapter, sub-group analyses are performed based on the breakdown of respondents' demographic information including gender, age group, educational attainment, marital status, occupation, monthly household income, type of living quarters and household composition to see if there are any significant associations between these demographic factors and the topics being investigated. The responses of "don't know", "not applicable" and "refuse to answer" in some questions have been excluded from all the sub-group analyses in this chapter.

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 [11]. 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 ≥5 are presented in this chapter. While the 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. Only

[11] 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.

results that are statistically significant at the 5% level are discussed.

4.1 Re-grouping of variables

Some of the responses have been re-grouped into smaller number of categories in order to make the sub-group analyses more robust. Table 4.1 shows how the demographic variables have been regrouped.

Table 4.1 Re-grouping the responses of demographic information

Demographic variable	Original level	Re-grouped level	Sample size (weighted)
Gender	Male	Male	592
	Female	Female	663
Age group	No grouping	15 – 24	153
		25 – 34	197
		35 – 44	208
		45 – 54	240
		55 – 64	224
		65 or above	221
Educational attainment	Primary or below	Primary or below	142
	Lower secondary (S1 – S3)	Lower secondary (S1 – S3)	135
	Upper secondary (S4 – S6)/ Matriculation	Upper secondary (S4 – S6) / Matriculation	389
	Tertiary (Non-degree, degree or above)	Tertiary (Non-degree, degree or above)	584
Marital status	Never married	Never married	428
	Married with child(ren)	Married	736
	Married without child		
	Divorced/ Separated	Divorced/ Separated/ Widowed	74
	Widowed		
Occupation	Employer/ Manager/ Administrator	Managerial/ Professional worker	306
	Professional		
	Associate professional		
	Clerk	Clerk	158
	Service worker	Service/ Shop sales worker	89
	Shop sales worker		
	Skilled agricultural/ Fishery worker	Blue collar worker	84
	Craft and related worker		
	Plant and machine operator and assembler		
	Unskilled worker		
	Other	Other occupation workers	0

Demographic variable	Original level	Re-grouped level	Sample size (weighted)
	Student	Student	108
	Homemaker	Homemaker	163
	Unemployed person	Not working	288
	Retired person		
	Other non-working person		
Monthly household income	Less than $2,000	Below HK$10,000	132
	$2,000 - $3,999		
	$4,000 - $5,999		
	$6,000 - $7,999		
	$8,000 - $9,999		
	$10,000 - $11,999	HK$ 10,000-$19,999	126
	$12,000 - $13,999		
	$14,000 - $15,999		
	$16,000 - $17,999		
	$18,000 - $19,999		
	$20,000 - $24,999	HK$ 20,000- $39,999	265
	$25,000 - $29,999		
	$30,000 - $34,999		
	$35,000 - $39,999		
	$40,000 - $44,999	HK$ 40,000- $59,999	167
	$45,000 - $49,999		
	$50,000 - $54,999		
	$55,000 - $59,999		
	$60,000 or above	HK$ 60,000 or above	250
Type of living quarters	Public rental flats	Public rental flats	339
	Housing Authority subsidised sale flats	Subsidised sale flats	190
	Housing Society subsidised sale flats		
	Private residential flats	Private housing	688
	Villas/ Bungalows/ Modern village houses		
	Simple stone structures/ Traditional village houses		
	Staff quarters		
Household composition	Single adult only	Adults only (without children aged under 16)	895
	Married / domestic partnership - adults only		
	Multiple adults aged 16+ only		
	Single adult and at least 1 child under 16	With children aged under 16	313
	Married / domestic partnership and at least 1 child under 16		
	Multiple adults aged 16+ and at least 1 child under 16		

4.2 Use of antibiotics and views of health education materials

Table 4.2 illustrates when respondents last took antibiotics is associated significantly with the respondents' age, educational attainment, monthly household income, type of housing and household composition.

A relatively higher proportion of respondents aged between 15 and 34, those with lower secondary education level (S1-S3), those with monthly household income of HK$40,000-$59,999 and those household compositions with children aged under 16 reported that they last took antibiotics within the past six months when compared with their respective counterparts.

Table 4.2: When respondents last took antibiotics (Q1)

Variable	Level	Base	In the last 30 days	In the last 6 months	In the last year	More than a year ago	Never	p-value	
								Chi-square test	Kruskal-Wallis test
Age	15 – 24	131	11.9%	27.3%	15.9%	38.0%	6.8%		0.000
	25 – 34	183	10.9%	28.4%	22.2%	37.1%	1.4%		
	35 – 44	187	7.2%	19.2%	12.4%	57.5%	3.8%		
	45 – 54	212	8.3%	29.3%	13.0%	45.2%	4.3%		
	55 – 64	199	9.4%	19.3%	11.4%	50.2%	9.7%		
	65 or above	186	12.2%	18.0%	15.3%	38.2%	16.3%		
Educational attainment	Primary or below	120	10.7%	20.7%	11.3%	40.5%	16.8%		0.000
	Lower secondary (S1-S3)	114	15.0%	23.9%	14.9%	38.0%	8.1%		
	Upper secondary (S4-S6) / Matriculation	334	10.9%	18.5%	15.5%	46.4%	8.8%		
	Tertiary (Non-degree, degree or above)	536	7.8%	26.6%	15.6%	46.6%	3.4%		
Monthly household income	Below HK$10,000	112	14.0%	14.1%	11.7%	39.7%	20.4%		0.000
	HK$ 10,000-$19,999	113	6.0%	25.7%	7.8%	49.4%	11.0%		
	HK$ 20,000- $39,999	233	10.1%	18.9%	19.4%	45.2%	6.4%		
	HK$ 40,000- $59,999	151	8.6%	33.3%	14.0%	41.8%	2.2%		
	HK$ 60,000 or above	234	8.2%	23.4%	16.3%	49.9%	2.2%		
Type of living quarters	Public rental flats	289	7.6%	23.0%	17.1%	39.4%	12.8%	0.001	
	Subsidised sale flats	174	10.9%	23.3%	12.5%	49.2%	4.2%		
	Private housing	607	10.2%	23.7%	14.4%	46.6%	5.2%		
Household composition	Adults only (without children aged under 16)	783	8.8%	23.3%	15.0%	44.6%	8.3%	0.023	
	With children aged under 16	282	13.1%	23.3%	13.8%	46.3%	3.4%		

Table 4.3 among those respondents who had ever taken antibiotics, whether respondents got the antibiotics (or a prescription for them) from a doctor is associated significantly with the respondents' gender.

A relatively higher proportion of female respondents reported that they got their antibiotics (or a prescription for them) from a doctor when compared with their respective counterparts.

Table 4.3: Whether respondents got the antibiotics (or a prescription for them) from a doctor (Q2)

Variable	Level	Base	Yes	No	p-value Chi-square test
Gender	Male	484	96.8%	3.2%	0.015
	Female	538	99.0%	1.0%	

Table 4.4 among those respondents who had obtained their antibiotics from a doctor, whether respondents got advice from a doctor, nurse or pharmacist on how to take them is associated significantly with the respondents' age, educational attainment, marital status, occupation, monthly household income and household composition.

A relatively higher proportion of respondents aged 65 or above, those who were divorced/separated/widowed, services/shops sales workers or those who were not working (excluding students and homemakers) and those household compositions with adults only reported that they did not get any advice from a doctor, nurse or pharmacist on how to take antibiotics when compared with their respective counterparts.

The lower the educational attainment and the lower the monthly household income of the respondents, the more likely reported that they did not get any advice from a doctor, nurse or pharmacist on how to take antibiotics.

Table 4.4: Whether respondents got advice from a doctor, nurse or pharmacist on how to take antibiotics (Q3)

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
Age	15 – 24	112	75.0%	25.0%		0.000
	25 – 34	175	65.5%	34.5%		
	35 – 44	172	76.2%	23.8%		
	45 – 54	194	71.7%	28.3%		
	55 – 64	170	61.3%	38.7%		
	65 or above	146	42.0%	58.0%		
Educational attainment	Primary or below	96	48.4%	51.6%		0.000
	Lower secondary (S1-S3)	94	53.0%	47.0%		
	Upper secondary (S4-S6) / Matriculation	291	64.3%	35.7%		
	Tertiary (Non-degree, degree or above)	495	71.6%	28.4%		
Marital status	Never married	329	69.7%	30.3%	0.001	
	Married	590	64.8%	35.2%		
	Divorced/ Separated/ Widowed	48	42.4%	57.6%		
Occupation	Managerial/ Professional worker	255	73.5%	26.5%	0.000	
	Clerk	148	70.4%	29.6%		
	Service/ Shop sales worker	64	52.7%	47.3%		
	Blue collar worker	61	72.1%	27.9%		
	Student	78	76.1%	23.9%		

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
	Homemaker	123	56.3%	43.7%		
	Not working	201	52.3%	47.7%		
Monthly household income	Below HK$10,000	83	38.0%	62.0%		0.000
	HK$ 10,000-$19,999	94	57.3%	42.7%		
	HK$ 20,000- $39,999	211	65.4%	34.6%		
	HK$ 40,000- $59,999	143	75.0%	25.0%		
	HK$ 60,000 or above	219	73.7%	26.3%		
Household composition	Adults only (without children aged under 16)	678	62.1%	37.9%	0.001	
	With children aged under 16	263	73.7%	26.3%		

Table 4.5 illustrates whether respondents received advice of practising frequent hand hygiene from a doctor, nurse or pharmacist as part of how to take antibiotics is associated significantly with the respondents' educational attainment and monthly household income.

The higher the educational attainment and the higher the monthly household income of the respondents, the more likely that they reported that they did not receive any advice from a doctor, nurse or pharmacist as part of how to take antibiotics when compared with their respective counterparts.

Table 4.5: Whether respondents received advice of practising frequent hand hygiene from a doctor, nurse or pharmacist as part of how to take antibiotics (Q4.1)

Variable	Level	Base	Yes	No	Can't remember	p-value Kruskal-Wallis test
Educational attainment	Primary or below	47	27.3%	70.1%	2.7%	0.004
	Lower secondary (S1-S3)	50	18.8%	78.5%	2.8%	
	Upper secondary (S4-S6) / Matriculation	187	14.5%	84.4%	1.1%	
	Tertiary (Non-degree, degree or above)	355	11.7%	87.5%	0.8%	
Monthly household income	Below HK$10,000	32	21.7%	74.9%	3.4%	0.015
	HK$ 10,000-$19,999	54	14.0%	86.0%	0.0%	
	HK$ 20,000- $39,999	138	14.5%	83.4%	2.1%	
	HK$ 40,000- $59,999	107	13.7%	86.3%	0.0%	
	HK$ 60,000 or above	162	7.5%	92.1%	0.4%	

Table 4.6 illustrates whether respondents received advice of eating or drinking only thoroughly cooked or boiled items from a doctor, nurse or pharmacist as part of how to take antibiotics is associated significantly with the respondents' educational attainment and monthly household income.

The higher the educational attainment and the higher the monthly household income (except those with monthly household income of HK$20,000-$39,999) of the respondents, the more likely they reported that they did not receive any advice of eating or drinking only thoroughly cooked or boiled items from a doctor, nurse or pharmacist as part of how to take antibiotics when compared with their respective counterparts.

Table 4.6: Whether respondents got the advice of eating or drinking only thoroughly cooked or boiled items from a doctor, nurse or pharmacist as part of how to take antibiotics (Q4.2)

Variable	Level	Base	Yes	No	Can't remember	p-value Kruskal-Wallis test
Educational attainment	Primary or below	47	29.6%	69.1%	1.3%	0.002
	Lower secondary (S1-S3)	50	22.1%	76.9%	1.1%	
	Upper secondary (S4-S6) / Matriculation	187	14.3%	85.7%	0.0%	
	Tertiary (Non-degree, degree or above)	355	12.8%	86.6%	0.6%	
Monthly household income	Below HK$10,000	32	27.3%	72.7%	0.0%	0.001
	HK$ 10,000-$19,999	54	16.2%	83.8%	0.0%	
	HK$ 20,000- $39,999	138	21.6%	77.1%	1.3%	
	HK$ 40,000- $59,999	107	12.3%	86.9%	0.8%	
	HK$ 60,000 or above	162	10.5%	89.5%	0.0%	

Table 4.7 illustrates whether respondents received advice of disinfecting and covering all wounds from a doctor, nurse or pharmacist as part of how to take antibiotics is associated significantly with the respondents' educational attainment and monthly household income.

The higher the educational attainment and the higher the monthly household income (except those with monthly household income of HK$40,000-$59,999) of the respondents, the more likely reported that they did not receive any advice of disinfecting and covering all wounds from a doctor, nurse or pharmacist as part of how to take antibiotics when compared with their respective counterparts.

Table 4.7: Whether respondents got the advice of disinfecting and covering all wounds from a doctor, nurse or pharmacist as part of how to take antibiotics (Q4.3)

Variable	Level	Base	Yes	No	Can't remember	p-value Kruskal-Wallis test
Educational attainment	Primary or below	47	37.3%	61.5%	1.1%	0.002
	Lower secondary (S1-S3)	50	24.1%	74.3%	1.7%	
	Upper secondary (S4-S6) / Matriculation	187	19.6%	80.4%	0.0%	
	Tertiary (Non-degree, degree or above)	355	15.1%	84.2%	0.7%	
Monthly household income	Below HK$10,000	32	23.6%	76.4%	0.0%	0.027
	HK$ 10,000-$19,999	54	21.4%	77.6%	1.0%	
	HK$ 20,000- $39,999	138	19.9%	80.1%	0.0%	
	HK$ 40,000- $59,999	107	19.4%	79.9%	0.8%	
	HK$ 60,000 or above	162	12.5%	87.1%	0.4%	

Table 4.8 illustrates whether respondents received advice of wearing a mask when having respiratory infection symptoms from a doctor, nurse or pharmacist as part of how to take antibiotics is associated significantly with the respondents' monthly household income.

A relatively higher proportion of respondents with monthly household income of HK$60,000 or above reported that they did not receive any advice of wearing a mask when having respiratory infection symptoms from a doctor, nurse or pharmacist as part of how to take antibiotics when compared with their respective counterparts.

Table 4.8: Whether respondents got the advice of wearing a mask when having respiratory infection symptoms from a doctor, nurse or pharmacist as part of how to take antibiotics (Q4.4)

Variable	Level	Base	Yes	No	Can't remember	p-value Kruskal-Wallis test
Monthly household income	Below HK$10,000	32	51.4%	48.6%	0.0%	0.042
	HK$ 10,000-$19,999	54	49.1%	50.9%	0.0%	
	HK$ 20,000- $39,999	138	57.1%	42.0%	0.9%	
	HK$ 40,000- $59,999	107	53.8%	45.4%	0.8%	
	HK$ 60,000 or above	162	41.8%	58.2%	0.0%	

Table 4.9 illustrates whether respondents received advice that children with signs and symptoms of infectious diseases should avoid contact with other children from a doctor, nurse or pharmacist as part of how to take antibiotics is associated significantly with the respondents' educational attainment.

A relatively higher proportion of respondents with tertiary education reported that they did not receive any advice that children with signs and symptoms of infectious diseases should avoid contact with other children from a doctor, nurse or pharmacist as part of how to take antibiotics when compared with their respective counterparts.

Table 4.9: Whether respondents got the advice that children with signs and symptoms of infectious diseases should avoid contact with other children from a doctor, nurse or pharmacist as part of how to take antibiotics (Q4.5)

Variable	Level	Base	Yes	No	Can't remember	p-value Kruskal-Wallis test
Educational attainment	Primary or below	47	28.2%	70.7%	1.1%	0.033
	Lower secondary (S1-S3)	50	32.7%	65.7%	1.7%	
	Upper secondary (S4-S6) / Matriculation	187	30.8%	67.4%	1.7%	
	Tertiary (Non-degree, degree or above)	355	21.3%	78.1%	0.6%	

Table 4.10 illustrates that when a doctor prescribes antibiotics for the respondents, whether they want to receive more information on precautionary measures while taking antibiotics is associated significantly with the respondents' gender.

A relatively higher proportion of male respondents reported that they did not want to receive more information on precautionary measures while taking antibiotics when compared with their respective counterparts.

Table 4.10: When a doctor prescribes antibiotics for the respondents, whether they want to receive more information on precautionary measures while taking antibiotics (Q5)

Variable	Level	Base	Yes	No	p-value Chi-square test
Gender	Male	469	69.9%	30.1%	0.008
	Female	533	77.3%	22.7%	

Table 4.11 illustrates that the perceived usefulness of doctors giving related advice when prescribing antibiotics that would help respondents to comply with the antibiotics treatment is associated significantly with the respondents' educational attainment, marital status, occupation, and monthly household income.

A relatively higher proportion of respondents with tertiary education, those who were married and managerial/professional workers reported that doctors giving related advice when prescribing antibiotics that would help respondents to comply with the antibiotics treatment is either very useful or slightly useful when compared with their respective counterparts.

The higher the monthly household income (except those with monthly household income below HK$10,000) of the respondents, the more likely they reported that doctors giving related advice when prescribing antibiotics that would help respondents to comply with the antibiotics treatment is either very useful or slightly useful.

Table 4.11: Usefulness of doctors giving related advice when prescribing antibiotics that would help respondents to comply with the antibiotics treatment (Q7.1)

Variable	Level	Base	Very useless	Slightly useless	Neutral	Slightly useful	Very useful	p-value	
								Kruskal-Wallis test	Rank Correlation
Educational attainment	Primary or below	142	1.6%	2.1%	25.6%	23.0%	47.7%		0.000
	Lower secondary (S1-S3)	135	3.5%	2.3%	24.1%	25.2%	44.9%		
	Upper secondary (S4-S6) / Matriculation	389	1.5%	3.2%	26.3%	27.1%	42.0%		
	Tertiary (Non-degree, degree or above)	584	2.2%	1.6%	11.2%	28.4%	56.6%		
Marital status	Never married	428	3.3%	2.1%	22.3%	29.7%	42.6%	0.006	
	Married	736	1.2%	2.4%	16.8%	26.0%	53.5%		
	Divorced/ Separated/ Widowed	74	3.3%	1.6%	22.1%	22.4%	50.6%		
Occupation	Managerial/ Professional worker	306	1.6%	1.8%	11.2%	31.1%	54.3%	0.002	
	Clerk	158	0.6%	2.6%	13.2%	27.8%	55.8%		
	Service/ Shop sales worker	89	1.2%	4.2%	32.0%	16.8%	45.8%		
	Blue collar worker	84	2.4%	1.3%	25.6%	21.9%	48.8%		
	Student	108	1.1%	2.5%	27.5%	39.1%	29.8%		
	Homemaker	163	2.1%	1.2%	21.0%	20.3%	55.4%		
	Not working	288	2.9%	2.1%	19.6%	25.7%	49.6%		
Monthly household	Below HK$10,000	132	3.8%	2.7%	21.6%	26.6%	45.3%		0.001
	HK$ 10,000-$19,999	126	2.5%	4.8%	25.4%	23.8%	43.5%		

Variable	Level	Base	Very useless	Slightly useless	Neutral	Slightly useful	Very useful	p-value	
								Kruskal-Wallis test	Rank Correlation
income	HK$ 20,000- $39,999	265	2.7%	1.4%	17.9%	30.3%	47.6%		
	HK$ 40,000- $59,999	167	0.5%	1.1%	16.1%	30.0%	52.2%		
	HK$ 60,000 or above	250	1.2%	2.0%	10.5%	26.2%	60.1%		

Table 4.12 illustrates that the perceived usefulness of pharmacists giving related advice when dispensing antibiotics that would help respondents to comply with the antibiotics treatment is associated significantly with the respondents' occupation and monthly household income.

A relatively higher proportion of managerial/professional workers and those with monthly household income of HK$60,000 or above reported that pharmacists giving related advices when dispensing antibiotics that would help respondents to comply with the antibiotics treatment is either very useful or slightly useful when compared with their respective counterparts.

Table 4.12: Usefulness of pharmacists giving related advice when dispensing antibiotics that would help respondents to comply with the antibiotics treatment (Q7.2)

Variable	Level	Base	Very useless	Slightly useless	Neutral	Slightly useful	Very useful	p-value	
								Kruskal-Wallis test	Rank Correlation
Occupation	Managerial/ Professional worker	306	3.1%	2.3%	17.6%	28.0%	48.9%	0.017	
	Clerk	158	1.7%	6.1%	16.5%	33.1%	42.6%		
	Service/ Shop sales worker	89	5.0%	9.1%	24.9%	20.5%	40.5%		
	Blue collar worker	84	2.4%	3.0%	22.7%	34.0%	38.0%		
	Student	108	3.1%	2.0%	27.3%	46.3%	21.3%		
	Homemaker	163	2.7%	2.8%	21.9%	24.6%	48.0%		
	Not working	288	2.9%	5.6%	24.6%	26.4%	40.5%		
Monthly household income	Below HK$10,000	132	2.8%	5.0%	25.6%	28.4%	38.1%		0.008
	HK$ 10,000-$19,999	126	2.7%	5.7%	27.9%	24.4%	39.3%		
	HK$ 20,000- $39,999	265	5.5%	2.4%	18.5%	30.8%	42.7%		
	HK$ 40,000- $59,999	167	2.0%	8.5%	19.6%	30.8%	39.2%		
	HK$ 60,000 or above	250	2.3%	1.6%	14.4%	31.4%	50.4%		

Table 4.13 illustrates that the perceived usefulness of printing educational information on the antibiotic prescription bags that would help respondents to comply with the antibiotics treatment is associated significantly with the respondents' gender, age, marital status and occupation.

A relatively higher proportion of female respondents, those aged 65 or above, those who were divorced/separated/widowed and homemakers reported that printing educational information on the antibiotic prescription bags that would help respondents to comply with the antibiotics treatment is either very useful or slightly useful when compared with their respective counterparts.

Table 4.13: Usefulness of printing educational information on the antibiotic prescription bags that would help respondents to comply with the antibiotics treatment (Q7.3)

Variable	Level	Base	Very useless	Slightly useless	Neutral	Slightly useful	Very useful	p-value	
								Kruskal-Wallis test	Rank Correlation
Gender	Male	592	2.0%	4.5%	16.1%	25.7%	51.7%	0.050	
	Female	663	1.9%	4.9%	12.8%	25.6%	54.8%		
Age	15 – 24	153	3.5%	10.6%	16.9%	33.5%	35.5%		0.002
	25 – 34	197	2.1%	6.2%	16.4%	22.7%	52.5%		
	35 – 44	208	2.0%	4.0%	10.7%	25.2%	58.0%		
	45 – 54	240	1.1%	4.1%	15.2%	24.1%	55.5%		
	55 – 64	224	1.7%	2.8%	15.7%	22.7%	57.1%		
	65 or above	221	1.8%	2.4%	11.8%	28.1%	56.0%		
Marital status	Never married	428	2.1%	7.7%	15.3%	29.7%	45.2%	0.000	
	Married	736	1.9%	3.4%	13.7%	22.9%	58.1%		
	Divorced/ Separated/ Widowed	74	1.8%	0.0%	16.0%	30.1%	52.2%		
Occupation	Managerial/ Professional worker	306	1.4%	3.5%	13.9%	25.1%	56.2%	0.004	
	Clerk	158	1.7%	5.2%	11.8%	22.3%	58.9%		
	Service/ Shop sales worker	89	0.0%	11.2%	8.6%	25.9%	54.4%		
	Blue collar worker	84	1.9%	2.4%	23.5%	14.8%	57.4%		
	Student	108	3.4%	13.1%	19.9%	29.6%	34.0%		
	Homemaker	163	2.2%	4.8%	9.1%	25.8%	58.1%		
	Not working	288	3.0%	2.2%	14.2%	29.1%	51.5%		

Table 4.14 illustrates whether respondents preferred to consult a doctor that has declared to use antibiotics responsibly is associated significantly with the respondents' age, educational attainment, marital status, occupation, monthly household income, type of living quarters and household composition.

A relatively higher proportion of respondents aged 65 or above, those who were divorced/separated/widowed, those who were not working (excluding students and homemakers), those who were living in public rental flats and those household compositions with adult only reported that they did not prefer to consult a doctor that has declared to use antibiotics responsibly when compared with their respective counterparts.

The lower the educational attainment and generally the lower the monthly household income of the respondents, the more likely they reported that they did not prefer to consult a doctor that has declared to use antibiotics responsibly

Table 4.14: Whether respondents prefer to consult a doctor that has declared to use antibiotics responsibly (Q8)

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
Age	15 – 24	146	40.3%	59.7%		0.000
	25 – 34	194	39.2%	60.8%		
	35 – 44	202	40.1%	59.9%		
	45 – 54	226	42.8%	57.2%		
	55 – 64	203	32.6%	67.4%		
	65 or above	192	21.5%	78.5%		
Educational attainment	Primary or below	126	22.5%	77.5%		0.000
	Lower secondary (S1-S3)	118	27.1%	72.9%		
	Upper secondary (S4-S6) / Matriculation	367	36.7%	63.3%		
	Tertiary (Non-degree, degree or above)	559	41.2%	58.8%		
Marital status	Never married	406	39.5%	60.5%	0.034	
	Married	688	35.7%	64.3%		
	Divorced/ Separated/ Widowed	65	23.1%	76.9%		
Occupation	Managerial/ Professional worker	292	42.7%	57.3%	0.000	
	Clerk	156	42.8%	57.2%		
	Service/ Shop sales worker	84	28.5%	71.5%		
	Blue collar worker	79	32.1%	67.9%		
	Student	102	47.7%	52.3%		
	Homemaker	158	33.5%	66.5%		

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
	Not working	247	26.4%	73.6%		
Monthly household income	Below HK$10,000	113	21.2%	78.8%		0.000
	HK$ 10,000-$19,999	119	37.9%	62.1%		
	HK$ 20,000- $39,999	255	35.6%	64.4%		
	HK$ 40,000- $59,999	161	41.8%	58.2%		
	HK$ 60,000 or above	243	45.8%	54.2%		
Type of living quarters	Public rental flats	315	27.2%	72.8%	0.000	
	Subsidised sale flats	180	36.4%	63.6%		
	Private housing	641	40.1%	59.9%		
Household composition	Adults only (without children aged under 16)	823	33.7%	66.3%	0.003	
	With children aged under 16	307	43.3%	56.7%		

Table 4.15 illustrates whether respondents had consulted a doctor (for cold or flu) in the past 12 months is associated significantly with the respondents' gender, age, educational attainment, occupation, type of living quarters and household composition.

A relatively higher proportion of female respondents, those aged 25-34, clerks, those who were living in Housing Authority / Society subsidised sale flats and those household compositions with children aged under 16 reported that they had consulted a doctor (for cold or flu) in the past 12 months when compared with their respective counterparts.

Further, the higher the educational attainment of the respondents, the more likely they reported that they had consulted a doctor (for cold or flu) in the past 12 months.

Table 4.15: Whether respondents had consulted a doctor (for cold or flu) in the past 12 months (Q9)

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
Gender	Male	587	56.6%	43.4%	0.038	
	Female	662	62.4%	37.6%		
Age	15 – 24	149	58.8%	41.2%		0.000
	25 – 34	197	77.2%	22.8%		
	35 – 44	208	59.6%	40.4%		
	45 – 54	239	65.5%	34.5%		
	55 – 64	224	48.9%	51.1%		
	65 or above	220	48.0%	52.0%		
Educational attainment	Primary or below	141	53.4%	46.6%		0.042
	Lower secondary (S1-S3)	135	55.4%	44.6%		
	Upper secondary (S4-S6) / Matriculation	387	55.6%	44.4%		
	Tertiary (Non-degree, degree or above)	581	65.0%	35.0%		
Occupation	Managerial/ Professional worker	306	67.1%	32.9%	0.000	
	Clerk	157	73.1%	26.9%		
	Service/ Shop sales worker	87	53.1%	46.9%		
	Blue collar worker	84	60.2%	39.8%		
	Student	108	58.7%	41.3%		
	Homemaker	163	51.4%	48.6%		
	Not working	286	49.1%	50.9%		
Type of living quarters	Public rental flats	337	56.4%	43.6%	0.024	
	Subsidised sale flats	188	68.4%	31.6%		

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
	Private housing	685	59.6%	40.4%		
Household composition	Adults only (without children aged under 16)	890	57.8%	42.2%	0.007	
	With children aged under 16	313	66.6%	33.4%		

Table 4.16 illustrates whether respondents had brought anyone aged 15 years old or below to consult a doctor (for cold or flu) in the past 12 months is associated significantly with the respondents' age, educational attainment, marital status, occupation, monthly household income, type of living quarters and household composition.

A relatively higher proportion of respondents aged 35-44, those with upper secondary/matriculation education, those who were married, homemakers, those with monthly household income of HK$40,000-$59,999, those who were living in private housing and those household compositions with children aged under 16 reported that they had brought anyone aged 15 years old or below to consult a doctor (for cold or flu) in the past 12 months when compared with their respective counterparts.

Table 4.16: Whether respondents had brought anyone aged 15 years old or below to consult a doctor (for cold or flu) in the past 12 months (Q11)

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
Age	15 – 24	153	3.4%	96.6%		0.000
	25 – 34	197	19.3%	80.7%		
	35 – 44	208	51.8%	48.2%		
	45 – 54	240	31.8%	68.2%		
	55 – 64	224	9.2%	90.8%		
	65 or above	221	8.1%	91.9%		
Educational attainment	Primary or below	142	12.6%	87.4%		0.023
	Lower secondary (S1-S3)	135	20.3%	79.7%		
	Upper secondary (S4-S6) / Matriculation	389	23.2%	76.8%		
	Tertiary (Non-degree, degree or above)	584	22.8%	77.2%		
Marital status	Never married	428	4.9%	95.1%	0.000	
	Married	736	32.9%	67.1%		
	Divorced/ Separated/ Widowed	74	5.2%	94.8%		
Occupation	Managerial/ Professional worker	306	29.5%	70.5%	0.000	
	Clerk	158	28.6%	71.4%		
	Service/ Shop sales worker	89	24.1%	75.9%		
	Blue collar worker	84	12.6%	87.4%		
	Student	108	2.5%	97.5%		
	Homemaker	163	33.3%	66.7%		
	Not working	288	10.7%	89.3%		
Monthly household	Below HK$10,000	132	7.7%	92.3%		0.000

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
income	HK$ 10,000-$19,999	126	20.3%	79.7%		
	HK$ 20,000- $39,999	265	25.4%	74.6%		
	HK$ 40,000- $59,999	167	31.5%	68.5%		
	HK$ 60,000 or above	250	30.0%	70.0%		
Type of living quarters	Public rental flats	339	12.7%	87.3%	0.000	
	Subsidised sale flats	190	18.8%	81.2%		
	Private housing	688	26.5%	73.5%		
Household composition	Adults only (without children aged under 16)	895	5.4%	94.6%	0.000	
	With children aged under 16	313	68.9%	31.1%		

Table 4.17 illustrates that when respondents consulted a doctor and their initial assessment result indicated that antibiotic is not needed at that moment, whether they would accept if the doctor tells them to observe for few more days or to wait for the diagnostic test's result before deciding whether to prescribe antibiotics is associated significantly with the respondents' age and education attainment.

A relatively higher proportion of respondents aged 15-24 and those with tertiary education reported they would accept if the doctor tells them to observe for few more days or to wait for the diagnostic test's result before deciding whether to prescribe antibiotics.

Table 4.17: When respondents consulted a doctor and their initial assessment result indicated that antibiotic is not needed at that moment, whether they would accept if the doctor tells them to observe for few more days or to wait for the diagnostic test's result before deciding whether to prescribe antibiotics (Q13)

Variable	Level	Base	Yes / Accept	No / Not accept	p-value Kruskal-Wallis test
Age	15 – 24	153	100.0%	0.0%	0.030
	25 – 34	195	97.4%	2.6%	
	35 – 44	206	98.6%	1.4%	
	45 – 54	237	97.8%	2.2%	
	55 – 64	223	97.2%	2.8%	
	65 or above	217	96.7%	3.3%	
Educational attainment	Primary or below	139	96.2%	3.8%	0.003
	Lower secondary (S1-S3)	131	95.1%	4.9%	
	Upper secondary (S4-S6) / Matriculation	387	97.3%	2.7%	
	Tertiary (Non-degree, degree or above)	582	99.2%	0.8%	

4.3 Knowledge about antibiotics

Table 4.18 illustrates that when respondents thought they should stop taking antibiotics once they had begun treatment is associated significantly with the respondents' educational attainment and monthly household income.

A relatively higher proportion of respondents with lower secondary education said that they should stop taking antibiotics when they feel better when compared with their respective counterparts.

Generally, the lower the monthly household income of the respondents, the more likely they reported that they should stop taking antibiotics when they feel better.

Table 4.18: When respondents think they should stop taking antibiotics once they have begun treatment (Q14)

Variable	Level	Base	When you feel better	When you've taken all of the antibiotics as directed	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
Educational attainment	Primary or below	142	11.7%	81.6%	6.7%		0.000
	Lower secondary (S1-S3)	135	15.8%	79.6%	4.6%		
	Upper secondary (S4-S6) / Matriculation	389	11.8%	87.6%	0.7%		
	Tertiary (Non-degree, degree or above)	584	7.9%	91.5%	0.6%		
Monthly household income	Below HK$10,000	132	14.4%	78.2%	7.4%		0.002
	HK$ 10,000-$19,999	126	11.0%	88.4%	0.7%		
	HK$ 20,000- $39,999	265	11.5%	87.6%	0.9%		
	HK$ 40,000- $59,999	167	7.0%	92.3%	0.7%		
	HK$ 60,000 or above	250	7.0%	92.5%	0.5%		

Table 4.19 illustrates that whether respondents thought that the false knowledge statement "It's okay to use antibiotics that were given to a friend or family member, as long as they were used to treat the same illness" was true or false is associated significantly with the respondents' gender, educational attainment and monthly household income.

A relatively higher proportion of male respondents and those with primary education or below mistakenly believed this false knowledge statement was true.

Further, the lower the educational attainment and lower monthly household income, the more likely they mistakenly believed this false knowledge statement was true.

Table 4.19: Whether respondents thought that the false knowledge statement "It's okay to use antibiotics that were given to a friend or family member, as long as they were used to treat the same illness" was true or false (Q15)

Variable	Level	Base	True	False	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
Gender	Male	592	7.5%	91.9%	0.6%	0.046	
	Female	663	4.5%	94.1%	1.3%		
Educational attainment	Primary or below	142	10.6%	84.1%	5.3%		0.010
	Lower secondary (S1-S3)	135	6.0%	93.2%	0.8%		
	Upper secondary (S4-S6) / Matriculation	389	8.4%	91.1%	0.5%		
	Tertiary (Non-degree, degree or above)	584	3.1%	96.5%	0.3%		
Monthly household income	Below HK$10,000	132	12.2%	83.7%	4.1%		0.000
	HK$ 10,000-$19,999	126	11.3%	85.4%	3.3%		
	HK$ 20,000- $39,999	265	6.4%	93.6%	0.0%		
	HK$ 40,000- $59,999	167	4.0%	96.0%	0.0%		
	HK$ 60,000 or above	250	1.5%	98.5%	0.0%		

Table 4.20 illustrates that whether respondents thought that the false knowledge statement "It's okay to buy the same antibiotics, or request these from a doctor, if you're sick and they helped you get better when you had the same symptoms before" was true or false is associated significantly with the respondents' educational attainment, monthly household income, type of living quarters and household composition.

A relatively higher proportion of respondents with lower secondary education (S1-S3), those with monthly household income of HK$10,000-$19,999, those who were living in public rental flats and those household compositions with adults only mistakenly believed this false knowledge statement was true.

Table 4.20: Whether respondents thought that the false knowledge statement "It's okay to buy the same antibiotics, or request these from a doctor, if you're sick and they helped you get better when you had the same symptoms before" was true or false (Q16)

Variable	Level	Base	True	False	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
Educational attainment	Primary or below	142	14.5%	78.3%	7.1%		0.015
	Lower secondary (S1-S3)	135	19.2%	74.6%	6.2%		
	Upper secondary (S4-S6) / Matriculation	389	16.9%	79.9%	3.2%		
	Tertiary (Non-degree, degree or above)	584	10.0%	88.2%	1.8%		
Monthly household income	Below HK$10,000	132	17.5%	77.2%	5.3%		0.049
	HK$ 10,000-$19,999	126	18.5%	78.7%	2.8%		
	HK$ 20,000- $39,999	265	15.4%	81.7%	2.9%		
	HK$ 40,000- $59,999	167	10.4%	88.8%	0.8%		
	HK$ 60,000 or above	250	11.4%	88.0%	0.6%		
Type of living quarters	Public rental flats	339	19.9%	76.8%	3.3%	0.001	
	Subsidised sale flats	190	7.1%	89.4%	3.6%		
	Private housing	688	12.8%	84.0%	3.3%		
Household composition	Adults only (without children aged under 16)	895	15.3%	81.2%	3.4%	0.023	
	With children aged under 16	313	9.5%	88.0%	2.6%		

Table 4.21 illustrates that whether respondents thought that gonorrhoea can be treated with antibiotics is associated significantly with the respondents' gender, age, marital status and occupation.

A relatively higher proportion of female respondents, those who were never married and students mistakenly identified that gonorrhoea should not be treated with antibiotics when compared with their respective counterparts.

Further, the younger the respondents, the more likely mistakenly identified that gonorrhoea should not be treated with antibiotics when compared with their respective counterparts.

Table 4.21: Whether respondents thought that gonorrhoea should be treated with antibiotics (Q17.2)

Variable	Level	Base	Yes	No	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
Gender	Male	592	32.2%	38.6%	29.2%	0.000	
	Female	663	21.4%	39.6%	39.0%		
Age	15 – 24	153	19.7%	62.3%	18.0%		0.000
	25 – 34	197	25.4%	50.1%	24.5%		
	35 – 44	208	28.9%	46.5%	24.6%		
	45 – 54	240	28.3%	35.7%	36.0%		
	55 – 64	224	26.6%	28.3%	45.1%		
	65 or above	221	28.4%	22.1%	49.6%		
Marital status	Never married	428	26.0%	48.6%	25.4%	0.000	
	Married	736	26.4%	35.7%	37.9%		
	Divorced/ Separated/ Widowed	74	32.7%	21.3%	46.0%		
Occupation	Managerial/ Professional worker	306	28.4%	45.4%	26.2%	0.000	
	Clerk	158	21.8%	48.0%	30.2%		
	Service/ Shop sales worker	89	33.9%	41.2%	24.9%		
	Blue collar worker	84	26.2%	28.9%	44.9%		
	Student	108	17.2%	66.8%	16.0%		
	Homemaker	163	23.4%	30.8%	45.7%		
	Not working	288	30.4%	24.8%	44.8%		

Table 4.22 illustrates that whether respondents thought that bladder infection or urinary tract infection (UTI) can be treated with antibiotics is associated significantly with the respondents' age, marital status, occupation, type of living quarters and household composition.

A relatively higher proportion of respondents aged 15-24, those who were never married, students, those who were living in public rental flats or Housing Authority / Society subsidised sale flats and those household compositions with adults only mistakenly identified that bladder infection or urinary tract infection (UTI) should not be treated with antibiotics when compared with their respective counterparts.

Table 4.22: Whether respondents thought that bladder infection or urinary tract infection (UTI) should be treated with antibiotics (Q17.3)

Variable	Level	Base	Yes	No	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
Age	15 – 24	153	55.4%	39.0%	5.6%		0.000
	25 – 34	197	76.5%	12.4%	11.1%		
	35 – 44	208	80.5%	7.8%	11.7%		
	45 – 54	240	72.4%	11.0%	16.6%		
	55 – 64	224	71.4%	6.3%	22.3%		
	65 or above	221	56.8%	13.6%	29.6%		
Marital status	Never married	428	65.9%	22.5%	11.6%	0.000	
	Married	736	71.0%	9.3%	19.8%		
	Divorced/ Separated/ Widowed	74	67.6%	9.9%	22.6%		
Occupation	Managerial/ Professional worker	306	76.0%	11.4%	12.5%	0.000	
	Clerk	158	74.5%	12.2%	13.4%		
	Service/ Shop sales worker	89	65.2%	22.2%	12.7%		
	Blue collar worker	84	61.5%	8.1%	30.4%		
	Student	108	56.5%	38.9%	4.6%		
	Homemaker	163	74.7%	5.0%	20.3%		
	Not working	288	63.0%	11.9%	25.1%		
Type of living quarters	Public rental flats	339	61.5%	18.4%	20.1%	0.000	
	Subsidised sale flats	190	64.1%	18.8%	17.1%		
	Private housing	688	73.9%	10.6%	15.5%		
Household composition	Adults only (without children aged under 16)	895	66.6%	15.5%	17.9%	0.008	
	With children aged under 16	313	75.8%	10.1%	14.1%		

Table 4.23 illustrates that whether respondents thought that skin or wound infection can be treated with antibiotics is associated significantly with the respondents' age, educational attainment, marital status and occupation.

A relatively higher proportion of respondents aged 55 or above, those with upper secondary/matriculation education, those who were divorced/separated/widowed and homemakers mistakenly identified that skin or wound infection should not be treated with antibiotics when compared with their respective counterparts.

Table 4.23: Whether respondents thought that skin or wound infection should be treated with antibiotics (Q17.9)

Variable	Level	Base	Yes	No	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
Age	15 – 24	153	78.0%	16.9%	5.1%		0.025
	25 – 34	197	84.0%	8.0%	8.0%		
	35 – 44	208	77.7%	16.3%	5.9%		
	45 – 54	240	74.1%	15.4%	10.5%		
	55 – 64	224	63.7%	17.5%	18.8%		
	65 or above	221	58.1%	17.4%	24.5%		
Educational attainment	Primary or below	142	55.1%	15.7%	29.2%		0.022
	Lower secondary (S1-S3)	135	72.5%	15.0%	12.4%		
	Upper secondary (S4-S6) / Matriculation	389	67.8%	19.7%	12.5%		
	Tertiary (Non-degree, degree or above)	584	78.3%	12.4%	9.2%		
Marital status	Never married	428	77.8%	14.4%	7.8%	0.000	
	Married	736	68.8%	15.2%	16.0%		
	Divorced/ Separated/ Widowed	74	66.1%	22.6%	11.3%		
Occupation	Managerial/ Professional worker	306	76.1%	14.7%	9.2%	0.002	
	Clerk	158	73.2%	15.9%	10.9%		
	Service/ Shop sales worker	89	73.7%	16.9%	9.3%		
	Blue collar worker	84	73.7%	11.6%	14.7%		
	Student	108	79.6%	16.0%	4.3%		
	Homemaker	163	66.7%	17.2%	16.1%		
	Not working	288	63.5%	16.4%	20.1%		

Table 4.24 illustrates that whether respondents thought that HIV/AIDS can be treated with antibiotics is associated significantly with the respondents' gender, age, educational attainment, occupation and household composition.

A relatively higher proportion of respondents aged 25-34, those with upper secondary/matriculation, blue collar workers and those household compositions with children aged under 16 mistakenly identified that HIV/AIDS should be treated with antibiotics when compared with their respective counterparts.

Further, a relatively lower proportion of female respondents correctly identified that HIV/AIDS should not be treated with antibiotics when compared with their respective counterparts.

Table 4.24: Whether respondents thought that HIV/AIDS should be treated with antibiotics (Q17.1)

Variable	Level	Base	Yes	No	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
Gender	Male	592	6.2%	71.5%	22.3%	0.001	
	Female	663	6.5%	62.3%	31.2%		
Age	15 – 24	153	4.4%	92.6%	3.0%		0.016
	25 – 34	197	9.1%	82.0%	9.0%		
	35 – 44	208	7.7%	73.8%	18.5%		
	45 – 54	240	4.3%	67.0%	28.7%		
	55 – 64	224	6.8%	52.2%	41.0%		
	65 or above	221	6.1%	43.3%	50.6%		
Educational attainment	Primary or below	142	6.1%	36.2%	57.7%		0.002
	Lower secondary (S1-S3)	135	7.0%	51.1%	41.9%		
	Upper secondary (S4-S6) / Matriculation	389	7.9%	66.3%	25.8%		
	Tertiary (Non-degree, degree or above)	584	5.2%	78.0%	16.7%		
Occupation	Managerial/ Professional worker	306	5.1%	77.5%	17.5%	0.000	
	Clerk	158	5.5%	76.3%	18.2%		
	Service/ Shop sales worker	89	6.4%	74.8%	18.7%		
	Blue collar worker	84	8.9%	60.1%	31.1%		
	Student	108	4.2%	91.5%	4.2%		
	Homemaker	163	7.1%	50.4%	42.5%		
	Not working	288	7.8%	50.0%	42.2%		
Household composition	Adults only (without children aged under 16)	895	5.7%	65.7%	28.6%	0.013	
	With children aged under 16	313	8.1%	71.3%	20.6%		

Table 4.25 illustrates that whether respondents thought that sore throat can be treated with antibiotics is associated significantly with the respondents' occupation and household composition.

A relatively higher proportion of clerks and those household compositions with children aged under 16 mistakenly identified that sore throat should be treated with antibiotics when compared with their respective counterparts.

Table 4.25: Whether respondents thought that sore throat should be treated with antibiotics (Q17.10)

Variable	Level	Base	Yes	No	Don't know	p-value Chi-square test
Occupation	Managerial/ Professional worker	306	55.5%	34.5%	10.0%	0.039
	Clerk	158	62.3%	29.9%	7.8%	
	Service/ Shop sales worker	89	56.7%	35.7%	7.6%	
	Blue collar worker	84	54.0%	28.6%	17.4%	
	Student	108	59.3%	36.6%	4.1%	
	Homemaker	163	59.9%	29.3%	10.8%	
	Not working	288	50.4%	34.1%	15.5%	
Household composition	Adults only (without children aged under 16)	895	54.4%	33.3%	12.3%	0.022
	With children aged under 16	313	62.2%	30.0%	7.8%	

Table 4.26 illustrates that whether respondents thought that body aches can be treated with antibiotics is associated significantly with the respondents' occupation.

A relatively higher proportion of clerks and students mistakenly identified that body aches should be treated with antibiotics when compared with their respective counterparts.

Table 4.26: Whether respondents thought that body aches should be treated with antibiotics (Q17.11)

Variable	Level	Base	Yes	No	Don't know	p-value Chi-square test
Occupation	Managerial/ Professional worker	306	7.3%	83.5%	9.1%	0.000
	Clerk	158	12.3%	74.4%	13.2%	
	Service/ Shop sales worker	89	7.9%	79.7%	12.3%	
	Blue collar worker	84	8.4%	67.0%	24.6%	
	Student	108	12.2%	82.6%	5.2%	
	Homemaker	163	8.0%	71.8%	20.2%	
	Not working	288	7.2%	70.9%	21.9%	

Table 4.27 illustrates that whether respondents thought that headaches can be treated with antibiotics is associated significantly with the respondents' gender, age, marital status, occupation and household composition.

A relatively higher proportion of male respondents, respondents aged 15-24, those who were never married, students and those household compositions with adults only mistakenly identified that headaches should be treated with antibiotics when compared with their respective counterparts.

Table 4.27: Whether respondents thought that headaches should be treated with antibiotics (Q17.12)

Variable	Level	Base	Yes	No	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
Gender	Male	592	8.5%	78.9%	12.5%	0.035	
	Female	663	5.4%	84.1%	10.5%		
Age	15 – 24	153	15.8%	79.3%	4.9%		0.005
	25 – 34	197	4.9%	86.7%	8.4%		
	35 – 44	208	7.6%	83.1%	9.3%		
	45 – 54	240	6.2%	85.0%	8.8%		
	55 – 64	224	3.4%	80.6%	16.0%		
	65 or above	221	5.9%	76.3%	17.8%		
Marital status	Never married	428	11.5%	79.0%	9.5%	0.000	
	Married	736	4.6%	82.7%	12.6%		
	Divorced/ Separated/ Widowed	74	3.7%	84.8%	11.5%		
Occupation	Managerial/ Professional worker	306	5.2%	89.5%	5.3%	0.000	
	Clerk	158	8.2%	80.5%	11.4%		
	Service/ Shop sales worker	89	6.1%	82.4%	11.5%		
	Blue collar worker	84	10.4%	71.0%	18.6%		
	Student	108	14.7%	80.9%	4.4%		
	Homemaker	163	4.9%	80.9%	14.2%		
	Not working	288	4.6%	77.1%	18.3%		
Household composition	Adults only (without children aged under 16)	895	7.7%	79.5%	12.8%	0.004	
	With children aged under 16	313	4.9%	87.9%	7.2%		

Table 4.28 illustrates that whether respondents thought that diarrhoea can be treated with antibiotics is associated significantly with the respondents' age, marital status, occupation and monthly household income.

A relatively higher proportion of respondents who were never married, students and those with monthly household income of HK$40,000-$59,999 mistakenly identified that diarrhoea should be treated with antibiotics when compared with their respective counterparts.

The younger the respondents, the more likely they mistakenly identified diarrhoea should be treated with antibiotics.

Table 4.28: Whether respondents thought that diarrhoea should be treated with antibiotics (Q17.4)

Variable	Level	Base	Yes	No	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
Age	15 – 24	153	33.9%	60.0%	6.0%		0.001
	25 – 34	197	22.5%	67.2%	10.3%		
	35 – 44	208	19.0%	68.6%	12.4%		
	45 – 54	240	16.5%	68.2%	15.3%		
	55 – 64	224	15.2%	63.6%	21.1%		
	65 or above	221	13.4%	59.8%	26.7%		
Marital status	Never married	428	26.1%	61.2%	12.7%	0.000	
	Married	736	16.2%	66.4%	17.4%		
	Divorced/ Separated/ Widowed	74	10.7%	66.0%	23.3%		
Occupation	Managerial/ Professional worker	306	18.6%	69.4%	11.9%	0.000	
	Clerk	158	15.3%	64.6%	20.1%		
	Service/ Shop sales worker	89	24.5%	63.3%	12.2%		
	Blue collar worker	84	14.4%	70.3%	15.4%		
	Student	108	34.8%	59.5%	5.7%		
	Homemaker	163	19.4%	64.7%	15.9%		
	Not working	288	16.3%	57.7%	26.0%		
Monthly household income	Below HK$10,000	132	11.5%	59.0%	29.6%		0.030
	HK$ 10,000-$19,999	126	13.5%	67.6%	19.0%		
	HK$ 20,000- $39,999	265	20.5%	66.2%	13.2%		
	HK$ 40,000- $59,999	167	25.4%	61.3%	13.3%		
	HK$ 60,000 or above	250	21.8%	68.4%	9.7%		

Table 4.29 illustrates that whether respondents thought that cold and flu can be treated with antibiotics is associated significantly with the respondents' age, marital status, occupation and household composition.

A relatively higher proportion of respondents who were never married and students mistakenly identified that cold and flu should be treated with antibiotics when compared with their respective counterparts.

The younger the respondents, the more likely they mistakenly identified cold and flu should be treated with antibiotics.

A relatively lower proportion of respondents' household compositions with adults only correctly identified that cold and flu should not be treated with antibiotics when compared with their respective counterparts.

Table 4.29: Whether respondents thought that cold and flu should be treated with antibiotics (Q17.5)

Variable	Level	Base	Yes	No	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
Age	15 – 24	153	83.6%	16.4%	0.0%		0.000
	25 – 34	197	61.6%	30.3%	8.0%		
	35 – 44	208	60.6%	37.0%	2.4%		
	45 – 54	240	47.6%	43.8%	8.6%		
	55 – 64	224	41.5%	45.1%	13.4%		
	65 or above	221	40.4%	44.1%	15.5%		
Marital status	Never married	428	70.5%	23.5%	6.0%	0.000	
	Married	736	45.8%	44.5%	9.7%		
	Divorced/ Separated/ Widowed	74	43.1%	43.2%	13.6%		
Occupation	Managerial/ Professional worker	306	53.8%	42.5%	3.7%	0.000	
	Clerk	158	61.8%	32.4%	5.7%		
	Service/ Shop sales worker	89	59.8%	33.5%	6.7%		
	Blue collar worker	84	54.6%	32.7%	12.7%		
	Student	108	77.9%	21.3%	0.8%		
	Homemaker	163	43.9%	42.9%	13.1%		
	Not working	288	43.9%	41.8%	14.3%		
Household composition	Adults only (without children aged under 16)	895	54.0%	36.1%	9.9%	0.018	
	With children aged under 16	313	54.1%	41.0%	5.0%		

Table 4.30 illustrates that whether respondents thought that fever can be treated with antibiotics is associated significantly with the respondents' age, marital status, occupation and household composition.

A relatively higher proportion of respondents who were never married, students and those household compositions with adults only mistakenly identified that fever should be treated with antibiotics when compared with their respective counterparts.

Generally, the younger the respondents, the more likely they mistakenly identified that fever should be treated with antibiotics.

Table 4.30: Whether respondents thought that fever should be treated with antibiotics (Q17.6)

Variable	Level	Base	Yes	No	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
Age	15 – 24	153	59.4%	38.4%	2.2%		0.000
	25 – 34	197	34.9%	56.8%	8.3%		
	35 – 44	208	35.7%	57.5%	6.8%		
	45 – 54	240	28.2%	62.2%	9.5%		
	55 – 64	224	26.8%	57.2%	16.0%		
	65 or above	221	22.9%	53.8%	23.3%		
Marital status	Never married	428	46.2%	46.1%	7.7%	0.000	
	Married	736	25.8%	59.8%	14.4%		
	Divorced/ Separated/ Widowed	74	35.0%	53.7%	11.3%		
Occupation	Managerial/ Professional worker	306	31.2%	61.8%	7.0%	0.000	
	Clerk	158	42.3%	47.3%	10.4%		
	Service/ Shop sales worker	89	34.6%	59.0%	6.3%		
	Blue collar worker	84	26.9%	52.5%	20.7%		
	Student	108	64.3%	32.6%	3.1%		
	Homemaker	163	27.3%	57.3%	15.5%		
	Not working	288	25.9%	54.7%	19.4%		
Household composition	Adults only (without children aged under 16)	895	34.1%	52.9%	13.0%	0.048	
	With children aged under 16	313	32.1%	59.4%	8.5%		

Table 4.31 illustrates that whether respondents thought that malaria can be treated with antibiotics is associated significantly with the respondents' marital status, occupation and household composition.

A relatively higher proportion of respondents who were never married, students and those household compositions with children aged under 16 mistakenly identified that malaria should be treated with antibiotics when compared with their respective counterparts.

Table 4.31: Whether respondents thought that malaria should be treated with antibiotics (Q17.7)

Variable	Level	Base	Yes	No	Don't know	p-value Chi-square test
Marital status	Never married	428	36.9%	36.3%	26.8%	0.000
	Married	736	26.5%	33.6%	39.8%	
	Divorced/ Separated/ Widowed	74	28.5%	29.2%	42.3%	
Occupation	Managerial/ Professional worker	306	29.2%	39.6%	31.2%	0.000
	Clerk	158	32.9%	34.8%	32.3%	
	Service/ Shop sales worker	89	34.2%	37.6%	28.2%	
	Blue collar worker	84	33.5%	29.0%	37.5%	
	Student	108	41.2%	41.9%	17.0%	
	Homemaker	163	25.1%	32.0%	42.9%	
	Not working	288	24.4%	27.6%	48.1%	
Household composition	Adults only (without children aged under 16)	895	29.9%	32.6%	37.5%	0.005
	With children aged under 16	313	32.4%	39.9%	27.7%	

Table 4.32 illustrates that whether respondents thought that measles can be treated with antibiotics is associated significantly with the respondents' age, marital status, occupation, type of living quarter and household composition.

A relatively higher proportion of respondents who were never married, students, those who were living in Housing Authority / Society subsidised sale flats and those household compositions with adults only mistakenly identified measles should be treated with antibiotics when compared with their respective counterparts.

The younger the respondents (except those aged 65 or above), the more likely they mistakenly identified that measles should be treated with antibiotics.

Table 4.32: Whether respondents thought that measles should be treated with antibiotics (Q17.8)

Variable	Level	Base	Yes	No	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
Age	15 – 24	153	27.8%	52.7%	19.5%		0.001
	25 – 34	197	23.5%	44.0%	32.5%		
	35 – 44	208	14.0%	57.9%	28.1%		
	45 – 54	240	8.6%	48.2%	43.2%		
	55 – 64	224	8.5%	45.4%	46.1%		
	65 or above	221	9.6%	41.5%	49.0%		
Marital status	Never married	428	23.5%	47.4%	29.0%	0.000	
	Married	736	9.7%	49.0%	41.3%		
	Divorced/ Separated/ Widowed	74	9.0%	43.6%	47.4%		
Occupation	Managerial/ Professional worker	306	13.1%	57.8%	29.1%	0.000	
	Clerk	158	8.2%	46.8%	44.9%		
	Service/ Shop sales worker	89	25.3%	40.9%	33.7%		
	Blue collar worker	84	14.9%	37.9%	47.2%		
	Student	108	35.2%	49.2%	15.5%		
	Homemaker	163	7.7%	50.3%	42.0%		
	Not working	288	12.9%	38.6%	48.5%		
Type of living quarters	Public rental flats	339	16.8%	49.8%	33.4%	0.012	
	Subsidised sale flats	190	19.1%	39.8%	41.1%		
	Private housing	688	11.9%	49.0%	39.1%		
Household composition	Adults only (without children aged under 16)	895	15.1%	44.7%	40.2%	0.000	
	With children aged under 16	313	12.5%	57.6%	29.9%		

Table 4.33 illustrates that whether respondents wanted their doctor to discuss and share decision making with them on antibiotics prescription is associated significantly with the respondents' age, educational attainment, occupation, monthly household income, type of living quarter and household composition.

A relatively higher proportion of respondents aged 65 or above, those who were not working (excluding students and homemakers), those with monthly household income of HK$10,000-$19,999, those who were living in public rental flats and those household compositions with adults only reported that they did not want their doctor to discuss and share decision making with them on antibiotics prescription when compared with their respective counterparts.

The lower educational attainment of the respondents, the more likely they did not want their doctor to discuss and share decision making with them on antibiotics prescription.

Table 4.33: Whether respondents wanted their doctor to discuss and share decision making with them on antibiotics prescription (Q19)

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
Age	15 – 24	150	73.5%	26.5%		0.000
	25 – 34	191	83.2%	16.8%		
	35 – 44	207	88.9%	11.1%		
	45 – 54	237	71.8%	28.2%		
	55 – 64	215	74.7%	25.3%		
	65 or above	206	65.0%	35.0%		
Educational attainment	Primary or below	129	59.2%	40.8%		0.000
	Lower secondary (S1-S3)	130	67.0%	33.0%		
	Upper secondary (S4-S6) / Matriculation	383	71.9%	28.1%		
	Tertiary (Non-degree, degree or above)	573	85.2%	14.8%		
Occupation	Managerial/ Professional worker	300	87.5%	12.5%	0.000	
	Clerk	157	85.5%	14.5%		
	Service/ Shop sales worker	82	71.9%	28.1%		
	Blue collar worker	81	70.9%	29.1%		
	Student	108	69.4%	30.6%		
	Homemaker	160	73.8%	26.2%		
	Not working	273	65.8%	34.2%		
Monthly household income	Below HK$10,000	119	69.6%	30.4%		0.001
	HK$ 10,000-$19,999	121	68.8%	31.2%		
	HK$ 20,000- $39,999	261	77.9%	22.1%		
	HK$ 40,000- $59,999	165	77.8%	22.2%		
	HK$ 60,000 or above	248	87.0%	13.0%		

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
Type of living quarters	Public rental flats	320	71.2%	28.8%	0.038	
	Subsidised sale flats	188	75.8%	24.2%		
	Private housing	673	78.6%	21.4%		
Household composition	Adults only (without children aged under 16)	865	72.6%	27.4%	0.000	
	With children aged under 16	309	84.2%	15.8%		

Table 4.34 illustrates that the rated effectiveness of promotion on safe use of antibiotics at the waiting areas of clinics or A&E departments is associated significantly with the respondents' gender and educational attainment.

Male respondents and those with lower education level were more likely than their respective counterparts to rate the effectiveness of promotion on safe use of antibiotics at the waiting areas of clinics or A&E departments as very useless or slightly useless.

Table 4.34: The effectiveness of promotion on safe use of antibiotics at the waiting areas of clinics or A&E departments (Q20.1)

Variable	Level	Base	Very useless	Slightly useless	Neutral	Slightly useful	Very useful	p-value	
								Kruskal-Wallis test	Rank Correlation
Gender	Male	592	8.2%	7.5%	17.8%	27.8%	38.7%	0.001	
	Female	663	3.7%	6.7%	15.6%	28.9%	45.0%		
Educational attainment	Primary or below	142	15.7%	5.7%	17.8%	22.9%	37.8%		0.002
	Lower secondary (S1-S3)	135	9.6%	6.0%	15.3%	28.6%	40.5%		
	Upper secondary (S4-S6) / Matriculation	389	3.8%	8.7%	19.2%	30.5%	37.8%		
	Tertiary (Non-degree, degree or above)	584	3.7%	6.7%	15.1%	28.3%	46.2%		

Table 4.35 illustrates that the rated effectiveness of promotion on safe use of antibiotics at the wards is associated significantly with the respondents' gender and household composition.

Male respondents and those household compositions with adults only were more likely than their respective counterparts to rate the effectiveness of promotion on safe use of antibiotics at the wards as very useless or slightly useless.

Table 4.35: The effectiveness of promotion on safe use of antibiotics at the wards (Q20.2)

Variable	Level	Base	Very useless	Slightly useless	Neutral	Slightly useful	Very useful	p-value Kruskal-Wallis test
Gender	Male	592	8.5%	6.0%	23.6%	29.9%	31.9%	0.003
	Female	663	5.2%	6.6%	19.7%	30.3%	38.2%	
Household composition	Adults only (without children aged under 16)	895	7.6%	7.2%	21.7%	28.6%	34.8%	0.044
	With children aged under 16	313	4.0%	4.5%	20.3%	34.4%	36.8%	

Table 4.36 illustrates that the rated effectiveness of promotion on safe use of antibiotics at the community pharmacies is associated significantly with the respondents' gender, age, educational attainment, marital status, occupation and monthly household income.

Male respondents, those aged 65 or above, those who were divorced/separated/widowed, those who were not working (excluding students and homemakers) and those with monthly household income below HK$10,000 were more likely than their respective counterparts to rate the effectiveness of promotion on safe use of antibiotics at the community pharmacies as very useless or slightly useless.

Generally, the lower educational attainment of the respondents, the more likely rated the effectiveness of promotion on safe use of antibiotics at the community pharmacies as very useless or slightly useless.

Table 4.36: The effectiveness of promotion on safe use of antibiotics at the community pharmacies (Q20.3)

Variable	Level	Base	Very useless	Slightly useless	Neutral	Slightly useful	Very useful	p-value	
								Kruskal-Wallis test	Rank Correlation
Gender	Male	592	17.0%	8.8%	25.1%	25.5%	23.5%	0.004	
	Female	663	10.2%	10.2%	25.1%	25.8%	28.6%		
Age	15 – 24	153	2.8%	13.9%	33.2%	31.0%	19.1%		0.000
	25 – 34	197	7.2%	13.7%	26.1%	26.7%	26.4%		
	35 – 44	208	11.7%	6.1%	25.3%	28.9%	28.0%		
	45 – 54	240	12.2%	7.1%	24.0%	26.1%	30.6%		
	55 – 64	224	15.3%	8.0%	22.7%	25.9%	28.0%		
	65 or above	221	27.3%	11.1%	21.6%	17.5%	22.5%		
Educational attainment	Primary or below	142	27.0%	8.0%	25.3%	19.1%	20.6%		0.000
	Lower secondary (S1-S3)	135	22.4%	14.6%	17.9%	25.5%	19.6%		
	Upper secondary (S4-S6) / Matriculation	389	12.4%	10.5%	29.1%	21.5%	26.4%		
	Tertiary (Non-degree, degree or above)	584	8.5%	8.3%	24.2%	30.3%	28.8%		
Marital status	Never married	428	8.6%	10.6%	27.7%	27.9%	25.2%	0.023	
	Married	736	15.0%	8.6%	23.9%	25.7%	26.8%		
	Divorced/ Separated/ Widowed	74	25.1%	12.2%	22.4%	16.5%	23.7%		
Occupation	Managerial/ Professional worker	306	13.0%	5.0%	19.3%	29.1%	33.6%	0.005	
	Clerk	158	6.4%	12.3%	27.9%	22.8%	30.6%		
	Service/ Shop sales worker	89	17.0%	4.6%	27.8%	30.9%	19.7%		

Variable	Level	Base	Very useless	Slightly useless	Neutral	Slightly useful	Very useful	p-value	
								Kruskal-Wallis test	Rank Correlation
	Blue collar worker	84	8.0%	13.8%	22.4%	28.7%	26.9%		
	Student	108	2.2%	13.3%	35.8%	29.6%	19.0%		
	Homemaker	163	14.5%	10.3%	26.3%	24.4%	24.5%		
	Not working	288	23.5%	10.5%	22.2%	20.9%	22.9%		
Monthly household income	Below HK$10,000	132	26.3%	13.8%	18.3%	20.7%	20.9%		0.001
	HK$ 10,000-$19,999	126	15.9%	7.6%	22.8%	27.9%	25.7%		
	HK$ 20,000- $39,999	265	8.3%	8.9%	30.7%	27.1%	25.0%		
	HK$ 40,000- $59,999	167	10.4%	6.1%	25.5%	27.9%	30.0%		
	HK$ 60,000 or above	250	9.3%	10.0%	23.1%	28.3%	29.4%		

Table 4.37 illustrates that the rated effectiveness of promotion on safe use of antibiotics at the hospital or clinic pharmacies (while waiting for drug dispensing) is associated significantly with the respondents' gender.

A relatively higher proportion of male respondents rated the effectiveness of promotion on safe use of antibiotics at the hospital or clinic pharmacies (while waiting for drug dispensing) as very useless or slightly useless when compared with their respective counterparts.

Table 4.37: The effectiveness of promotion on safe use of antibiotics at the hospital or clinic pharmacies (while waiting for drug dispensing) (Q20.4)

Variable	Level	Base	Very useless	Slightly useless	Neutral	Slightly useful	Very useful	p-value Kruskal-Wallis test
Gender	Male	592	6.4%	5.1%	14.8%	33.1%	40.5%	0.017
	Female	663	3.3%	3.1%	16.4%	31.3%	45.9%	

Table 4.38 illustrates that the rated effectiveness of videos, e.g. TV API or programs as a promotion method on safe use of antibiotics is associated significantly with the respondents' gender, educational attainment, marital status and occupation.

Male respondents, those with primary education or below, those who were divorced/separated/widowed and service/shop sales workers were more likely than their respective counterparts to rate the effectiveness of videos, e.g. TV API or programs as a promotion method on safe use of antibiotics as very useless or slightly useless.

Table 4.38: The effectiveness of videos, e.g. TV API or programs as a promotion method on safe use of antibiotics (Q21.1)

Variable	Level	Base	Very useless	Slightly useless	Neutral	Slightly useful	Very useful	p-value	
								Kruskal-Wallis test	Rank Correlation
Gender	Male	592	6.6%	5.1%	16.9%	28.4%	43.1%	0.000	
	Female	663	3.3%	4.4%	9.8%	29.3%	53.2%		
Educational attainment	Primary or below	142	13.1%	6.5%	12.3%	22.2%	45.9%		0.018
	Lower secondary (S1-S3)	135	5.3%	3.3%	17.7%	21.7%	52.1%		
	Upper secondary (S4-S6) / Matriculation	389	5.8%	5.6%	12.1%	31.3%	45.2%		
	Tertiary (Non-degree, degree or above)	584	2.1%	4.0%	12.9%	30.8%	50.1%		
Marital status	Never married	428	3.4%	5.4%	17.5%	33.1%	40.7%	0.000	
	Married	736	5.1%	4.0%	11.1%	26.9%	52.9%		
	Divorced/ Separated/ Widowed	74	10.2%	8.3%	8.4%	24.2%	48.9%		
Occupation	Managerial/ Professional worker	306	1.4%	4.8%	12.5%	24.7%	56.6%	0.000	
	Clerk	158	0.0%	1.2%	12.3%	34.9%	51.5%		
	Service/ Shop sales worker	89	8.3%	8.5%	18.0%	29.1%	36.0%		
	Blue collar worker	84	6.3%	3.4%	8.8%	31.7%	49.7%		
	Student	108	0.0%	8.7%	18.5%	39.0%	33.8%		
	Homemaker	163	4.6%	4.4%	7.8%	23.6%	59.6%		
	Not working	288	11.1%	4.9%	13.0%	26.7%	44.2%		

Table 4.39 illustrates that the rated effectiveness of articles, e.g. columns in newspapers or magazines as a promotion method on safe use of antibiotics is associated significantly with the respondents' gender, age, marital status, occupation and type of living quarters.

Male respondents, those aged 15-24, those who were divorced/separated/widowed, students and those who were living in public rental flats were more likely than their respective counterparts to rate the effectiveness of articles, e.g. columns in newspapers or magazines as a promotion method on safe use of antibiotics as very useless or slightly useless.

Table 4.39: The effectiveness of articles, e.g. columns in newspapers or magazines as a promotion method on safe use of antibiotics (Q21.2)

Variable	Level	Base	Very useless	Slightly useless	Neutral	Slightly useful	Very useful	p-value	
								Kruskal-Wallis test	Rank Correlation
Gender	Male	592	11.5%	16.3%	32.1%	22.1%	18.1%	0.000	
	Female	663	7.6%	11.3%	29.5%	29.8%	21.8%		
Age	15 – 24	153	11.4%	22.8%	37.9%	24.4%	3.4%		0.001
	25 – 34	197	10.2%	20.0%	33.1%	23.7%	13.0%		
	35 – 44	208	5.5%	12.2%	35.1%	23.4%	23.9%		
	45 – 54	240	6.6%	6.9%	34.2%	31.0%	21.3%		
	55 – 64	224	7.3%	10.7%	26.6%	30.3%	25.2%		
	65 or above	221	16.5%	13.2%	21.5%	22.4%	26.4%		
Marital status	Never married	428	10.4%	18.7%	36.1%	22.6%	12.2%	0.000	
	Married	736	8.1%	10.7%	29.5%	28.0%	23.7%		
	Divorced/ Separated/ Widowed	74	17.8%	14.0%	15.9%	23.5%	28.8%		
Occupation	Managerial/ Professional worker	306	5.2%	12.0%	31.7%	26.8%	24.3%	0.000	
	Clerk	158	4.3%	13.0%	40.6%	20.6%	21.5%		
	Service/ Shop sales worker	89	17.0%	13.1%	40.0%	17.9%	12.0%		
	Blue collar worker	84	5.6%	16.5%	25.8%	25.3%	26.7%		
	Student	108	10.2%	27.4%	31.2%	28.3%	2.8%		
	Homemaker	163	11.1%	9.2%	22.3%	33.3%	24.1%		
	Not working	288	14.2%	10.1%	28.7%	25.4%	21.6%		
Type of living quarters	Public rental flats	339	11.8%	15.9%	31.8%	20.6%	19.9%	0.004	
	Subsidised sale flats	190	7.6%	12.6%	36.0%	28.6%	15.2%		
	Private housing	688	8.8%	13.0%	28.2%	28.2%	21.7%		

Table 4.40 illustrates that the rated effectiveness of printed materials, e.g. posters or pamphlets as a promotion method on safe use of antibiotics is associated significantly with the respondents' gender, marital status, occupation and type of living quarters.

Male respondents, those who were never married or divorced/separated/widowed, students and those who were living in public rental flats were more likely than their respective counterparts to rate the effectiveness of printed materials, e.g. posters or pamphlets as a promotion method on safe use of antibiotics as very useless or slightly useless.

Table 4.40: The effectiveness of printed materials, e.g. posters or pamphlets as a promotion method on safe use of antibiotics (Q21.3)

Variable	Level	Base	Very useless	Slightly useless	Neutral	Slightly useful	Very useful	p-value Kruskal-Wallis test
Gender	Male	592	9.9%	16.1%	32.5%	25.9%	15.6%	0.000
	Female	663	7.5%	11.9%	26.2%	30.8%	23.6%	
Marital status	Never married	428	6.9%	19.6%	35.8%	23.7%	14.1%	0.000
	Married	736	8.5%	11.5%	26.6%	31.5%	21.8%	
	Divorced/ Separated/ Widowed	74	19.5%	7.2%	19.2%	23.2%	31.0%	
Occupation	Managerial/ Professional worker	306	4.3%	11.3%	30.4%	31.9%	22.1%	0.000
	Clerk	158	2.6%	15.6%	35.3%	25.0%	21.4%	
	Service/ Shop sales worker	89	11.7%	16.3%	32.8%	27.2%	12.0%	
	Blue collar worker	84	9.9%	12.4%	27.2%	22.1%	28.3%	
	Student	108	2.8%	26.4%	42.9%	20.5%	7.3%	
	Homemaker	163	10.7%	9.8%	22.1%	32.4%	25.1%	
	Not working	288	16.8%	11.9%	23.1%	28.9%	19.3%	
Type of living quarters	Public rental flats	339	12.5%	15.9%	28.1%	21.7%	21.7%	0.032
	Subsidised sale flats	190	7.0%	13.8%	31.8%	30.2%	17.2%	
	Private housing	688	7.1%	12.7%	28.8%	31.5%	19.9%	

Table 4.41 illustrates that the rated effectiveness of websites or social medias, e.g. Facebook as a promotion method on safe use of antibiotics is associated significantly with the respondents' gender, age, educational attainment, occupation, monthly household income, type of living quarters and household composition.

A relatively higher proportion of male respondents, those aged 65 or above, service/shop sales workers, those who were living in public rental flats and those household compositions with adults only rated the effectiveness of websites or social medias, e.g. Facebook as a promotion method on safe use of antibiotics as very useless or slightly useless when compared with their respective counterparts.

The lower the educational attainment and generally lower monthly household income of the respondents, the more likely they rated the effectiveness of websites or social medias, e.g. Facebook as a promotion method on safe use of antibiotics as very useless or slightly useless.

Table 4.41: The effectiveness of websites or social medias, e.g. Facebook as a promotion method on safe use of antibiotics (Q21.4)

Variable	Level	Base	Very useless	Slightly useless	Neutral	Slightly useful	Very useful	p-value	
								Kruskal-Wallis test	Rank Correlation
Gender	Male	592	13.5%	10.8%	22.2%	30.4%	23.1%	0.000	
	Female	663	6.7%	9.0%	22.4%	31.1%	30.7%		
Age	15 – 24	153	4.3%	14.9%	26.8%	31.9%	22.2%		0.000
	25 – 34	197	7.7%	8.9%	15.6%	37.3%	30.5%		
	35 – 44	208	3.8%	11.7%	20.1%	31.7%	32.7%		
	45 – 54	240	8.1%	9.0%	23.8%	28.7%	30.4%		
	55 – 64	224	12.5%	6.3%	23.7%	32.3%	25.2%		
	65 or above	221	20.8%	10.2%	24.5%	23.0%	21.4%		
Educational attainment	Primary or below	142	22.1%	6.8%	24.0%	26.0%	21.1%		0.000
	Lower secondary (S1-S3)	135	13.5%	12.7%	24.9%	22.5%	26.4%		
	Upper secondary (S4-S6) / Matriculation	389	10.9%	13.0%	22.8%	27.9%	25.4%		
	Tertiary (Non-degree, degree or above)	584	5.5%	7.9%	20.9%	35.7%	30.0%		
Occupation	Managerial/ Professional worker	306	6.8%	8.5%	20.5%	34.0%	30.3%	0.000	
	Clerk	158	2.7%	8.6%	18.5%	35.2%	34.9%		
	Service/ Shop sales worker	89	17.7%	10.0%	26.0%	22.9%	23.4%		
	Blue collar worker	84	13.8%	12.4%	15.6%	21.6%	36.7%		
	Student	108	3.5%	20.0%	19.8%	29.0%	27.8%		

Variable	Level	Base	Very useless	Slightly useless	Neutral	Slightly useful	Very useful	p-value	
								Kruskal-Wallis test	Rank Correlation
	Homemaker	163	9.6%	10.9%	19.9%	29.4%	30.2%		
	Not working	288	17.4%	8.5%	30.9%	25.8%	17.4%		
Monthly household income	Below HK$10,000	132	18.4%	11.3%	25.9%	25.3%	18.9%		0.000
	HK$ 10,000-$19,999	126	12.3%	10.2%	25.2%	24.2%	28.1%		
	HK$ 20,000- $39,999	265	6.6%	9.8%	21.1%	34.3%	28.3%		
	HK$ 40,000- $59,999	167	6.0%	7.6%	20.4%	35.3%	30.7%		
	HK$ 60,000 or above	250	7.0%	8.5%	18.2%	35.6%	30.7%		
Type of living quarters	Public rental flats	339	12.2%	11.3%	25.5%	23.6%	27.4%	0.038	
	Subsidised sale flats	190	7.8%	6.9%	22.7%	35.4%	27.2%		
	Private housing	688	9.5%	10.2%	20.9%	32.4%	27.0%		
Household composition	Adults only (without children aged under 16)	895	11.5%	9.2%	22.7%	29.9%	26.7%	0.030	
	With children aged under 16	313	5.1%	11.9%	21.6%	33.5%	27.9%		

4.4 Knowledge about antibiotic resistance

Table 4.42 illustrates that whether respondents had heard of antibiotic resistance is associated significantly with their gender, age, educational attainment, marital status, occupation, monthly household income, type of living quarters and household composition.

Female respondents, those aged 65 or above, those with lower education level, those who were divorced/separated/widowed, those who were not working (excluding students and homemakers), those with lower monthly household income, those who were living in public rental flats and those household compositions with adults only were more likely than their respective counterparts to report that they had not heard of antibiotic resistance.

Table 4.42: Whether respondents have heard of antibiotic resistance (Q22.1)

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
Gender	Male	592	72.8%	27.2%	0.000	
	Female	663	63.4%	36.6%		
Age	15 – 24	153	65.2%	34.8%		0.000
	25 – 34	197	80.0%	20.0%		
	35 – 44	208	70.0%	30.0%		
	45 – 54	240	72.6%	27.4%		
	55 – 64	224	73.4%	26.6%		
	65 or above	221	45.2%	54.8%		
Educational attainment	Primary or below	142	32.7%	67.3%		0.000
	Lower secondary (S1-S3)	135	53.8%	46.2%		
	Upper secondary (S4-S6) / Matriculation	389	61.4%	38.6%		
	Tertiary (Non-degree, degree or above)	584	84.0%	16.0%		
Marital status	Never married	428	68.1%	31.9%	0.005	
	Married	736	69.6%	30.4%		
	Divorced/ Separated/ Widowed	74	51.2%	48.8%		
Occupation	Managerial/ Professional worker	306	83.9%	16.1%	0.000	
	Clerk	158	77.3%	22.7%		
	Service/ Shop sales worker	89	60.3%	39.7%		
	Blue collar worker	84	63.3%	36.7%		
	Student	108	60.7%	39.3%		
	Homemaker	163	61.2%	38.8%		

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
	Not working	288	54.2%	45.8%		
Monthly household income	Below HK$10,000	132	43.0%	57.0%		0.000
	HK$ 10,000-$19,999	126	63.1%	36.9%		
	HK$ 20,000- $39,999	265	73.3%	26.7%		
	HK$ 40,000- $59,999	167	80.0%	20.0%		
	HK$ 60,000 or above	250	80.1%	19.9%		
Type of living quarters	Public rental flats	339	59.5%	40.5%	0.000	
	Subsidised sale flats	190	64.8%	35.2%		
	Private housing	688	73.0%	27.0%		
Household composition	Adults only (without children aged under 16)	895	66.1%	33.9%	0.023	
	With children aged under 16	313	73.0%	27.0%		

Table 4.43 illustrates that whether respondents had heard of superbugs is associated significantly with their gender, age, educational attainment, marital status, occupation, monthly household income and type of living quarters.

Female respondents, those aged 65 or above, those with lower education level, those who were divorced/separated/widowed, those who were not working (excluding students and homemakers), those with monthly household income below HK$10,000 and those who were living in public rental flats were more likely than their respective counterparts to report that they had not heard of superbugs.

Table 4.43: Whether respondents have heard of superbugs (Q22.2)

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
Gender	Male	592	85.9%	14.1%	0.001	
	Female	663	78.9%	21.1%		
Age	15 – 24	153	77.4%	22.6%		0.000
	25 – 34	197	87.3%	12.7%		
	35 – 44	208	88.3%	11.7%		
	45 – 54	240	86.1%	13.9%		
	55 – 64	224	89.3%	10.7%		
	65 or above	221	63.8%	36.2%		
Educational attainment	Primary or below	142	57.8%	42.2%		0.000
	Lower secondary (S1-S3)	135	72.4%	27.6%		
	Upper secondary (S4-S6) / Matriculation	389	82.6%	17.4%		
	Tertiary (Non-degree, degree or above)	584	90.2%	9.8%		
Marital status	Never married	428	82.0%	18.0%	0.000	
	Married	736	84.8%	15.2%		
	Divorced/ Separated/ Widowed	74	59.6%	40.4%		
Occupation	Managerial/ Professional worker	306	89.8%	10.2%	0.000	
	Clerk	158	90.8%	9.2%		
	Service/ Shop sales worker	89	75.9%	24.1%		
	Blue collar worker	84	80.3%	19.7%		
	Student	108	77.7%	22.3%		
	Homemaker	163	76.5%	23.5%		
	Not working	288	75.1%	24.9%		
Monthly household	Below HK$10,000	132	61.5%	38.5%		0.000

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
income	HK$ 10,000-$19,999	126	82.9%	17.1%		
	HK$ 20,000- $39,999	265	88.2%	11.8%		
	HK$ 40,000- $59,999	167	92.1%	7.9%		
	HK$ 60,000 or above	250	88.9%	11.1%		
Type of living quarters	Public rental flats	339	77.7%	22.3%	0.020	
	Subsidised sale flats	190	81.5%	18.5%		
	Private housing	688	84.7%	15.3%		

Table 4.44 illustrates that whether respondents had heard of antimicrobial resistance is associated significantly with their age, marital status, occupation and type of living quarters.

Younger respondents, those who were never married, students and those who were living in public rental flats were more likely than their respective counterparts to report that they had not heard of antimicrobial resistance.

Table 4.44: Whether respondents have heard of antimicrobial resistance (Q22.3)

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
Age	15 – 24	153	22.8%	77.2%		0.000
	25 – 34	197	27.1%	72.9%		
	35 – 44	208	35.2%	64.8%		
	45 – 54	240	39.7%	60.3%		
	55 – 64	224	45.9%	54.1%		
	65 or above	221	44.0%	56.0%		
Marital status	Never married	428	25.6%	74.4%	0.000	
	Married	736	43.0%	57.0%		
	Divorced/ Separated/ Widowed	74	41.1%	58.9%		
Occupation	Managerial/ Professional worker	306	41.1%	58.9%	0.033	
	Clerk	158	38.8%	61.2%		
	Service/ Shop sales worker	89	26.7%	73.3%		
	Blue collar worker	84	39.8%	60.2%		
	Student	108	25.4%	74.6%		
	Homemaker	163	34.0%	66.0%		
	Not working	288	38.1%	61.9%		
Type of living quarters	Public rental flats	339	29.4%	70.6%	0.000	
	Subsidised sale flats	190	33.3%	66.7%		
	Private housing	688	41.7%	58.3%		

Table 4.45 illustrates that whether respondents had heard of antibiotic-resistant bacteria is associated significantly with their gender, age, educational attainment, marital status, occupation, monthly household income and type of living quarters.

Female respondents, those aged 65 or above, those with lower education level, those who were divorced/separated/widowed, homemakers, those with lower monthly household income and those who were living in public rental flats were more likely than their respective counterparts to report that they had not heard of antibiotic-resistant bacteria.

Table 4.45: Whether respondents have heard of antibiotic-resistant bacteria (Q22.4)

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
Gender	Male	592	79.8%	20.2%	0.004	
	Female	663	73.0%	27.0%		
Age	15 – 24	153	73.7%	26.3%		0.000
	25 – 34	197	87.4%	12.6%		
	35 – 44	208	80.8%	19.2%		
	45 – 54	240	77.6%	22.4%		
	55 – 64	224	76.9%	23.1%		
	65 or above	221	61.5%	38.5%		
Educational attainment	Primary or below	142	51.2%	48.8%		0.000
	Lower secondary (S1-S3)	135	65.3%	34.7%		
	Upper secondary (S4-S6) / Matriculation	389	72.6%	27.4%		
	Tertiary (Non-degree, degree or above)	584	87.4%	12.6%		
Marital status	Never married	428	77.6%	22.4%	0.005	
	Married	736	77.2%	22.8%		
	Divorced/ Separated/ Widowed	74	60.8%	39.2%		
Occupation	Managerial/ Professional worker	306	85.6%	14.4%	0.000	
	Clerk	158	83.8%	16.2%		
	Service/ Shop sales worker	89	77.9%	22.1%		
	Blue collar worker	84	73.9%	26.1%		
	Student	108	70.7%	29.3%		
	Homemaker	163	65.9%	34.1%		
	Not working	288	68.5%	31.5%		
Monthly household income	Below HK$10,000	132	61.2%	38.8%		0.000
	HK$ 10,000-$19,999	126	78.1%	21.9%		

Variable	Level	Base	Yes	No	p-value	
					Chi-square test	Kruskal-Wallis test
	HK$ 20,000- $39,999	265	79.4%	20.6%		
	HK$ 40,000- $59,999	167	84.1%	15.9%		
	HK$ 60,000 or above	250	86.4%	13.6%		
Type of living quarters	Public rental flats	339	67.1%	32.9%	0.000	
	Subsidised sale flats	190	79.5%	20.5%		
	Private housing	688	80.1%	19.9%		

Table 4.46 illustrates that whether respondents thought that the false knowledge statement about antibiotic resistance "Antibiotic resistance occurs when your body becomes resistant to antibiotics and they no longer work as well**"** was true or false is associated significantly with their gender, age, marital status and occupation.

A relatively higher proportion of female respondents, those aged 35-44, those who were divorced/separated/widowed and managerial/professional workers believed this false knowledge statement about antibiotic resistance was correct.

Table 4.46: Whether respondents thought that the false knowledge statement about antibiotic resistance "Antibiotic resistance occurs when your body becomes resistant to antibiotics and they no longer work as well" was true (Q23.1)

Variable	Level	Base	Yes	No	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
Gender	Male	592	74.2%	13.1%	12.7%	0.005	
	Female	663	78.6%	7.5%	13.9%		
Age	15 – 24	153	75.9%	19.3%	4.8%		0.004
	25 – 34	197	75.3%	17.9%	6.9%		
	35 – 44	208	81.7%	8.2%	10.1%		
	45 – 54	240	80.8%	6.7%	12.6%		
	55 – 64	224	75.4%	5.5%	19.1%		
	65 or above	221	69.3%	7.7%	22.9%		
Marital status	Never married	428	76.3%	14.1%	9.6%	0.004	
	Married	736	76.8%	8.3%	14.9%		
	Divorced/ Separated/ Widowed	74	77.6%	7.7%	14.7%		
Occupation	Managerial/ Professional worker	306	83.5%	8.5%	8.0%	0.000	
	Clerk	158	77.9%	10.7%	11.3%		
	Service/ Shop sales worker	89	83.8%	7.6%	8.6%		
	Blue collar worker	84	70.4%	14.2%	15.4%		
	Student	108	75.1%	20.1%	4.8%		
	Homemaker	163	75.6%	7.7%	16.7%		
	Not working	288	70.4%	8.2%	21.4%		

Table 4.47 illustrates that whether respondents thought that the true knowledge statement about antibiotic resistance "Many infections are becoming increasingly resistant to treatment by antibiotics**"** was true or false is associated significantly with their age, educational attainment, marital status, occupation, monthly household income and type of living quarters.

A relatively higher proportion of respondents aged 15-24, those with primary education or below, those who were divorced/separated/widowed, service/shop sales workers, those with monthly household income of HK$20,000-$39,999 and those who were living in public rental flats believed this true knowledge statement about antibiotic resistance was incorrect.

Table 4.47: Whether respondents thought that the true knowledge statement about antibiotic resistance "Many infections are becoming increasingly resistant to treatment by antibiotics" was true (Q23.2)

Variable	Level	Base	Yes	No	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
Age	15 – 24	153	78.3%	14.6%	7.1%		0.037
	25 – 34	197	85.3%	10.1%	4.7%		
	35 – 44	208	77.9%	10.7%	11.4%		
	45 – 54	240	85.6%	5.3%	9.1%		
	55 – 64	224	81.9%	4.3%	13.9%		
	65 or above	221	69.9%	8.3%	21.8%		
Educational attainment	Primary or below	142	62.6%	13.2%	24.2%		0.002
	Lower secondary (S1-S3)	135	75.0%	7.9%	17.2%		
	Upper secondary (S4-S6) / Matriculation	389	78.1%	9.6%	12.3%		
	Tertiary (Non-degree, degree or above)	584	86.5%	6.5%	6.9%		
Marital status	Never married	428	81.5%	10.5%	8.0%	0.004	
	Married	736	80.1%	7.1%	12.8%		
	Divorced/ Separated/ Widowed	74	69.3%	10.9%	19.8%		
Occupation	Managerial/ Professional worker	306	87.1%	5.3%	7.6%	0.000	
	Clerk	158	87.2%	4.6%	8.2%		
	Service/ Shop sales worker	89	74.7%	15.9%	9.4%		
	Blue collar worker	84	70.6%	14.9%	14.5%		
	Student	108	79.0%	14.1%	6.9%		
	Homemaker	163	73.8%	7.8%	18.4%		

Variable	Level	Base	Yes	No	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
	Not working	288	75.5%	7.9%	16.6%		
Monthly household income	Below HK$10,000	132	65.0%	7.2%	27.8%		0.049
	HK$ 10,000-$19,999	126	76.2%	11.2%	12.6%		
	HK$ 20,000- $39,999	265	81.4%	12.1%	6.6%		
	HK$ 40,000- $59,999	167	84.1%	8.3%	7.6%		
	HK$ 60,000 or above	250	90.1%	4.0%	5.9%		
Type of living quarters	Public rental flats	339	73.5%	12.8%	13.7%	0.006	
	Subsidised sale flats	190	81.9%	7.9%	10.2%		
	Private housing	688	82.4%	6.6%	11.0%		

Table 4.48 illustrates that whether respondents thought that the true knowledge statement about antibiotic resistance "If bacteria are resistant to antibiotics, it can be very difficult or impossible to treat the infections they cause**"** was true or false is associated significantly with their age, marital status, occupation and type of living quarters.

A relatively higher proportion of respondents aged 15-24, those who were never married, students and those who were living in public rental flats believed this true knowledge statement about antibiotic resistance was incorrect.

Table 4.48: Whether respondents thought that the true knowledge statement about antibiotic resistance "If bacteria are resistant to antibiotics, it can be very difficult or impossible to treat the infections they cause" was true (Q23.3)

Variable	Level	Base	Yes	No	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
Age	15 – 24	153	71.3%	25.9%	2.9%		0.000
	25 – 34	197	70.5%	22.3%	7.2%		
	35 – 44	208	73.8%	13.9%	12.3%		
	45 – 54	240	78.1%	15.0%	6.8%		
	55 – 64	224	79.2%	10.0%	10.8%		
	65 or above	221	68.8%	12.2%	19.0%		
Marital status	Never married	428	71.6%	20.6%	7.8%	0.008	
	Married	736	75.9%	13.2%	10.9%		
	Divorced/ Separated/ Widowed	74	71.1%	15.5%	13.4%		
Occupation	Managerial/ Professional worker	306	78.1%	17.3%	4.6%	0.000	
	Clerk	158	78.5%	14.9%	6.6%		
	Service/ Shop sales worker	89	77.6%	18.2%	4.2%		
	Blue collar worker	84	71.0%	7.2%	21.8%		
	Student	108	69.9%	27.3%	2.9%		
	Homemaker	163	72.0%	9.3%	18.7%		
	Not working	288	68.9%	15.7%	15.4%		
Type of living quarters	Public rental flats	339	67.8%	18.5%	13.7%	0.028	
	Subsidised sale flats	190	75.7%	15.3%	9.0%		
	Private housing	688	76.5%	15.2%	8.3%		

Table 4.49 illustrates that whether respondents thought that the true knowledge statement about antibiotic resistance "Antibiotic resistance is an issue that could affect me or my family**"** was true or false is associated significantly with their educational attainment, marital status, occupation and monthly household income.

A relatively higher proportion of respondents with upper secondary/matriculation education or below, those who were never divorced/separated/widowed, service/shop sales workers and those with monthly household income of HK$10,000 - $19,999 believed this true knowledge statement about antibiotic resistance was incorrect.

Table 4.49: Whether respondents thought that the true knowledge statement about antibiotic resistance "Antibiotic resistance is an issue that could affect me or my family" was true (Q23.4)

Variable	Level	Base	Yes	No	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
Educational attainment	Primary or below	142	45.9%	23.2%	30.9%		0.000
	Lower secondary (S1-S3)	135	53.7%	24.3%	22.0%		
	Upper secondary (S4-S6) / Matriculation	389	62.8%	24.4%	12.8%		
	Tertiary (Non-degree, degree or above)	584	81.6%	11.6%	6.8%		
Marital status	Never married	428	71.7%	18.7%	9.6%	0.000	
	Married	736	68.4%	18.0%	13.5%		
	Divorced/ Separated/ Widowed	74	52.5%	19.4%	28.1%		
Occupation	Managerial/ Professional worker	306	77.2%	13.7%	9.0%	0.000	
	Clerk	158	77.2%	15.5%	7.3%		
	Service/ Shop sales worker	89	59.0%	35.3%	5.7%		
	Blue collar worker	84	67.2%	13.5%	19.2%		
	Student	108	67.5%	23.4%	9.2%		
	Homemaker	163	62.0%	18.2%	19.8%		
	Not working	288	60.6%	19.2%	20.2%		
Monthly household income	Below HK$10,000	132	49.5%	23.4%	27.1%		0.000
	HK$ 10,000-$19,999	126	65.5%	27.0%	7.5%		
	HK$ 20,000- $39,999	265	72.8%	20.1%	7.1%		
	HK$ 40,000- $59,999	167	75.8%	17.4%	6.8%		
	HK$ 60,000 or above	250	81.0%	12.4%	6.6%		

Table 4.50 illustrates whether respondents thought that the false knowledge statement about antibiotic resistance "Antibiotic resistance is an issue in other countries but not here**"** was true or false is associated significantly with their gender, age, educational attainment, marital status, occupation, monthly household income and type of living quarters.

Female respondents, those aged 65 or above, those with lower education level, those who were never divorced/separated/widowed, those who were not working (excluding students and homemakers) or service/shop sales workers, generally those with lower monthly household income and those who were living in public rental flats were more likely than their respective counterparts to believe this false knowledge statement about antibiotic resistance was correct.

Table 4.50: Whether respondents thought that the false knowledge statement about antibiotic resistance "Antibiotic resistance is an issue in other countries but not here" was true or false (Q23.5)

Variable	Level	Base	Yes	No	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
Gender	Male	592	6.6%	85.6%	7.8%	0.005	
	Female	663	9.2%	78.5%	12.3%		
Age	15 – 24	153	2.4%	92.8%	4.8%		0.000
	25 – 34	197	6.1%	91.2%	2.7%		
	35 – 44	208	6.9%	83.5%	9.5%		
	45 – 54	240	6.8%	85.9%	7.3%		
	55 – 64	224	8.5%	78.3%	13.2%		
	65 or above	221	15.3%	63.7%	21.0%		
Educational attainment	Primary or below	142	18.7%	49.8%	31.5%		0.000
	Lower secondary (S1-S3)	135	10.2%	75.9%	14.0%		
	Upper secondary (S4-S6) / Matriculation	389	8.9%	81.3%	9.9%		
	Tertiary (Non-degree, degree or above)	584	4.3%	91.6%	4.1%		
Marital status	Never married	428	5.3%	87.1%	7.5%	0.000	
	Married	736	8.5%	80.4%	11.1%		
	Divorced/ Separated/ Widowed	74	18.6%	67.4%	14.1%		
Occupation	Managerial/ Professional worker	306	4.9%	91.6%	3.6%	0.000	
	Clerk	158	6.2%	86.6%	7.1%		
	Service/ Shop sales worker	89	13.2%	80.7%	6.2%		
	Blue collar worker	84	9.9%	77.1%	13.0%		

Variable	Level	Base	Yes	No	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
	Student	108	1.7%	92.4%	6.0%		
	Homemaker	163	8.7%	73.9%	17.4%		
	Not working	288	13.3%	70.0%	16.7%		
Monthly household income	Below HK$10,000	132	14.2%	63.7%	22.1%		0.000
	HK$ 10,000-$19,999	126	12.8%	80.0%	7.2%		
	HK$ 20,000- $39,999	265	5.1%	90.3%	4.6%		
	HK$ 40,000- $59,999	167	6.6%	89.0%	4.4%		
	HK$ 60,000 or above	250	4.4%	89.9%	5.6%		
Type of living quarters	Public rental flats	339	11.4%	76.0%	12.6%	0.005	
	Subsidised sale flats	190	4.6%	83.8%	11.6%		
	Private housing	688	7.1%	84.5%	8.4%		

Table 4.51 illustrates that whether respondents thought that the false knowledge statement about antibiotic resistance "Antibiotic resistance is only a problem for people who take antibiotics regularly**"** was true or false is associated significantly with their gender, age, educational attainment, marital status, occupation, monthly household income and type of living quarters.

Female respondents, older respondents, those with lower educational attainment, those who were divorced/ separated/ widowed, homemakers or service/shop sales workers, generally those with lower monthly household income and those who were living in public rental flats were more likely than their respective counterparts to believe that this false knowledge statement about antibiotic resistance was correct.

Table 4.51: Whether respondents thought that the false knowledge statement about antibiotic resistance "Antibiotic resistance is only a problem for people who take antibiotics regularly" was true (Q23.6)

Variable	Level	Base	Yes	No	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
Gender	Male	592	33.3%	58.9%	7.8%	0.000	
	Female	663	40.0%	48.2%	11.8%		
Age	15 – 24	153	30.0%	64.0%	6.0%		0.000
	25 – 34	197	26.5%	68.9%	4.6%		
	35 – 44	208	27.5%	60.7%	11.7%		
	45 – 54	240	37.0%	56.6%	6.4%		
	55 – 64	224	46.6%	41.1%	12.3%		
	65 or above	221	49.6%	33.2%	17.2%		
Educational attainment	Primary or below	142	50.6%	29.0%	20.3%		0.000
	Lower secondary (S1-S3)	135	46.3%	37.5%	16.2%		
	Upper secondary (S4-S6) / Matriculation	389	44.0%	45.5%	10.5%		
	Tertiary (Non-degree, degree or above)	584	26.4%	68.2%	5.4%		
Marital status	Never married	428	28.6%	62.8%	8.6%	0.000	
	Married	736	40.0%	50.1%	9.9%		
	Divorced/ Separated/ Widowed	74	51.0%	32.9%	16.1%		
Occupation	Managerial/ Professional worker	306	30.0%	62.5%	7.5%	0.000	
	Clerk	158	32.9%	59.4%	7.6%		
	Service/ Shop sales worker	89	44.4%	50.9%	4.7%		
	Blue collar worker	84	39.1%	47.6%	13.3%		

	Student	108	30.7%	63.6%	5.7%		
	Homemaker	163	44.6%	41.3%	14.2%		
	Not working	288	39.9%	45.6%	14.6%		
Monthly household income	Below HK$10,000	132	48.1%	29.7%	22.1%		0.000
	HK$ 10,000-$19,999	126	43.8%	45.2%	10.9%		
	HK$ 20,000- $39,999	265	37.8%	58.2%	4.0%		
	HK$ 40,000- $59,999	167	28.2%	69.2%	2.6%		
	HK$ 60,000 or above	250	28.8%	64.4%	6.8%		
Type of living quarters	Public rental flats	339	43.8%	46.2%	10.1%	0.015	
	Subsidised sale flats	190	31.2%	57.6%	11.3%		
	Private housing	688	34.9%	56.0%	9.1%		

Table 4.52 illustrates that whether respondents thought that the true knowledge statement about antibiotic resistance "Bacteria which are resistant to antibiotics can be spread from person to person" was true or false is associated significantly with their gender, age, educational attainment, marital status, occupation, monthly household income, type of living quarters and household composition.

Female respondents, those aged 45-54, those with upper secondary/matriculation education, those who were divorced/separated/widowed, service/shop sales workers, those with monthly household income of HK$10,000-$19,999, those who were living in public rental flats and those household compositions with children aged under 16 were more likely than their respective counterparts to believe that this true knowledge statement about antibiotic resistance was incorrect.

Table 4.52: Whether respondents thought that the true knowledge statement about antibiotic resistance "Bacteria which are resistant to antibiotics can be spread from person to person" was true (Q23.7)

Variable	Level	Base	Yes	No	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
Gender	Male	592	48.3%	33.6%	18.1%	0.000	
	Female	663	34.7%	39.8%	25.5%		
Age	15 – 24	153	52.9%	38.2%	8.9%		0.000
	25 – 34	197	54.3%	33.5%	12.3%		
	35 – 44	208	41.8%	32.8%	25.4%		
	45 – 54	240	43.5%	41.0%	15.6%		
	55 – 64	224	30.5%	38.3%	31.2%		
	65 or above	221	29.7%	36.2%	34.0%		
Educational attainment	Primary or below	142	25.3%	33.7%	41.0%		0.000
	Lower secondary (S1-S3)	135	28.4%	41.7%	29.9%		
	Upper secondary (S4-S6) / Matriculation	389	36.3%	43.4%	20.3%		
	Tertiary (Non-degree, degree or above)	584	51.3%	31.9%	16.8%		
Marital status	Never married	428	47.9%	36.6%	15.5%	0.000	
	Married	736	40.0%	35.4%	24.6%		
	Divorced/ Separated/ Widowed	74	17.4%	48.1%	34.6%		
Occupation	Managerial/ Professional worker	306	48.7%	33.1%	18.2%	0.000	
	Clerk	158	38.1%	41.2%	20.6%		
	Service/ Shop sales worker	89	36.9%	45.5%	17.6%		

Variable	Level	Base	Yes	No	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
	Blue collar worker	84	42.8%	31.6%	25.7%		
	Student	108	52.2%	40.4%	7.4%		
	Homemaker	163	31.0%	38.4%	30.6%		
	Not working	288	35.7%	34.8%	29.5%		
Monthly household income	Below HK$10,000	132	27.2%	39.2%	33.6%		0.000
	HK$ 10,000-$19,999	126	35.0%	41.0%	24.0%		
	HK$ 20,000- $39,999	265	44.0%	38.4%	17.5%		
	HK$ 40,000- $59,999	167	51.1%	36.5%	12.4%		
	HK$ 60,000 or above	250	48.9%	31.0%	20.0%		
Type of living quarters	Public rental flats	339	34.2%	41.1%	24.7%	0.034	
	Subsidised sale flats	190	43.8%	35.1%	21.2%		
	Private housing	688	44.5%	34.2%	21.3%		
Household composition	Adults only (without children aged under 16)	895	40.3%	36.2%	23.5%	0.032	
	With children aged under 16	313	46.0%	37.3%	16.7%		

Table 4.53 illustrates that whether respondents thought that the true knowledge statement about antibiotic resistance "Antibiotic-resistant infections could make medical procedures like surgery, organ transplants and cancer treatment much more dangerous**"** was true or false is associated significantly with their gender, age, educational attainment, marital status, occupation and monthly household income.

Male respondents, younger respondents, those with upper secondary/matriculation education or below, those who were never married, service/shop sales workers and those with monthly household income of HK$20,000-$39,999 were more likely than their respective counterparts to believe that this true knowledge statement about antibiotic resistance was incorrect.

Table 4.53: Whether respondents thought that the true knowledge statement about antibiotic resistance "Antibiotic-resistant infections could make medical procedures like surgery, organ transplants and cancer treatment much more dangerous" was true (Q23.8)

Variable	Level	Base	Yes	No	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
Gender	Male	592	76.5%	12.3%	11.2%	0.000	
	Female	663	68.6%	11.1%	20.3%		
Age	15 – 24	153	72.1%	17.4%	10.5%		0.009
	25 – 34	197	77.8%	15.5%	6.7%		
	35 – 44	208	72.1%	12.1%	15.9%		
	45 – 54	240	77.4%	10.7%	11.9%		
	55 – 64	224	70.7%	9.1%	20.2%		
	65 or above	221	64.8%	8.0%	27.2%		
Educational attainment	Primary or below	142	56.5%	12.6%	30.9%		0.037
	Lower secondary (S1-S3)	135	62.8%	12.0%	25.2%		
	Upper secondary (S4-S6) / Matriculation	389	70.7%	12.5%	16.8%		
	Tertiary (Non-degree, degree or above)	584	79.5%	10.8%	9.7%		
Marital status	Never married	428	70.7%	17.1%	12.2%	0.000	
	Married	736	74.5%	8.8%	16.7%		
	Divorced/ Separated/ Widowed	74	60.5%	10.4%	29.1%		
Occupation	Managerial/ Professional worker	306	78.8%	10.7%	10.5%	0.001	
	Clerk	158	72.2%	10.0%	17.8%		
	Service/ Shop sales worker	89	64.2%	22.8%	12.9%		

	Blue collar worker	84	71.5%	9.5%	19.0%		
	Student	108	73.4%	16.6%	10.0%		
	Homemaker	163	69.0%	10.3%	20.7%		
	Not working	288	68.8%	9.5%	21.7%		
Monthly household income	Below HK$10,000	132	60.1%	11.0%	28.9%		0.027
	HK$ 10,000-$19,999	126	74.3%	13.2%	12.5%		
	HK$ 20,000- $39,999	265	72.2%	16.8%	11.0%		
	HK$ 40,000- $59,999	167	81.0%	9.8%	9.2%		
	HK$ 60,000 or above	250	81.3%	8.9%	9.8%		

Table 4.54 illustrates that the agreement level with people should use antibiotics only when they are prescribed by a doctor or nurse as that would help address the problem of antibiotic resistance is associated significantly with the respondents' marital status, monthly household income and type of living quarters.

Respondents who were never married, those with monthly household income below HK$10,000 and those who were living in private housing were more likely than their respective counterparts to rate this action as strongly disagree or slightly disagree.

Table 4.54: Agreement level with people should use antibiotics only when they are prescribed by a doctor or nurse as that would help address the problem of antibiotic resistance (Q24.1)

Variable	Level	Base	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	p-value	
								Kruskal-Wallis test	Rank Correlation
Marital status	Never married	428	2.3%	3.3%	9.7%	23.5%	61.2%	0.022	
	Married	736	1.9%	1.9%	7.3%	20.8%	68.1%		
	Divorced/ Separated/ Widowed	74	2.7%	1.4%	9.2%	22.4%	64.2%		
Monthly household income	Below HK$10,000	132	4.3%	1.8%	10.6%	29.3%	54.0%		0.000
	HK$ 10,000-$19,999	126	1.4%	3.7%	12.7%	23.5%	58.6%		
	HK$ 20,000-$39,999	265	1.9%	1.6%	6.9%	22.0%	67.7%		
	HK$ 40,000-$59,999	167	1.6%	0.7%	7.3%	17.1%	73.3%		
	HK$ 60,000 or above	250	1.5%	2.9%	4.9%	21.2%	69.5%		
Type of living quarters	Public rental flats	339	2.2%	2.1%	10.7%	22.4%	62.7%	0.025	
	Subsidised sale flats	190	2.0%	0.6%	11.8%	19.9%	65.6%		
	Private housing	688	2.1%	2.9%	5.6%	22.4%	67.0%		

Table 4.55 illustrates that the agreement level with farmers should give fewer antibiotics to food-producing animals as that would help address the problem of antibiotic resistance is associated significantly with the respondents' gender, educational attainment, marital status, occupation, monthly household income and type of living quarters.

Male respondents, those with lower education level, those who were divorced/separated/widowed, blue collar workers, generally those with lower monthly household income and those who were living in public rental flats were more likely than their respective counterparts to rate this action as strongly disagree or slightly disagree.

Table 4.55: Agreement level with farmers should give fewer antibiotics to food-producing animals as that would help address the problem of antibiotic resistance (Q24.2)

Variable	Level	Base	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	p-value	
								Kruskal-Wallis test	Rank Correlation
Gender	Male	592	6.0%	1.4%	10.7%	14.5%	67.4%	0.031	
	Female	663	3.9%	2.0%	10.8%	12.5%	70.7%		
Educational attainment	Primary or below	142	10.5%	3.0%	12.1%	16.0%	58.4%		0.000
	Lower secondary (S1-S3)	135	7.4%	2.7%	11.1%	13.7%	65.1%		
	Upper secondary (S4-S6) / Matriculation	389	5.7%	2.9%	12.4%	13.0%	66.0%		
	Tertiary (Non-degree, degree or above)	584	2.5%	0.5%	9.1%	13.2%	74.8%		
Marital status	Never married	428	2.9%	2.3%	14.8%	17.7%	62.3%	0.000	
	Married	736	5.8%	1.2%	8.4%	10.5%	74.1%		
	Divorced/ Separated/ Widowed	74	9.0%	4.3%	9.9%	17.5%	59.3%		
Occupation	Managerial/ Professional worker	306	2.3%	0.6%	10.0%	12.1%	75.1%	0.000	
	Clerk	158	4.1%	0.7%	9.3%	11.2%	74.7%		
	Service/ Shop sales worker	89	4.5%	3.2%	17.8%	7.3%	67.3%		
	Blue collar worker	84	9.3%	3.8%	15.9%	16.7%	54.3%		
	Student	108	5.1%	3.7%	17.5%	23.9%	49.8%		
	Homemaker	163	3.3%	2.8%	11.8%	9.0%	72.9%		
	Not working	288	8.6%	1.5%	6.7%	14.6%	68.6%		
Monthly household income	Below HK$10,000	132	9.0%	4.9%	11.2%	16.2%	58.8%		0.000
	HK$ 10,000-$19,999	126	6.8%	3.1%	9.6%	13.1%	67.4%		

Variable	Level	Base	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	p-value	
								Kruskal-Wallis test	Rank Correlation
	HK$ 20,000-$39,999	265	3.4%	0.8%	9.9%	14.4%	71.5%		
	HK$ 40,000-$59,999	167	3.2%	1.4%	13.4%	9.9%	72.0%		
	HK$ 60,000 or above	250	2.8%	0.5%	8.1%	13.9%	74.7%		
Type of living quarters	Public rental flats	339	7.2%	3.5%	11.5%	12.3%	65.4%	0.010	
	Subsidised sale flats	190	4.2%	2.2%	9.5%	18.6%	65.4%		
	Private housing	688	3.9%	0.9%	10.6%	12.5%	72.2%		

Table 4.56 illustrates that the agreement level with people should not keep antibiotics and use them later for other illnesses as that would help address the problem of antibiotic resistance is associated significantly with the respondents' gender, educational attainment, occupation, monthly household income and type of living quarters.

Male respondents, those with lower education level, blue collar workers, those with lower monthly household income and those who were living in Housing Authority / Society subsidised sale flats or public rental flats were more likely than their respective counterparts to rate this action as strongly disagree or slightly disagree.

Table 4.56: Agreement level with people should not keep antibiotics and use them later for other illnesses as that would help address the problem of antibiotic resistance (Q24.3)

Variable	Level	Base	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	p-value	
								Kruskal-Wallis test	Rank Correlation
Gender	Male	592	9.5%	3.0%	4.9%	11.3%	71.3%	0.029	
	Female	663	8.6%	2.7%	4.5%	9.5%	74.7%		
Educational attainment	Primary or below	142	17.8%	3.7%	3.3%	13.4%	61.8%		0.000
	Lower secondary (S1-S3)	135	13.3%	3.1%	5.9%	9.9%	67.7%		
	Upper secondary (S4-S6) / Matriculation	389	9.0%	4.0%	7.3%	10.9%	68.9%		
	Tertiary (Non-degree, degree or above)	584	5.9%	1.9%	3.1%	9.4%	79.7%		
Occupation	Managerial/ Professional worker	306	5.6%	0.6%	2.5%	8.5%	82.8%	0.000	
	Clerk	158	11.3%	4.1%	3.3%	6.9%	74.3%		
	Service/ Shop sales worker	89	6.3%	0.0%	15.6%	5.3%	72.8%		
	Blue collar worker	84	15.7%	2.2%	4.2%	14.5%	63.5%		
	Student	108	5.1%	10.5%	6.5%	18.8%	59.1%		
	Homemaker	163	10.8%	2.0%	5.9%	10.4%	70.9%		
	Not working	288	11.0%	3.8%	3.2%	11.1%	70.9%		
Monthly household income	Below HK$10,000	132	16.0%	3.7%	6.3%	13.6%	60.4%		0.000
	HK$ 10,000-$19,999	126	12.0%	5.5%	7.7%	11.8%	63.0%		
	HK$ 20,000-$39,999	265	7.1%	1.5%	6.6%	11.3%	73.5%		
	HK$ 40,000-$59,999	167	6.2%	2.2%	0.7%	8.7%	82.2%		
	HK$ 60,000 or above	250	5.0%	2.0%	3.3%	7.6%	82.1%		

Variable	Level	Base	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	p-value	
								Kruskal-Wallis test	Rank Correlation
Type of living quarters	Public rental flats	339	10.6%	3.2%	7.5%	12.0%	66.7%	0.001	
	Subsidised sale flats	190	10.2%	3.8%	0.9%	9.9%	75.2%		
	Private housing	688	7.9%	2.2%	4.4%	8.9%	76.6%		

Table 4.57 illustrates that the agreement level with parents should make sure all of their children's vaccinations are up-to-date as that would help address the problem of antibiotic resistance is associated significantly with the respondents' age, educational attainment, marital status, occupation and household composition.

Respondents aged 35-44, those with upper secondary/matriculation education or primary education or below, those who were never married, managerial/ professional workers or service/ shop sales workers and those household compositions with children aged under 16 were more likely than their respective counterparts to rate this action as strongly disagree or slightly disagree.

Table 4.57: Agreement level with parents should make sure all of their children's vaccinations are up-to-date as that would help address the problem of antibiotic resistance (Q24.4)

Variable	Level	Base	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	p-value	
								Kruskal-Wallis test	Rank Correlation
Age	15 – 24	153	0.6%	3.2%	7.6%	35.4%	53.2%		0.000
	25 – 34	197	0.6%	1.9%	19.0%	11.9%	66.6%		
	35 – 44	208	6.1%	2.7%	13.0%	11.0%	67.1%		
	45 – 54	240	3.2%	5.0%	11.8%	10.9%	69.1%		
	55 – 64	224	1.6%	1.2%	6.5%	13.7%	77.1%		
	65 or above	221	3.2%	0.6%	7.5%	12.8%	75.9%		
Educational attainment	Primary or below	142	3.1%	2.6%	5.3%	14.1%	75.0%		0.008
	Lower secondary (S1-S3)	135	3.0%	0.9%	9.7%	10.6%	75.8%		
	Upper secondary (S4-S6) / Matriculation	389	2.7%	3.1%	11.0%	16.4%	66.9%		
	Tertiary (Non-degree, degree or above)	584	2.4%	2.3%	12.6%	15.4%	67.3%		
Marital status	Never married	428	2.3%	3.1%	11.7%	20.2%	62.8%	0.001	
	Married	736	2.8%	2.1%	11.3%	11.8%	72.1%		
	Divorced/ Separated/ Widowed	74	4.1%	0.0%	5.3%	15.0%	75.6%		
Occupation	Managerial/ Professional worker	306	4.0%	3.1%	12.9%	12.6%	67.4%	0.011	
	Clerk	158	2.2%	1.6%	16.1%	17.2%	62.9%		
	Service/ Shop sales worker	89	0.0%	7.0%	12.0%	11.3%	69.7%		
	Blue collar worker	84	1.5%	4.0%	8.4%	13.0%	73.1%		
	Student	108	0.0%	2.5%	5.5%	33.0%	59.0%		

Variable	Level	Base	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	p-value	
								Kruskal-Wallis test	Rank Correlation
	Homemaker	163	1.9%	0.9%	13.3%	9.0%	74.8%		
	Not working	288	4.1%	1.0%	7.5%	15.3%	72.1%		
Household composition	Adults only (without children aged under 16)	895	2.4%	1.9%	9.3%	16.0%	70.4%	0.005	
	With children aged under 16	313	3.8%	4.1%	15.5%	11.7%	64.9%		

Table 4.58 illustrates that the agreement level with people should wash their hands regularly as that would help address the problem of antibiotic resistance is associated significantly with the respondents' gender, age, educational attainment, marital status, occupation and monthly household income.

A relatively higher proportion of male respondents, those aged 35-44, those with upper secondary/matriculation education, those who were never married, blue collar workers and those with monthly household income of HK$60,000 or above rated this action as strongly disagree or slightly disagree when compared with their respective counterparts.

Table 4.58: Agreement level with people should wash their hands regularly as that would help address the problem of antibiotic resistance (Q24.5)

Variable	Level	Base	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	p-value	
								Kruskal-Wallis test	Rank Correlation
Gender	Male	592	2.7%	2.4%	6.7%	16.3%	71.8%	0.002	
	Female	663	1.6%	1.5%	4.1%	11.9%	80.9%		
Age	15 – 24	153	1.8%	2.0%	11.5%	26.8%	58.0%		0.000
	25 – 34	197	2.6%	2.5%	11.3%	12.2%	71.3%		
	35 – 44	208	3.2%	2.2%	0.4%	12.7%	81.6%		
	45 – 54	240	2.3%	2.6%	5.2%	13.6%	76.3%		
	55 – 64	224	1.5%	1.6%	4.2%	12.3%	80.5%		
	65 or above	221	1.6%	1.0%	1.4%	9.9%	86.2%		
Educational attainment	Primary or below	142	1.2%	0.0%	4.7%	10.4%	83.7%		0.001
	Lower secondary (S1-S3)	135	3.9%	0.0%	3.9%	9.9%	82.3%		
	Upper secondary (S4-S6) / Matriculation	389	1.5%	3.5%	5.3%	12.3%	77.3%		
	Tertiary (Non-degree, degree or above)	584	2.4%	1.8%	5.8%	17.0%	73.0%		
Marital status	Never married	428	2.7%	2.8%	8.9%	18.4%	67.2%	0.000	
	Married	736	1.9%	1.6%	3.5%	11.5%	81.5%		
	Divorced/ Separated/ Widowed	74	1.4%	0.7%	1.5%	9.7%	86.6%		
Occupation	Managerial/ Professional worker	306	2.1%	2.4%	5.3%	15.5%	74.7%	0.000	
	Clerk	158	1.8%	3.2%	7.8%	17.1%	70.2%		
	Service/ Shop sales worker	89	3.9%	0.0%	2.2%	11.0%	82.8%		
	Blue collar worker	84	1.5%	4.4%	7.7%	11.7%	74.7%		

Variable	Level	Base	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	p-value	
								Kruskal-Wallis test	Rank Correlation
	Student	108	1.7%	2.8%	11.7%	19.1%	64.6%		
	Homemaker	163	1.5%	0.4%	1.2%	8.9%	88.0%		
	Not working	288	3.0%	1.3%	3.8%	12.5%	79.5%		
Monthly household income	Below HK$10,000	132	1.3%	0.7%	2.1%	12.2%	83.7%		0.008
	HK$ 10,000-$19,999	126	2.6%	2.0%	5.5%	11.6%	78.4%		
	HK$ 20,000-$39,999	265	2.6%	1.8%	4.5%	15.3%	75.8%		
	HK$ 40,000-$59,999	167	0.5%	2.0%	5.4%	13.5%	78.7%		
	HK$ 60,000 or above	250	1.8%	3.5%	5.6%	17.2%	72.0%		

Table 4.59 illustrates that the agreement level with doctors should only prescribe antibiotics when they are needed as that would help address the problem of antibiotic resistance is associated significantly with the respondents' educational attainment, marital status, occupation and type of living quarters.

A relatively higher proportion of respondents with primary education or below, those who were divorced/separated/widowed, those who were not working (excluding students and homemakers) and those who were living in Housing Authority / Society subsidised sale flats rated this action as strongly disagree or slightly disagree when compared with their respective counterparts.

Table 4.59: Agreement level with doctors should only prescribe antibiotics when they are needed as that would help address the problem of antibiotic resistance (Q24.6)

Variable	Level	Base	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	p-value	
								Kruskal-Wallis test	Rank Correlation
Educational attainment	Primary or below	142	0.9%	0.0%	3.6%	17.8%	77.7%		0.002
	Lower secondary (S1-S3)	135	0.5%	0.0%	4.7%	11.9%	82.9%		
	Upper secondary (S4-S6) / Matriculation	389	0.0%	0.0%	1.8%	13.0%	85.3%		
	Tertiary (Non-degree, degree or above)	584	0.0%	0.1%	1.6%	10.4%	87.8%		
Marital status	Never married	428	0.0%	0.2%	3.7%	14.0%	82.1%	0.003	
	Married	736	0.0%	0.0%	1.4%	10.5%	88.1%		
	Divorced/ Separated/ Widowed	74	2.7%	0.0%	2.3%	16.6%	78.4%		
Occupation	Managerial/ Professional worker	306	0.0%	0.0%	2.1%	8.8%	89.2%	0.013	
	Clerk	158	0.0%	0.0%	2.1%	8.4%	89.5%		
	Service/ Shop sales worker	89	0.0%	0.0%	5.3%	12.0%	82.7%		
	Blue collar worker	84	0.0%	0.0%	3.2%	21.9%	74.9%		
	Student	108	0.0%	0.0%	2.2%	18.4%	79.3%		
	Homemaker	163	0.0%	0.0%	0.0%	12.7%	87.3%		
	Not working	288	0.7%	0.3%	2.7%	12.9%	83.4%		
Type of living quarters	Public rental flats	339	0.0%	0.3%	2.8%	14.1%	82.9%	0.033	
	Subsidised sale flats	190	0.4%	0.0%	0.7%	10.5%	88.5%		
	Private housing	688	0.2%	0.0%	2.5%	11.0%	86.4%		

Table 4.60 illustrates that the agreement level with governments should reward the development of new antibiotics as that would help address the problem of antibiotic resistance is associated significantly with the respondents' age and household composition.

A relatively higher proportion of respondents aged 35-44 and those household compositions with children aged under 16 rated this action as strongly disagree or slightly disagree when compared with their respective counterparts.

Table 4.60: Agreement level with governments should reward the development of new antibiotics as that would help address the problem of antibiotic resistance (Q24.7)

Variable	Level	Base	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	p-value	
								Kruskal-Wallis test	Rank Correlation
Age	15 – 24	153	3.4%	8.9%	34.9%	31.5%	21.2%		0.008
	25 – 34	197	5.0%	5.2%	29.7%	26.2%	33.9%		
	35 – 44	208	10.5%	6.8%	39.1%	13.8%	29.8%		
	45 – 54	240	8.3%	5.4%	33.8%	17.5%	35.0%		
	55 – 64	224	8.5%	3.9%	30.0%	19.1%	38.6%		
	65 or above	221	11.0%	4.0%	28.3%	15.4%	41.2%		
Household composition	Adults only (without children aged under 16)	895	7.5%	5.3%	30.7%	20.4%	36.0%	0.018	
	With children aged under 16	313	9.2%	5.6%	36.2%	19.8%	29.1%		

Table 4.61 illustrates that the agreement level with pharmaceutical companies should develop new antibiotics as that would help address the problem of antibiotic resistance is associated significantly with the respondents' gender, age and marital status.

A relatively higher proportion of female respondents, those aged 35-44 and those who were divorced/separated/widowed rated this action as strongly disagree or slightly disagree when compared with their respective counterparts.

Table 4.61: Agreement level with pharmaceutical companies should develop new antibiotics as that would help address the problem of antibiotic resistance (Q24.8)

Variable	Level	Base	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	p-value	
								Kruskal-Wallis test	Rank Correlation
Gender	Male	592	6.1%	4.5%	25.6%	22.2%	41.5%	0.004	
	Female	663	8.3%	6.7%	30.2%	20.9%	34.0%		
Age	15 – 24	153	2.6%	7.6%	35.1%	35.0%	19.7%		0.001
	25 – 34	197	3.8%	7.4%	24.8%	26.9%	37.2%		
	35 – 44	208	10.9%	5.2%	33.2%	16.0%	34.7%		
	45 – 54	240	8.2%	4.0%	29.3%	19.7%	38.7%		
	55 – 64	224	5.7%	5.5%	21.9%	20.1%	46.8%		
	65 or above	221	11.1%	4.1%	25.6%	16.7%	42.6%		
Marital status	Never married	428	4.8%	7.2%	31.4%	26.4%	30.3%	0.004	
	Married	736	7.9%	4.6%	26.3%	18.7%	42.5%		
	Divorced/ Separated/ Widowed	74	14.1%	7.1%	29.2%	18.4%	31.1%		

Table 4.62 illustrates that the agreement level with the statement "Antibiotic resistance is one of the biggest problems the world faces" is associated significantly with the respondents' age, educational attainment, marital status, occupation, monthly household income and type of living quarter.

Respondents aged 15-24, those with lower education level, those who were never married, students, those with monthly household income below HK$10,000 and those who were living in public rental flats were more likely than their respective counterparts to rate this statement as strongly disagree or slightly disagree.

Table 4.62: Agreement level with the statement "Antibiotic resistance is one of the biggest problems the world faces" (Q25.1)

Variable	Level	Base	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	p-value	
								Kruskal-Wallis test	Rank Correlation
Age	15 – 24	153	3.8%	10.2%	34.8%	34.3%	17.0%		0.000
	25 – 34	197	5.4%	2.2%	23.7%	28.2%	40.5%		
	35 – 44	208	4.4%	1.3%	25.8%	27.0%	41.5%		
	45 – 54	240	2.1%	2.4%	18.7%	25.9%	50.8%		
	55 – 64	224	0.7%	1.1%	16.3%	27.7%	54.1%		
	65 or above	221	3.2%	2.5%	20.7%	21.2%	52.4%		
Educational attainment	Primary or below	142	6.5%	3.3%	28.8%	17.0%	44.3%		0.021
	Lower secondary (S1-S3)	135	2.7%	6.0%	27.1%	15.3%	48.8%		
	Upper secondary (S4-S6) / Matriculation	389	3.7%	2.9%	24.2%	30.2%	38.9%		
	Tertiary (Non-degree, degree or above)	584	2.1%	2.1%	18.7%	30.2%	46.9%		
Marital status	Never married	428	5.5%	5.4%	26.2%	30.6%	32.2%	0.000	
	Married	736	1.6%	1.4%	20.8%	25.6%	50.6%		
	Divorced/ Separated/ Widowed	74	5.5%	3.4%	18.8%	19.3%	53.1%		
Occupation	Managerial/ Professional worker	306	2.2%	1.8%	19.1%	28.7%	48.2%	0.000	
	Clerk	158	1.1%	0.5%	23.9%	30.1%	44.4%		
	Service/ Shop sales worker	89	13.0%	1.0%	28.1%	24.1%	33.7%		
	Blue collar worker	84	3.8%	3.0%	21.7%	18.9%	52.7%		
	Student	108	3.7%	11.2%	34.1%	31.0%	20.0%		
	Homemaker	163	2.6%	2.4%	30.3%	23.2%	41.5%		
	Not working	288	2.8%	3.3%	16.8%	25.0%	52.0%		

Variable	Level	Base	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	p-value	
								Kruskal-Wallis test	Rank Correlation
Monthly household income	Below HK$10,000	132	8.0%	2.7%	23.8%	20.6%	44.9%		0.036
	HK$ 10,000-$19,999	126	3.8%	0.5%	27.1%	32.3%	36.3%		
	HK$ 20,000-$39,999	265	2.3%	2.9%	20.0%	32.8%	41.9%		
	HK$ 40,000-$59,999	167	3.7%	3.0%	18.7%	24.0%	50.6%		
	HK$ 60,000 or above	250	0.5%	0.2%	19.2%	32.8%	47.3%		
Type of living quarters	Public rental flats	339	5.4%	3.1%	26.5%	25.7%	39.3%	0.002	
	Subsidised sale flats	190	4.0%	2.6%	23.8%	22.1%	47.6%		
	Private housing	688	2.0%	3.1%	19.7%	29.3%	46.0%		

Table 4.63 illustrates that the agreement level with the statement "Medical experts will solve the problem of antibiotic resistance before it becomes too serious" is associated significantly with the respondents' age, educational attainment, marital status, occupation, monthly household income and household composition.

Respondents aged 15-24, those with tertiary education, those who were divorced/separated/widowed, students and those with monthly household income of HK$60,000 or above with adults only were more likely than their respective counterparts to rate this statement as strongly disagree or slightly disagree. However, a relatively less proportion of those household composition of the respondents with children aged under 16 were less rated this statement as strongly agree or slightly agree.

Table 4.63: Agreement level with the statement "Medical experts will solve the problem of antibiotic resistance before it becomes too serious" (Q25.2)

Variable	Level	Base	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	p-value	
								Kruskal-Wallis test	Rank Correlation
Age	15 – 24	153	2.8%	17.3%	44.3%	26.7%	8.8%		0.000
	25 – 34	197	4.0%	9.8%	45.2%	20.5%	20.5%		
	35 – 44	208	6.0%	9.1%	40.8%	19.3%	24.8%		
	45 – 54	240	9.0%	5.8%	38.9%	17.1%	29.3%		
	55 – 64	224	8.1%	7.7%	30.1%	16.1%	38.0%		
	65 or above	221	6.8%	7.0%	32.0%	13.4%	40.9%		
Educational attainment	Primary or below	142	8.7%	6.5%	28.2%	16.0%	40.6%		0.000
	Lower secondary (S1-S3)	135	4.5%	6.1%	44.7%	10.4%	34.4%		
	Upper secondary (S4-S6) / Matriculation	389	7.2%	6.8%	37.3%	18.4%	30.2%		
	Tertiary (Non-degree, degree or above)	584	6.2%	11.4%	39.3%	20.9%	22.3%		
Marital status	Never married	428	5.6%	11.7%	44.8%	20.7%	17.2%	0.000	
	Married	736	7.1%	6.9%	35.8%	17.3%	32.8%		
	Divorced/ Separated/ Widowed	74	7.2%	10.7%	25.8%	15.4%	40.8%		
Occupation	Managerial/ Professional worker	306	7.6%	9.7%	37.3%	16.1%	29.3%	0.000	
	Clerk	158	5.7%	11.2%	41.1%	17.9%	24.0%		
	Service/ Shop sales worker	89	7.1%	8.5%	40.9%	22.5%	21.0%		
	Blue collar worker	84	10.4%	1.0%	40.5%	21.0%	27.2%		
	Student	108	3.2%	16.4%	46.6%	24.1%	9.7%		

Variable	Level	Base	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	p-value	
								Kruskal-Wallis test	Rank Correlation
	Homemaker	163	3.6%	8.6%	39.4%	16.4%	32.0%		
	Not working	288	8.6%	5.8%	32.5%	14.9%	38.3%		
Monthly household income	Below HK$10,000	132	8.7%	5.1%	30.7%	18.4%	37.1%		0.042
	HK$ 10,000-$19,999	126	11.7%	5.0%	35.4%	18.7%	29.2%		
	HK$ 20,000-$39,999	265	4.7%	9.5%	39.1%	19.2%	27.5%		
	HK$ 40,000-$59,999	167	3.9%	9.6%	39.2%	20.4%	26.8%		
	HK$ 60,000 or above	250	9.3%	9.8%	34.1%	22.2%	24.8%		
Household composition	Adults only (without children aged under 16)	895	6.5%	8.9%	36.9%	17.6%	30.1%	0.036	
	With children aged under 16	313	6.7%	8.5%	40.3%	21.8%	22.7%		

Table 4.64 illustrates that the agreement level with the statement "Everyone needs to take responsibility for using antibiotics responsibly" is associated significantly with the respondents' educational attainment, occupation, monthly household income and type of living quarter.

A relatively higher proportion of respondents with lower secondary education or below, service/shop sales workers, those with monthly household income of HK$10,000-$19,999 and those who were living in public rental flats rated this statement as strongly disagree or slightly disagree when compared with their respective counterparts.

Table 4.64: Agreement level with the statement "Everyone needs to take responsibility for using antibiotics responsibly" (Q25.3)

Variable	Level	Base	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	p-value	
								Kruskal-Wallis test	Rank Correlation
Educational attainment	Primary or below	142	4.5%	2.0%	12.4%	20.6%	60.5%		0.000
	Lower secondary (S1-S3)	135	1.0%	5.6%	11.4%	12.8%	69.3%		
	Upper secondary (S4-S6) / Matriculation	389	2.5%	1.5%	8.6%	21.7%	65.7%		
	Tertiary (Non-degree, degree or above)	584	0.4%	1.0%	5.7%	18.1%	74.8%		
Occupation	Managerial/ Professional worker	306	0.7%	0.8%	7.5%	12.8%	78.2%	0.047	
	Clerk	158	1.1%	1.6%	6.0%	24.4%	66.9%		
	Service/ Shop sales worker	89	2.3%	6.8%	5.7%	24.8%	60.4%		
	Blue collar worker	84	1.5%	0.6%	10.2%	12.4%	75.3%		
	Student	108	0.0%	4.5%	4.5%	28.5%	62.4%		
	Homemaker	163	1.5%	0.6%	11.9%	19.4%	66.5%		
	Not working	288	3.6%	1.5%	8.3%	17.6%	69.0%		
Monthly household income	Below HK$10,000	132	3.9%	1.6%	9.9%	20.6%	64.0%		0.010
	HK$ 10,000-$19,999	126	3.4%	2.6%	11.0%	15.2%	67.8%		
	HK$ 20,000-$39,999	265	0.7%	2.9%	4.5%	21.6%	70.3%		
	HK$ 40,000-$59,999	167	1.1%	2.1%	3.5%	12.9%	80.4%		
	HK$ 60,000 or above	250	0.0%	0.5%	5.7%	20.1%	73.7%		
Type of living quarters	Public rental flats	339	3.5%	2.9%	8.5%	18.3%	66.7%	0.030	
	Subsidised sale flats	190	2.1%	1.9%	5.9%	16.1%	73.9%		
	Private housing	688	0.6%	1.2%	7.8%	19.5%	71.0%		

Table 4.65 illustrates that the agreement level with the statement "There is not much people like me can do to stop antibiotic resistance" is associated significantly with the respondents' age, educational attainment, marital status, occupation, monthly household income, type of living quarter and household composition.

Respondents aged 25-34, those with tertiary education, those who were never married, managerial/professional workers, those with higher monthly household income, those who were living in Housing Authority / Society subsidised sale flats and those household compositions with children aged under 16 were more likely than their respective counterparts to rate this statement as strongly disagree or slightly disagree.

Table 4.65: Agreement level with the statement "There is not much people like me can do to stop antibiotic resistance" (Q25.4)

Variable	Level	Base	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	p-value	
								Kruskal-Wallis test	Rank Correlation
Age	15 – 24	153	5.9%	21.0%	37.8%	24.4%	10.8%		0.000
	25 – 34	197	15.5%	18.5%	25.5%	15.9%	24.6%		
	35 – 44	208	17.5%	15.1%	27.3%	12.7%	27.4%		
	45 – 54	240	12.6%	10.9%	23.3%	22.8%	30.5%		
	55 – 64	224	8.9%	6.8%	17.9%	23.0%	43.3%		
	65 or above	221	7.1%	4.4%	23.5%	20.4%	44.5%		
Educational attainment	Primary or below	142	11.2%	4.0%	24.2%	15.9%	44.7%		0.000
	Lower secondary (S1-S3)	135	4.5%	3.9%	20.3%	19.6%	51.7%		
	Upper secondary (S4-S6) / Matriculation	389	8.2%	8.2%	30.0%	23.0%	30.5%		
	Tertiary (Non-degree, degree or above)	584	15.1%	18.7%	23.0%	19.1%	24.1%		
Marital status	Never married	428	13.0%	16.8%	27.0%	20.2%	23.0%	0.000	
	Married	736	10.6%	10.3%	24.3%	19.7%	35.2%		
	Divorced/ Separated/ Widowed	74	11.7%	4.5%	24.6%	18.2%	41.0%		
Occupation	Managerial/ Professional worker	306	17.3%	17.6%	21.3%	15.7%	28.1%	0.000	
	Clerk	158	8.5%	15.0%	28.0%	17.7%	30.9%		
	Service/ Shop sales worker	89	15.1%	11.5%	18.7%	17.2%	37.4%		
	Blue collar worker	84	12.5%	2.0%	25.7%	22.7%	37.1%		
	Student	108	5.4%	19.2%	41.3%	24.5%	9.7%		

Variable	Level	Base	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	p-value	
								Kruskal-Wallis test	Rank Correlation
	Homemaker	163	6.4%	9.5%	28.3%	20.2%	35.7%		
	Not working	288	9.7%	5.4%	21.7%	22.0%	41.2%		
Monthly household income	Below HK$10,000	132	12.0%	4.7%	19.0%	21.4%	42.8%		0.000
	HK$ 10,000-$19,999	126	9.5%	10.0%	20.6%	20.7%	39.1%		
	HK$ 20,000-$39,999	265	10.6%	12.1%	25.3%	23.8%	28.2%		
	HK$ 40,000-$59,999	167	10.4%	14.6%	23.6%	19.5%	31.9%		
	HK$ 60,000 or above	250	17.0%	18.8%	23.2%	17.2%	23.9%		
Type of living quarters	Public rental flats	339	12.1%	6.7%	24.1%	20.0%	37.1%	0.037	
	Subsidised sale flats	190	12.9%	14.5%	22.8%	16.9%	32.9%		
	Private housing	688	10.5%	14.3%	26.6%	20.7%	28.0%		
Household composition	Adults only (without children aged under 16)	895	11.2%	10.8%	23.0%	21.2%	33.8%	0.000	
	With children aged under 16	313	11.5%	16.6%	32.0%	17.2%	22.7%		

Table 4.66 illustrates that the agreement level with the statement "I am worried about the impact that antibiotic resistance will have on my health, and that of my family" is associated significantly with the respondents' age, marital status, occupation and type of living quarter.

A relatively higher proportion of respondents aged 65 or above and service/shop sales workers rated this statement as strongly disagree or slightly disagree when compared with their respective counterparts. Further, a relatively higher proportion of respondents who were divorced/separated widowed and those who were living in public rental flats rated this statement as strongly disagree when compared with their respective counterparts.

Table 4.66: Agreement level with the statement "I am worried about the impact that antibiotic resistance will have on my health, and that of my family" (Q25.5)

Variable	Level	Base	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	p-value	
								Kruskal-Wallis test	Rank Correlation
Age	15 – 24	153	2.0%	10.1%	29.2%	39.7%	19.0%		0.000
	25 – 34	197	5.0%	5.9%	23.1%	32.4%	33.6%		
	35 – 44	208	7.7%	2.9%	16.4%	20.9%	52.1%		
	45 – 54	240	4.2%	4.2%	9.4%	26.1%	56.0%		
	55 – 64	224	2.4%	4.8%	11.5%	22.0%	59.3%		
	65 or above	221	8.3%	4.8%	13.8%	19.0%	54.1%		
Marital status	Never married	428	5.7%	7.2%	22.9%	32.2%	31.9%	0.000	
	Married	736	4.4%	4.2%	13.3%	22.0%	56.2%		
	Divorced/ Separated/ Widowed	74	8.1%	4.5%	8.1%	23.3%	55.9%		
Occupation	Managerial/ Professional worker	306	5.0%	5.0%	14.5%	27.2%	48.3%	0.000	
	Clerk	158	4.1%	1.9%	16.4%	23.8%	53.8%		
	Service/ Shop sales worker	89	9.0%	7.9%	12.8%	27.7%	42.6%		
	Blue collar worker	84	2.2%	5.1%	21.0%	21.8%	49.9%		
	Student	108	2.0%	10.0%	33.2%	36.1%	18.8%		
	Homemaker	163	4.2%	4.3%	17.8%	21.6%	52.2%		
	Not working	288	7.7%	4.9%	11.3%	24.5%	51.6%		
Type of living quarters	Public rental flats	339	6.3%	4.1%	19.4%	24.3%	46.0%	0.009	
	Subsidised sale flats	190	4.5%	6.4%	19.4%	29.0%	40.7%		
	Private housing	688	4.7%	5.6%	13.2%	26.3%	50.3%		

Table 4.67 illustrates that the agreement level with the statement "I am not at risk of getting an antibiotic-resistant infection, as long as I take my antibiotics correctly" is associated significantly with the respondents' gender, age, educational attainment, marital status, occupation, monthly household income and household composition.

Male respondents, younger respondents, those with higher education level, those who were never married, students, generally those with higher monthly household income and those household compositions with children aged under 16 were more likely than their respective counterparts to rate this statement as strongly disagree or slightly disagree.

Table 4.67: Agreement level with the statement "I am not at risk of getting an antibiotic-resistant infection, as long as I take my antibiotics correctly" (Q25.6)

Variable	Level	Base	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	p-value	
								Kruskal-Wallis test	Rank Correlation
Gender	Male	592	15.5%	12.1%	28.6%	21.0%	22.8%	0.015	
	Female	663	10.9%	12.7%	29.0%	18.5%	28.8%		
Age	15 – 24	153	12.1%	26.8%	29.3%	24.8%	6.9%		0.000
	25 – 34	197	18.0%	13.9%	42.8%	10.9%	14.4%		
	35 – 44	208	20.1%	12.3%	32.1%	12.8%	22.7%		
	45 – 54	240	11.0%	13.1%	22.3%	28.3%	25.3%		
	55 – 64	224	10.9%	8.0%	27.4%	20.7%	33.0%		
	65 or above	221	7.6%	5.0%	20.5%	20.7%	46.2%		
Educational attainment	Primary or below	142	5.2%	5.9%	20.5%	21.8%	46.6%		0.000
	Lower secondary (S1-S3)	135	4.2%	7.1%	20.6%	19.7%	48.4%		
	Upper secondary (S4-S6) / Matriculation	389	12.2%	11.3%	27.1%	23.1%	26.3%		
	Tertiary (Non-degree, degree or above)	584	17.8%	16.0%	34.1%	16.7%	15.4%		
Marital status	Never married	428	15.4%	19.3%	34.0%	18.3%	12.9%	0.000	
	Married	736	12.5%	9.0%	26.9%	20.0%	31.6%		
	Divorced/ Separated/ Widowed	74	5.8%	5.7%	18.1%	24.6%	45.8%		
Occupation	Managerial/ Professional worker	306	19.2%	15.0%	31.5%	19.5%	14.7%	0.000	
	Clerk	158	20.7%	13.5%	30.0%	14.6%	21.3%		
	Service/ Shop sales worker	89	9.1%	8.1%	35.6%	22.0%	25.2%		
	Blue collar worker	84	5.6%	11.2%	34.5%	14.1%	34.6%		

Variable	Level	Base	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree	p-value	
								Kruskal-Wallis test	Rank Correlation
	Student	108	10.3%	27.6%	29.8%	23.2%	9.0%		
	Homemaker	163	6.8%	8.4%	26.1%	20.1%	38.7%		
	Not working	288	9.7%	7.2%	22.8%	21.7%	38.5%		
Monthly household income	Below HK$10,000	132	8.8%	5.2%	22.9%	22.6%	40.5%		0.000
	HK$ 10,000-$19,999	126	12.2%	9.2%	27.2%	22.0%	29.4%		
	HK$ 20,000-$39,999	265	12.7%	16.4%	23.9%	20.3%	26.7%		
	HK$ 40,000-$59,999	167	17.1%	11.6%	31.0%	18.0%	22.3%		
	HK$ 60,000 or above	250	15.5%	16.3%	31.7%	22.2%	14.3%		
Household composition	Adults only (without children aged under 16)	895	13.0%	12.0%	27.4%	20.4%	27.3%	0.004	
	With children aged under 16	313	12.3%	14.3%	32.3%	18.3%	22.6%		

4.5 Use of antibiotics in agriculture

Table 4.68 illustrates that whether respondents thought that antibiotics are widely used in agriculture (including in food-producing animals) in Hong Kong is associated significantly with their gender, marital status, occupation and household composition.

Female respondents, those who were married, managerial/professional workers or homemakers and those household compositions with children aged under 16 were more likely than their respective counterparts thought that antibiotics were widely used in agriculture (including in food-producing animals) in Hong Kong.

Table 4.68: Whether respondents thought that antibiotics are widely used in agriculture (including in food-producing animals) in Hong Kong (Q26)

Variable	Level	Base	Yes	No	Don't know	p-value Chi-square test
Gender	Male	592	47.0%	30.3%	22.7%	0.000
	Female	663	54.3%	20.4%	25.3%	
Marital status	Never married	428	47.4%	30.7%	22.0%	0.019
	Married	736	53.4%	22.0%	24.6%	
	Divorced/ Separated/ Widowed	74	47.7%	23.5%	28.8%	
Occupation	Managerial/ Professional worker	306	56.2%	24.9%	19.0%	0.000
	Clerk	158	54.9%	21.0%	24.2%	
	Service/ Shop sales worker	89	41.2%	39.3%	19.6%	
	Blue collar worker	84	37.4%	29.5%	33.1%	
	Student	108	49.4%	37.6%	13.0%	
	Homemaker	163	56.4%	15.3%	28.3%	
	Not working	288	47.8%	23.7%	28.5%	
Household composition	Adults only (without children aged under 16)	895	48.5%	26.1%	25.5%	0.008
	With children aged under 16	313	58.2%	23.2%	18.6%	

4.6 Food labeling of antibiotics

Table 4.69 illustrates that whether respondents preferred to buy food that is labelled as 'antibiotic-free' is associated significantly with their educational attainment, monthly household income, type of living quarters and household composition.

Respondents with tertiary education, those with higher monthly household income, those who were living in private housing and those household compositions with children aged under 16 were more likely than their respective counterparts to prefer to buy food that is labelled as 'antibiotic-free'.

Table 4.69: Whether respondents preferred to buy food that is labelled as 'antibiotic-free' (Q27)

Variable	Level	Base	Yes	No	Don't know	p-value	
						Chi-square test	Kruskal-Wallis test
Educational attainment	Primary or below	142	66.9%	22.4%	10.7%		0.000
	Lower secondary (S1-S3)	135	78.3%	15.7%	6.0%		
	Upper secondary (S4-S6) / Matriculation	389	71.8%	22.1%	6.0%		
	Tertiary (Non-degree, degree or above)	584	86.2%	11.1%	2.7%		
Monthly household income	Below HK$10,000	132	66.7%	23.7%	9.6%		0.000
	HK$ 10,000-$19,999	126	79.9%	14.9%	5.2%		
	HK$ 20,000- $39,999	265	80.0%	17.8%	2.2%		
	HK$ 40,000- $59,999	167	86.3%	12.1%	1.6%		
	HK$ 60,000 or above	250	90.7%	6.7%	2.6%		
Type of living quarters	Public rental flats	339	73.9%	22.2%	3.9%	0.008	
	Subsidised sale flats	190	79.4%	16.6%	4.0%		
	Private housing	688	80.7%	13.5%	5.8%		
Household composition	Adults only (without children aged under 16)	895	77.5%	16.9%	5.6%	0.043	
	With children aged under 16	313	82.9%	14.6%	2.5%		

Chapter Five Conclusion and Recommendations

This survey has collected views from 1,255 respondents about their knowledge, use and attitude on antibiotics, awareness on antibiotic resistance and views on AMR containment measures and health promotion activities.

5.1 Use of antibiotics and views of health education materials

When respondents last took antibiotics, and how and where they obtained antibiotics

One-third of respondents (33.0%) reported having antibiotics within the past six months, while 7% reported that they never took any antibiotics. Among those respondents who had ever taken antibiotics, a vast majority of them (97.9%) reported they obtained their antibiotics from a doctor. Among 28 respondents who did not get their last antibiotics from a doctor or couldn't remember, all but one of them obtained their antibiotics from a medical store or pharmacy.

More young respondents aged 15-34 and 45-54, those with lower secondary education level (S1-S3), those with monthly household income of HK$40,000-$59,999 and those household compositions with children aged under 16 reported that they last took antibiotics within the past six months.

Whether respondents received advice from a doctor, nurse or pharmacist on how to take antibiotics

The majority of those respondents who obtained their antibiotics from a doctor (65.4%) reported that they received advice from a medical professional (i.e. a doctor, nurse or pharmacist) on how to take antibiotics, while the rest (34.6%) did not get any advice.

Among those respondents who had received advice from a medical professional, only less than half of them received the following advice on how to take antibiotics:

- Wearing a mask when having respiratory infection symptoms (Received: 48.6% vs Didn't receive: 50.7%)
- Children with signs and symptoms of infectious diseases should avoid contact with other children (25.4% vs 73.6%);
- Disinfect and cover all wounds (18.7% vs 80.7%);
- Eat or drink only thoroughly cooked or boiled items (15.1% vs 84.4%); and
- Practise frequent hand hygiene (14.2% vs 84.7%).

However, the majority of those respondents who obtained their antibiotics from a doctor (73.8%) reported that they want to receive more information on precautionary measures while taking antibiotics.

Respondents with lower the educational attainment or lower the monthly household income were more likely to report that they did not receive any advice from a doctor, nurse or pharmacist on how to take them.

However, respondents with higher educational attainment or higher monthly household income were more likely to report that they did not receive any advice of practising frequent hand hygiene, eating or drinking only thoroughly cooked or boiled items, disinfecting and covering all wounds from a doctor, nurse or pharmacist as part of how to take antibiotics.

Usefulness of specified actions that would help respondents to comply with the antibiotics treatment

The majority of all respondents reported that the following actions are either very useful or slightly useful for helping them to comply with the antibiotics treatment:

- Print educational information on the antibiotic prescription bags (very useful or slightly useful: 79.0% vs very useless or slightly useless: 6.6%)
- Doctors give related advice when prescribing antibiotics (76.9% vs 4.3%)
- Pharmacists give related advice when dispensing antibiotics (70.9% vs 7.3%)

Ask for antibiotics

Around one-third of all respondents (36.3%) reported that they preferred to consult a doctor that has declared to use antibiotics responsibly, while the rest (63.7%) did not prefer to do so.

Among those respondents (59.7%) who reported that they had consulted a doctor (for cold or flu) in the past 12 months, only a tiny proportion of them (2.5%, 19 respondents) had asked for antibiotics during that consultation.

Among those respondents (21.4%) who reported that they had brought anyone aged 15 years old or below to consult a doctor (for cold or flu) in the past 12 months, only 2

respondents (0.9%) had asked for antibiotics for that person during that consultation.

When the respondents consulted a doctor and their initial assessment indicated that antibiotics are not needed at the moment, the vast majority of respondents (96.9%) would accept the doctor's advice to observe for a few more days or to wait for the diagnostic test result before deciding whether to prescribe antibiotics or not.

Respondents aged 45-54 and those with higher educational attainment were more likely to report that they did prefer to consult a doctor that has declared to use antibiotics responsibly.

5.2 Knowledge about antibiotics

The majority of all respondents (87.9%) thought they should stop taking antibiotics only when they have taken all of the antibiotics as directed, while one tenth of them (10.4%) thought they should stop taking antibiotics when they felt better and the rest (1.7%) did not know.

It is reassuring that the majority of all respondents correctly identified the following two false knowledge statements about antibiotics as incorrect:

- It's okay to use antibiotics that were given to a friend or family member, as long as they were used to treat the same illness (False: 93.1% vs True: 5.9%)
- It's okay to buy the same antibiotics, or request them from a doctor, if you're sick and they helped you get better when you had the same symptoms before (False: 83.1% vs True: 13.6%)

Generally, respondents with lower educational attainment or lower monthly household income were more likely to mistakenly believe above two false knowledge statements were true.

The majority of respondents (84.3%) did not want to receive any antibiotics prescription if the doctors' initial diagnosis for them is viral infection e.g. cold/flu, while 10.3% of them wanted to get an antibiotics prescription.

The majority of respondents (73.9%) wanted their doctor to discuss and make a share-decision with them on antibiotics prescription, while 23.3% do not want this.

Respondents with monthly household income below HK$10,000 and those who were living in public rental flats were more likely to report that they should stop taking antibiotics when they feel better.

Which medical conditions should antibiotics be used to treat

The majority of respondents correctly identified the following medical conditions as treatable with antibiotics:

- Skin or wound infection (Can be treated: 71.8% vs Cannot be treated: 15.3%)λ
- Bladder/urinary tract infection (UTI) (69.1% vs 13.7%)

In contrast, only 26.5% correctly identified gonorrhoea as a condition treatable with antibiotics.

Over half of all respondents mistakenly identified the following medical conditions treatable with antibiotics:

- Cold and flu (54.0% vs 37.3%)

Younger respondents, respondents who were never married, students and those household compositions with children aged under 16 were more likely to mistakenly identify cold and flu should be treated with antibiotics.

More respondents correctly identified the following medical conditions should not be treated with antibiotics:

- Headaches (Should not be treated: 81.7% vs Should be treated: 6.9%)
- Body aches (76.1% vs 8.7%)
- HIV/AIDS (66.6% vs 6.3%)
- Diarrhoea (64.7% vs 19.1%)
- Fever (55.1% vs 33.1%)
- Measles (47.8% vs 14.3%)
- Malaria (34.2% vs 30.2%)

Generally, younger respondents and students were more likely to mistakenly identify diarrhoea, fever, measles and headaches should be treated with antibiotics.

Students were more likely to mistakenly identify malaria and body aches should be treated with antibiotics.

The effectiveness of promotion on safe use of antibiotics at a list of places

A large proportion of all respondents rated the effectiveness of promotion on safe use of antibiotics at the following places as either very useful or slightly useful

- Hospital or Clinic pharmacies (while waiting for drug dispensing) (very useful or slightly useful: 75.6% vs very useless or slightly useless: 8.8%)
- Waiting areas of clinics or A&E departments (70.4% vs 12.9%)
- Wards (65.4% vs 13.1%)
- Community pharmacies (51.9% vs 23.0%)

The effectiveness of specified promotion methods for safe use of antibiotics

A large proportion of all respondents rated the effectiveness of the following promotion methods on safe use for antibiotics as very useful or slightly useful:

- videos (e.g. TV API or programs) (very useful or slightly useful: 77.3% vs very useless or slightly useless: 9.5%)
- Websites or social medias, e.g. Facebook (57.9% vs 19.8%)
- Printed materials, e.g. posters or pamphlets (48.3% vs 22.5%)
- Articles, e.g. columns in newspapers or magazines (46.2% vs 23.1%)

5.3 Knowledge of antimicrobial resistance

Aware of the terms commonly used in relation to the issue of antibiotic resistance

Large proportions of respondents had heard of the Chinese term of superbugs (超級細菌) (82.2%), antibiotic-resistant bacteria (抗藥性細菌) (76.2%) and antibiotic resistance (抗生素耐藥性)(67.8%). However, less than half of respondents had heard of antimicrobial resistance (抗菌素耐藥性) (36.8%) and 抗微生物藥物耐藥性 (12.6%, only for those respondents who speak Putonghua or Cantonese). Media was the most common source from which they had heard about these terms.

Specified statements about antibiotic resistance

Large proportions of respondents correctly identified the following true statements except the last statement:

- Many infections are becoming increasingly resistant to treatment by antibiotics (True: 79.9% vs False: 8.4%)
- If bacteria are resistant to antibiotics, it can be very difficult or impossible to treat the infections they cause (73.8% vs 15.9%)
- Antibiotic-resistant infections could make medical procedures like surgery, organ transplants and cancer treatment much more dangerous (72.3% vs 11.6%)
- Antibiotic resistance is an issue that could affect me or my family (68.6% vs 18.3%)

One third of respondents misunderstood that bacteria which are resistant to antibiotics

cannot be spread from person to person (36.9%)

Respondents aged 15-24 and those who were living in public rental flats were more likely to mistakenly believe these two true knowledge statements about antibiotic resistance "Many infections are becoming increasingly resistant to treatment by antibiotics" and "If bacteria are resistant to antibiotics, it can be very difficult or impossible to treat the infections they cause" are incorrect.

Female respondents and service/shop sales workers were more likely to mistakenly believe these two true knowledge statements about antibiotic resistance "Bacteria which are resistant to antibiotics can be spread from person to person" and "Antibiotic-resistant infections could make medical procedures like surgery, organ transplants and cancer treatment much more dangerous" are incorrect.

However, a large proportion of respondents (76.5%) mistakenly identified "Antibiotic resistance occurs when your body becomes resistant to antibiotics and they no longer work as well" was a true statement, but majority of them (81.8%) correctly identified "Antibiotic resistance is an issue in other countries but not here" was a false statement. Also, over half of respondents correctly identified (53.2%) "Antibiotic resistance is only a problem for people who take antibiotics regularly" was a false statement.

Agreement level with specified actions would help address the problem of antibiotic resistance

The majority of respondents strongly agreed or slightly agreed that the following six actions would help address the problem of antibiotic resistance:

- Doctors should only prescribe antibiotics when they are needed (strongly agreed or slightly agreed: 97.6% vs strongly disagreed or slightly disagreed: 0.2%)
- People should wash their hands regularly (90.6% vs 4.1%)
- People should use antibiotics only when they are prescribed by a doctor (87.3% vs 4.4%)
- Parents should make sure all of their children's vaccinations are up-to-date (83.9% vs 5.1%)
- People should not keep antibiotics and use them later for other illnesses (83.5% vs 11.9%)
- Farmers should give fewer antibiotics to food-producing animals (82.6% vs 6.6%)
- Pharmaceutical companies should develop new antibiotics (59.1% vs 12.9%)
- Governments should reward the development of new antibiotics (53.9% vs 13.7%)

Agreement level with specified actions connected to the issue of antibiotic resistance

The majority of respondents strongly agreed or slightly agreed with the following three statements:

- Everyone should take responsibility for using antibiotics responsibly (strongly agreed or slightly agreed: 88.7% vs strongly disagreed or slightly disagreed: 3.3%)
- I am worried about the impact that antibiotic resistance will have on my health, and that of my family (73.5% vs 10.2%)
- Antibiotic resistance is one of the biggest problems the world faces (71.3% vs 6.0%)

Respondents aged 15-24 and those with lower education level were more likely to rate "Antibiotic resistance is one of the biggest problems the world faces" as strongly disagree or slightly disagree.

Around half of respondents strongly agreed or slightly agreed with the following three statements:

- There is not much people like me can do to stop antibiotic resistance (51.4% vs 23.5%)
- Medical experts will solve the problem of antibiotic resistance before it becomes too serious (46.5% vs 15.5%)
- I am not at risk of getting an antibiotic-resistant infection, as long as I take their antibiotics correctly (45.7% vs 25.5%)

Respondents aged 15-24 and those with tertiary education were more likely to rate "Medical experts will solve the problem of antibiotic resistance before it becomes too serious" as strongly disagree or slightly disagree.

Respondents aged 25-34, those with tertiary education, managerial/professional workers and those with higher monthly household income were more likely to rate "There is not much people like me can do to stop antibiotic resistance" as strongly disagree or slightly disagree.

Younger respondents, those with higher education level, students and those with higher monthly household income were more likely to rate "I am not at risk of getting an antibiotic-resistant infection, as long as I take my antibiotics correctly" as strongly disagree or slightly disagree.

5.4 Use of antibiotics in agriculture

Half of the respondents (50.9%) thought that antibiotics were widely used in agriculture (including in food-producing animals) in Hong Kong, while a quarter (25.0%) did not think so.

Female respondents, those who were married, managerial/professional workers or homemakers and those household compositions with children aged under 16 were more likely to think that antibiotics were widely used in agriculture (including in food-producing animals) in Hong Kong.

5.5 Food labelling of antibiotics

The majority of respondents (78.8%) reported that they preferred to buy food that is labelled as 'antibiotic-free', while 16.2% do not prefer to do so.

Respondents with tertiary education, those who were married, managerial/professional workers, those with higher monthly household income, those who were living in private housing and those household compositions with children aged under 16 were more likely to prefer to buy food that is labelled as 'antibiotic-free'.

5.6 Recommendations

Recommendations

This study showed that the majority of respondents were aware of antibiotic resistance and its risk, although not familiar with the Chinese terminology of antimicrobial resistance (抗菌素耐藥性) and 抗微生物藥物耐藥性. However, half of them considered themselves incapable of stopping the AMR problem. This study also identified that misunderstanding on indications of antibiotics remain prevalent with over half of the respondents mistaking cold and flu as conditions treatable with antibiotics. Awareness-raising activities of the general public should be strengthened to fill this knowledge gap in future health promotion programmes. It is noteworthy that most respondents would comply with doctor's advice on the need of antibiotics for cold and flu or viral infections. Therefore, health advice and education provided during medical consultations can also serve as a powerful intervention in reducing inappropriate antibiotic use.

Most respondents showed support to potential AMR control measures, including shared decision-making on antibiotic prescription, and most accepted "no antibiotic prescription with watchful-waiting" when the initial medical assessment indicated antibiotics is not needed. To carry this forward, guidelines and training for primary care providers and patient materials can facilitate shared decision-making and "no antibiotic prescription with watchful waiting" practice in community setting. More studies should also be conducted to further assess the needs of prescribers and how the above interventions can be facilitated.

Finally, traditional mode of message delivery by videos (TV API or television programmes), website or social media were considered useful by most respondents. Future health promotion should also explore and expand channels of delivery in waiting area of hospital, pharmacies clinics and emergency departments which were considered effective for delivery of health message on proper antibiotic use.

It would be helpful to repeat a similar KAP survey in order to monitor trend in local population, assess the effectiveness of interventions and guide future actions.

5.7 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 institutionalised population and households without fixed line telephones, so the findings cannot be generalised 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 response rate is unsatisfactory. The possible reasons were that there were increasing telephone deceptions reduced people's willingness in taking part in this telephone survey.
5. 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 taking un-prescribed antibiotics). 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.
6. Finally, this was a cross-sectional study. The causal or time relationship between various factors could not be identified.

Annex Survey Questionnaire

引言 Introduction

你好，我姓 _____， 是香港大學社會科學研究中心的訪問員。我們 受衞生署委託進行一項問卷調查，目的是想瞭解市民對使用抗生素的意識。你所提供的資料絕對保密並只會用 作分析用途，整個訪問大約需要 20 分鐘時間。你可隨時終止訪問，有關決定將不會引致任何不良後果。如果你有任何疑問，可以於辦公時間早上 9 點至下午 6 點，致電 3917-1600 到香港大學社會科學研究中心查詢。如果你想知道更多有關研究參與者的權益，請 致電 2241-5267，聯絡香港大學非臨床研究操守委員會。

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 on antibiotic use. All the information provided by you will be kept strictly confidential and for collective analysis only. This survey will take approximately 20 minutes to complete. You can choose to terminate the interview at any time without negative consequences. 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.

選擇被訪者 Respondent selection

因為我哋要隨機抽樣，所以請問連埋你在內，你屋企宜家有幾多位年滿 15 歲，而又居住喺府上嘅人呢 (唔包括家傭同唔喺屋企嘅成員)？ Because we are choosing a respondent randomly, please tell me how many household members aged 15 years or above are at home right now?

_____ 個 _____ persons

＜回應＞<Response>

如被訪家庭符合資格→繼續訪問

If the household meets the criteria → *interview continues*

如被訪家庭不符合資格→結束訪問

If the household does not meet the criteria → *interview ends*

喺呢幾個人當中，邊一個係將會生日呢？

(訪問員：如被訪者有疑問，解釋呢個係用生日日期嚟揀選被訪者嘅方法)

如揀選被訪者係18歲或以上，麻煩你請佢聽電話。
(訪問員：重複引言。) 我哋誠意邀請你參與呢項調查，請問你同唔同意參與呢項調查？
Who is the one who will next have a birthday?
(Interviewer: explain the respondent selection method by using "Next Birthday" rule if respondent questions)
If the respondent is over 18, please ask him/her to answer the phone.
(Interviewer: Repeat the introduction) We would like to invite you to take part in the survey. Do you agree to participate in this survey?

如揀選被訪者係18歲以下，我需要得到佢父母或者監戶人嘅同意先可以開始訪問。麻煩你請佢其中一個父母或者監戶人聽電話。
你好，我姓 x，係香港大學社會科學研究中心嘅訪問員。我哋受衞生署委託進行一項問卷調查，目的是想瞭解市民對使用抗生素的意識。整個訪問約需 20 分鐘，問卷採用不記名方式，而你嘅子女所提供嘅資料係會絕對保密，同時只會作研究用途。如果你有任何嘅疑問，請於辦公時間早上9點至下午6點，致電3921 2600到香港大學社會科學研究中心查詢。如果你想知道更多有關研究參與者嘅權益，請致電2241 5267聯絡香港大學非臨床研究操守委員會。我哋希望你會同意你嘅子女參與呢項調查？

If the selected respondent is under 18, we need to obtain parent/guardian consent before conducting the interview with him/her. May I speak to a parent or guardian?
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 survey to assess the public's awareness on antibiotic use. This survey takes approximately 20 minutes to complete. All the information provided by you will be kept strictly confidential and for collective analysis only. Participating in this survey is voluntary. If you have any queries on this survey, you can call the SSRC at phone number: 3921 2600 during office hours between 9 am and 6 pm. If you have questions about your rights as a research participant, please contact the Human Research Ethics Committee for Non-Clinical Faculties of the University at 2241 5267. May I have your consent to your children's participation in this survey?

＜回應＞<Response>
如同意→開始訪問
If agree→ *interview starts*

如唔同意→結束訪問

If disagree→ *interview ends*

MAIN QUESTIONNAIRE

使用抗生素及對健康教育素材的意見 USE OF ANTIBIOTICS AND VIEWS OF EDUCATION MATERIALS

1) 請問您上次幾時食過抗生素？
When did you last take antibiotics? Single Code
1. 過去的30日內 In the last 30 days
2. 過去的半年內 In the last 6 months
3. 過去的一年內 In the last year
4. 超過 1 年之前 More than a year ago
5. 從未服用過 Never →7
99. 唔記得 Can't remember →7

2) 嗰次您係唔係由醫生度獲得抗生素（或抗生素處方）？
On that occasion, did you get the antibiotics (or a prescription for them) from a doctor? Single Code
1. 係 Yes
2. 唔係 No→ 6
99. 唔記得 Can't remember →6

3) 嗰次您有冇由醫生、護士或者藥劑師度獲得關於服用抗生素嘅建議？
On that occasion, did you get advice from a doctor, nurse or pharmacist on how to take them? Single Code
1. 有 Yes →4
2. 冇 No →5
99. 唔記得 Can't remember →5

4) 嗰次，醫生、護士或者藥劑師有冇畀過以下嘅建議?
On that occasion, did you get following advices from a doctor, nurse or pharmacist?

		有 **Yes**	冇 **No**	唔記得 **Can't remember**
1	時刻保持手部衞生 Practise frequent hand hygiene	1	2	99
2	食水和食物必須徹底煮滾及煮熟 Eat or drink only thoroughly cooked or boiled items	1	2	99
3	消毒及覆蓋傷口 Disinfect and cover all wounds	1	2	99
4	當有呼吸道感染徵狀時戴上口罩 Wear mask when having respiratory infection symptoms	1	2	99
5	有傳染病徵狀的幼童，要避免接觸其他兒童 Children with signs and symptoms of infectious diseases should avoid contact with other children	1	2	99

5) 當醫生處方抗生素時，你會唔會想得到多啲關於服用抗生素嘅注意事項?
When a doctor prescribes antibiotics for you, do you want to receive more information on precautionary measures while taking antibiotics? Single Code
1. 想 Yes →7
2. 唔想 No →7

6) 嗰次您喺邊度得到抗生素？
On that occasion, where did you get the antibiotics?
1. 醫院或者診所 Hospital or Clinic
2. 藥店或藥房 Medical store or pharmacy
3. 貨攤或小販 Stall or hawker
4. 網上 The internet
5. 朋友或者屋企人 Friend or family member
6. 我上次食剩嘅 I had them saved up from a previous time
7. 其他地方/其他人 Somewhere/someone else
99. 唔記得 Can't remember

7) 你覺得以下嘅方法，對於幫助你遵從服用抗生素有冇用呢？一分係非常冇用到五分就係非常有用，你會畀幾多分？
On the scale shown, how much do you agree the following actions would help you to comply with the antibiotics treatment? Please rate from 1(very useless) to 5(very useful).

		非常冇用 **Very useless**	稍微冇用 **Slightly Useless**	冇意見 **Neutral**	稍微有用 **Slightly Useful**	非常有用 **Very useful**
1	醫生喺處方抗生素時解釋 Doctors give related advices when prescribing antibiotics	1	2	3	4	5
2	喺藥劑師度攞藥時解釋 Pharmacists give related advices when dispensing antibiotics	1	2	3	4	5
3	喺藥袋上面印有服用抗生素時嘅注意事項 Print educational information on the antibiotic prescription bags	1	2	3	4	5

8) 當你要睇醫生嘅時候，你會唔會優先選擇會善用抗生素嘅醫生？
Do you prefer to consult a doctor that has declared to use antibiotics responsibly?
1. 會 Yes
2. 唔會 No
99. 唔知道 Don't know

9) 過往十二個月內，你有冇(因為傷風感冒)睇過醫生?
Had you consulted a doctor (for cold or flu) in the past 12 months?
1. 有 Yes →10
2. 冇 No →11

10) 嗰次睇醫生你有冇要求醫生開抗生素?
Had you asked for antibiotics during that consultation?
1. 有 Yes →11
2. 冇 No →11

11) 過往十二個月內，你有冇帶過十五歲或以下嘅兒童或者青少年(因為傷風感冒)睇過醫生?
Had you brought any youngster 15 years old or below to consult a doctor (for cold or flu) in the past 12 months?
1. 有 Yes →12
2. 冇 No →13

12) 嗰次帶過十五歲或以下嘅兒童或者青少年睇醫生你有冇要求醫生開抗生素?
Had you asked for antibiotics for the youngster during that consultation?
1. 有 Yes
2. 冇 No

13) 當你睇醫生嘅時候，如果醫生認為你嘅病暫時唔需要服用抗生素，叫你觀察多一段時間，或者等埋測試結果先決定開唔開抗生素，你接唔接受？
When you consult a doctor and his/her initial assessment result for you indicated that antibiotic is not needed at the moment, would you accept if the doctor tells you to observe for few more days or to wait for the diagnostic test's result before deciding whether to prescribe antibiotics or not?
1. 會／接受 Yes/Accept
2. 唔會／唔接受 No/ Not accept
99. 唔知道 Don't know

KNOWLEDGE ABOUT ANTIBIOTICS

14) 當開始抗生素治療後，您認為咩時候應該停止服用抗生素？

When do you think you should stop taking antibiotics once you've begun treatment? Single Code

1. 您覺得好轉嘅時候 When you feel better
2. 您跟指示食晒所有嘅抗生素之後 When you've taken all of the antibiotics as directed
99. 唔知道 Don't know

15) 您認為以下嘅句子係「啱」定「錯」？

Do you think this statement is 'true' or 'false'? Single Code

「只要係醫同樣嘅病，食朋友或者屋企人畀嘅抗生素係冇問題嘅」

"It's okay to use antibiotics that were given to a friend or family member, as long as they were used to treat the same illness"

1. 啱 True
2. 錯 False
99. 唔知道 Don't know

16) *「如果您病咗，之前試過類似嘅病，食抗生素之後好咗。今次可以買番同樣嘅抗生素，或要求醫生處方同樣嘅抗生素」*

"It's okay to buy the same antibiotics, or request these from a doctor, if you're sick and they helped you get better when you had the same symptoms before"

1. 啱 True
2. 錯 False
99. 唔知道 Don't know

17) 您認為抗生素可唔可以醫以下嘅病？

Do you think these conditions can be treated with antibiotics? Single Code per condition. Rotate order asked

		可以 **Yes**	唔可以 **No**	唔知道 **Don't know**
1	愛滋病 HIV/AIDS	1	2	99
2	淋病 Gonorrhoea	1	2	99
3	膀胱或泌尿道感染，即係尿道炎 Bladder infection or urinary tract infection (UTI)	1	2	99
4	肚痾 Diarrhoea	1	2	99
5	傷風感冒 Cold and flu	1	2	99
6	發燒 Fever	1	2	99
7	瘧疾 Malaria	1	2	99
8	麻疹 Measles	1	2	99
9	皮膚或傷口感染發炎 Skin or wound infection	1	2	99
10	喉嚨痛 Sore throat	1	2	99

		可以 **Yes**	唔可以 **No**	唔知道 **Don't know**
11	周身骨痛 Body aches	1	2	99
12	頭痛 Headaches	1	2	99

18) 如果醫生初步診斷係傷風感冒等病毒感染，你會唔會想醫生處方抗生素？
If doctor's initial diagnosis for you is viral infection e.g. cold/flu, do you want to get antibiotics prescription?
1. 會 Yes
2. 唔會 No
99. 唔知道 Don't know

19) 醫生開藥之前，你想唔想醫生同你一齊討論及決定洗唔洗處方抗生素？
Do you want your doctor to discuss and share decision making with you on antibiotics prescription?
1. 想 Yes
2. 唔想 No
99. 唔知道 Don't know

20) 你認為在以下嘅場合宣傳正確使用抗生素有冇用？一分係非常冇用到五分就係非常有用，你會畀幾多分？
On the scale shown, how much do you rate the effectiveness of promotion on safe use of antibiotics at the following places? Please rate from 1(very useless) to 5(very useful). Single Code per statement. Rotate order asked

		非常冇用 **Very useless**	稍微冇用 **Slightly useless**	冇意見 **Neutral**	稍微有用 **Slightly useful**	非常有用 **Very useful**
1	診所或者急症室嘅候診室 Waiting areas of clinics or A&E departments	1	2	3	4	5
2	病房 Wards	1	2	3	4	5
3	社區藥房 Community pharmacies	1	2	3	4	5
4	醫院或診所嘅藥房，即係等攞藥嘅時候 Hospital or Clinic pharmacies (while waiting for drug dispensing)	1	2	3	4	5

21) 你認為以下用於宣傳正確使用抗生素嘅方法有冇用？一分係非常冇用到五分就係非常有用，你會畀幾多分？

On the scale shown, how much do you rate the effectiveness of the following promotion methods on safe use of antibiotics? Please rate from 1(very useless) to 5(very useful). Single Code per statement. Rotate order asked

		非常冇用 **Very useless**	稍微冇用 **Slightly useless**	冇意見 **Neutral**	稍微有用 **Slightly useful**	非常有用 **Very useful**
1	短片，例如電視廣告或者節目 Videos, e.g. TV API or programs	1	2	3	4	5
2	文字，例如報章或雜誌專欄 Articles, e.g. columns in newspapers or magazines	1	2	3	4	5
3	其他印刷品，例如海報或者宣傳單張 Printed materials, e.g. posters or pamphlets	1	2	3	4	5
4	網頁，或者社交媒體例如facebook Websites or social medias, e.g. facebook	1	2	3	4	5

KNOWLEDGE ABOUT ANTIBIOTIC RESISTANCE

22) 您有冇聽過以下術語？

Have you heard of any of the following terms? Single Code per term. Rotate order asked

		有 **Yes**	冇 **No**	唔知道 **Don't know**
1	抗生素耐藥性 Antibiotic resistance	1	2	99
2	超級細菌 Superbugs	1	2	99
3	抗菌素耐藥性 Antimicrobial resistance	1	2	99
4	抗藥性細菌 Antibiotic-resistant bacteria	1	2	99
5	抗微生物藥物耐藥性 (只問以中文作答的被訪者)	1	2	99

22_1.Ask if answered YES @ 22) to 抗生素耐藥性

您喺邊度聽過：「抗生素耐藥性」？

Where did you hear about the term: 'Antibiotic Resistance'?

請選擇所有適用項　Show list: Code all mentions　(No need to list out the options)

1. 醫生或者護士 Doctor or nurse
2. 藥劑師 Pharmacist
3. 屋企人或者朋友Family member or friend
4. 傳媒（報紙、電視、電台、雜誌）Media (newspaper, TV, radio, magazine)
5. 特定活動 Specific campaign
6. 社交媒體(social media)
7. 學校 (school)
8. 其他 Other

99. 唔記得 Can't remember

22_2.Ask if answered YES @ 22) to 超級細菌

您喺邊度聽過：「超級細菌」？

Where did you hear about the term: 'Superbugs'?

請選擇所有適用項　Show list: Code all mentions　(No need to list out the options)

1. 醫生或者護士 Doctor or nurse
2. 藥劑師 Pharmacist
3. 屋企人或者朋友Family member or friend
4. 傳媒（報紙、電視、電台、雜誌）Media (newspaper, TV, radio, magazine)
5. 特定活動 Specific campaign
6. 社交媒體(social media)

7. 學校 (school)
8. 其他 Other
99. 唔記得 Can't remember

22_3.Ask if answered YES @ 22) to 抗菌素耐藥性
您喺邊度聽過：「抗菌素耐藥性」？
Where did you hear about the term: 'Antimicrobial resistance'?
請選擇所有適用項　Show list: Code all mentions　(No need to list out the options)
1. 醫生或者護士 Doctor or nurse
2. 藥劑師 Pharmacist
3. 屋企人或者朋友Family member or friend
4. 傳媒（報紙、電視、電台、雜誌）Media (newspaper, TV, radio, magazine)
5. 特定活動 Specific campaign
6. 社交媒體(social media)
7. 學校 (school)
8. 其他 Other
99. 唔記得 Can't remember

22_4.Ask if answered YES @ 22) to 抗藥性細菌
您喺邊度聽過：「抗藥性細菌」？
Where did you hear about the term: 'Antibiotic-resistant bacteria'?
請選擇所有適用項　Show list: Code all mentions　(No need to list out the options)
1. 醫生或者護士 Doctor or nurse
2. 藥劑師 Pharmacist
3. 屋企人或者朋友Family member or friend
4. 傳媒（報紙、電視、電台、雜誌）Media (newspaper, TV, radio, magazine)
5. 特定活動 Specific campaign
6. 社交媒體(social media)
7. 學校 (school)
8. 其他 Other
99. 唔記得 Can't remember

22_5.Ask if answered YES @ 22) to 抗微生物藥物耐藥性 (只問以中文作答的被訪者)
您喺邊度聽過：「抗微生物藥物耐藥性」？
請選擇所有適用項　Show list: Code all mentions　(No need to list out the options)
1. 醫生或者護士 Doctor or nurse
2. 藥劑師 Pharmacist
3. 屋企人或者朋友Family member or friend
4. 傳媒（報紙、電視、電台、雜誌）Media (newspaper, TV, radio, magazine)
5. 特定活動 Specific campaign
6. 社交媒體(social media)
7. 學校 (school)
8. 其他 Other
99. 唔記得 Can't remember

23) 您認為以下句子係「啱」定「錯」

Please indicate whether you think the following statements are 'true' or 'false'

	Single Code per statement. Rotate order asked	**啱 Yes**	**錯 No**	**唔知道 Don't know**
1	您身體對抗生素產生抗藥性時，就出現抗生素耐藥性，因為抗生素唔再咁有效了 Antibiotic resistance occurs when your body becomes resistant to antibiotics and they no longer work as well	1	2	99
2	好多感染對抗生素治療越嚟越有抗藥性 Many infections are becoming increasingly resistant to treatment by antibiotics	1	2	99
3	如果細菌產生抗藥性，就好難、甚至冇可能用抗生素醫治細菌感染 If bacteria are resistant to antibiotics, it can be very difficult or impossible to treat the infections they cause	1	2	99
4	抗生素耐藥性係一個可能會影響我或者我屋企人嘅問題 Antibiotic resistance is an issue that could affect me or my family	1	2	99
5	抗生素耐藥性喺其他國家是問題，但係喺香港唔係問題 Antibiotic resistance is an issue in other countries but not here	1	2	99
6	抗生素耐藥性呢個問題淨係會影響成日食抗生素嘅人 Antibiotic resistance is only a problem for people who take antibiotics regularly	1	2	99
7	對抗生素具有抗藥性嘅細菌會喺人同人之間傳播 Bacteria which are resistant to antibiotics can be spread from person to person	1	2	99
8	抗生素耐藥感染會增加醫療（例如外科手術、器官移植和癌症治療等）嘅風險 Antibiotic-resistant infections could make medical procedures like surgery, organ transplants and cancer treatment much more dangerous	1	2	99

24) 你認為以下方法係咪有助解決抗生素耐藥性問題？一分係非常唔同意到五分就係非常同意，你會畀幾多分？

On the scale shown, how much do you agree the following actions would help address the problem of antibiotic resistance? Single Code per statement. Rotate order asked

		非常唔同意 **Disagree strongly**	稍微唔同意 **Disagree slightly**	冇意見 **Neutral**	稍微同意 **Agree slightly**	非常同意 **Agree strongly**
1	應該淨係用醫生處方嘅抗生素 People should use antibiotics only when they are prescribed by a doctor	1	2	3	4	5
2	農民應該畀少啲抗生素啲動物食 Farmers should give fewer antibiotics to food-producing animals	1	2	3	4	5
3	不應該留低食剩抗生素，留番下次病嘅時候食 People should not keep antibiotics and use them later for other illnesses	1	2	3	4	5
4	父母應該確保佢哋嘅子女按時接種疫苗 Parents should make sure all of their children's vaccinations are up-to-date	1	2	3	4	5
5	應該經常洗手 People should wash their hands regularly	1	2	3	4	5
6	醫生應該淨係喺有需要時先處方抗生素 Doctors should only prescribe antibiotics when they are needed	1	2	3	4	5
7	政府應該鼓勵開發新嘅抗生素 Governments should reward the development of new antibiotics	1	2	3	4	5
8	藥廠應該開發新嘅抗生素 Pharmaceutical companies should develop new antibiotics	1	2	3	4	5

25)你同唔同意以下講法？一分係非常唔同意到五分就係非常同意，你會畀幾多分？
On the scale shown, how much do you agree with following statements?
Single Code per statement. Rotate order asked

		非常唔同意 Disagree strongly	稍微唔同意 Disagree slightly	冇意見 Neutral	稍微同意 Agree slightly	非常同意 Agree strongly
1	抗生素耐藥性係世界面臨最大嘅難題之一 Antibiotic resistance is one of the biggest problems the world faces	1	2	3	4	5
2	醫學專家會喺抗生素耐藥性問題變得太嚴重之前解決問題 Medical experts will solve the problem of antibiotic resistance before it becomes too serious	1	2	3	4	5
3	每個人都需要承擔責任，以負責任嘅方式使用抗生素 Everyone needs to take responsibility for using antibiotics responsibly	1	2	3	4	5
4	好似我咁樣嘅人，能為阻止抗生素耐藥性而做嘅事並唔多 There is not much people like me can do to stop antibiotic resistance	1	2	3	4	5
5	我擔心抗生素耐藥性會影響我同我屋企人嘅健康 I am worried about the impact that antibiotic resistance will have on my health, and that of my family	1	2	3	4	5
6	只要我正確咁服用抗生素，我就唔會受到抗生素耐藥感染嘅影響 I am not at risk of getting an antibiotic-resistant infection, as long as I take my antibiotics correctly	1	2	3	4	5

USE OF ANTIBIOTICS IN AGRICULTURE

26) 您認唔認為抗生素喺香港嘅農業係被廣泛咁使用 (包括食用動物)？
Do you think antibiotics are widely used in agriculture (including in food-producing animals) in Hong Kong?
1. 認為 Yes
2. 唔認為 No
99. 不知道 Don't know

FOOD LABELING OF ANTIBIOTICS

27) 您會唔會優先選擇購買標籤咗冇用抗生素嘅食物？
Do you prefer to buy food that is labelled as 'antibiotic-free'?
1. 會 Yes
2. 唔會 No
99. 不知道 Don't know

DEMOGRAPHICS

28) 請問您嘅性別係？（*訪問員：如果清楚則不用詢問對方*）
Please record gender Single Code
1. 男 Male
2. 女 Female

29) 請問你幾多歲？
What is your age?
_____歲 Years

30) 請問你最高的教育程度是？**[訪問員：請讀出個別答案]**
What is your highest educational attainment? [Interviewer: read out the answers one by one] Single Code
1. 小學或以下 Primary or below
2. 初中 (中一至中三) Lower secondary (S1-S3)
3. 高中 (中四至中六) / 預科 Upper secondary (S4-S6) / Matriculation
4. 專上教育 (非學位、學位或以上) Tertiary (Non-degree, degree or above)
5. 拒絕回答 Refuse to answer

31) 請問你的婚姻狀況是？ **[訪問員：請讀出個別答案]**
What is your marital status? (Interviewer: read out the answers one by one) Single Code
1. 未婚 Never married
2. 已婚並有孩子 Married and with child(ren)
3. 已婚但沒有孩子 Married and without child
4. 分居或離婚 Divorced or Separated
5. 喪偶 Widowed
6. 拒絕回答 Refuse to answer

32) 你現時有工作嗎？
Are you currently engaged in a job? Single Code
1. 有 Yes
2. 沒有 (跳答至 34) No (skip to 34)

33) 你的職業是什麼呢？**[訪問員：請記錄詳細職業資料]**
What is your occupation? [Interviewer: record the details of occupation] Single Code
1. 僱主 /經理 /行政人員 Employer/Manager/Administrator
2. 專業人員 Professional
3. 輔助專業人員 Associate Professional
4. 文員 Clerk
5. 服務工作人員 Service worker
6. 商店銷售人員 Shop sales worker
7. 漁農業熟練工人 Skilled agricultural/fishery worker
8. 工藝及有關人員 Craft and related worker

9. 機台及機器操作員及裝配員 Plant and machine operator and assembler
10. 非技術工人 Un-skilled worker
11. 其它(請說明：_____) Other: (Please specify _____)

(回答 33 後請跳答至 35)

34) 你是一位..... 。[訪問員：請讀出個別答案]
You are a … [Interviewer: read out the answers one by one] Single Code

1. 學生 Student
2. 家庭主婦/料理家務人士 Home-maker
3. 失業 /待業人士 Unemployed person
4. 退休人士 Retired person
5. 其它(請說明：_____) Others: (Please specify_____)

35) 包括所有入息來源，你的每月個人總收入是？
How much is your monthly personal income, including all sources of income? Single Code

1. 沒有收入 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 或以上
19. 拒絕回答 Refuse to answer

36) 包括所有入息來源，你的每月家庭總收入是？
How much is your monthly household income, including all sources of income? Single Code

1. $2,000 以下 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 或以上 or above
20. 不知道 Don't know
21. 拒絕回答 Refuse to answer

37) 請問你現正居住的房屋類型是?
What is your type of living quarter? Single Code

1. 公營租住單位 Public rental flats
2. 房屋委員會資助出售單位 Housing Authority subsidised sale flats
3. 房屋協會資助出售單位 Housing Society subsidised sale flats
4. 私人住宅單位 Private residential flats
5. 別墅／平房／新型村屋 Villas/Bungalows/Modern village houses
6. 簡單磚石蓋搭建築物／傳統村屋
   Simple stone structures/Traditional village houses
7. 員工宿舍 Staff quarters
8. 非住宅用屋宇單位 Non-domestic quarters
9. 拒絕回答 Refuse to answer

38a) 請問呢個單位有幾多人住呢，包括你自己但唔包括家傭?
How many household members are living in your household, including yourself but excluding living-in maids?

_____ (如答 1，跳至 39) (Skip to 39 if the answer is 1)

38b) 請問呢個單位有幾多位 15 歲或以下的兒童?
How many children aged 15 or below in this household?

_____

38c) 喺 16 歲或以上嘅家庭成員中，佢地嘅關係…..？ (讀出答案)
Amongst those household members aged 16 or above, what is their relationship? (Read out answers)

1. 夫婦 / 同居伴侶 Married couple / cohabiting partner
2. 其他關係 Other relationship

39) 以上就是我們要諮詢的所有問題 - 感謝您花費寶貴時間完成調查。 如果需要，您是否願意我們就本調查的主題再次聯絡您？
This is the end of the survey. Thank you very much for your participation and your help is greatly appreciated. Would you mind if we contacted you again regarding to this subject matter of investigation?

1. 是 Yes
2. 否 No

非常感謝! Thank you very much!