

Knowledge, Attitude and Practice Survey of Medical Practitioners on Antimicrobial Resistance 2019

Executive Summary

Background

The Hong Kong Strategy and Action Plan on Antimicrobial Resistance (2017 – 2022) launched in 2017 recommended, among others, to monitor knowledge, attitude and practice (KAP) towards antimicrobial resistance (AMR) and antimicrobial use among the general public and target population identified by the survey. Results of KAP surveys were useful in providing guidance for key messages to be developed and in providing means for promulgation targeting different populations (e.g. general public, healthcare professionals) in order to raise awareness and enable them to use antimicrobials in an appropriate manner.

In this connection, the Department of Health (DH) commissioned Consumer Search Hong Kong Limited (CSG) to conduct a knowledge, attitude and practice survey of medical practitioners on AMR (“the Survey”) in 2019.

Survey method

The sampling frame of the Survey involved a random sample of medical practitioners with full registration with the Medical Council of Hong Kong under the Medical Registration Ordinance who were on the Resident List of the General Register as at 1 July 2018. While primary care was patients’ first point of contact in the continuum of healthcare process, subgroup analysis was also performed for this subgroup. The target sample size was 1 067 registered medical practitioners, among whom at least 350 should be primary care medical practitioners. The Survey was conducted by self-administrated paper-based or web-based questionnaire consisting of 24 questions in English. Paper-based questionnaires with unique QR code and password (for access to web-based questionnaire) were mailed to selected medical practitioners. The fieldwork was conducted during 11 September to 31 December 2019, achieving a sample size of 1 074 (including 364 primary care doctors) and a response rate of 12.3%.

Survey findings

Demographics of Respondents

Findings of the Survey were based on the 1 043 medical practitioners who were practising in Hong Kong as of 30 June 2019. Among them, about two-thirds (66.9%) of respondents enumerated were males and there were relatively more respondents who were aged between 36 and 45 years (25.7%) and between 46 and 55 years (23.4%), followed by those who were 35 years or below (21.0%) and 56 to 65 years (18.1%). Slightly over one in ten (11.8%) respondents were aged over 65 years.

About a quarter of respondents enumerated had been practising in the medical profession for 11 to 20 years (27.4%), over 30 years (26.9%) and 21 to 30 years (25.2%), whereas another 20.5% of the respondents had been in practice for ten years or less. Most of the respondents were either working in the Hospital Authority (47.0%) or in the private sector (45.3%). A very small proportion of them were working with the Government (4.9%), academic institutions (1.8%) or subvented organisations (1.0%). About two-thirds (66.7%) of them spent most of their working time in specialty practice, either as specialists/fellows/trainees, while around three in ten (31.8%) mainly spent their time on general practice.

Among those practising in specialties and working as specialists/fellows/trainees, slightly more (22.0%) were practising internal medicine, followed by family medicine (15.2%) and surgery (10.3%). Other relatively more common specialties included paediatrics (9.4%), emergency medicine (7.2%), obstetrics & gynaecology (7.1%) and anaesthesiology (5.2%).

Knowledge and Awareness

Majority of respondents considered AMR severe worldwide (70.1%) and in Hong Kong (65.1%), and over 97% of the respondents were aware that AMR could lead to reduced treatment options, increased treatment cost, increased mortality and increased length of hospital stay. Respondents considered that patients' self-medication with antibiotics (83.3%) and inappropriate choice of drug (83.0%) were important drivers of AMR.

The less experienced respondents were more likely to rate AMR in Hong Kong as "very severe"/"slightly severe". The proportion of respondents practised for ten years or less was the highest (79.0%) among all groups who considered AMR in Hong Kong was "very severe"/"slightly severe". About one in ten (9.6%) respondents from the private sector considered AMR not severe ("slightly not severe"/"not severe at all") in Hong Kong, a proportion being at least doubled compared with respondents working in other sectors.

Antibiotic prescription

Over 80% of respondents were confident in interpreting antibiotic susceptibility test results (85.6%) and knowing when to start antibiotic therapy (81.4%). Around seven in ten respondents were confident in choosing the correct drug and dosage (76.8%), educating patient on the proper use of antibiotics (74.5%), determining the right treatment duration (73.1%), differentiating broad-spectrum antibiotics from narrow-spectrum antibiotics and avoiding their unnecessary use (71.5%) and de-escalating antibiotic therapy according to clinical evaluation and diagnostic test results (68.6%). Comparatively fewer doctors (especially females, those in general practice, and those practising non-surgery related specialties) were confident in de-escalating antibiotic therapy and differentiating broad-spectrum antibiotics.

Nearly half (43.9%) of respondents prescribed antibiotics in less than ten percent of all consultations. Slightly more than half (56.8%) of respondents prescribed antibiotics for cold/flu/upper respiratory tract infection (URTI) in a frequency of less than five percent. Being female, practising for 11 to 20 years, working in the Government, and practising surgery-related specialties¹ were associated with less frequent prescription of antibiotics for cold/flu/URTI.

More than half (59.4%) of the respondents were “always”/“often”/“sometimes” requested by patients for antibiotics for cold/flu/URTI, and higher frequency of such requests were associated with doctors who were male or in the general practice field. Despite this, a majority (83.0%) of all respondents “rarely”/“never” prescribed antibiotics whenever patients requested. On the other hand, “uncertain clinical diagnosis” was considered by the highest proportion (56.0%) of respondents to be an important (“very important”/“slightly important”) reason for unindicated antibiotic prescription, followed by “expectation/request of antibiotics by patients or carers” (23.8%) and “cannot ensure return of patient for follow up” (17.7%). The frequency of prescribing antibiotics for uncomplicated URTI whenever patients requested was significantly associated with the perceived importance of reasons for unindicated antibiotic prescription including patients/carers’ expectation or request, being unable to ensure the return of patient for follow up, no time to explain why not indicated and fear of patient’s litigation. Among those reported “always”/“often”/“sometimes” prescribed antibiotics for uncomplicated URTI whenever patient requested, 30.9% and 26.9% considered “expectation/request of antibiotics by patients or carers” and “fear of patient’s litigation” respectively as important reasons accounting for unindicated antibiotic prescription and these proportions were significantly lower among those reported “rarely”/“never” (less than 25% and 15% respectively).

¹ Including surgery, orthopaedics & traumatology, otorhinolaryngology and plastic surgery.

One in five respondents (21.1%) “always”/“often” used Point-of-Care test to guide antibiotic prescription when treating patients with uncomplicated URTI, with relatively more respondents in the private sector (24.5%) adopting such practice.

Majority (86.8%) of respondents “always”/“often” reminded their patients to complete course of the antibiotics as prescribed, while slightly more than half (58.1%) of respondents “always”/“often” explained to patients that improper use of antibiotics would increase AMR.

Less than four in ten respondents (38.4%) “always”/“often” re-assessed patients’ antibiotic regimen after 48 to 72 hours of starting treatment. Male doctors, those working in academic institutions, those practising in specialty, especially surgery-related, were more inclined to practice this more frequently.

Majority (71.9%) of respondents considered themselves adequately trained on antibiotic use. Male gender, longer duration of practice and working in academic institutions were found to be factors associated with perceived adequately trained on antibiotic use.

Evaluation of Tools

Amongst the tools covered by the Survey, the Interhospital Multi-disciplinary Programme on Antimicrobial ChemoTherapy (IMPACT) guideline was known to most (78.7%) respondents, followed by the antibiogram for public and private hospitals at 68.2% and the Antibiotic Stewardship Programme (ASP) in Primary Care/Hospital at 64.4%. Subgroup analysis revealed that those with fewer years of practice, working in the Hospital Authority, and practising in a specialty were more aware of IMPACT guideline. Enumerated medical practitioners working in academic institutions and in administration/teaching areas were more aware of antibiograms, while those working in academic institutions were more aware of ASP related tool.

Among respondents who were aware of the aforesaid tools, between 70% to 80% expressed that they “always”/“often”/“sometimes” used IMPACT guideline (78.2%), antibiogram for public and private hospitals (72.2%), and ASP in Primary Care/Hospital (71.2%). The frequency of using the tools by relevant respondents was not significantly associated with any of their demographics (gender, year of practice, type of institution, major field of practice, and specialty). Effectiveness of the tools perceived by relevant respondents was also not significantly associated with any of their demographics. Among those who had used the corresponding tools, around three quarters considered the tools useful in improving doctors’ knowledge on proper use of antibiotics respectively for IMPACT guideline (78.5%), antibiograms (78.1%) and ASP related tools (72.0%).

The proportion of respondents reported “always”/“often” use of other references when making

decision on antibiotic prescription by descending proportion were presented below:

- laboratory test/Point-of-Care test (77.9%)
- suggestions from peers of the same specialty (46.8%)
- specialist consultation (44.5%)
- guidelines/recommendations of foreign health authorities/agencies (43.8%)

Primary care doctors

Primary care doctors² were relatively less likely to consider AMR led to increased length of hospital stay. They were more inclined to regard patients' non-compliance to antibiotic treatment, self-medication by patients and poor quality of antibiotics important drivers to AMR, while they were less likely to consider the inappropriate choice of drug as an important factor.

In terms of practice, slightly more than half (56.9%) of primary care doctors prescribed antibiotics in less than ten percent of their consultations and they reported more frequently explained to their patients about indication of antibiotic prescription, side effects of antibiotics, complete course of antibiotics as prescribed, and improper use of antibiotics would increase AMR.

Compare with those not working in the primary care setting, comparatively less primary care doctors reported "always"/"often" requested by patients for antibiotics to treat URTI, while more of them considered expectation/request by patients or carers an important reason for unindicated antibiotic prescription. Despite these, they prescribed antibiotics less frequently, and explained to their patients why they were not indicated more frequently. However, less primary care doctors re-assessed their patients' antibiotic regimen frequently, and also less primary care doctors made decisions on antibiotic prescription with reference to peers' suggestions, specialist consultation, and laboratory test/Point-of-Care test.

While more primary care doctors were confident in educating their patients on proper use of antibiotics, less of them were confident in differentiating broad-spectrum antibiotics, and de-escalating antibiotic therapy. Moreover, less primary care doctors were aware of the availability of antibiograms, IMPACT guideline and ASP. Nevertheless, more of them considered continuous medical education (CME) accredited formal lectures, and web/computer-based resources useful to improve doctors' knowledge on proper use of antibiotics, while less of them considered infectious disease specialist/microbiologist consultation useful.

² Respondents who replied "general practice" as major field of practice or "family medicine" as his/her specialty in the questionnaire were regarded as primary care doctors

Recommendations

As relatively less respondents from the private sector considered AMR a severe worldwide and local problem, more AMR awareness-raising activities could be arranged to target medical practitioners working in the private sector.

Since patients' self-medication with antibiotics was considered by most respondents an important driver of AMR, members of the public should be explained more about the disastrous consequences of AMR instead of merely asking them to stop practicing self-medication.

It was revealed that relatively fewer doctors were confident in de-escalating antibiotic therapy and differentiating broad-spectrum antibiotics. As such, these two areas should be strengthened in continuous professional training, guiding tools and reference materials.

With significantly more respondents who "always"/"often"/"sometimes" prescribed antibiotics for uncomplicated URTI upon patients' requests considered "expectation/request of antibiotics by patients or carers" and "fear of patient's litigation" as important reasons of unindicated antibiotic prescription, and a significant proportion of respondents were frequently requested by patients for antibiotics for cold/flu/URTI, patient education and expectation management should be enhanced in public promotional campaign.

While more than three quarters of the respondents always/often used either Point-of-Care test or laboratory test, the use of Point-of-Care test to guide antibiotic prescription when treating patients with uncomplicated URTI was found to be relatively infrequent. Consideration might thus be taken for sharing such findings and explore with stakeholders on feasibility of more frequent use of either test to help optimise use of antibiotics in specific settings.

More promotional campaigns could be targeted at primary care doctors to promulgate the antibiograms, IMPACT guideline and ASP. Efforts could be made to explore and remove hindrance to application of the tools, as well as enhancing the feedback mechanism for continuous improvement of these tools. Dissemination of relevant training could be done via CME accredited formal lectures as well as web/computer based resources, which were considered useful by majority of respondents.

Infection Control Branch
Centre for Health Protection
Department of Health
30 October 2020