

LegCo Panel on Health Services

Prevention of the Spread of Severe Acute Respiratory Syndrome

Further to the paper discussed at the meeting on 14 April 2003, this paper updates Members on the latest development in Severe Acute Respiratory Syndrome (SARS) (commonly known as atypical pneumonia) and measures implemented to combat the disease.

Summary of cases

2. As at 1 p.m. 22 April, a total of 1,434 patients admitted to public hospitals have been confirmed with SARS. Of these, 331 (23.1%) are health care workers or medical students while 1,103 (76.9%) are patients, family members or visitors/contacts. A total of 461 patients (32.1%) have recovered and been discharged from public hospitals, of whom 25 were discharged on 22 April. There are 99 fatal cases, most of whom had a history of chronic diseases or sought treatment at a relatively late stage of infection. There are however a growing number of younger deaths whose illness was severe and did not respond to treatment. Most of the patients currently in hospital are showing positive responses to the treatment protocol. 109 patients are receiving treatment in intensive care unit. There are 328 patients living in Amoy Gardens, accounting for 23.4% of all the cases. The situation in Amoy Gardens has however stabilised, with only 4 cases reported during the 5-day period from 17 – 21 April. Furthermore, some of these recently reported cases represent those with disease onset earlier during the outbreak and now being confirmed.

Latest Development

Home Treatment Programme

3. With effect from 10 April 2003, all household contacts of confirmed SARS patients are required to confine themselves at home for home treatment up to a maximum of 10 days. As at 21 April, a total of 262 permits covering 688 persons under the Home Treatment Programme have been issued. The implementation of the Programme has been smooth. The majority of the confinees have stayed at home as required, and non-compliance requiring the issue of warning letters has been few in number. As at 21 April, a total of 31 warning letters have been issued. Follow-up action showed that most of these defaulters have complied and stayed at home.

The Prevention of the Spread of Infectious Diseases (Amendment) Regulation 2003

4. The Prevention of the Spread of Infectious Diseases (Amendment) Regulation 2003 (the Amendment Regulation) was made by the Chief Executive in Council on 15 April to provide the legal basis for implementing further precautionary measures to control the spread of SARS. Given the urgent need to introduce additional precautionary measures to control the spread of the disease, the Amendment Regulation came into operation immediately upon gazettal on 17 April.

5. The Amendment Regulation provides statutory powers for health officers to restrict specified persons from leaving Hong Kong and for authorized persons to measure the body temperature of persons arriving in or departing Hong Kong. It also empowers health officers or authorized medical practitioners to carry out medical examination on any persons arriving in or departing Hong Kong for the purpose of ascertaining whether he is likely to be infected with SARS. Such powers will be exercised as and when necessary.

Measuring Body Temperature of Passengers

6. With effect from 17 April, all passengers departing at the Hong Kong International Airport are required to have their body temperature taken before check-in. Any outbound passengers with a body temperature of over 38 degrees Celsius would be required to seek medical advice. Passengers who have fever or symptoms suggestive of SARS should not board a plane. The

measure is in line with the World Health Organisation travel advice that people departing from affected areas should be screened for possible SARS at the point of departure. The operation has been smooth thus far. As at 20 April, no one was suspected to have SARS among the 45,153 persons departing at the Airport. As a continued effort to strengthen control measures at entry and exit points, we will be taking body temperature for all inbound passengers at the Airport starting later this week, followed gradually by similar body temperature taking arrangement at other border check points.

Class Resumption

7. The Education and Manpower Bureau (EMB) announced on 16 April that Secondary Three level and above of secondary schools would resume classes on 22 April as scheduled, whereas classes for other levels of secondary schools, primary and special schools, and kindergartens will continue to suspend for one week and resumption is tentatively scheduled for 28 April.

8. EMB has issued to schools a comprehensive manual reiterating the various precautionary measures against SARS, such as the necessity for schools to cleanse their premises on daily basis, and teachers and students to pay heed to personal hygiene. Schools are also reminded that tuckshop, catering, school bus and nanny bus services must maintain hygiene standards to the highest. In addition, EMB initiated a school cleansing campaign on 20 April, calling on parents to join forces to help out with school cleansing work.

9. Upon class resumption, EMB requires schools to implement a series of preventive measures against the occurrence of SARS on their premises. These measures include -

- Parents have to make sure that students are not feeling unwell before sending them to school, observe whether there are any SARS symptoms and check students' body temperature on a daily basis;
- All staff members (including drivers of and workers on school bus) must measure their body temperature before they return to school on a daily basis. Those with a temperature should not return to school;
- Those staff members/students who have close contact with a confirmed SARS patient must undergo home confinement for 10 days before returning to school; and

- Schools should suspend classes for 10 days once a student/staff member is confirmed to have contracted SARS.

Investigation into the outbreak of the Amoy Gardens

10. As of 21 April, there were a total of 328 SARS cases in Amoy Gardens. There was an obvious concentration of cases in Block E, accounting for 40% of the cumulative total. The rest of the cases (60%) were scattered in 13 other blocks. In terms of onset dates, the outbreak reached its peak on 24 March and declined steadily afterwards. Block E cases appeared earlier in the outbreak and showed a point-source type of distribution. Cases in other blocks which appeared 3 days later were more evenly spread out in time.

11. In order to identify the cause of the outbreak of SARS at Amoy Gardens, the Government has conducted a detailed investigation covering epidemiological, environmental, public hygiene, building design and utilities considerations. The findings of the investigation were announced on 17 April. A report on the investigation was submitted to the World Health Organization on 18 April. In gist, the findings showed that not one single factor could account for the outbreak in Block E of Amoy Gardens and that the outbreak was likely to be the result of a combination of factors, including -

- The presence of an index patient who caused the first batch of infections;
- Person-to-person spread;
- Transmission via the sewage system; and
- Environmental contamination.

12. The report found it probable that the index patient suffering from chronic renal failure had infected a group of residents in Block E and subsequently other residents in the same block through the sewage system, person-to-person contact and the use of communal facilities such as lifts and staircases.

13. The report also noted a swab sample taken from the toilet of an infected resident had shown positive in the test for the coronavirus' genetic material.

14. Like other blocks in Amoy Gardens, Block E has 33 floors with 8 apartment units on each floor. Eight vertical soil stacks of each block extend along the height of the building for each of the 8 units. Each soil stack collects effluent from the water closets, the basins, the bathtubs and the floor drains of the toilets of all the units that it serves. Each of these sanitary fixtures is fitted with a U-shaped water trap to prevent foul smell and insects in the sewers from entering the toilets.

15. The U-trap must be charged with water to function properly. However, the investigation found that the U-traps of the floor drains were dried up in many cases because most households had the habit of cleaning the bathroom floor by mopping instead of flushing it with water. In tests carried out in one of the Block E units, reflux of air from the soil stack into the bathroom through the floor drain was demonstrated when the exhaust fan in the bathroom was switched on. It is postulated that reflux of contaminated sewage droplets present in the soil stack entered the bathroom, and was extracted by the bathroom exhaust fan into the light well between adjacent units. The contaminated droplets could then enter other units through open windows.

16. The contaminated droplets could deposit virus on various surfaces, such as the floor mat, towels and other bathroom equipment. The chance of exposure was increased given that the bathrooms in the apartment units of Amoy Gardens were generally small in size (about 3.5m²). Records from the management office confirmed that there were numerous complaints from residents on the emission of foul gas from the floor drains indicating the likelihood of the failure of the U-traps in these apartments.

17. The report also observed that the infection had spread among close contacts, e.g. family members, although this is a smaller contributory factor to the overall outbreak. Air samples, potable water samples and other environmental swabs were collected in Block E to identify the extent of contamination brought about by the infectious agent. Air and water samples showed no evidence of contamination. These laboratory test results together with the spatial and temporal distribution of cases in Amoy Gardens and the

epidemiological picture argue against airborne transmission or transmission through contaminated water.

18. A thorough cleansing cum disinfection operation was conducted with the cooperation of the Owners' Corporation, residents concerned and the joint efforts of various government agencies for all flats and common areas of Block E, Amoy Gardens between 7 and 10 April. Particular attention was paid to sinks, bathtubs, washhand basins, toilet bowls and floor drains in the toilets and kitchens. Water storage tanks were also cleansed. Subsequent test for E-coli showed that the disinfection of the drainpipes was effective.

19. The Food & Environmental Hygiene Department (FEHD) gave advice to residents of other Blocks in Amoy Gardens to disinfect their flats as precautionary measures, particularly sinks, bathtubs, washhand basin, toilet bowls and floor drains in the toilets and kitchens. Guidelines and disinfectants were provided to residents.

20. Residents of Amoy Gardens were advised to ensure the water level at the U-traps of drainage outlets to ensure proper functioning.

21. The management company of Amoy gardens has repaired the crack in the sewer vent pipe found at the 4th floor level of Block E. The Administration has also asked the management company to carry out a comprehensive inspection of the drainage system of all blocks within the development.

22. To minimize the likelihood of similar outbreaks in future, the Administration has produced a guide to educate the public on the cleaning and disinfection of households, including bathroom cleansing and how to ensure the proper functioning of the water seal in U-traps. Improvements to environmental hygiene will be made and pest control stepped up on a territory-wide basis.

23. The Administration has published a set of guidelines to draw the public's attention to the proper maintenance and repair of the drainage system and sanitary fitments. The guidelines are available from the Buildings Department website and are being distributed to all management companies and owners' corporations.

24. The building management authorities of buildings where confirmed SARS patients reside has been notified of the infection and are required to take proper disinfection measures. FEHD will inspect these buildings to see if they meet the required standard. Names of these buildings are also placed on the homepage of the Department of Health (DH) to allow residents to take

appropriate precautionary disinfection measures.

25. Major cleansing/disinfection operations were conducted in the Lower Ngau Tau Kok Estate, Telford Gardens and the surrounding areas by the building management with advice given by FEHD.

Territory-Wide Cleansing Day

26. Maintaining high standard of personal and environmental hygiene is essential in our fight against SARS. To demonstrate the determination, concerted efforts and solidarity of the community in fighting against the disease through cleaning up the environment, a series of clean-up events in all the 18 districts were organized on 18 – 19 April in furtherance to the territory cleansing campaign launched in late March. Apart from cleaning up public places and government properties, the Government and District Offices have joined hands with various sectors of the community to organize clean-up events in order to encourage citizens to clean their homes, offices, schools, public areas and districts.

Details of the notification mechanism between Guangdong and Hong Kong

27. Experts from Hong Kong and Guangdong held the first meeting of the Expert Group on Prevention and Treatment of Infectious Atypical Pneumonia on April 17 and 18 in Guangzhou. The Guangdong expert group includes representatives from the Health Department of Guangdong Province, Center for Disease Control and Prevention and several hospitals in Guangdong. The Hong Kong delegation comprises representatives from the Health, Welfare and Food Bureau, DH and Hospital Authority (HA).

28. Experts from the two sides conducted in-depth discussions on the occurrence of atypical pneumonia in the two regions from various perspectives, namely, health administration and management, clinical treatment, epidemiology and pathology. As regards the notification mechanism for atypical pneumonia between the two places, the two sides reached the following consensus on detailed arrangements -

- (1) Periodic notification on the latest situation on infectious atypical pneumonia

The two sides agreed to further improve the notification mechanism for infectious atypical pneumonia. They will pass the latest information on the disease to each other regularly through telephone, facsimile, emails, etc. which would include cumulative case reports, figures on number of cases, deaths, patients discharged as well as clinical treatment, epidemiological investigations, and progress on pathological study. At the meeting, representatives of the two sides exchanged the latest information on the disease. To protect the confidentiality of information prior to release, a dedicated confidential information system has been set up.

(2) Enhanced mechanism for exchange of information on disease control work between counterpart organizations

Both sides agreed to set up a point-to-point exchange mechanism to enhance communication and to draw on each other's experience in disease control. The point-to-point exchange mechanism will be established between (a) the Health Department of Guangdong Province and Hong Kong Department of Health; (b) the Center for Disease Control and Prevention of Guangdong Province and Disease Prevention and Control Division of Hong Kong Department of Health; and (c) Hospitals and pathological services institutions of the two regions. Experts from the two sides will exchange information and share experience through telephone and facsimile, etc.

(3) Enhanced Exchange of information on infectious diseases

In view of the emergence of atypical pneumonia, both sides saw the importance of early exchange of information of infectious diseases which will facilitate control and prevention. The two sides agreed to enhance the existing scope of information exchange by expanding the list of notifiable infectious diseases to include cholera, dengue fever, malaria, influenza and tuberculosis.

29. Both sides agreed to hold the second expert group meeting in Hong Kong in May to exchange the latest information on control of the spread of atypical pneumonia.

Public Hospitals

Procurement and supply of protective gear for public health care workers

30. For general protective gear such as goggles, masks, jackets and trousers, gowns, disposable caps and gloves, HA is arranging procurement centrally. HA keeps a stock of 14 days of these gears and there are weekly supplies locally, from the Mainland and overseas. Current supply is steady and adequate. HA also keeps stock of higher level protective gear such as “Barrier Man” (coveralls for use in areas which require greater protection). HA is sourcing from the USA and Mainland. Supply is so far adequate. As to ventilators, about 790 sets are available for use by SARS patients. Currently, apart from the 109 patients in the intensive care unit (ICU), about 100 patients are on ventilators. The number of ventilators available is thus more than adequate.

Availability of intensive care facilities

31. HA has a total of 375 ICU beds. As at 22 April, 109 were used by SARS patients. Non-SARS patients also occupied over 150 beds. As some of the existing non-SARS ICU patients begin to receive their step-down care in non-ICU wards and in conjunction with HA’s reduction of non-urgent clinical activities, some ICU beds can be freed up for SARS patients. Assuming an ICU rate of 12% for SARS patients and, taking into account the ICU utilization rate for SARS patients during the past week, HA’s ICU capacity is considered to be adequate. HA is also testing the use of breathing equipment such as “BIPAP” which can enable patients intended for ICU to be taken care of in acute wards. As regards ICU beds in private hospitals, the number is limited with only 50-60 beds. Generally, private hospitals will refer SARS patients to public hospitals for further management. However, if in need, private hospitals can assist HA in treating selected non-SARS urgent cases, thus releasing HA capacity to focus on SARS patients.

32. Members are invited to note the contents of this paper.

Health, Welfare and Food Bureau
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