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Communicable Diseases WATCH

衞生防護中心 Centre for Health Protection 衞生署 Department of Health

FEATURE IN FOCUS

Celebrating World Immunisation Week 2017 (April 24 - 30)

Reported by Dr CHAN Hong-lam, Medical and Health Officer, Vaccine Preventable Disease Office, Surveillance and Epidemiology Branch, CHP.

Designated by the World Health Organization (WHO), the World Immunisation Week (WIW) takes place annually during the last week of April as a global initiative to promote the use of vaccines for protecting people of all ages against diseases. The theme for this year is "#VaccinesWork".

Immunisation is considered one of the most successful and cost-effective public health interventions. Routine immunisation provides a point of contact for health care at the beginning of life and offers every child the chance at a healthy life from the start. As with many developed countries, the introduction of universal childhood immunisation in Hong Kong since the 1950s has been remarkably successful at eradicating or reducing the prevalence of many serious diseases such as smallpox and poliomyelitis. Likewise, many other vaccine preventable diseases such as diphtheria and tetanus have reached historic or near record lows over the last two decades. In 2011, Hong Kong was verified by Western Pacific Regional Office (WPRO) of WHO as having achieved the goal of hepatitis B control. On September 21, 2016, WHO Regional Verification Commission for Measles Elimination in the Western Pacific confirmed that Hong Kong had achieved the interruption of endemic measles virus transmission.

Nevertheless, maintaining high vaccination coverage is of utmost importance in vaccine preventable diseases. In January 2017, over 500 measles cases were reported in the WHO European Region. Four hundreds and seventy-four of those were reported in seven endemic countries including France, Germany, Italy, Poland, Romania, Switzerland and Ukraine. Estimated national immunisation coverage with the second dose of measles-containing vaccine in those countries is less than the 95% threshold. Measles is highly contagious and is still endemic in most parts of the world. The virus can spread to any country, including those that have eliminated the disease. Every un- or under-immunised person regardless of age is therefore at risk of contracting the disease. Large outbreaks can occur in countries where immunisation rate is persistently low. Continuous effort from both the healthcare sector and the community on maintaining high vaccination coverage is essential in prevention and control of local measles transmission.

Successful immunisation requires proper storage and handling of vaccines. The system used for storing vaccines in good condition is called the cold chain. Some vaccines are sensitive to freezing, some to heat and others to light. Vaccines must be maintained at condition recommended by manufacturers at every link in the cold chain. Breaching of cold chain can lead to reduction in vaccine potency and protective effect. In each primary care practice providing vaccination, written plans on routine and emergency storage and handling of vaccines should be available. Purpose-built vaccine refrigerators (PBVR) are the preferred means of storage for vaccines and bar fridge should not be used. A thermometer, recording minimum and maximum temperature and a temperature recording chart is needed. It is a good practice to check and record temperatures at least twice daily. Health care providers should strictly follow the manufacturers' recommendation on storage temperatures of individual

vaccines and keep proper usage and maintenance of refrigerator. If any incident happened or abnormalities found, appropriate actions should be taken.

Control of vaccine preventable diseases relies greatly on immunisation. Successful immunisation requires maintaining quality of vaccines from the time of manufacture until the point of administration. This involves cooperation from multiple health care levels. Health care providers should familiarise with the handling of vaccines and management of cold chain breach.

For more information on the WHO's WIW, please visit the website: http://www.who.int/campaigns/immunization-week/2017/en.

When cold chain breach occurs...

- Vaccines exposed to temperature outside the recommended ranges should remain properly stored, but segregated from unexposed vaccines. Mark "Do NOT Use" for the exposed vaccines;
- Record the date, range and duration of temperature breach;
- Contact the manufacturer or drug company to determine whether the vaccines are still usable. If in doubt, it is better not to vaccinate; and
- Take active steps to correct and prevent the problem from recurring.

Reference: Hong Kong Reference Framework for Preventive Care for Children in Primary Care Settings Module on Immunisation Revised Edition 2015.

Hand Hygiene Awareness Day 2017 – Fight antibiotic resistance – it's in your hands

Reported by Dr John KC SHUM, Medical and Health Officer, Ms YT CHEUNG, Nursing Officer, Dr Queenie KM AU, Senior Medical and Health Officer, and Dr TY WONG, Head, Infection Control Branch, CHP.

Proper hand hygiene is the key element to infection control in both healthcare settings and the community. Since 2005, Hong Kong has pledged support to the World Health Organization (WHO)'s first Global Patient Safety Challenge: Clean Care is Safer Care, and has committed to promote good hand hygiene so as to control the spread of infectious diseases. From 2010 onwards, Hand Hygiene Awareness Day has been marked annually on May 5 in Hong Kong to raise the awareness. This year, WHO's newly launched theme on hand hygiene is:

Fight antibiotic resistance – it's in your hands

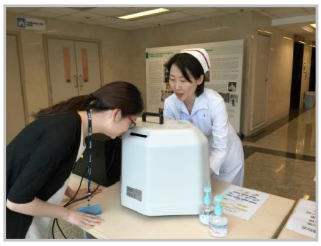
Antimicrobial resistance (AMR) continues to pose a threat to global public health. WHO urges healthcare workers to focus on the fight against antibiotic resistance in the context of hand hygiene and infection prevention and control programmes. WHO regards hand hygiene to be at the core of effective infection prevention and control to combat antibiotic resistance. One of the objectives in WHO's Global Action Plan on AMR issued in 2015 is to "Reduce the incidence of infection through effective sanitation, hygiene and infection prevention measures". For this purpose, WHO issues a call to healthcare workers' action: "Clean your hands at the right times and stop the spread of antibiotic resistance".

To echo WHO's call to action, the Centre for Health Protection (CHP) of the Department of Health would further heighten awareness of healthcare workers and general public on the importance of good hand hygiene as cornerstone to combat AMR. A series of promotional materials were produced to enhance and sustain hand hygiene practice among healthcare workers. These

include DVDs containing educational video clips on hand hygiene and antimicrobial resistance and brand-new designed banners and posters as reminder, which will be delivered to out-patient clinics in both public and private hospital sectors.

Thanks to our Hand Hygiene Campaign partners, the hospitals from both public and private sectors, for their unfailing support in promoting proper hand hygiene all along. In addition to on-going hand hygiene compliance audit, various activities have been organised territory-wide both in public and private hospitals with satisfactory response. CHP would continue to fully support these meaningful hand hygiene activities.

Photos of Hand Hygiene (HH) campaign organised by private and public sectors in 2016:

Hand Hygiene Promotion activity in St. Teresa's Hospital (left and right).


Hand Hygiene Promotion activity in Grantham Hospital.



Hand Hygiene Promotion activity in Princess Margaret Hospital (left 1st) and United Christian Hospital (left 2nd, 3rd and 4th).

On the community side, an Announcement on Public Interests (API) "Clean Your Hands Frequently To Keep The Germs Away" will be re-launched on television media. Public could access the latest information on Hand Hygiene Day 2017 through CHP's website and Facebook fanpage of the Central Health Education Unit. In view of positive feedback last year, CHP will continue distributing hand hygiene booklets to kindergartens to reinforce hand hygiene awareness building since young age. Besides, CHP will provide support and training for students of healthcare professionals, which will in turn educate the general public on hand hygiene. We aim to disseminate this core health messages to general public in an interactive way through multiple platforms.

QR code for the CHP Facebook page: http://www.facebook.com/CentreforHealthProtection

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NEWS IN BRIEF

A domestic cluster of pertussis

The Centre for Health Protection (CHP) recorded a domestic cluster of pertussis in April 2017, affecting a baby and her two household contacts. The baby was a two-month-old girl presented with cough and runny nose since March 26. She was admitted to a public hospital on April 5. Her condition was stable and she was discharged on April 6. Her pernasal swab taken on April 5 was tested positive for *Bordetella pertussis*.

Contact tracing identified four symptomatic household contacts. The baby's 25-year-old mother had cough since April 8 and her prenasal swab collected on April 10 was tested positive for *Bordetella pertussis*. The baby's 51-year-old grandmother had cough since March 5 and her prenasal swab collected on April 11 was tested positive for *Bordetella pertussis*. Two other household contacts (the baby's grandfather and aunt) also presented with upper respiratory symptoms and their prenasal swabs were tested negative for *Bordetella pertussis*. All symptomatic contacts were treated with a course of antibiotics and their condition were stable all along.

Epidemiological investigation revealed that the baby's grandparents had travelled to India from February 21 to March 7, other household contacts had no recent travel history. The baby was born in Hong Kong and had received the first dose of combined diphtheria, tetanus, acellular pertussis and inactivated poliovirus (DTaP/IPV) vaccine according to the local Childhood Immunisation Programme, while her mother and grandmother could not recall their vaccination history. Chemoprophylaxis and screening were offered to other household contacts. Investigation is ongoing.

A local confirmed case of Brucellosis

On April 15, 2017, CHP recorded a sporadic case of brucellosis affecting a 2-year-old boy with good past health. He presented with fever, chills, malaise and arthralgia since April 4, 2017. He was admitted to a private hospital on April 5, 2017. His blood specimen collected on April 6, 2017 grew *Brucella* species. He was treated with a course of antibiotics. His condition was stable and was discharged on April 10, 2017. The family reported no recent travel history. The patient regularly visited a local leisure farm where he had fed a goat. The family kept dogs and cat as pets which were not recently pregnant. There was no exposure to internal organs or carcasses of animals, and no consumption of unpasteurised dairy products, raw or undercooked animal products. The other family members remained asymptomatic. Investigation is on-going.

CA-MRSA cases in March 2017

In March 2017, CHP recorded a total of 119 cases of community-associated methicillin resistant *Staphylococcus aureus* (CA-MRSA) infection, affecting 66 males and 53 females with ages ranging from six months to 100 years (median: 32 years). Among them, there were 86 Chinese, 11 Filipinos, 5 Indian, 4 Caucasian, 4 Pakistani, 3 Nepalese, 2 Vietnamese, 1 Bangladeshi, 1 Indonesian, and 2 of unknown ethnicity.

One hundred and fifteen cases presented with uncomplicated skin and soft tissue infections while the remaining four cases had severe CA-MRSA infections. The first severe case was a 43-year-old man with history of right forearm abscess in February 2017. He presented with fever, malaise, back pain, joint pain and chest pain on March 11. He attended the Accident and Emergency Department (AED) of a public hospital on March 13 and was admitted on the same day. Physical examination revealed splinter haemorrhage, Osler's node and Roth's spot. Transesophageal echocardiogram showed no vegetation. His blood specimen collected on March 15 was cultured positive for CA-MRSA. He was diagnosed to have sepsis and infective endocarditis. He developed shock and acute kidney injury requiring admission to intensive care unit (ICU). He was treated with antibiotics and was discharged on April 8.

The second severe case was a 36-year-old man who presented with pain, erythema and swelling of left thigh on February 22, and fever on February 24. He attended the AED of a public hospital on February 24 and was admitted for management. His blood and left thigh wound swab collected on February 24 were cultured positive for CA-MRSA. The diagnosis was left thigh abscess with sepsis. Incision and drainage of the left thigh abscess was done on February 24 and he was treated with antibiotics. His current condition remained stable.

The third severe case was a 50-year-old woman who had diabetes mellitus. She presented with decrease in appetite on February 23, and vomiting on February 25. She attended the AED of a public hospital on February 25 and was admitted for management. She was found to have high blood glucose level and metabolic acidosis. Her blood specimen and midstream urine collected on February 26 were cultured positive for CA-MRSA. The diagnoses were sepsis and diabetic ketoacidosis. She was treated with insulin, antibiotics and fluid replacement. Subsequently, she developed multi-organ failure requiring mechanical ventilation, inotropic support and haemodialysis. Her condition deteriorated and she succumbed on March 1.

The fourth severe case was a 25-year-old man with eczema. He worked as a physiotherapist in a private hospital. He initially presented with left perianal abscess, and skin abscesses at right lower back and right posterior thigh in early March. He was admitted to a public hospital from March 6 to 7 for incision and drainage of abscesses. A pus swab taken from the right lower back abscess was cultured positive for CA-MRSA. In late March, he developed fever, multiple skin abscesses involving right buttock, thigh and calf, and scalp folliculitis. He was readmitted to a public hospital on March 29 and April 6 for further management. Incision and drainage of the right thigh abscess was done on March 30. His blood specimen collected on March 29 was cultured positive for CA-MRSA. He was diagnosed to have sepsis and multiple skin abscesses. He completed a course of antibiotics and was discharged on April 14. Investigation did not reveal any epidemiological linkage to other cases. Screening and decolonisation would be offered to the close contacts of these severe cases.

Separately, six household clusters, with each affecting two persons, were identified. Decolonisation would be offered to their close contacts.

Scarlet fever update (March 1, 2017 – March 31, 2017)

Scarlet fever activity in March increased as compared with that in February. CHP recorded 249 cases of scarlet fever in March as compared with 168 cases in February. The cases recorded in March included 153 males and 96 females aged between six months and 17 years (median: five years). There were 13 institutional clusters occurring in ten kindergartens and three primary schools, affecting a total of 34 children. No fatal cases were reported in March. Of note, there has been an unusual increase in the activity of scarlet fever in March, which was higher than that in the same period in previous years. In view of the increase in scarlet fever activity in the recent few weeks, parents should take extra care of their children as it mostly affects children. People should maintain strict personal, hand and environmental hygiene. As scarlet fever can be treated by appropriate antibiotics effectively, people suspected to have scarlet fever should consult a doctor promptly. Children suffering from scarlet fever should refrain from attending school or child care setting until fever has subsided and they have been treated with antibiotics for at least 24 hours.