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Dear Doctors,

Recommendations on Pertussis Vaccination for Pregnant Women

We are writing to inform you that the Scientific Committee on Vaccine Preventable Diseases (SCVPD) under the Centre for Health Protection (CHP) of the Department of Health (DH) has newly made recommendations regarding the use of pertussis-containing vaccines for pregnant women in Hong Kong.

Pertussis vaccination was first introduced in Hong Kong in 1957. Under the current Hong Kong Childhood Immunisation Programme, children receive a total of six doses of pertussis-containing vaccines, including the three primary doses at two, four and six months old and three booster doses at 18 months, Primary one and Primary six. Local immunisation coverage rates among children have been maintained at a high level of over 95% according to DH's surveys and administrative statistics.

In recent years, resurgence of pertussis has been observed in countries with high vaccination coverage, e.g. Australia, Japan, the United States and a number of European countries including Portugal and the United Kingdom. Regionally, there have also been significant increases in the number of reported pertussis cases in Mainland China including Guangdong province.

Locally, there has been an upsurge in the notified pertussis cases since 2017 and the increasing trend continued through 2018. The number of pertussis recorded by CHP has increased from 20-50 cases per year during 2011-2016 to 69 cases in 2017, and further to 110 cases in 2018. In 2017-2018, 72 (40%) of the cases affected infants aged below six months and all had not completed the primary series of pertussis vaccination. Thirty-five cases (20% of all cases) were infants aged below two months who were not yet due for the first dose of pertussis-containing vaccine. Among the 93 adult cases recorded in 2017-2018, 77 (83%) had no or unknown history of pertussis vaccination and 45 (48%) were not born in Hong Kong and might not have received pertussis vaccine during their childhood, including mothers of infant cases.



According to the World Health Organization (WHO)'s position paper on pertussis vaccines¹, vaccination of pregnant women is likely the most cost-effective additional strategy for preventing pertussis in infants too young to be vaccinated. Maternal immunisation during pregnancy directly protects the infant primarily through transplacental transfer of maternal vaccine-induced antibodies from mother to foetus, and also offers some indirect protection through reduced risk of transmission of peri-partum pertussis from nursing mother.

Substantial evidence supporting the effectiveness of dTap vaccination in pregnancy has been documented in countries where maternal pertussis vaccination was implemented. Besides, there has been an increasing amount of evidence on the safety of maternal pertussis immunisation from different countries in recent years, and available evidence so far did not suggest an increase in adverse events in both mothers and infants.

After reviewing the local epidemiology of pertussis, recommendations of WHO, overseas practices, as well as scientific evidence on the effectiveness and safety of maternal pertussis vaccination, SCVPD made the following recommendations regarding the use of pertussis-containing vaccine for pregnant women in Hong Kong:

- i. To provide direct protection for infants against pertussis, pregnant women are recommended to receive one dose of acellular pertussis-containing vaccine during each pregnancy as part and parcel of routine antenatal care regardless of previous vaccination and natural infection history against pertussis.
- ii. The timing of vaccination is recommended to be anytime in the second or third trimester, preferably before 35 weeks of gestation for transplacental transfer of maternal vaccine-induced antibodies.
- iii. Diphtheria (reduced dose), tetanus & acellular pertussis (reduced dose) (dTap) vaccine is recommended to be used while diphtheria (reduced dose), tetanus, acellular pertussis (reduced dose) & inactivated poliovirus (dTap-IPV) vaccine can also be used if available.
- iv. For women who have not received any pertussis-containing vaccine during pregnancy, they would still be benefited by receiving one dose of dTap or dTap-IPV vaccine as early as possible after delivery, for indirect protection to infants, preferably before discharge from the hospital.

The above recommendations were supported by the Hong Kong College of Obstetricians and Gynaecologists. Of note, it requires two weeks for

¹ Available from: <https://www.who.int/wer/2015/wer9035.pdf?ua=1>

antibodies to develop after the vaccination and WHO recommended that the vaccine to be given preferably at least 15 days before the end of pregnancy. Moreover, pregnant women are recommended to receive annual inactivated seasonal influenza vaccine available for the season all along, and pertussis-containing vaccine and seasonal influenza vaccine can be administered at the same visit.

To prevent pertussis among infants too young to be vaccinated in Hong Kong, we would like to enlist your assistance to inform pregnant women on the importance of pertussis vaccination and offer pertussis vaccination to your pregnant clients according to the recommendations of SCVPD. Please visit our website for details of the recommendations. (https://www.chp.gov.hk/files/pdf/recommendations_on_pertussis_vaccination_for_pregnant_women_in_hk_formatted.pdf) In Hong Kong, there are two registered pertussis-containing vaccines available for use in pregnant women currently: (i) Boostrix vaccine (registration number: HK-48297) which is a dTap vaccine; and (ii) Boostrix Polio vaccine (registration number: HK-55589) which is a dTap-IPV vaccine.

DH has been actively planning the implementation of the recommendations in collaboration with the Hospital Authority, details of which will be announced when available. Please draw the attention of the healthcare professionals and supporting staff in your institution/ working with you to the above. May I take this opportunity to thank you for your continuous support in combating infectious diseases in Hong Kong.

Yours faithfully,



(Dr. CHUANG Shuk-kwan)
for Controller, Centre for Health Protection
Department of Health