### Prevention of Zika Virus Infection

January 2024





#### What is Zika virus infection?

#### **Causative agent**

 Zika virus infection is a mosquito-borne disease caused by Zika virus





#### **Mode of Transmission – Mosquito Bites**

 Zika virus is primarily transmitted to humans through the bite of an infected Aedes mosquito





#### Vectors – Aedes mosquito

- Aedes aegypti, which is currently not found in Hong Kong, is considered the most important vector
- Other Aedes mosquito species such as Aedes albopictus, which is commonly found in Hong Kong, are also considered as potential vectors





#### **Other modes of transmission**

 Zika virus can also be transmitted from mother to fetus during pregnancy, as well as through sexual contact, transfusion of blood and blood products, and possibly through organ transplantation







#### **Symptoms**

 Most people infected with Zika virus infection are asymptomatic

#### **Incubation period**

 The incubation period of Zika virus infection ranges from 3 – 14 days





#### **Symptoms**

- Skin rash, fever, conjunctivitis, muscle or joint pain, malaise and headache
- Generally mild and usually last for 2 7 days







#### How Zika is diagnosed?

- Medical advice should be sought
- With compatible epidemiological and clinical history, clinicians could liaise with the CHP's Public Health Laboratory Services Branch for consideration of Zika virus testing





#### **Assess test result**

 Interpretation of test result needs to be made with liaison between the attending clinician and the microbiologist, based on epidemiological and clinical history, and the relative timing of exposure, symptom onset and presentation to medical care





#### **Major concern**

- Zika virus infection during pregnancy is a cause of microcephaly and other congenital malformations in the infant. Congenital malformations can occur following both symptomatic and asymptomatic infection
- Zika infection in pregnancy can also cause complications such as fetal loss, stillbirth and preterm birth
- Zika virus infection can also cause Guillain-Barré syndrome, neuropathy and myelitis





### What is microcephaly?

#### Microcephaly is a rare condition where a baby has an abnormally small head



小頭症是指嬰兒的頭部不正常地小於其他相同年齡和性別的嬰兒頭部 Microcephaly is a condition where a baby' s head is much smaller compared with other babies of the same age and sex



![](_page_10_Picture_5.jpeg)

塵使用安全套,並時刻採取防蚊措施。 Those people who must travel to areas with active transmission should seek medical advice before the trip, consider not having sex during travel or else condom should be used, strictly follow steps to avoid mosquito bites during the trip. 男性及女性外遊人士從傳播活躍地區返港後,應分別至少3個月及至少2個月內避免發生性行為,否則 應使用安全套。 Male and female travellers should abstain from sex for at least 3 months and at least 2 months respectively after returning from areas with active transmission, or else condom should be used. 孕婦應避免與營到訪傳播活躍地區的伴侶發生性行為,否則應在整段懷孕期間使用安全套。

Pregnant woman should not have sex with her partner who had travelled to areas with active transmission, or else condom should be used throughout the pregnancy

![](_page_10_Picture_8.jpeg)

![](_page_10_Picture_10.jpeg)

![](_page_10_Picture_11.jpeg)

![](_page_10_Picture_12.jpeg)

#### **Causes of microcephaly**

- Due to abnormal brain development of the baby in the womb or the brain has stopped growing after birth
- Babies and children with microcephaly often have challenges with their brain development as they grow older

![](_page_11_Picture_3.jpeg)

![](_page_11_Picture_4.jpeg)

#### **Other possible causes of microcephaly**

 Microcephaly can be caused by a variety of environmental and genetic factors, e.g.:

Downs syndrome

- Exposure to drugs, alcohol or other toxins in the womb; and
- Rubella infection during pregnancy

![](_page_12_Picture_5.jpeg)

![](_page_12_Picture_6.jpeg)

![](_page_12_Picture_7.jpeg)

#### What is Gullain-Barré Syndrome?

 A rare neurological disorder causing paralysis and even respiratory difficulties

![](_page_13_Picture_2.jpeg)

![](_page_13_Picture_3.jpeg)

### **Any drug treatment for Zika virus infection?**

There is no specific treatment for Zika virus infection

![](_page_14_Picture_2.jpeg)

![](_page_14_Picture_3.jpeg)

#### **Symptomatic relief**

 Symptomatic relief and prevention of dehydration is the mainstay of treatment

 If symptoms worsen, patients should seek medical care and advice

![](_page_15_Picture_3.jpeg)

![](_page_15_Picture_4.jpeg)

## **Is effective vaccine available to prevent Zika virus infection?**

### At present, there is no vaccine available against Zika virus infection

![](_page_16_Picture_2.jpeg)

![](_page_16_Picture_3.jpeg)

# The most effective measures for prevention of Zika virus infection

Keep the environment clean

 Prevent accumulation of stagnant water

 Control vectors and reservoir of the diseases

![](_page_17_Picture_4.jpeg)

![](_page_17_Picture_5.jpeg)

![](_page_17_Picture_6.jpeg)

# The most effective measures for prevention of Zika virus infection

Prevent mosquito bites

Take precautions to prevent sexual transmission

![](_page_18_Picture_3.jpeg)

![](_page_18_Picture_4.jpeg)

![](_page_18_Picture_5.jpeg)

### **General protection**

- Wear loose, light-coloured, long-sleeved tops and trousers
- Use DEET-containing insect repellent on exposed parts of the body and clothing
  - Pregnant women and children of 6 months or older can use DEET-containing insect repellent

![](_page_19_Picture_4.jpeg)

![](_page_19_Picture_5.jpeg)

#### What is DEET?

Used as the active ingredient in many insect repellents

Insect repellents that contain DEET offer the best protection against mosquito bites

![](_page_20_Picture_3.jpeg)

![](_page_20_Picture_4.jpeg)

# Forms of insect repellents that contain DEET

 Liquids, lotions, aerosols / sprays and impregnated materials (e.g. stickers, wristbands)

![](_page_21_Picture_2.jpeg)

![](_page_21_Picture_3.jpeg)

![](_page_21_Picture_4.jpeg)

#### **DEET Concentration**

Formulation with concentration of 20% or more of DEET can provide the best and longer protection against Aedes mosquitoes

Products with higher concentration mainly provide longer-lasting protection but do not offer other additional protection against mosquito bites

The protection from plant-derived repellents, in general, is shorter

![](_page_22_Picture_4.jpeg)

![](_page_22_Picture_5.jpeg)

### **Side effects**

In rare occasions that it will cause skin irritation

Some persons who used products containing a high concentration of DEET or who were exposed to excessive amounts of DEET have experienced skin rashes, blisters, and skin and mucous membrane irritation

![](_page_23_Picture_3.jpeg)

![](_page_23_Picture_4.jpeg)

#### **Tips for using insect repellents**

- Apply DEET containing insect repellents to exposed parts of the body and clothing in accordance with label instructions and precautions
- Avoid sensitive, sunburned or damaged skin
- Do not apply near eyes and mouth

![](_page_24_Picture_4.jpeg)

![](_page_24_Picture_5.jpeg)

#### **Tips for using insect repellents**

- If use both sunscreen and DEET-containing insect repellent at the same time, apply sunscreen first and then insect repellent on top
- In hot or humid climate or when there is sweating, repeated applications may be required. Follow product label instructions regarding protection time and the need for re-application

![](_page_25_Picture_3.jpeg)

![](_page_25_Picture_4.jpeg)

# For more details on tips for using insect repellents

 For children who travel to countries or areas where mosquito-borne diseases are endemic or epidemic and where exposure is likely, children aged 2 months or above can use DEETcontaining insect repellents with a concentration of DEET up to 30%

 For more details about the use of insect repellents and the key points to be observed, please refer to:

https://www.chp.gov.hk/en/features/38927.html

![](_page_26_Picture_4.jpeg)

![](_page_26_Picture_5.jpeg)

#### **Other preventive measures**

#### Avoid using fragrant cosmetics or skin care products

![](_page_27_Picture_2.jpeg)

![](_page_27_Picture_3.jpeg)

### **Special notes when travelling abroad**

- If going to areas of <u>active Zika virus transmission</u>, especially for persons with immune disorders or severe chronic illnesses and women planning to conceive or their male sexual partners, arrange a consultation with a doctor at least 6 weeks before the trip, and have extra preventive measures to avoid mosquito bites
- If travelling in rural areas of active Zika virus transmission, carry a portable bed net and apply permethrin (an insecticide) on it. Permethrin should NOT be applied to the skin. Seek medical attention promptly if feeling unwell

![](_page_28_Picture_3.jpeg)

Department of Health

![](_page_28_Picture_4.jpeg)

## Return from areas of active transmission...

- Travellers returning from areas of active transmission should apply insect repellent for at least 21 days after arrival in Hong Kong
- If feeling unwell e.g. having a fever, the person should seek medical advice promptly, and provide travel details to the doctor

![](_page_29_Figure_3.jpeg)

![](_page_29_Picture_4.jpeg)

![](_page_29_Picture_5.jpeg)

### **Prevention of sexual transmission**

- All travellers should practice safer sex (including correct and consistent use of condoms) or abstain from sexual activity during travel to areas of active transmission
- Male and female travellers returning from areas of active transmission should practice safer sex or abstinence for at least 3 months and 2 months respectively upon return

![](_page_30_Picture_3.jpeg)

![](_page_30_Picture_4.jpeg)

#### **Special notes for pregnant women**

Pregnant women should pay close attention to the infection risk if they travel to areas with active transmission.

 Pregnant women are advised to use DEET-containing insect repellent during travel to areas with active transmission

![](_page_31_Picture_3.jpeg)

![](_page_31_Picture_4.jpeg)

#### Pregnant women are advised to

- Attend antenatal follow up regularly and inform the attending doctor about recent travel history
- Observe for symptoms of Zika virus infection and seek medical advice as soon as possible if feeling unwell
- Sexual partners of pregnant women living in or returning from areas of active transmission should practice safer sex or abstain from sexual activity throughout pregnancy

![](_page_32_Picture_4.jpeg)

![](_page_32_Picture_5.jpeg)

## **Benefits of adopting preventive measures**

 Preventing mosquito bites will protect people from Zika virus, as well as other diseases that are transmitted by mosquitoes, e.g.

Dengue, chikungunya and yellow fever

![](_page_33_Picture_3.jpeg)

![](_page_33_Picture_4.jpeg)

### Zika virus infection – more information

 Please visit the Centre for Health Protection website <u>https://www.chp.gov.hk/en/features/43086.html</u>

![](_page_34_Picture_2.jpeg)

![](_page_34_Picture_3.jpeg)

### **Centre for Health Protection** website

#### Zika Virus Infection

R Home > Feature Topic > Zika Virus Infection

#### **Zika Virus Infection**

3 January 2024

#### Zika virus infection is a cause of microcephaly and Guillain-Barré syndrome

Zika virus infection is a mosquito-borne disease caused by Zika virus. Most people infected with Zika virus infection are asymptomatic. For patients with symptoms, they commonly present with rash, fever, conjunctivitis, muscle and joint pain, malaise and headache.

Zika virus infection during pregnancy is a cause of microcephaly and other congenital malformations in the infant. Congenital malformations can occur following both symptomatic and asymptomatic infection. Zika infection in pregnancy can also cause complications such as fetal loss, stillbirth and preterm birth.

Zika virus infection can also cause Guillain-Barré syndrome, neuropathy and myelitis.

Zika virus is primarily transmitted to humans through the bite of an infected *Aedes* mosquito. *Aedes aegypti*, which is currently not found in Hong Kong, is considered the most important vector. Other *Aedes* mosquito species such as *Aedes albopictus*, which is commonly found in Hong Kong, are also potential vectors.

Zika virus can also be transmitted from mother to fetus during pregnancy, as well as through sexual contact, transfusion of blood and blood products, and possibly through organ transplantation.

![](_page_35_Picture_11.jpeg)

![](_page_35_Picture_12.jpeg)

![](_page_35_Picture_13.jpeg)

![](_page_35_Picture_14.jpeg)

![](_page_35_Picture_15.jpeg)

#### Centre for Health Protection, DH Facebook FanPage

![](_page_36_Picture_1.jpeg)

#### 衛生署衞生防護中心 Centre for Health Protection, DH ◎

![](_page_36_Picture_3.jpeg)

235K followers • 10 following

![](_page_36_Picture_5.jpeg)

![](_page_36_Picture_6.jpeg)

![](_page_36_Picture_7.jpeg)

#### **Centre for Health Protection, DH YouTube Channel**

![](_page_37_Picture_2.jpeg)

衞生署衞生防護中心, CHP, Department of Health, HKSARG @ChpGovHkChannel 3.72萬位訂閱者 1205 部影片 歡迎瀏覽衞生署衞生防護中心官方YouTube頻道。 >

![](_page_37_Picture_4.jpeg)

![](_page_37_Picture_5.jpeg)

https://www.youtube.com/c/chpgovhkchannel

![](_page_37_Picture_7.jpeg)

![](_page_37_Picture_8.jpeg)

### Thank you!

![](_page_38_Picture_1.jpeg)

![](_page_38_Picture_2.jpeg)