Assessment of Microcephaly in context of Zika Virus

Interim guidance

- Increased rates of congenital microcephaly have been reported in the context of the Zika virus outbreak in Brazil, beginning in late 2015. However, different anthropometric cut-offs of microcephaly i.e. the measurement used to determine if a newborn has a small head or not; it will take time and effort to understand the exact nature and biological basis of the association.
- Ministries of Health and public service delivery centers in the SEAR region are encouraged to increase surveillance and administer mandatory reporting of possible cases of either Zika Virus and/or birth defect/microcephaly.

What can you do?
- We encourage all member countries to document Head Circumference (HC) of all live births.
- You can log in to our database- click here to register
  - **Head circumference (HC)**, the measurement of the baby’s head around its largest area, it is the best measure for assessing microcephaly at birth\(^1\). It should be measured using standardized technique and equipment at least 24 hours after birth.
    - **Technique**: Maximum circumference through the supraorbital ridge to the occiput
    - **Equipment**: Use a flexible but non-stretchable tape
    - **Measurement**: Health care providers need to measure head circumference and interpret it according to the WHO standards using Standard Deviation (SD) scores specific for sex and gestational age.
- WHO has Growth Standards for term newborns and Intergrowth standards for preterm newborns (boys and girls) that should be used to classify microcephaly\(^1\)
  - To calculate head circumference (HC) current and expected for age, use this [online tool](#).

What are the reporting standards and cut-off values\(^2\)?

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Interpretation</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>HC less than -2SD</td>
<td>Microcephaly</td>
<td>Head circumference of less than -2 SD should be considered to have microcephaly</td>
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<tr>
<td>HC between -2SD and -3SD</td>
<td>Microcephaly</td>
<td>Regular clinical follow up during infancy which includes rate of head growth, maternal and family history to assess for genetic or other causes, and physical and neurological examinations for associated disabilities. A significant proportion of these children could have normal neurological development.</td>
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<tr>
<td>HC less than -3SD</td>
<td>Severe Microcephaly</td>
<td>CT scan or MRI*; and perhaps ultrasound if the fontanelle is of a reasonable size, to detect congenital brain malformations.</td>
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</table>

*Newborns with microcephaly and structural brain abnormalities defined by neuroimaging or neurological or functional disabilities should be considered to have **microcephaly of major importance**.

How can you manage microcephaly?
- Microcephaly is a lifelong condition with no known cure or standard treatment\(^1\).
- Options range as babies with mild microcephaly often don’t have any other problems besides small head size\(^1\).
- They need routine check-ups to monitor their growth and development. We recommend the Network hospitals to maintain their capacity to detect and confirm cases of microcephaly in all newborns delivered in the hospitals using the standard technique and classified as described above.
  
  **For more information, contact us at** secah@who.int