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New charts to assess head circumference at birth will be valuable tool in Zika crisis

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In the medical journal *The Lancet*, the INTERGROWTH-21st Consortium, led by researchers at the University of Oxford, publish the final set of charts that enable healthcare professionals worldwide to assess the weight, length and head circumference of newborns from 24 to 42 weeks of gestation, and which apply to all babies, regardless of race or ethnicity.

José Villar, Professor of Perinatal Medicine at Oxford University, who led the study, said: 'The size of babies in relation to their gestational age at birth is a very important and easy to obtain marker of their health, nutritional status, chances of survival in the first years of life and future well-being. For the first time in history, health workers can now screen all babies around the world using the same charts to determine whether their growth in the womb was restricted or excessive.'

These charts were derived from a healthy population and are specific for the gestational age of the baby at birth. Failing to take gestational age at birth into account when assessing the size of newborns can result in the wrong diagnosis being made. These charts are unique because, for the first time, they include measures of head circumference at birth across populations that were obtained using rigorous methodology and standardised procedures. This is extremely important in the context of the Zika virus outbreak, as reliable information on the head circumference of newborns according to their gestational age is required so as to screen for microcephaly, which has been attributed to the viral infection.

Stephen Kennedy, Professor of Reproductive Medicine at Oxford University, who co-led the study, said: 'It is now clear that the authorities may have been over-reporting the number of babies suspected of having microcephaly because they have been using a single cut-off for term babies to define what is a normally grown baby's head without taking the gestational age at birth into account.'

The researchers say thousands of mothers of newborn babies in the affected regions are being made avoidably anxious because the current definition of suspected microcephaly lacks specificity. This was first recognised in a commentary to *The Lancet*, published on 5 February 2016, from a leading group of Brazilian researchers, who said: '...[W]e recommend use of a consistent set of diagnostic criteria for suspected microcephaly that take into account gestational age for term and preterm babies; such criteria are provided by the INTERGROWTH-21st standards.'

The complete set of charts is available free of charge at https://intergrowth21.tghn.org/. They will: 1) improve the assessment of individual babies at birth worldwide; 2) facilitate much-needed research to elucidate the suspected association with the Zika virus; and 3) make comparisons across populations around the world. The charts have been produced with supporting information in Spanish and Portuguese.

More information: *The Lancet*, www.thelancet.com/journals/lan … (16)00384-6/abstract

Provided by University of Oxford