

Meningitis and Septicaemia 2019
November 5-6, 2019, British Museum, London.

Neonatal sepsis in sub-Saharan Africa

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Infections causing sepsis, meningitis, or pneumonia contribute directly to around 0.6 million neonatal deaths worldwide annually, and indirectly to many more through pathways leading to preterm birth and neonatal encephalopathy.

Despite this knowledge, understanding of the causes of neonatal infection, particularly in resource-poor settings, is limited. Most studies of neonatal sepsis in sub-Saharan Africa have been facility based, often in referral hospitals where microbiological investigations are done. As such, data are biased towards the inclusion of neonates whose mothers deliver in hospital, or those who survive long enough to be brought and admitted to hospital. As microbiological investigations are often limited, findings can also be biased away from more fastidious organisms.

Treatment in many resource-poor settings in sub-Saharan Africa relies on sensitive but non-specific clinical diagnoses of possible serious bacterial infection, made by front-line health-care workers and defined according to set criteria. Of the almost 7 million neonates needing treatment worldwide each year based on this diagnosis, most are not tested for specific infectious causes and many are likely to have non-infectious conditions. Pragmatic clinical trials to improve access to treatment have reflected this reality, but in doing so have not investigated or confirmed neonatal sepsis cases within their participants, raising uncertainties about trial findings.

Improving the data on neonatal sepsis from sub-Saharan Africa is critical, and in doing this, we need to consider the neonates that, at present, even the most robust observational study cannot identify as they die at home. These are the neonates that as clinicians, we “don’t see”. Whilst this is challenging, new approaches, including investigations after death, and maternal vaccine probe studies, offer important new opportunities to better understand neonatal sepsis.