One step in the right direction: improving syphilis screening and treatment in pregnant women in Africa

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Substantial progress has been made in reproductive, maternal, neonatal, and child health globally, including in sub-Saharan Africa. Nevertheless, weaknesses in delivery platforms are a major barrier to further improvement of outcomes.[1] Mother-to-child-transmission (MTCT) of syphilis is a public health concern worldwide.[2] The prevention and management of syphilis is an essential element of antenatal care, because it can substantially reduce adverse pregnancy outcomes, including stillbirths, perinatal deaths, and congenital syphilis.[3] However, implementation of effective programmes at antenatal clinics is falling short in most low-income and middle-income countries.[4] Sub-Saharan Africa accounts for 63% of the global burden of maternal syphilis.[2] In this region in 2016–17, the median proportion of antenatal clinic attendees tested for syphilis was 56% (range 31–100), as reported by 31 (47%) of 66 countries monitoring this indicator; the proportion of antenatal clinic attendees who tested positive for syphilis, as reported by 30 countries, was 2·0% (range 0·1–7·6),[5] but the proportion successfully treated is unknown.

Studies have shown that challenges to effective implementation include ensuring adequate supplies of commodities.[6] In areas where no laboratory screening facilities can be accessed, rapid point-of-care (POC) tests have the potential to allow for treatment initiation at the same (preferably first) antenatal care visit.[7] However, additional barriers, including health-care providers not having prescribing authority, not understanding same-day screening and treatment, being unaware that one dose of penicillin is enough to prevent MTCT of syphilis, or simply being reluctant to implement policies, have also been highlighted.[8]

In this issue of the *Lancet Global Health,* Fernando Althabe and colleagues[9] report on an 18-month cluster randomised trial in which 26 antenatal care urban clinics in Kinshasa, Democratic Republic of Congo (16 clinics) and Lusaka, Zambia (ten clinics) were assigned to receive either a health worker-focused behavioural intervention plus supplies for syphilis testing and treatment (intervention group; 18 357 women) or supplies only (control group; 17 679 women). The primary outcomes were the proportion of pregnant women who had syphilis screening and the proportion of those testing positive who had treatment with benzathine penicillin at first antenatal care clinic visit.[9]

The behavioural intervention consisted of selection and training of peer facilitators within intervention clinics (health-care workers opinion leaders); individual antenatal care provider discussions (academic detailing); the use of reminders for testing and treatment; packaging of treatment kits; and monthly supportive supervision visits, on top of the provision of supplies (rapid treponemal tests, benzathine penicillin, and anaphylaxis treatment). The intervention achieved proportions of more than 95% for both screening and treatment, which is the standard set by WHO for elimination of MTCT of syphilis.[10] In control clinics, the sole provision of supplies was sufficient to reach similar levels of screening (94%) but did not ensure treatment (43%; with a significant absolute difference of 57% [95% CI 13–99] between the intervention and control clinics; p=0·0028). The study findings highlight the importance of not only ensuring provision of supplies but also providing adequate training and supportive supervision to frontline health workers operating antenatal care services. It confirms the obvious: that screening for syphilis is only useful for reducing adverse birth outcomes if patients testing positive are then treated.[11]

The arrival of rapid POC treponemal tests has been heralded as a potential game changer over the previous generation of cumbersome semi-rapid non-treponemal tests. But their potential impact will depend on access of mothers to health centres, the availability of tests, and, notably, the motivation of providers to use them and their ability to provide treatment. These basic logistical conditions are often not met in hastily put together and poorly supervised programmes.[12] Furthermore, the timing of treatment initiation during pregnancy is crucially important to avoid possible adverse outcomes of MTCT of syphilis, with highest efficacy if given before the 28th week of gestation.[13] In settings with high HIV prevalence, HIV screening has often successfully been incorporated in routine antenatal care screening, resulting in high proportions of attendees screened for HIV.[14] An increasingly promoted strategy is the use

of a dual rapid HIV and syphilis POC test (combining detection of the two infections on the same strip), which should enhance coverage of screening and management of both infections.[15] It was therefore disappointing to note the low impact of the behavioural intervention on other antenatal care practices, such as screening for anaemia, proteinuria, and HIV. Although not an uncommon finding,[12] this result calls for the design of better integrated or synergistic interventions to achieve an antenatal care package that would be truly beneficial to mothers and their babies.

Questions and challenges still arise from this study, from the generalisability of the findings to more rural clinics and those with lower patient turnover to the sustainability of an intensive essentially vertical-type supervision. The study did not provide data on, or attempt to measure, the quality of testing. The use of rapid POC diagnostics tests or any diagnostic test should comply with some basic form of quality control, such as those promoted by WHO.[16] No information was available on the timing of detection and treatment of syphilis relative to gestational age. Furthermore, partner notification and treatment to prevent maternal reinfection or onward transmission was not described, although these are important components of the control of MTCT of syphilis.[17] Hence, the real impact of the intervention in actually preventing congenital syphilis is not really known. However, this study is an essential step in the right direction.

Althabe and colleagues' study[9] is an important reminder that if we are to progress toward the elimination of MTCT of syphilis and HIV, access to, and quality of, maternal and neonate health services, including appropriate support of health workers, need to be assured. Notably, the rollout of evidence-based interventions in low-resource settings is only possible with the commitment of policy makers and the allocation of resources to secure the supply chain and human resource management.

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