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EVIDENCE FOR TIMING OF CHILDHOOD VACCINES DEBATE

The question should be whether the timing of vaccination optimises the impact on child health

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Rather than asking whether there is evidence that the timing of the vaccination programme prevents the targeted diseases, the question should be whether the timing optimises the impact on child health.1

That evidence base is insufficient. In low income countries, where the burden of child mortality lies, the vaccines at the core of the Expanded Programme on Immunization were not evaluated for their effect on mortality before being introduced. The four core vaccines—BCG, the diphtheria-tetanus-pertussis vaccine (DTP), the oral polio vaccine (OPV), and the measles vaccine (MV)—all have non-specific effects on child health beyond specific disease protection. These non-specific effects are strongest when the vaccine is the most recent. They have not been taken into account in the current timing of the vaccines. NSEs have mainly been demonstrated in observational studies. However, randomised trials have supported the conclusions by showing that the live attenuated vaccines—BCG,2 OPV,3 and MV4—reduce mortality more than predicted by the prevention of the target infections. By contrast, DTP is associated with increased female mortality.5

Both the “yes” and “no” side state that the time for randomised trials has passed, as it is not ethical to deprive children of a vaccine that is part of the recommended schedule.6 The Strategic Advisory Group of Experts on Immunization (SAGE) recently reviewed the evidence for the non-specific effects of BCG, DTP, and MV on all cause child mortality and recommended further research and where possible randomised trials.7

With the limited evidence behind the current timing, and an increasing amount of evidence documenting that changes to the current schedule may improve child health, there should be equipoise for studies evaluating alternative schedules.

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