A Valuable Tool Against Chronic Hepatitis B Goes Unused in Many Developing Countries

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A critical tool that stops the spread of nearly half of all new chronic hepatitis B infections is still unavailable in many developing countries – the hepatitis B vaccine birth dose.

When the hepatitis B vaccine is immediately administered to a baby born to a hepatitis B-infected mother, it stops the terrible spread of hepatitis B to a new generation.

But this vaccine remains unavailable and financially out-of-reach for many parents in rural areas of Africa, Asia and other regions.

“In Ghana, even if parents know where to find the vaccine, the cost sometimes deters them from accessing it,” said Theobald Owusu-Ansah of the Hepatitis B Foundation of Ghana. “And when midwives help mothers deliver their babies in their homes, they do not have the vaccine with them because it must be refrigerated.”

While a global childhood immunization program, sponsored by the global vaccine alliance GAVI, has saved millions of lives, the hepatitis B birth dose remains a critical, missing piece of its otherwise successful global immunization strategy.

To effectively prevent mother-to-child (perinatal) transmission of hepatitis B, the single-dose hepatitis B vaccine must be administered within 12 to 24* hours of birth. In about 90 percent of cases, this vaccine effectively prevents infection, unless the mother’s viral load is extremely high.**

Today, GAVI funds and promotes the pentavalent vaccine, which prevents five diseases including hepatitis B, for nearly all children in developing countries. But here’s the catch, the earliest the first dose of the pentavalent vaccine can be administered is six weeks of age because it contains the diphtheria vaccine. This is far too late to prevent perinatal hepatitis B infection.

GAVI’s pentavalent vaccine makes economic and medical sense. One vaccine that prevents several diseases lowers manufacturing and shipping costs and requires fewer injections. Indeed, widespread immunization with GAVI’s pentavalent vaccine in 73 developing countries has

prevented 7 million deaths, but it doesn't prevent chronic hepatitis B acquired at birth.

Without GAVI's financing or promotion of the hepatitis B birth dose, many developing countries have done little to promote the birth dose, despite their high rates of hepatitis B. According to the WHO, in 2015, 8.4 million babies were born in African countries that did not provide the birth dose of the hepatitis B vaccine.

In addition to a lack of political will on the part of GAVI and these countries, there are other barriers to distributing the hepatitis B birth vaccine. As Owusu-Ansah explained, about one-third of births in his native Ghana and about 45 percent of all births in Africa take place without a healthcare worker or midwife present.

Suren Surender, founder and president of the Rann Bhoomi Foundation, which educates rural villagers in India about hepatitis B prevention, added that even when healthcare workers are present at childbirths, "there is a lack of knowledge about birth dose administration and there is also a lack of community awareness about the benefits of getting the birth dose."

Having a global leader like GAVI lend financial and strategic support for the hepatitis B birth vaccine would go far to chip away at these high perinatal infection rates in rural regions. In 2013, GAVI and the global vaccine alliance explored funding the hepatitis B birth dose as part of its Vaccine Investment Strategy (VIS), but officials decided not to fund it.

According to a GAVI spokeswoman, the key deterrent was implementation — getting the refrigerated vaccine birth dose to rural areas within hours of a child's birth – rather than cost.

"Many births in GAVI-supported countries do occur outside health facilities," she noted. "Indeed, coverage of hepatitis B birth dose in many countries delivering this intervention is low. Ultimately, the Vaccine Investment Strategy analysis and consultations recommended that (GAVI) should focus its limited resources on other high-impact vaccines at the time."

However, research suggests the hepatitis B vaccine may be effective for several days or weeks in warm climates without refrigeration, which could increase their use in rural regions if there was more financial and political support.

In 2018, GAVI will reconsider potential support for the hepatitis B birth dose when it develops a new Vaccine Investment Strategy, with a decision expected in late 2018.

GAVI's support for the birth vaccine is needed immediately. Only GAVI has the resources and political clout to help countries realign their immunization policies to allow the next generation of children born to hepatitis B-infected parents to live without liver disease.

*North American medical guidelines recommend the first hepatitis B vaccine dose be administered within 12 hours of birth, while WHO recommends the vaccine be given within 24 hours of birth.

**The addition of a dose of HBIG (hepatitis B antibodies) along with the vaccine raises the prevention rate a few percentage points. However, the vaccine alone is highly effective.

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