

Chlorhexidine for Umbilical Cord Care

Health need

Severe infection is one of the top three causes of newborn deaths worldwide causing about 13% of all neonatal deaths across the globe, but in developing countries, infections can account for more than half of all neonatal deaths. A baby's newly cut umbilical cord can be an entry point for bacteria, which can lead to infection—and potentially life-threatening sepsis.

Technology solution

Community-based randomized trials in rural areas in Bangladesh, Nepal, and Pakistan have shown that applying 7.1% chlorhexidine digluconate (delivering 4% chlorhexidine) to the umbilical cord stump prevents infection and saves newborn lives. These trials and concurrent research demonstrated that 7.1% chlorhexidine digluconate for umbilical cord care is an efficacious, acceptable, feasible, and cost-effective newborn care intervention.

Appropriate chlorhexidine application reduces the risk of death before 28 days by up to 23% and eliminates two-thirds to three-quarters of serious umbilical infections. Such findings suggest, for example, that widespread practice of chlorhexidine cord care could prevent more than 200,000 newborn deaths each year in South Asia. It can be delivered through existing health services; antenatal and obstetric care; other essential newborn care activities; and through retail outlets, including pharmacies, public facility- and community-based providers and community health workers.

Current status and results

PATH collaborated with the Projahnmo Study Group on operations research in Bangladesh regarding training, behavior change, advocacy development, and provision of the quality product through a local pharmaceutical manufacturer. We conducted a product attribute study to refine target product profile and stakeholder surveys to assess country readiness for a product introduction. We also assessed the demand for chlorhexidine at multiple price points in two districts in Bangladesh using the contingent valuation method. In 2011, we convened a meeting to disseminate findings from randomized controlled trials to policymakers in South and South East Asia to discuss how chlorhexidine could be scaled up regionally. At the global level, PATH submitted an application to the World Health Organization (WHO) Expert Committee on Selection and Use of Essential Medicines to include 7.1% chlorhexidine digluconate for umbilical cord care in the WHO Model List of Essential Medicines for Children. This change was approved in July 2013. In 2012, 7.1% chlorhexidine digluconate for umbilical cord care was identified by the United Nations Commission on Life-Saving Commodities for Women and Children (UNCoLSC) as one of 13 essential commodities that could save the lives of millions of women and children. As the lead convener for the UNCoLSC's Chlorhexidine Technical Reference Team, we are coordinating and supporting rollout of chlorhexidine including its integration into global programs. As part of this work, we have been providing technical assistance to priority countries in the determination of manufacturing capacity and selection of quality manufacturers, as well as performing market research to assist the development of effective introduction strategies.



PATH/Mutsumi Metzler

A newborn treated with 4% chlorhexidine.

“We believe that the use of 4% chlorhexidine for topical cord antiseptics represents an important intervention with the potential for substantial effect on public health.”

Mullany LC, Darmstadt G, Khantry SK, et al. Topical application of chlorhexidine to the umbilical cord for prevention of omphalitis and neonatal mortality in southern Nepal: a community-based, cluster-randomised trial. *The Lancet*. 2006;367:910–918.

Availability

7.1% chlorhexidine digluconate for umbilical cord care is available through:

Lomus Pharmaceuticals, Nepal
http://www.lomus.com.np/about_us.htm (gel product).

UNICEF Supply Division catalogue, product number S1531515, <https://supply.unicef.org/> (liquid product).

For more information regarding this project, contact Patricia Coffey at pcoffey@path.org.

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