

## Spotlight on Chlorhexidine for Umbilical Cord Care

A baby's newly cut umbilical cord can be an entry point for bacteria. Unsafe cord care techniques can lead to cord infection, unnecessary illness, potentially life-threatening sepsis, and neonatal death by tetanus and other infections. Chlorhexidine is a low-cost antiseptic effective against major agents of neonatal infection. However, it remains underutilized, and as such, has been identified by the UN Commission on Life-Saving Commodities for Women's and Children's Health as one of 13 commodities that if more widely accessed and properly used, could save the lives of more than six million women and children worldwide.

A review was conducted to analyze and synthesize current key evidence in order to understand the social and behavioral drivers of chlorhexidine demand and utilization, examine effective practices in implementing demand generation programs, and inform future programming. The evidence review found 16 documents related to demand generation for chlorhexidine and/or newborn cord care that met the inclusion criteria.

### Social and Behavioral Drivers

At the individual level, traditional cord care practices are often used, such as skin massage with mustard oil, heat massage on the umbilical stump and application of substances to the stump after cord cutting (Alam et al., 2008; Nepal Family Health Program, 2007). However, communities lack access to knowledge

about new interventions such as chlorhexidine, and birth attendants are often neither knowledgeable about, nor equipped with, chlorhexidine. Other practices have potential impact on the use of chlorhexidine, particularly with regard to the timing of the release of the cord stump.

Factors at the family, community and society levels influence cord-care practices, and there is a general lack of social support for use of chlorhexidine. Other family and community members are also involved in newborn care; for example in Uganda, grandmothers play a key role in determining cord care practices, especially with young mothers (Ayiasi et al., 2013). In Bangladesh, mothers and other female caregivers feel that traditional cord care practices are essential to protect the neonate. Gender roles related to both mothers' decision-making power regarding health care and lack of access to a source of chlorhexidine are also important factors to consider.

In general, ANC and skilled providers were found to play a limited role in teaching about cord care or newborn care overall. Given the large proportion of home births, especially in rural areas, health systems may need to be willing and able to work with traditional birth attendants to improve cord care and other essential newborn care practices. A disconnect found between health providers and communities indicates a need for providers and communities to work together to develop strategies to improve care and outcomes (Moyer et al., 2012). In Uganda, communities and providers found recommended newborn care practices acceptable, but barriers such as pregnant women not understanding the value of early and frequent ANC visits when they did not feel sick, the cost of drugs and supplies, the lack of post-natal care and the rejection of dry cord care by both health providers and parents, often prevented the uptake of recommended newborn care practices (Waiswa et al., 2008).

Price is another important factor to consider for the scale-up of chlorhexidine. One study in rural Bangladesh showed a high level of motivation among



potential users to purchase chlorhexidine (ICDDR, 2012). Pre-market research in Bangladesh also showed that pharmacists were interested in distributing chlorhexidine, provided that it was recommended by physicians (RTM International, 2009). The formulation of the chlorhexidine product also should be considered before large-scale dissemination. Results of two studies in Nepal indicate that chlorhexidine in the form of a gel, liquid or lotion was most acceptable to users (ICDDR, 2012; Nepal Family Health Program, 2007).

There is an overall lack of guidance and training on how to use chlorhexidine. World Health Organization (WHO) recommendations from 1998 focus on dry cord care, except in unhygienic conditions where antiseptics such as chlorhexidine are recommended. Since 2007, members of the Chlorhexidine Working Group have advocated for revision of the cord care guidelines to be more inclusive of effective topical antiseptics, such as chlorhexidine. It is expected that WHO will soon issue updated guidance on umbilical cord care.

## Demand Generation Interventions

Mothers, family members and traditional birth attendants were the primary target audiences for the interventions reported in the evidence. One operations research study in rural Bangladesh showed that chlorhexidine should be promoted and made available at both the community and health-facility levels (ICDDR, 2012).

In Nepal, results from a cluster-randomized trial to test effectiveness of chlorhexidine suggest increasing demand and use of the drug by including topical antiseptics in clean delivery kits for use by skilled birth attendants or caretakers in low-resource settings. They also suggest the implementation of this intervention within comprehensive community outreach efforts to improve newborn care (Mullany et al., 2006).

## Conclusions and Recommendations

Studies related to community-based use of chlorhexidine for newborn cord care have only been conducted in four countries—Nepal, Bangladesh, Pakistan and India. Individual countries will have to find the most culturally relevant strategies to increase chlorhexidine use according to internationally recognized guidelines. Recommendations moving

forward include: (1) studying local cord care beliefs and practices at the community level, especially in countries at high risk of neonatal tetanus; (2) designing and implementing pilot tests of demand generation programs in different settings, especially in countries at high risk of neonatal tetanus; (3) considering integration of chlorhexidine into existing intrapartum/neonatal programs and services; and (4) providing appropriate persons with a consistent supply of an acceptable form of chlorhexidine.

To read the full report, visit <http://sbccimplementationkits.org/demandrmnch/evidence-synthesis/>.

For tools and resources on demand generation for life-saving commodities, visit <http://sbccimplementationkits.org/demandrmnch/>.

## References

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