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FEATURE

MOTHER AND CHILD HEALTH

The global push for institutional childbirths—in unhygienic facilities

Healthcare facilities offer professional assistance to women giving birth, writes **Jocalyn Clark**, but many in developing countries are filthy, lacking clean water and sanitation

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Dhaka

Increasing and regularly monitoring the number of women giving birth in institutions has been central to international strategies to improve the health of mothers and babies in the developing world. In India, the $200m (£141m; €184m) a year Janani Suraksha Yojana programme pays women to give birth in healthcare facilities rather than at home, as is tradition. Bangladesh and Nepal have similar conditional cash transfer programmes.

This push has largely neglected a sad irony: in much of the developing world, where 99% of maternal and newborn deaths occur, hospitals and other healthcare facilities are in a poor state.

In an unprecedented analysis of water, sanitation, and hygiene (WASH) in healthcare facilities in low income countries, the World Health Organisation recently reported that 38% have no decent water source.[1] This leaves doctors, nurses, and midwives struggling to care for patients—and WHO "embarrassed."[2] One fifth of facilities surveyed in 54 countries had inadequate sanitation, and 35% lacked water and soap for healthcare providers and patients to wash their hands.

Mother and baby risk infection

Poor hygiene is of special concern in labour wards, said Wendy Graham, a maternal mortality expert from the University of Aberdeen who is raising awareness of WASH. In dirty conditions, mother and baby risk infections from many sources, she said.

Infection may be introduced to the genital tract during delivery from poor hand hygiene or contaminated surfaces, which can lead to death from puerperal sepsis.[3] When dirty hands, surfaces, or blades are used, wounds from cutting the umbilical cord, perineal tears, and caesarean section introduce routes of transmission of infection. Lack of water and sanitation make it impossible for providers to ensure clean hands and surfaces. Without toilets in facilities, women in labour have to go outside to urinate or defecate, an affront to dignity as well as cleanliness. Some labour wards in Mali ask women to bring their own jugs of water, with uncertain safety, to clean themselves and the birth room, reported the *Guardian*.[2]

A 2014 systematic review said that poor access to clean water and sanitation was associated with greater maternal mortality.[3] A 2015 report from the charity WaterAid said that one in five newborn deaths could be prevented with safe water, sanitation, and clean hands.[4]

Global standards

Yet global standards for maternity care make no recommendations on WASH, said a new call to action from experts in both the maternal health and WASH sectors.[5] WHO's "six cleans" for delivery (hands, perineum, delivery surface, cord cutting implement, cord tying, and cord care) fails to acknowledge the necessary water and sanitation infrastructure.

Similarly, a recently published plan to end preventable perinatal deaths redirects attention to the quality of healthcare but makes no mention of WASH.[6]

The global patient safety movement against nosocomial infection highlights hygiene, especially hand hygiene, but not to labour wards. The global standard, WHO's essential environmental health standards in healthcare, makes no mention of labour wards. Even the millennium development goal on water and sanitation did not mention access for birth facilities.[5]

A missed opportunity

This is a missed opportunity on all sides, said Graham. "Institutionalisation of deliveries in low income countries has now reached a tipping point of 50% and is growing. That this trend will lead to health gains is seriously undermined where healthcare facilities do not have adequate availability and quality of water, sanitation, and hygiene practices."

Suzanne Cross, senior programmes officer at Soapbox Collaborative, a research charity focused on clean safe care at

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birth, said that hygiene had been relatively neglected by maternal and child health experts during the millennium development goal era; and that WASH advocates had worked largely in isolation from health experts.

Cleaning up the labour ward

The Magbazar Maternity Centre in an urban slum of Dhaka is one of 390 community based birthing centres operated worldwide by the non-governmental organisation Brac to provide safe delivery services. These centres reach more than six million women in seven cities across Bangladesh where traditionally almost three quarters of urban poor women would deliver at home. Emergency obstetric and neonatal cases are referred to hospital.

The relatively small centre delivers 7 to 10 babies a month to a catchment area of about 2000 households, but its operations are characteristic of Brac facilities. Normal deliveries are provided by trained birth attendants with assistance from an ayah. Ayahs are birth attendants without formal training; although some have previous experience as traditional home based attendants. They also sometimes conduct deliveries alone.

"There is no cleaner," said Atiya Rahman, a researcher at Brac who is raising awareness of labour ward cleanliness. "The ayah cleans all surfaces, common areas, bathrooms, and toilets, as well as the curtains, bedsheets, bedcovers, and aprons used during birth."

During a recent visit to the centre, the two ayahs on shift showed how they had been trained to prepare chlorine cleaning solution and to use different buckets and mops for the labour room and the reception area.

Lack of designated cleaners

The lack of designated cleaners in healthcare facilities is a problem, said Rahman. This blurring of the ayah role—responsibility for attending deliveries as well as cleaning—introduces an infection risk. Training of ayahs in proper cleaning is limited, and efforts are largely unsupported or unsupervised because managers are busy and don't themselves recognise the threats, she said. Visual cleanliness is often erroneously taken to mean pathogen free.

Even in public hospitals, said Graham, who is collaborating with Brac and the Indian Institute of Public Health to study cleanliness in 15 birthing facilities, cleaning up is often left to birthing attendants or midwives. The midwife is also responsible for cleaning the equipment and instruments after birth. If they are present, designated cleaners are likely to be poorly paid or unpaid, mistreated because of their low status, and untrained.

In government maternity wards in Bangladesh, the single bathroom used by the hospital's cleaners to wash bedsheets and discard waste after birth also contained the sole toilet used by doctors, birth attendants, pregnant women, their visitors, and other patients. "It's a very poor situation," said Rahman.

This approach to cleaning has been shown to be inadequate throughout developing countries: delivery beds contaminated with multiple organisms, dirty physical environments, a lack of water or unsafe water, and no way to keep patients, beds, and instruments reliably clean.[7 8]

Better births in institutions

Action is needed on several levels. Birthing providers need training to stop and control infections. Facilities should have policies and protocols, infection control committees, and standard checklists for monitoring cleanliness. Many South Asian healthcare facilities have none of these, said Graham.

"Even understanding who is responsible for ensuring hygienic and sanitary conditions of hospitals—and holding them responsible—is a challenge in low income countries," she said.

And governments must invest in water and sanitation infrastructure, as well as develop standards, legislation, and monitoring systems to ensure hygiene in facilities where childbirth takes place.

Samia Arfin, from the research and advocacy organisation Naripokkho, told Al Jazeera that in Bangladesh, "the government wanted institutional delivery but our facilities are not ready." She said that "monitoring systems aren't good and there is a lack of accountability from service providers. Politicians are not committed, and there is so much corruption in the ministry of health."[9]

Awareness must also improve. Most doctors, midwives, and other birth attendants have poor knowledge of the importance of clean births. Providers tend to wash after contact with the patient, not before—showing that people worry more about their own health than that of others, said Graham. And the notion that childbirth is "dirty" reinforces the neglect in ensuring cleanliness before and during birth.

Antibiotics and a perfect storm

In much of South Asia, antibiotics are routinely prescribed for all deliveries, whether needed or not, deflecting attention from preventing infections through hygiene. Graham described this as a "perfect storm" of increasing institutional birth, inadequate water, sanitation and hygiene, and growing antimicrobial resistance.

All women worldwide deserve a clean, safe, and dignified environment to give birth, said the new call to action.[5] As the number of deliveries in facilities continues to increase, the plan said, it's a "timely opportunity to improve access to water, sanitation, and hygiene in delivery rooms" to "save mothers and babies from illness or death from preventable infections."[5]

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The unfinished maternal and child health agenda

The considerable investment in improving maternal and newborn health around the world has resulted in many gains. In the past 25 years maternal mortality worldwide fell by almost 50%. Four and a half million fewer infants now die every year.[10]

Progress in specific areas has been less impressive. In Bangladesh, where the declines in maternal deaths have received international attention and praise, more than 5000 women still die around the time of giving birth each year, and 76 000 newborn deaths occur.[11 12] Despite tremendous improvements in education and income, India is also home to a third of the world's deaths among newborns.

More broadly, advocates worry that progress towards a reduction in maternal and newborn death rates has not been made as quickly as other targets laid out by the international community. In 2013 289 000 women died trying to give birth, and an astonishing 2.8 million babies died within a month of birth.[13]

This unfinished agenda is receiving new attention in the transition from the millennium development goal programme to the sustainable development agenda. A small but growing chorus from advocates is offering new hope for unlocking the recalcitrance of maternal and newborn deaths: hygiene may hold the key.

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