



Towards
4+5
Research
Programme
Consortium

The consequences of severe obstetric complications in Burkina Faso and Benin

It is estimated that up to 9 million women survive severe obstetric complications every year. In some poor countries, the reliance on out-of-pocket fees to pay for emergency care at a health facility means that such complications often pose an immediate financial burden on women and their households. In addition, there are long lasting effects on the survival rate of women and infants, women's physical and mental health, and on their households' economic and social well-being.

This briefing paper describes the experiences of women who have suffered from severe obstetric complications in Burkina Faso and Benin. It is based on longitudinal research following women and their infants for one year after delivery and compares a range of health, economic and social indicators with women who experienced uncomplicated births.

Key findings

- Infants born to women with severe obstetric complications are more likely to die after hospital discharge up to a year after birth.
- Women who initially survive severe obstetric complications are also more likely to die from causes directly related to their complications.
- Near miss women who experience a pregnancy loss (including after induced abortion) or whose babies die are particularly at risk of mental health problems and more often experience marital problems and spousal abuse.
- The financial burden of hospital care sometimes reinforces a cycle of debt as households are forced to borrow more money and sell assets to finance their original debt and can be an important factor contributing to women's risk of depression.
- Use of postnatal services is higher amongst women who have experienced an obstetric complication, but due to cost constraints there is still an unmet need for care. This may contribute to deaths subsequent to discharge.
- Women who survive complications are disproportionately vulnerable and dedicated efforts must be made to address their specific needs, and those of their infants in the postpartum period.



Risk of maternal and infant death

In Burkina Faso, women with severe obstetric complications are more likely to die after being discharged from hospital than are women with uncomplicated deliveries. In the year following delivery, six women with complications died whereas no women who had a normal childbirth died.

Of the women who died, half had not fully recovered when they were discharged from hospital and all died from a complication which had become long term or could be considered chronic such as sepsis, anemia and hypertension. This is equivalent to a postpartum maternal death ratio of 1,800 per 100,000. There is evidence that women's need for post-natal care might not have been adequately met, mainly because they could not afford to seek care or to buy prescribed medicines.

In both countries, infants that were born to women who experienced near-miss events were also more likely to die in their first year. In Burkina Faso, about 10% of babies born to women with severe obstetric complications died, compared with 3% of those born by uncomplicated birth; similarly in Benin, approximately 7% of babies born to women with complications died compared to 1% with an uncomplicated delivery.

The increased risk of death for newborns persisted for up to one year. This suggests that the deaths were not attributable solely to neonatal complications but possibly to the socio-economic environment in which near miss women live.

	Benin		Burkina Faso	
Maternal mortality ratio (per 100,000)	840		700	
Neonatal mortality ratio (per 1,000 live births)	36		32	
Percentage of births attended by a skilled health personnel	Rural	Urban	Rural	Urban
	68.4	82.9	30.5	87.7
Antenatal care coverage - at least 4 visits	61		18	

Source: World Health Organization statistical information system

Severe obstetric complications

Obstetric complications during pregnancy, delivery or post-pregnancy which are so severe that women face a particularly high risk of death in the absence of hospital care. When women are saved, either because of chance or because they receive good facility-based care, they are also described as “near miss” events.

In the research, complications were separated into 5 categories:

1. Severe haemorrhage (leading to shock, emergency hysterectomy, and/or blood transfusion)
2. Hypertensive diseases of pregnancy (eclampsia and severe pre-eclampsia)
3. Severe dystocia (uterine rupture and impending rupture)
4. Severe infections (hyperthermia, hypothermia and/or a clear source of infection with clinical signs of shock)
5. Severe anaemia (haemoglobin level below 40 g/L or between 40 and 7 g/L with signs of shock or blood transfusion)

Uncomplicated birth

A woman who gives birth vaginally to a healthy infant, with no deformities, or at least 2500g at term (37-42 weeks) and whose medical records reveal no prenatal, labour or immediate postpartum complications.

Risk of ill health

The findings from Burkina Faso suggest that there are few differences between women with near miss and those with uncomplicated delivery in terms of diagnosed illnesses including urinary infections, hypertension, haemorrhoids, or prolapses of the womb (although the prevalence of these reproductive diagnoses was high).

In Benin, women with a near miss complication and whose child was born alive were, however, more likely to suffer from hypertension. This is because in this group of women there were more near-miss events caused by eclampsia and pre-eclampsia. On the other hand women with a near miss and perinatal death were more likely to be diagnosed with urinary incontinence, fever and anaemia. This increase in anaemia is likely to be linked to the socio-economic status of the woman prior to delivery rather than the near miss event itself.

In both countries women with severe obstetric complications did report negative physical health outcomes more frequently than women with uncomplicated deliveries. Women's self-reports of

“I had decided to go but he [my husband] told me he didn’t have anything. That’s why I didn’t go. If you go to the hospital without any money, what are you going to do there?”

- a woman explains why she did not visit a hospital in Burkina Faso

ill health reveal factors not easily captured in clinical medical examinations such as fatigue, exhaustion or deterioration of strength, and might also indicate a context of unfavourable social conditions or in some cases psychological distress.

Risk of mental health problems

In Burkina Faso, women with severe obstetric complications were more at risk of depression and anxiety for up to 3 months after delivery. They were also more likely to have experienced suicidal ideation and to have reported the pregnancy as having had a negative effect on their lives for up to a year.

In Benin, perinatal death is an important contributory factor to anxiety and depression at 6 and 12 months postpartum. Women whose babies died were also more likely to report feeling excluded by their family and experiencing physical, sexual or emotional abuse from their partner for up to six months after delivery.

The research suggests that at 12 months, women’s risk of depression can almost entirely be explained by long-term financial debts, physical illness and marital disputes. Each of these interrelated circumstances is exacerbated by, if not a consequence of, the obstetric complication and perinatal death.

High burden of health care costs

In both countries the cost of emergency obstetric care was significantly higher than costs involved in normal childbirth: in one medical facility in Burkina Faso, the cost of a caesarean section was 63,001 CFA (£64.88) – over a quarter of annual per capita income. The cost of emergency obstetric care varies considerably between facilities making it very difficult for families to plan for them.

The research found that women with near-miss complications are poorer and less educated than women who had a normal delivery. Their low socio-economic status, compounded by the high cost of care, means that they are more likely to experience substantial difficulties paying for hospital fees and often resorts to selling assets, borrowing from friends and family members or accruing new debt. In many cases, these actions have long lasting effects. In Burkina Faso, up to 12% of women with near-miss complications have been unable

to pay back all of the money for hospital fees a year after delivery.

These expenses can contribute to a vicious cycle of debt: households sell more assets and obtain additional loans to finance the original debt and to replenish lost capital, tools, animals or stock required for income generating activities. In addition, many women were no longer able to participate in productive activities due to ongoing ill health. The need to meet unexpectedly high health care costs can put serious strains on women’s status within the household and challenge social expectations between husbands, wives and wider family networks.

Recommendations

In the past there has been little recognition of the difficulties faced by women who suffer from severe obstetric complications in poor countries. Post natal services in these countries often focus on the prevention of infant mortality rather than interventions intended to improve maternal health and survival. These recommendations are aimed at policymakers working in developing countries who are involved in the organisation and integration of maternal and child health services.

Financing emergency obstetric care and follow up services

Consider alternative mechanisms for financing emergency obstetric care and follow-up services, so that vulnerable women and their households are adequately protected against the high cost of care and the long term economic and social repercussions associated with this.



In Burkina Faso, subsidies have now been introduced. It is important to note that schemes which offer substantial cost reductions, such as abolishing 80% of user fees in Burkina Faso or cash transfer in Nepal (see Towards 4+5 briefing paper 2), may still render some major obstetric interventions such as caesarean section, prohibitively expensive, in particular when there are other costs involved such as transport costs and informal payments.

While the main way of reducing these complications is to offer skilled birth attendance and accessible emergency obstetric care to all women, it is not possible to reduce near-miss occurrence to zero even in the richest settings. Targeting women with severe obstetric complications for financial or social interventions, or improving households' access to cash in emergency situations may also help to reduce the burden of the cost of care.

Improving the quality of postnatal and post abortion care

Resources need to be devoted to ensuring that women who are treated for severe obstetric complications receive

adequate care before, during and after discharge from hospital. In addition to reducing the cost barriers to care, this should involve expanding the length of time that care is available to women and their babies after a severe complication, and focusing efforts on women's health as well as child health. It is particularly important to actively reach and monitor closely women that suffer from complications that are likely to lead to chronic ill health such as severe hypertension or obstructed labour.

Integrating mental health with maternal health care

Mental health care needs to be integrated into post natal care in low income countries. Given the shortage of mental health professionals; other cadres of health workers could initially provide screening for mental ill health such as nurses, midwives, gynaecologists and paediatricians during routine visits. Such health professionals would be more alert to the risks that mothers face, particularly those that have experienced a perinatal loss, and able to detect symptoms of depression and refer for treatment at an early stage.

Credits

This briefing paper was written by Rebecca Wolfe, Veronique Filippi and Katerini Storeng for the Towards 4+5 Research Programme Consortium. It draws on research presented in the following publications.

- **Health of women after severe obstetric complications in Burkina Faso: a longitudinal study**
Filippi V, Ganaba R, Baggaley RF, Marshall T, Storeng KT, Sombie I, Ouattara F, Ouedraogo T, Akoum M, Meda N. The Lancet, Volume 370. 2007
- **Paying the price: the cost and consequences of emergency obstetric care in Burkina Faso**
Storeng KT, Baggaley RF, Ganaba R, Ouattara F, Akoum MS, Filippi V. Social Science and Medicine, Vol 66. 2008
- **Risk of depression following severe obstetric complications in Benin: the role of economics, physical health and spousal abuse** Fottrell E, Kanhonou L, Goufodji S, Behague DP, Marshall T, Patel V, Filippi V. Accepted by the British Journal of Psychiatry
- **Effects of severe obstetric complications on women's health and infant mortality: findings from a cohort study in Benin and implications for postnatal care** Filippi V, Goufodji S, Sismanidis C, Kanhonou L, Ronsmans C, Alihonou E, Patel V.

The research was undertaken with funding from the WHO Human Reproduction Programme in Benin and funding from Immpact in Burkina Faso. Immpact is an international research programme for the evaluation of safe motherhood intervention strategies, funded by the Bill & Melinda Gates Foundation, the UK Department for International Development, the European Commission and USAID. The funders have no responsibility for the information provided or views expressed in this paper. Other institutions involved in the research are:

- London School of Hygiene and Tropical Medicine (LSHTM), UK
- Centre de Recherche en Reproduction Humaine et en Demographie (CERRHUD), Benin
- Groupe de Recherche, d'Expertise et de Formation en Santé pour le Développement (GREFSaD) (formerly Centre Muraz), Burkina Faso



For more information please contact Veronique Filippi.
email: veronique.filippi@lshtm.ac.uk

www.towards4and5.org.uk