

HIDDEN SUFFERING: Disabilities From Pregnancy and Childbirth in Less Developed Countries

by Lori Ashford

Complications of pregnancy and childbirth are a leading cause of death and disability among women of reproductive age (ages 15 to 44) in less developed countries. About half of the nearly 120 million women who give birth each year experience some kind of complication during their pregnancies, and between 15 million and 20 million develop disabilities such as severe anemia, incontinence, damage to the reproductive organs or nervous system, chronic pain, and infertility.¹

These disabilities are tragic on two counts: They occur in the process of giving life, and they are almost entirely preventable. Disabilities from maternal causes affect the health and productivity of women who are in the prime of their lives. These disabilities are also strongly associated with infant deaths and poor health and development in children and adversely affect family income and well-being. Reducing women's disabilities, therefore, is as important for alleviating poverty as it is for reducing needless suffering. The interventions for preventing and treating complications of pregnancy and childbirth are well-documented, but greater commitments and investments are needed to make such interventions widely available and effective.

A Hidden Problem

Each year, more than 500,000 women, predominantly in less developed countries, die of causes related to pregnancy and childbirth. Yet the deaths are only the tip of the iceberg: For every death, at least another 30 women suffer serious illness or debilitating injuries.² Though these women are fortunate to survive, their injuries can have devastating social and physical consequences.

Maternal disabilities have received relatively little attention, because they are often hidden from view. In poor countries, many women receive no medical care before, during, or after childbirth, so there are few medical records avail-

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In less developed countries, between 15 million and 20 million women develop disabilities each year as a result of complications during pregnancy and childbirth.

able for analysis. Numerous studies have documented the incidence of pregnancy-related complications, but few large-scale studies have included medical verification of women's conditions after childbirth. Much of the available data is derived from women's self-reported symptoms on surveys, which experts consider unspecific and not clinically valid. Nevertheless, case studies in a number of countries reveal an enormous but unaddressed problem, shrouded in a "culture of silence and endurance" because of cultural values that encourage women to give lower priority to their health than to other family matters.³

Causes of Maternal Disabilities

Maternal disability (or morbidity) can be defined as any illness or injury caused or aggravated by pregnancy or childbirth. The disability can be acute, affecting a woman during or immediately after childbirth, or chronic, lasting for months, years, or a lifetime.

The vast majority of maternal disabilities stem from health complications that are a direct

Table 1

Complications of Pregnancy and Childbirth: Estimates for Less Developed Countries

Complication	Incidence as a Percent of Live Births	Maternal Disabilities That May Result
Severe bleeding (hemorrhage)	11	<ul style="list-style-type: none"> ■ Severe anemia ■ Pituitary gland failure and other hormonal imbalances ■ Infertility
Infection during or after labor (sepsis)	10	<ul style="list-style-type: none"> ■ Pelvic inflammatory disease* ■ Chronic pelvic pain ■ Damage to reproductive organs ■ Infertility
Obstructed or prolonged labor	6	<ul style="list-style-type: none"> ■ Incontinence ■ Fistula* ■ Genital prolapse* ■ Uterine rupture, vaginal tears ■ Nerve damage
Pregnancy-induced hypertension (preeclampsia and eclampsia)	6	<ul style="list-style-type: none"> ■ Chronic hypertension ■ Kidney failure ■ Nervous system disorders
Unsafe abortion	16	<ul style="list-style-type: none"> ■ Reproductive tract infection ■ Damage to uterus ■ Infertility ■ Pelvic inflammatory disease* ■ Chronic pelvic pain

* Defined in the text on pages 3 and 4.

SOURCE: C. Murray and A. Lopez, eds., *Health Dimensions of Sex and Reproduction* (1998): chapters 5 through 8.

result of pregnancy or childbirth. These “direct causes” include severe bleeding, infection, obstructed or prolonged labor, pregnancy-induced hypertension (high blood pressure), and unsafe abortion (see Table 1).

Disabilities can also be caused by illnesses that are aggravated by pregnancy, such as anemia, malaria, cardiac disease, hepatitis, tuberculosis, sexually transmitted infections (STIs, including HIV/AIDS), and diabetes. Interactions between illnesses and complications can also cause a disability, making this a particularly difficult problem to quantify. No matter what the cause, pregnancy complications can pose a serious health risk to the fetus or newborn, as well as for the mother’s subsequent pregnancies.

Maternal disabilities are strongly associated with poor or nonexistent medical care during labor and delivery and immediately after the birth. Only about half of all births in less developed countries are attended by a doctor, nurse, or trained midwife. In many cases, women who experience complications do not receive adequate medical attention in time to avert serious illness or injury. Women and their families may not recognize the warning signs of complications or may fear poor treatment or high fees at health facilities. Even deliveries in health facilities can be risky, because the quality of obstetric care may be inadequate. In some cases, the delay between arriving at a health facility and receiving care results in the death of the mother or child.

Unsafe abortions—those that are self-induced or carried out by unskilled providers—are also a major cause of maternal death and disability. In contrast, complications of abortions conducted by skilled providers in medical settings are rare. The World Health Organization (WHO) estimates that 18 million unsafe abortions occur each year in less developed countries—about one in 10 pregnancies, or one abortion for every seven live births.⁴

Major Maternal Disabilities

Maternal disabilities can severely affect women’s quality of life, fertility, and productivity long after pregnancy and delivery. The following sections describe some of the major disabilities that may result from pregnancy- and childbirth-related complications.

Consequences of Severe Bleeding

About 11 percent of women who give birth, or 13 million women per year, experience postpartum hemorrhage, defined as loss of more than 500 milliliters of blood following the delivery of a baby (the exact amount is difficult to monitor without trained assistance). Without prompt and effective treatment, women who bleed profusely can die in a matter of hours, making postpartum hemorrhage the leading cause of maternal death. Women who survive may develop severe anemia or, in rare but serious cases, permanent hormonal imbalances due to failure of the pituitary or adrenal glands. Pituitary failure can lead to inability to breastfeed, loss of menstruation, chronic weakness, premature aging, and confusion or apathy.⁵

Anemia, or low levels of iron in the blood, deserves special mention because it is so common, affecting about half of all pregnant women worldwide. Anemia is both an indirect cause of death and a consequence of pregnancy complications, such as severe bleeding. The main cause of anemia is insufficient iron in the diet, but other causes include malaria, intestinal worms, folate deficiency, and HIV/AIDS.⁶ Because pregnancy and severe postpartum bleeding can aggravate existing anemia, anemic women are exposed to increased risk of death and disability with each subsequent pregnancy.

Women with moderate to severe anemia suffer from fatigue and lack of energy that dramatically reduce their productivity and quality of life. A recent analysis using WHO data estimated that anemia associated with maternal causes in less developed countries in 2000 alone would result in a future loss of women's productivity valued at more than US\$5 billion.⁷

Consequences of Infection

About 10 percent of women who give birth suffer from sepsis, or blood poisoning caused by an untreated infection during or immediately after childbirth. Sepsis can result from prolonged labor, inappropriate care, or unclean practices during a delivery or induced abortion.

Women who survive the initial infection may develop pelvic inflammatory disease (PID), in which the infection spreads to the fallopian tubes and ovaries. If left untreated, PID can cause chronic pelvic pain, which affects women's lives continuously. PID can also permanently damage the reproductive organs, putting women at future risk of ectopic pregnancy—a life-threatening condition in which a fertilized egg develops in the fallopian tube—or infertility.

Apart from suffering the physical pain associated with these conditions, women who become infertile experience emotional pain and, in some cases, abandonment or abuse by their husbands.

Consequences of Obstructed or Prolonged Labor

Affecting about 6 percent of live births, obstructed labor occurs when the fetus will not fit through the mother's pelvis. Very young mothers who have not attained their adult stature are particularly at risk.⁸ Lacking the option of a Caesarean section delivery,

“Prevailing cultural values enhance the ‘culture of silence and endurance’.... Women generally are taught to put up with pain and discomfort as part of their condition.”

Hind A.S. Khattab, *The Silent Endurance* (1992)

a woman can suffer the agony of obstructed labor for days or even a week. As a consequence, she may experience chronic incontinence or, in severe cases, a ruptured uterus or the formation of fistula (see Box 1), with likely loss of her child.⁹

Some women suffer genital prolapse after bearing several children. The prolapse occurs when the vagina or the uterus (or both) drop below their normal positions because of repeated stretching and damage to the muscles that support these organs. The condition is extremely uncomfortable, especially for women who do their chores in a squatting position. Genital prolapse can also lead to chronic backache, urinary problems, pain during sexual intercourse, and complications in future pregnancies.¹⁰ Women with this condition rarely report it because they consider it a normal consequence of childbearing.

Obstructed or prolonged labor can also lead to severe postpartum infections and increased risk of PID, infertility, and neurological injuries (damage to the nervous system), including a condition called “foot drop” that makes walking difficult.

Pregnancy-Induced Hypertension

About 6 percent of women who give birth develop pregnancy-induced hypertension, which includes a dangerous condition called preeclampsia (previously known as toxemia) that is characterized by high blood pressure, swelling, and the presence of protein in the urine. If preeclampsia is not detected and treated, it can result in seizures or convulsions, at which point it is defined as eclampsia. Management of eclampsia requires a trained health practitioner who can provide timely care such as anticonvulsant drugs and expedited delivery of the infant. Pregnancy-induced hypertension is a leading cause of maternal mortality and can also lead to long-term health problems such as chronic hypertension, kidney failure, or nervous system disorders.¹¹

The Impact on Infant and Child Health

The same pregnancy-related complications that threaten women's survival can also cause death and disability in newborns. The vast majority of the estimated 8 million perinatal deaths (late miscarriages, stillbirths, and deaths in the first week of life) that occur each year in less developed countries are associated with maternal health problems or poor management of labor and delivery.¹² For example, obstructed and prolonged labor asphyxiates an estimated 3 percent of newborns, resulting in death for nearly 25 percent of these infants and brain damage for another 25 percent. In addition, women suffering from poor nutrition and infections during pregnancy are more likely to have low birth-weight infants (weighing less than 2,500 grams). Low birth-weight infants are 20 times to 30 times more likely to die in the first week of life than infants of normal weight, and those who survive are more likely to suffer disabilities such as cerebral palsy, seizures, and severe learning disorders.¹³

Consequences for Families and Societies

A mother's disability can have profound consequences for her family and the broader community, due to changes in household responsibilities, earnings, and expenses.¹⁴

- The cost of the mother's medical treatment can change patterns of household consumption and reduce savings and investments.
- The mother's reduced productivity can reduce family output and earnings, compelling children to enter the labor force.
- Children whose mother is ill may have inferior nutrition, hygiene, and health.
- Older children may drop out of school to assume some of the mother's responsibilities.
- Family members may suffer from psychological problems, including depression and feelings of isolation.

Interventions to Improve Maternal Health

All pregnant women, even healthy ones, face some risk of complications that can result in death or serious disabilities if not successfully treated. The same assistance that would save women's lives could also prevent suffering on the part of the women who survive, as well as their newborn babies.

Box 1

Obstetric Fistula: A Devastating Injury

An obstetric fistula, an abnormal opening between the vagina and the bladder or rectum (or both), results from extreme pressure and tissue damage during prolonged or obstructed labor, as the baby attempts to pass through the mother's birth canal. If a Caesarean section delivery is not available to end the ordeal, the baby is usually stillborn and a fistula forms, permitting the uncontrollable passage of urine and feces into the vagina.

Social isolation compounds the pain. Women who suffer fistula have not only lost their babies (in most cases), they also constantly leak urine and feces, producing a foul odor. Women with fistula usually feel shamed or disgraced, and are often deserted by their husbands and cut off from family, friends, and daily activities, resulting in a life of destitution.

The young and poor are disproportionately affected. The women most at risk include very young women and women having their first birth; women whose growth has been stunted because of poor nutrition or childhood illness; women in rural areas; and those who use traditional care and home delivery. It is estimated that some 2 million women, predominantly in Africa and the Indian subcontinent, suffer from fistula. Each year, another 50,000 to 100,000 women are affected, most under age 20.

Treatment is possible but often inaccessible. Fistula can be surgically repaired but only where trained surgeons and good postoperative care are available. Only two centers in Africa specialize in fistula care: one in Addis Ababa, Ethiopia, and the other in Jos, in northern Nigeria. The operation costs about US\$150, beyond the means of most women affected.

SOURCE: United Nations Population Fund, "Preventing Fistulae and Other Disability" (www.unfpa.org/mothers/disability.htm, accessed Jan. 28, 2002).

Ensure Access to Essential Obstetric Care (EOC)

EOC includes the ability to perform surgery, anesthesia, and blood transfusions; management of problems such as anemia or hypertension; and special care for at-risk newborns. Providing such care requires trained professional staff, a good logistics system for medical supplies, a functioning referral system, and good supervision. Wherever possible, families and communities should have specific plans for transporting women who suffer from serious complications to facilities that can provide essential care.

Provide Postpartum Care and Postabortion Care

Postpartum and postabortion care can detect and manage problems, such as hemorrhage, infection, and damage to the reproductive organs, that arise

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Promoting safe motherhood can alleviate needless suffering and help move families out of poverty.

immediately after delivery, miscarriage, or unsafe abortion. Increased funds for training and equipment would also increase the availability of surgical repair of obstetric fistula.

Promote Family Planning

Making low-cost contraceptives and information on family planning available can prevent unintended pregnancies and reduce women's exposure to the health risks associated with pregnancy and childbirth. Family planning allows women to delay motherhood, space births, prevent unsafe abortions, and stop bearing children when they have reached their desired family size.

Provide Adequate Antenatal Care

WHO recommends that women have at least four antenatal visits, starting in the first three months of pregnancy. Timely antenatal visits allow for screening and treatment of STIs, malaria, hookworm, and anemia; immunization against tetanus; and detection and treatment of pregnancy-induced hypertension. The visits also give health workers the chance to educate women about diet and healthy behaviors and to give women nutritional supplements. Antenatal care providers should inform women about the importance of safe delivery with a skilled birth attendant, the warning signs of complications, and how to plan for emergency care.

Improve Girls' Nutrition and Increase Women's Age at First Birth

These earliest preventive measures can help ensure adequate growth of the pelvis, reducing the chances of obstructed labor and its debilitating consequences. Addressing chronic undernutrition and micronutrient deficiencies can also increase women's resistance to infections, hypertension, and other illnesses during pregnancy.

Benefits of Interventions

Taken together, these interventions could have substantial benefits, given that poor maternal health is a major drain on women's productivity. An analysis conducted in Uganda showed that the implementation of a "mother-baby package" (including the components described above) for the 1.2 million Ugandan women who give birth every year would, over 10 years, save more than 12,000 women's lives and 60,000 children's lives, and spare more than 250,000 women from disability. The resulting gain in productivity was valued at US\$90 million.¹⁵

In low-income settings, therefore, promoting safe motherhood is as important for moving families out of poverty as it is for alleviating human suffering. While the interventions to improve maternal health are well-documented, a lack of commitment and funding has prevented them from being effectively implemented. Given the evidence available on maternal disabilities, the payoffs in reduced suffering and increased productivity may be well worth the investment.

References

- ¹ Christopher Murray and Alan Lopez, eds., *Health Dimensions of Sex and Reproduction*, Vol. 3, *Global Burden of Disease and Injury Series* (Boston: Harvard University Press, 1998); and Barton R. Burkhalter, "Consequences of Unsafe Motherhood in Developing Countries in 2000: Assumptions and Estimates from the REDUCE Model" (Bethesda, MD: University Research Corporation, unpublished).
- ² Murray and Lopez, *Health Dimensions of Sex and Reproduction*; Burkhalter, "Consequences of Unsafe Motherhood in Developing Countries in 2000"; and A. Prual et al., "Severe Maternal Morbidity From Direct Obstetric Causes in West Africa: Incidence and Case Fatality Rates," *Bulletin of the World Health Organization* 78, no. 5 (Geneva: WHO, 2000): 593.
- ³ Hind A.S. Khattab, *The Silent Endurance* (Cairo: UNICEF and Population Council, 1992); and Judith A. Fortney and Jason B. Smith, *The Base of the Iceberg: Prevalence and Perceptions of Maternal Morbidity in Four Developing Countries* (Research Triangle Park, NC: Family Health International, 1996).
- ⁴ Murray and Lopez, eds., *Health Dimensions of Sex and Reproduction*: 280.
- ⁵ Murray and Lopez, eds., *Health Dimensions of Sex and Reproduction*: 170-74.
- ⁶ Amy Tsui et al., eds., *Reproductive Health in Developing Countries* (Washington, DC: National Academy Press, 1997): 120.
- ⁷ Burkhalter, "Consequences of Unsafe Motherhood in Developing Countries in 2000": table 5.
- ⁸ Marquisa Lavelle Moerman, "Growth of the Birth Canal in Adolescent Girls," *American Journal of Obstetrics and Gynecology* 143, no. 5 (1982): 528-32; and Justin C. Konje and Oladapo A. Ladipo, "Nutrition and Obstructed Labor," *American Journal of Clinical Nutrition* 72, no. 1 (2001): 291S-97S.
- ⁹ Murray and Lopez, eds., *Health Dimensions of Sex and Reproduction*: 252-55.
- ¹⁰ Tsui et al., eds., *Reproductive Health in Developing Countries*: 121-22.
- ¹¹ Murray and Lopez, eds., *Health Dimensions of Sex and Reproduction*: 219-39.
- ¹² Tsui et al., eds., *Reproductive Health in Developing Countries*: 122-23.
- ¹³ Tsui et al., eds., *Reproductive Health in Developing Countries*: 122-23.
- ¹⁴ National Research Council, *The Consequences of Maternal Morbidity and Maternal Mortality: Report of a Workshop* (Washington, DC: National Academy Press, 2000): 6, 17.
- ¹⁵ Barton R. Burkhalter, "Assumptions and Estimates for the Application of the REDUCE Safe Motherhood Model in Uganda" (Bethesda, MD: University Research Corporation, unpublished analysis prepared for the SARA Project, 2000).

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