

IPPF Medical Bulletin

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Maternal mortality and unsafe abortion: preventable yet persistent

Lale Say, Iqbal Shah

Reducing maternal mortality and morbidity is both a human right and a public health imperative. One of the eight United Nations (UN) Millennium Development Goals (MDGs) adopted at the UN Millennium Summit in 2000,¹ MDG 5, is to improve maternal health, and one of the targets is to reduce by three-quarters the maternal mortality ratio—the number of maternal deaths to 100,000 live births—between 1990 and 2015.

This paper presents the global and regional levels and trends in maternal mortality and unsafe abortion. Unsafe abortion accounts for 13% of all maternal deaths globally, but for a much greater percentage of deaths in a number of countries.² We present information on maternal mortality, followed by unsafe abortion.

Maternal mortality: levels and trends

Maternal mortality, defined as: “The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes”,³ constitutes a major public health problem in developing country settings. It has been a key concern of the international community, particularly since the Safe Motherhood Conference in 1987 and including the aforementioned

Millennium Summit, although progress in addressing the problem has been slow.

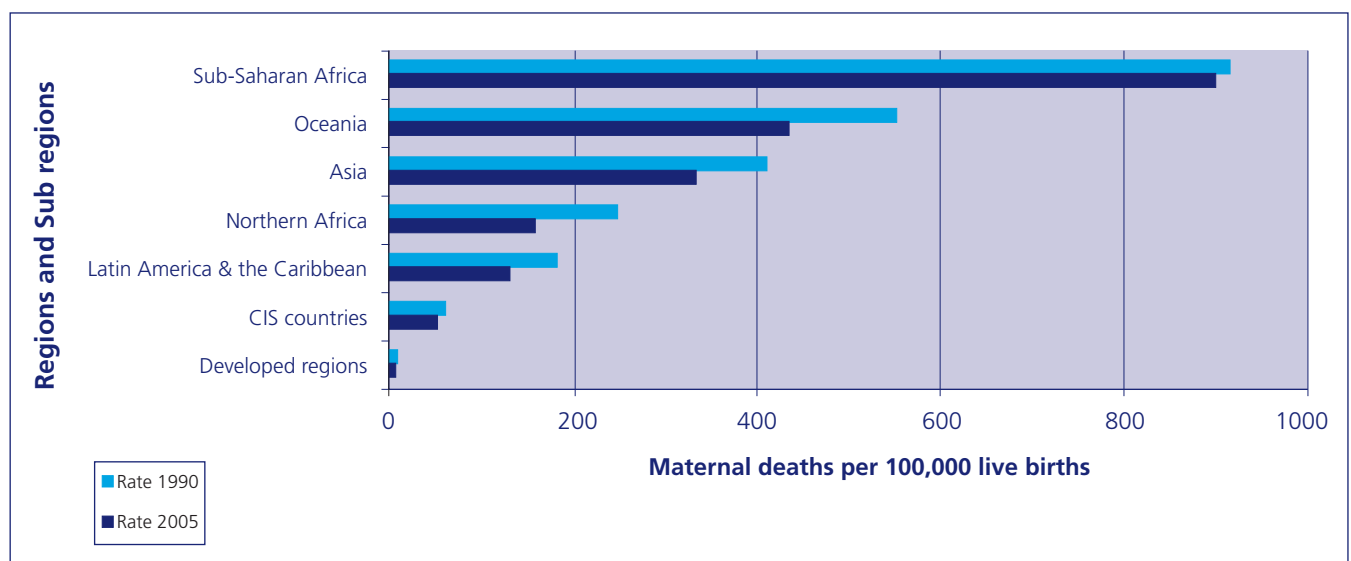
Latest estimates of maternal mortality levels and trends, published by the World Health Organization (WHO), the United Nations Children’s Fund (UNICEF), the United Nations Population Fund (UNFPA) and the World Bank in collaboration with scientists from academia, indicate that a total 536,000 maternal deaths occurred worldwide in 2005, 533,000 of them in developing countries.⁴ Slightly more than half the maternal deaths (270,000) occurred in the Sub-Saharan Africa region alone, followed by South Asia (188,000). The two areas accounted for 86% of global maternal deaths.

The MDG target is articulated in terms of reduction of the maternal mortality ratio. In 2005, the maternal mortality ratio was estimated to be 450 in developing countries, in stark contrast to developed regions (9) and countries of the Commonwealth of Independent States (51). The figures vary across different regions of the developing world, the highest being 900 maternal deaths per 100,000 live births in Sub-Saharan Africa and the lowest 50 per 100,000 live births in Eastern Asia (see Table 1). Maternal mortality ratios of at least 1,000 are reported in 14 countries in the world, of which 13 (excluding Afghanistan) are in the Sub-Saharan African region. The highest maternal mortality ratio in the world is reported for Sierra Leone (2,100 per 100,000 live births). By contrast, Ireland’s maternal mortality ratio is 1.

The maternal mortality ratio indicates the risk of death for a woman with each pregnancy. In settings with high fertility, such as Sub-Saharan Africa, each woman faces this risk many times. In Africa, the probability that a 15-year-old woman will eventually die from maternal causes (lifetime risk of maternal mortality) is highest: 1 in 26, while this measure is estimated to be 1 in 7,300 in developed countries (see Table 1).

Meeting the MDG target for maternal mortality requires a

Figure 1. Maternal mortality ratio by region, 1990 and 2005



Source: World Health Organization⁴

Table 1. Estimates of maternal mortality ratio (MMR), number of maternal deaths, lifetime risk, and range of uncertainty by United Nations MDG regions, 2005

Region	MMR (maternal deaths per 100,000 live births)	Number of maternal deaths	Lifetime risk of maternal death: 1 in:	Range of uncertainty on MMR estimates	
				Lower estimate	Upper estimate
WORLD TOTAL	400	536,000	92	220	650
Developed regions*	9	960	7,300	8	17
Countries of the commonwealth of independent states (CIS)**	51	1,800	1,200	28	140
Developing regions	450	533,000	75	240	720
Africa	820	276,000	26	410	1,400
Northern Africa***	160	5,700	210	85	290
Sub-Saharan Africa	900	270,000	22	450	1,500
Asia	330	241,000	120	190	520
Eastern Asia	50	9,200	1,200	31	80
South Asia	490	188,000	61	290	750
South-Eastern Asia	300	35,000	130	160	550
Western Asia	160	8,300	170	62	340
Latin America and the Caribbean	130	15,000	290	76	180
Oceania	430	890	62	120	1,200

*Includes Albania, Australia, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Lithuania, Luxembourg, Malta, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Serbia and Montenegro (Serbia and Montenegro became separate independent entities in 2006), Slovakia, Slovenia, Spain, Sweden, Switzerland, The former Yugoslav Republic of Macedonia, the United Kingdom, the United States of America.

**The CIS countries are Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, the Republic of Moldova, the Russian Federation, and Ukraine.

***Excludes Sudan, which is included in Sub-Saharan Africa.

Source: World Health Organization⁴

decline in the maternal mortality ratio of around 5.5% each year. The analysis of trends between 1990 and 2005 shows that no region of the world has achieved this result. Globally, the maternal mortality ratio showed a total fall of 5.4% in the fifteen years of 1990-2005 (see Figure 1). In Sub-Saharan Africa, where most maternal deaths occur and the risk to the individual woman is very high, there was almost no improvement over the period. However, significant progress was made in Eastern and South-Eastern Asia, Latin America and the Caribbean, North Africa, and Oceania. In Eastern Asia, where the largest decline was recorded, the maternal mortality ratio fell by more than 40% between 1990 and 2005.

Unsafe abortion: levels and trends

The World Health Assembly identified maternal mortality and unsafe abortion as serious public health problems in 1967. Little progress has been made since then in reducing the number or rate of unsafe abortions or in curtailing the associated mortality. Each year 42 million of an estimated 205 million pregnancies are ended by induced abortion, 20 million of them unsafely.² Induced abortion continues to be one of the most controversial and emotive issues, overshadowing the public health implications of unsafe abortion. Every minute, 38 women undergo unsafe abortions and one of them dies every eight minutes due to a botched abortion. In addition to the 65,000-70,000 deaths, close to five million women are estimated to suffer temporary or permanent disability every year due to unsafe abortion. Of these, almost 1.7 million will have secondary infertility, and more than three million will suffer from the effects of reproductive tract infections (RTIs). While unsafe abortions are responsible for 13% of maternal deaths globally, they account for 20% of the total mortality and disability burden due to pregnancy and childbirth. Nearly all unsafe abortions and related deaths and disability occur in developing countries, demonstrating severe inequity

Of the 19.7 million unsafe abortions estimated to have occurred in 2003, 9.8 million were in Asia, 5.5 million in Africa and 3.9 million in Latin America and the Caribbean. The rates of unsafe abortion per 1,000 women aged 15-44 years show that women in Eastern Africa, South America, Caribbean and Western Africa are more likely to have an unsafe abortion than women in other sub-regions (see Table 2).

Table 2: Number and rate of unsafe abortion per 1,000 women aged 15-44 years, by developing region

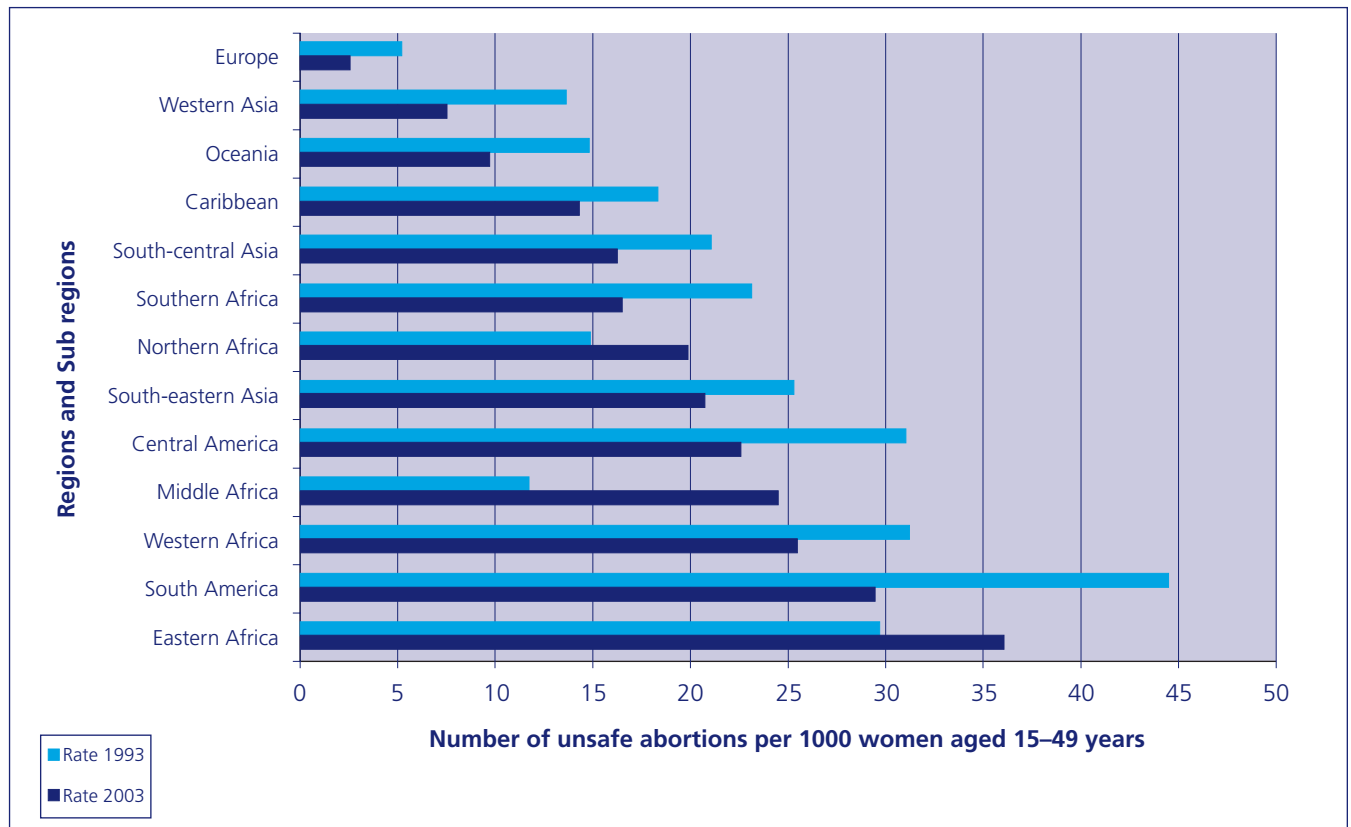
Region	Number (in million)	Rate (per 1,000 women aged 15-44 years)
World	19.7	22
Developing countries	19.2	24
Eastern Africa	2.3	39
Middle Africa	0.6	26
Northern Africa	1.0	23
Southern Africa	0.2	18
Western Africa	1.5	28
South-central Asia	6.3	18
South-eastern Asia	3.1	27
Western Asia	0.4	13
Caribbean	0.1	28
Central America	0.9	25
South America	2.9	33

Note: Europe, Northern America and Eastern Asia with little evidence of unsafe abortion are not shown.

Source: World Health Organization²

Trends in the incidence and rate of unsafe abortion are not easy to discern because of the varying coverage and quality of data over time. The more recent estimates provide better coverage, especially for Africa, where new information has become available from a number of studies. A comparison of the estimates for 1993 and 2003 shows increases in unsafe abortion rates in the latter year in Eastern Africa, Middle Africa and Northern Africa (see Figure 2). Aside from Africa, the unsafe abortion rates show modest declines. Two main patterns emerge. The first is represented by South America, and includes Central America, Caribbean and Southern Africa. Southern Africa is distinct, with unsafe abortion increasingly being replaced by legal, safe abortion. The unsafe abortion rate in South America has substantially declined, with the prevalence of modern contraceptives increasing from 50% to 65% during the same period. South-eastern Asia and South-central Asia (and to some extent Western Asia and Oceania) follow the second pattern, with modest declines in unsafe abortion rates. The prevalence of modern contraceptives continues to be below 50% in these sub-regions.

Figure 2: Trends in unsafe abortion rate per 1,000 women aged 15-49 years, 1993 and 2003, by region



Source: World Health Organization^{2,5}

Mid-way through the period to the target date of the MDGs, only modest gains have been made so far in reducing maternal mortality and unsafe abortion. More concerted efforts are urgently needed to avert maternal deaths and prevent unsafe abortions. Improving necessary health care for women and providing universal access to sexual and reproductive health services must be prioritized. This includes access to family planning to prevent unplanned pregnancies, the prevention of unsafe abortions and their complications, and the provision of high-quality pregnancy, delivery and post-partum care, including emergency obstetric care.

Recent commitments made by the international community suggest there is cause to hope for faster progress. On the basis of the outcome of the World Summit in 2005, the revision of the MDG monitoring framework, to include under MDG 5 a new target (to achieve, by 2015, universal access to reproductive health), has given renewed priority to the health care required for addressing maternal mortality and its causes, including unsafe abortion. International partnerships have been established to work towards achieving the health MDGs. They include the global campaign on MDG 4 and 5, and the International Health Partnership + (IHP+) established in September 2007 with the objective of supporting national efforts in scaling up coverage to health interventions. The focus of such international partnerships should provide further opportunities to accelerate progress in reducing maternal mortality and unsafe abortion.

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Contraception issues in obstetric fistula management

Nathalie Maulet, Jean Macq, Pierre Buekens

Obstetric fistula has been a neglected issue for a long time. With the 2003 launch of an international campaign, co-ordinated by the United Nations Population Fund, management of the issue is set to become a catalyst in the campaign for maternal mortality and morbidity reduction in developing countries.¹

Obstetric fistula results from trauma caused by obstructed labour without timely medical intervention. The prolonged pressure of the head of the fetus on maternal tissues induces necrosis, resulting in an abnormal communication between the reproductive tract and one, or both, adjacent organs (bladder, rectum). A stillborn baby and chronic urinary and/or faecal incontinence are the most acknowledged consequences of obstetric fistula. However, morbidity deriving from fistula is multifaceted and includes pelvic inflammatory disease, foot-drop, and infertility.² Obstetric fistula also has serious psychosocial and economical repercussions such as stigmatization, divorce, depression, and worsening poverty.³ Despite their importance, these medical and social effects have not yet been studied in depth.⁴

Both in published and practical work, a trend to broaden fistula management from the sole surgical operation to a more holistic approach has recently become perceptible.^{5,6} In 2006, the World Health Organization (WHO) published a guide with basic principles for taking care of women undergoing obstetric fistula repair.⁷

Besides surgery, the guide suggests measures ranging from pre- and postoperative nursing care to physiotherapy and counselling.

With the progress of the international campaign, interventions are systematically presented as a three-phase continuum of prevention, treatment and socio-economic reintegration.⁸ Contraception appears to intervene in all three phases. It is a prevention measure because it can delay early pregnancy, which is one of the main risk factors in obstetric fistula aetiology. As stated in the WHO guide, it is also part of the treatment: "Prior to discharge, the woman should be advised not to have intercourse for three months to allow for complete healing to take place and ideally not to become pregnant for six months to a year following this period. This should also be explained to her partner and [...] the couple should receive full advice on family planning".⁷ In addition, contraception is linked to reintegration, as having another baby – or not having any more – seems to be the main concern of fistula patients returning to their communities.

This article aims to raise basic questions and launch discussion on the importance of contraception issues in obstetric fistula management, in line with efforts to reduce maternal mortality.

We have not found publications specifically addressing contraception issues related to obstetric fistula (Medline search with keywords "fistula" and contraception/family planning). Very few articles mention contraception. When they do, it is to point out that improving access to family planning services is a way to delay early childbearing – thus preventing fistula.⁹ Contraception appears as a postoperative counselling recommendation amongst others, such as personal hygiene, antenatal care and hospital delivery at the next pregnancy.^{10,11} Articles including this recommendation are quite recent and do not go beyond a statement of intent. Data on field activities are not available, nor is information on fistula patients' wishes, compliance related to contraception or the further impact of family planning in patients' lives.

The way contraception is presented in obstetric fistula literature illustrates two shortcomings, stressed by several authors: a short term vision and a lack of evidence-based studies.^{3,4}

Preliminary results of our in-depth study of 65 obstetric fistula patients' long term medico-social outcomes in Niger show that, despite the organization of sensitization or counselling sessions, only 23% of the patients knew how long to wait before their next pregnancy. A notable 27.5% answered three to 10 years, far longer than the recommended period (six to 12 months). This might be connected with the fear of becoming pregnant again, as was often mentioned by patients. Respecting doctors' recommendations, fear of pregnancy/fistula recurrence and not wanting more children (3.8% of respondents were primiparas, 21.1% multiparas and 55.5% grand multiparas) were the stated reasons for starting contraception.

We found that 94% of the patients had never used any kind of contraception before, yet 91% declared that once cured, they would like to use modern contraception methods. Patients interviewed within the fistula care centre seemed quite determined in their intentions. They openly expressed their resolution to refuse a marriage proposal or divorce, and to use contraception secretly if their former/future husband rejected family planning. This intention might be difficult to apply, especially for women going back to their former husband (62% of our sample). When a patient shows her determination to use contraception, effective supply during

pre-discharge counselling could be crucial.

Patients with fistula who do not wait the advised period before their next pregnancy may be at higher risk of failing to return to the health system for their delivery (caesarean section) – and thus of fistula recurrence. On the other hand, their contacts with the health care system might make them better equipped to deal with the risks of their subsequent reproductive life (birth control, post-fistula pregnancy).

Birth spacing is not the only issue linking contraception and obstetric fistula management. Another important area is STD and HIV/AIDS prevention. Fistula treatment is often delayed because patients do not know treatment is available, or they have transport or economic problems. In Nigeria, a country with a history of fistula care experience and facilities, the duration of fistula ranged from a few days to 38 years, with a mean duration of five years before presentation at the fistula hospital.¹²

It is assumed that fistula patients' husbands do not remain sexually inactive during this long period; neither do some of the women (e.g., a rare case of pregnant fistula patients and suspicion of survival prostitution). After a distressing fistula episode, a husband and wife resume their marital life with higher risks of STD and HIV/AIDS. To date, these issues have never been addressed.

There is an urgent need for further studies. As obstetric fistula management tends to become more holistic, contraception issues should be fully integrated in the fistula continuum of care.

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