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Making safe abortion accessible: the public health imperative

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Introduction

When faced with an unintended pregnancy, some women go on to have an unwanted birth but most of them seek abortion, attempting to self-induce or find a provider, regardless of the law. Induced abortion, safe or unsafe, legal or illegal, is a universal phenomenon and has existed throughout the recorded history.[1] Yet, abortion continues to be the most emotive and contentious issue in reproductive health and an important public health and human rights challenge of the present time.

Each year nearly 44 million abortions take place, half of them safely and the other half unsafely.[2] Deaths and disability owing to unsafe abortion continue to occur against the backdrop of major advances in the medical profession, especially in terms of the availability of simple, safe and effective technologies and skills for induced abortion; many of which can be carried out by skilled nursing staff.[3] The World Health Organization (WHO) defines unsafe abortion as a procedure for terminating an unintended pregnancy carried out either by persons lacking the necessary skills or in an environment that does not conform to minimal medical standards, or both.[4]

In this paper, we review the evidence on the incidence of safe and unsafe abortion, legal restrictions on access to safe abortion and the health consequences of unsafe abortion.

Global and regional levels of safe and unsafe abortion

In 2008, 43.8 million abortions were estimated to have taken place globally (Table 1).[2] Nearly all (98%) unsafe abortions occur in developing countries. Both in Africa and in Latin America and the Caribbean, most abortions are unsafe. In Asia, primarily because of the large populations of China and other Eastern Asia countries where abortion is legally permitted on request or under broad socioeconomic grounds and most abortions are safe, there are more safe than unsafe abortions; when excluding Eastern Asia it becomes obvious that the majority of abortions (63%) in the region are unsafe. The annual number of unsafe abortions is about the same as the total number of people currently living in Australia or Sri Lanka. With all the advances made in medicine and health, it is disconcerting that such a high number of unsafe abortions resulting in deaths and disability of women continues to prevail.

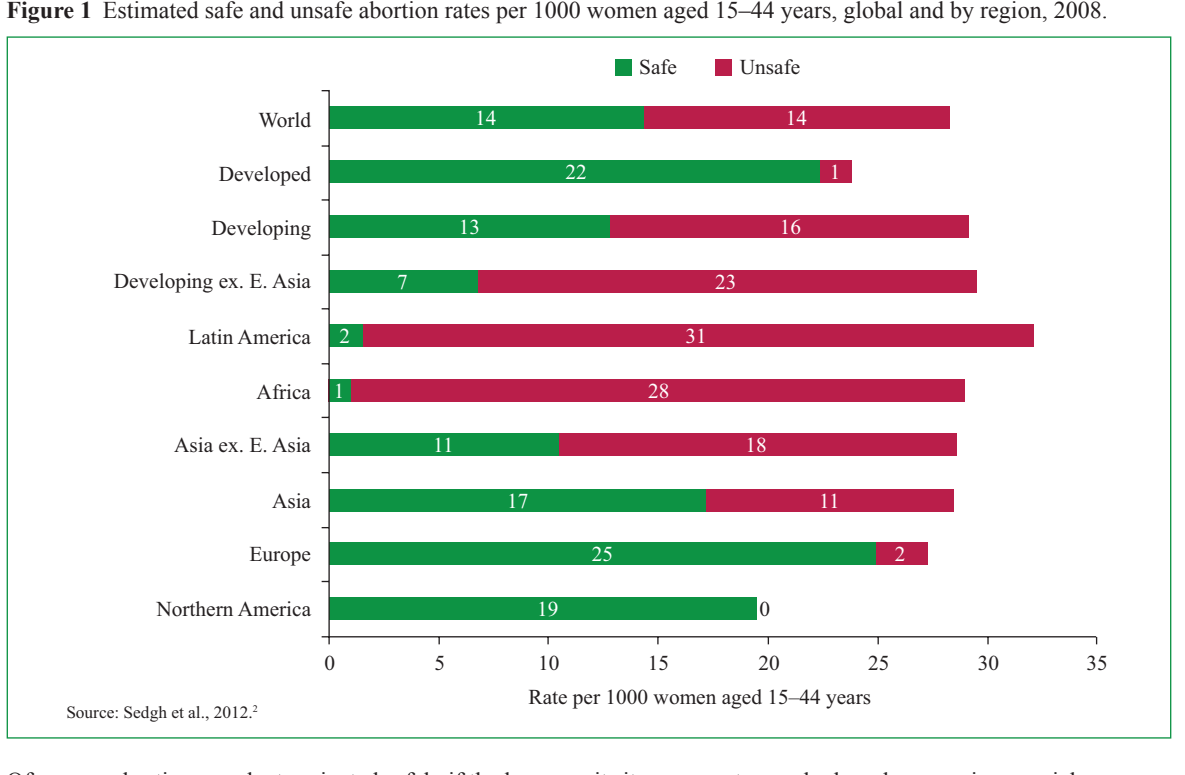
Table 1 Estimated annual number (in millions) and rates (per 1000 women aged 15–44 years) of safe and unsafe induced abortion, globally and by region, 2008.

Region[a]	Number of induced abortions (millions)			Abortion rate (per 1000 women aged 15–44)		
	Induced abortion	Safe abortion	Unsafe abortion	Induced abortion	Safe abortion	Unsafe abortion
World	43.8	22.2	21.6	28	14	14
Developed countries[b]	6.0	5.7	0.4	24	22	1
Developing countries[b]	37.8	16.6	21.2	29	13	16
Developing excl. Eastern Asia	*27.6*	*6.3*	*21.2*	*29*	*7*	*23*
Africa	6.4	0.2	6.2	29	1	28
Asia[c]	27.3	16.5	10.8	28	17	11
Asia excl. Eastern Asia	*17.1*	*6.3*	*10.8*	*29*	*11*	*18*
Europe	4.2	3.8	0.4	27	25	2
Latin America	4.4	0.2	4.2	32	2	31
Northern America	1.4	1.4	°	19	19	°
Oceania[c]	0.1	0.1	^	17	14	2

Figures may not exactly add up to totals because of rounding.
° No estimates are shown for regions where the incidence is negligible.
^ Numbers less than 0.1 million.
a The classification of geographical regions and subregions follows the system used by the UN Population Division.
b Developed regions include Europe, North America, Japan, Australia and New Zealand; all others are classified as developing.
c WHO unsafe abortion estimates of these regions only include developing countries, excluding Japan, Australia and New Zealand from the regions; those unsafe abortion rates therefore differ.
Source: Sedgh et al., 2012.[2]

The number of abortions is influenced by the size of the women's population in reproductive age of 15–44 years. Abortion rate, that is, the number of abortions per 1000 women in reproductive age of 15–44 years, is a more meaningful measure to indicate the likelihood that a woman would have safe or unsafe abortion depending on the region she resides in (Figure 1).[2] Women in developing regions have a much higher risk of unsafe abortion than those living in developed regions where unsafe abortion is almost non-existent. The rates of safe and unsafe abortion by region become reversed as one compares from developed to developing regions, except in Asia where the rate is higher for the safe than for the unsafe abortion, mainly because of China.

Figure 1 Estimated safe and unsafe abortion rates per 1000 women aged 15–44 years, global and by region, 2008.



Of course, abortions can be terminated safely if the law permits it on request or under broad economic or social reasons, and if services are available and accessible. Figure 2 shows the percentage of countries in developed and developing regions which permit abortion under specific conditions.[5] The percentage of countries permitting abortion declines rapidly as the grounds for abortion become progressively liberal, especially in developing regions. Only 16% of developing countries permit abortion *on request* compared to 69% of developed countries. Induced abortion rates are lower where abortion laws are liberal than where these are restricted (Figure 3).[2] Obviously, legal restrictions do not reduce the incidence of abortion, but make them clandestine and unsafe with devastating impact on women's lives and well-being. With the exception of Eastern Europe, abortion rates are lower in Europe and other regions with more liberal abortion laws than in developing regions where laws generally limit access to safe abortion.

Figure 2 Legal grounds on which abortion is permitted, by level of development, 2011 (percentage of countries).

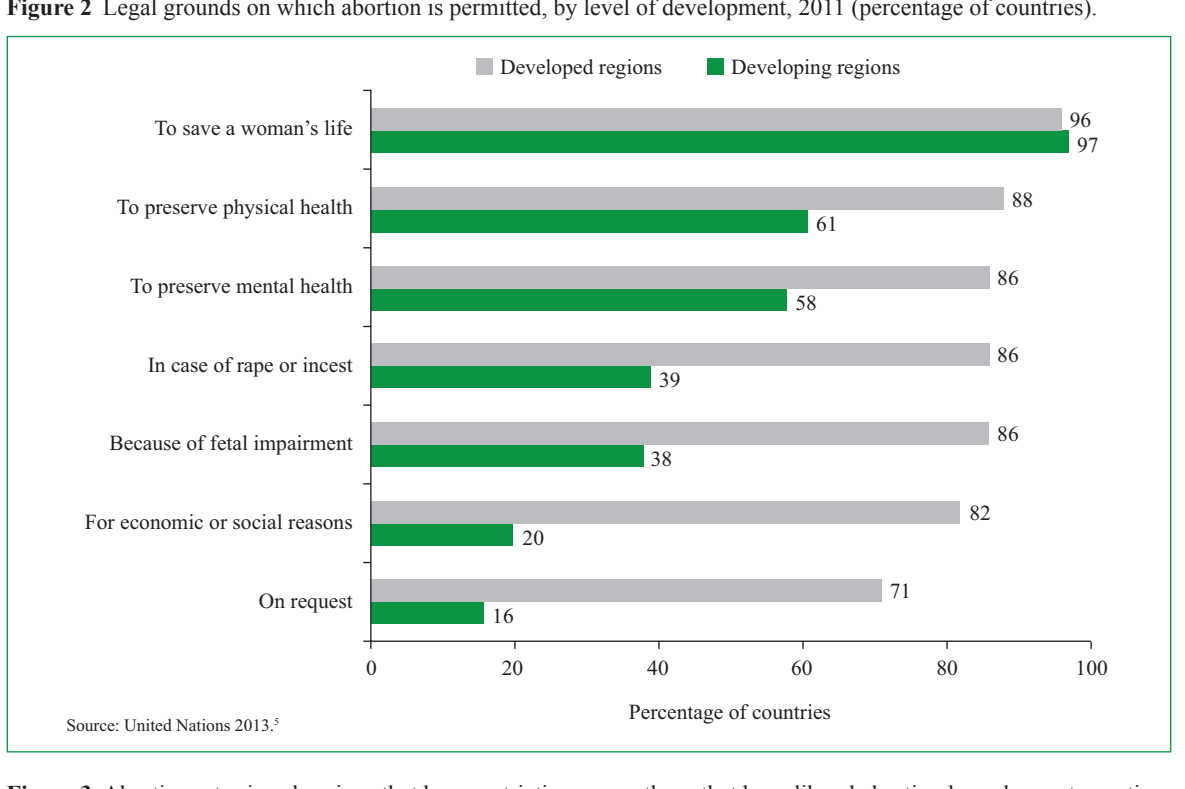
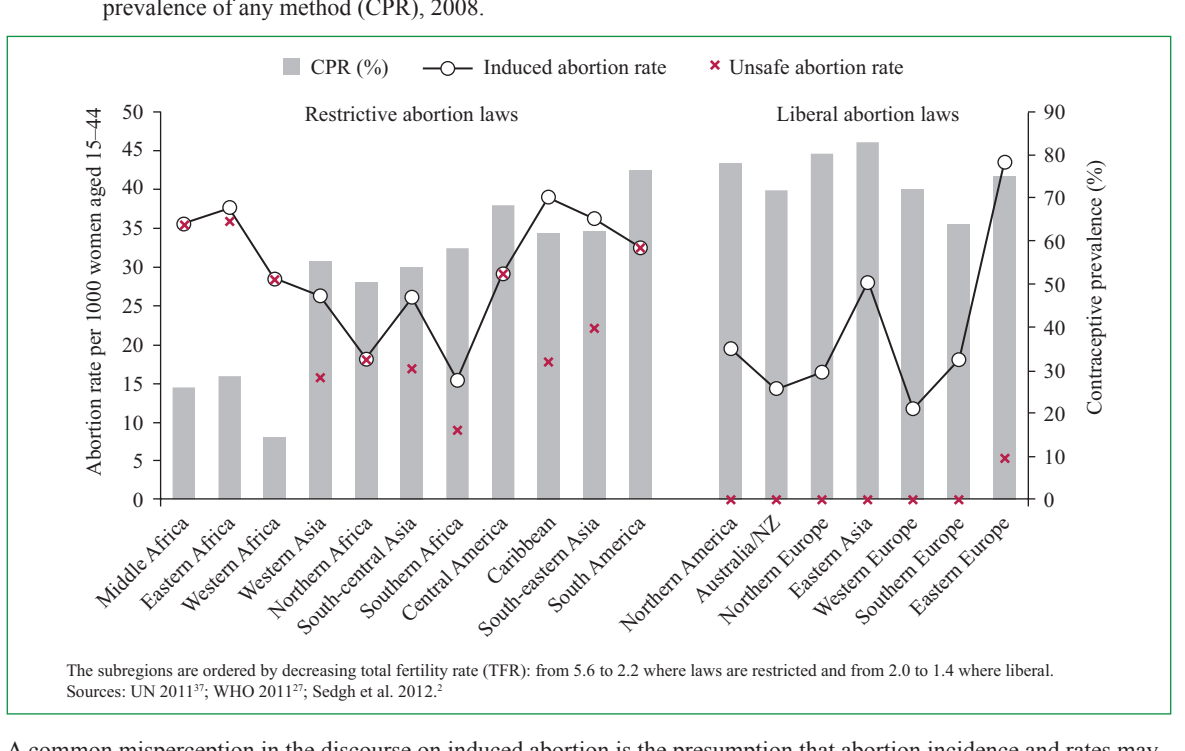


Figure 3 Abortion rates in subregions that have restrictive versus those that have liberal abortion laws, by contraceptive prevalence of any method (CPR), 2008.

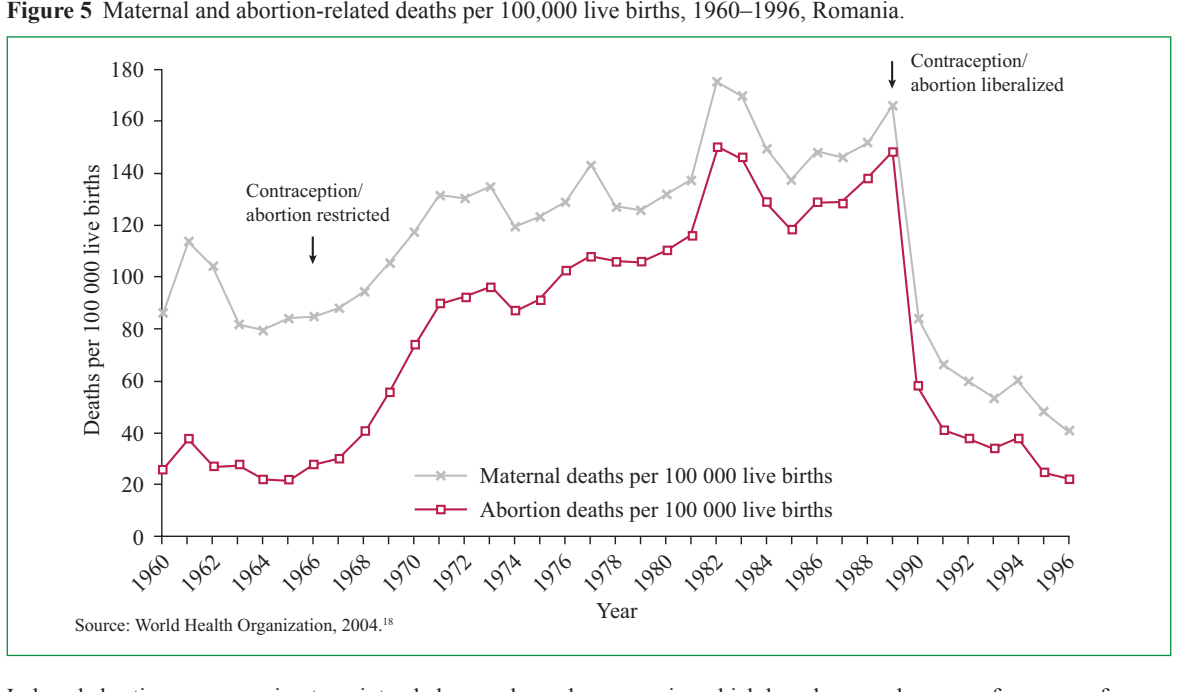


A common misperception in the discourse on induced abortion is the presumption that abortion incidence and rates may go up and stay high if the law is made liberal and access to safe abortion services is improved. The experience from a number of countries shows that the abortion rates do often increase in years immediately following liberalization and with improvement in access, but decline over time. This was witnessed in Turkey (Figure 4), among other countries, where induced abortions per 100 pregnancies doubled from 12 in 1983, when abortion was liberalized, to 1988. However, by 2008, it had declined to 10% of pregnancies and was lower than in 1983.[6,7,8,9,10,11] The increase following legalization is largely because abortions which were previously clandestine and unsafe became increasingly safe and legal and were reported by women without fear of legal reprisals.

Figure 4 Percentage of pregnancies or live births ending in induced abortion, 1983–2008, Turkey.

The evidence consistently shows that removing legal restrictions on abortion and making safe abortion widely accessible result in reducing maternal mortality and morbidity.[12,13,14,15,16,17] Romania provides a glaring example of the impact of restrictions on access to safe abortion and of their removal (Figure 5).[18] Because of liberal abortion laws and access to legal abortion services since 1957, unsafe abortions had declined in Romania and the abortion mortality ratio was estimated at 20 per 100,000 live births in 1960.[19] President Ceausescu instituted a pronatalist policy in 1966 introducing strict restrictions on contraception and abortion. The maternal mortality ratio rose to 170 per 100,000 and abortion-related mortality ratio to 148 per 100,000 live births in 1989. Unsafe abortions accounted for 87% of all maternal deaths.[20] Abortion was liberalized immediately following the downfall of Ceausescu. The impact on the decline of maternal mortality and abortion mortality was dramatic. Abortion-related mortality declined to 58 in 1990, and 34 in 1993 to nine per 100,000 live births in 2002.[20]

Figure 5 Maternal and abortion-related deaths per 100,000 live births, 1960–1996, Romania.



Induced abortions occur owing to unintended or unplanned pregnancies which largely occur because of non-use of a contraceptive method, but also because of the failure of the method or its ineffective use. Where legal restrictions prevent women from accessing safe abortion or the services are of poor quality or unaffordable, or women and the providers are unaware of the legal provision of safe abortion, or a combination of these factors coexist, unsafe abortions prevail and put a heavy burden on the health system and inflict women with injury or death. Abortion is also perhaps the only component of reproductive health that causes stigma and sanctions for both the woman and the provider.[21]

There are many reasons why safe abortion services must be made available and accessible to all women in need, public health and human rights are but two of them.

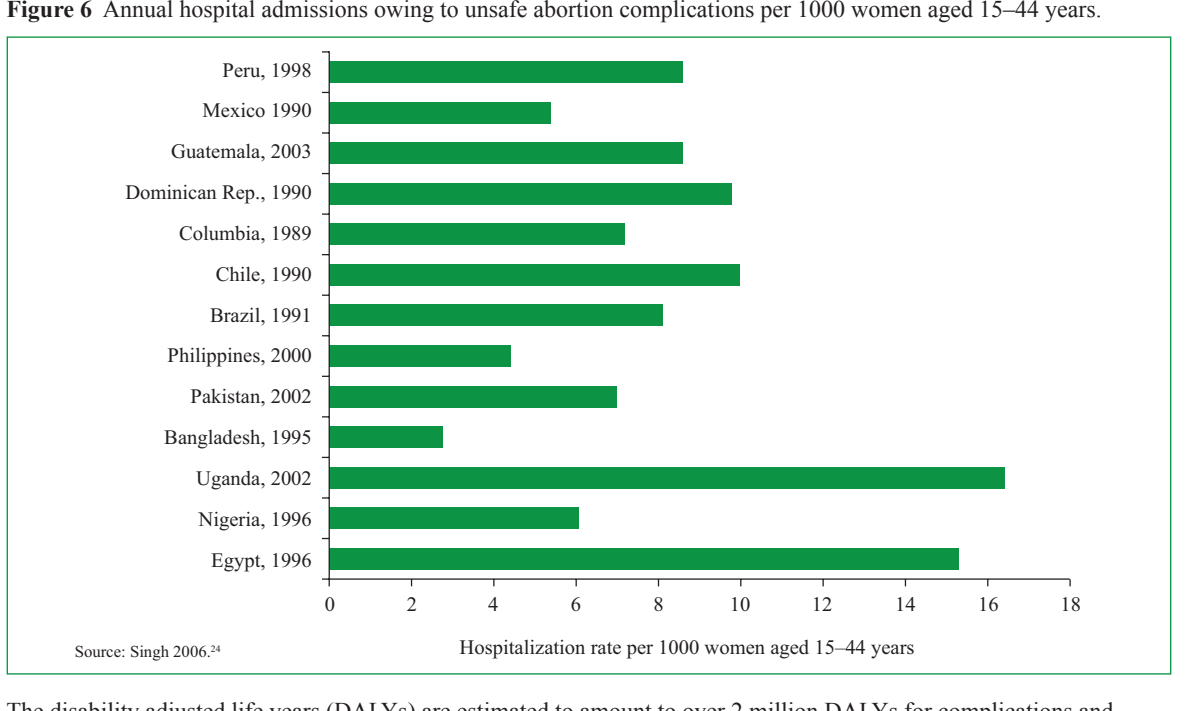
Why provide safe abortion services?

Nearly 50 years ago, the World Health Assembly identified unsafe abortion, maternal and child mortality as serious public health problems: "...abortions and the high maternal and child mortality constitute a serious public health problem in many countries" (World Health Assembly Resolution 20.41, 23 May 1967[22]). Since then international resolutions and agreements have accumulated to highlight the public health impact of unsafe abortion. The 1995 Beijing Platform of Action resulting from the 4th World Conference on Women stated: "Unsafe abortions threaten the lives of a large number of women, representing a grave public health problem." It urged the 187 UN Member States to recognize and deal with the health impact of unsafe abortion as a major public health concern.[23]

Health burden of unsafe abortion

The health burden of unsafe abortion is undisputedly substantial with serious consequences of death and disability. Each year an estimated 5 million women are admitted to hospitals in developing regions for treatment of complications from unsafe abortion.[24] This corresponds to 5.7 hospital admissions per 1000 women in reproductive age. The annual hospitalization rates for unsafe abortion complications vary from a low of about 3 in Bangladesh to over 15 per 1000 women in Egypt and Uganda (Figure 6). An estimated 15–25% of women experience complications but do not seek care at the hospitals because of stigma and fear of legal and social sanctions.[24]

Figure 6 Annual hospital admissions owing to unsafe abortion complications per 1000 women aged 15–44 years.



The disability adjusted life years (DALYs) are estimated to amount to over 2 million DALYs for complications and injuries owing to unsafe abortion.[25] These DALYs account for 15% of DALYs for all maternal conditions and constitute the third leading cause after hemorrhage and hypertensive disorders of pregnancy. The complications of unsafe abortion include, among others, hemorrhage, sepsis, peritonitis, trauma to the cervix, vagina, uterus and abdominal organs, and secondary infertility. The burden of severe acute maternal morbidity that combines the near-miss cases and maternal deaths in developing countries is 237 per 100,000 live births and over five times as high as the unsafe abortion mortality ratio based on the number of deaths owing to unsafe abortion alone (40 per 100,000 live births).[26]

In 2008, nearly all deaths owing to unsafe abortion occurred in developing countries (Table 2).[27,28] It is estimated that 129 deaths occur every day and 47,000 each year owing to complications of unsafe abortion. About two-thirds (62%) of all unsafe abortion-related deaths occur in Africa.

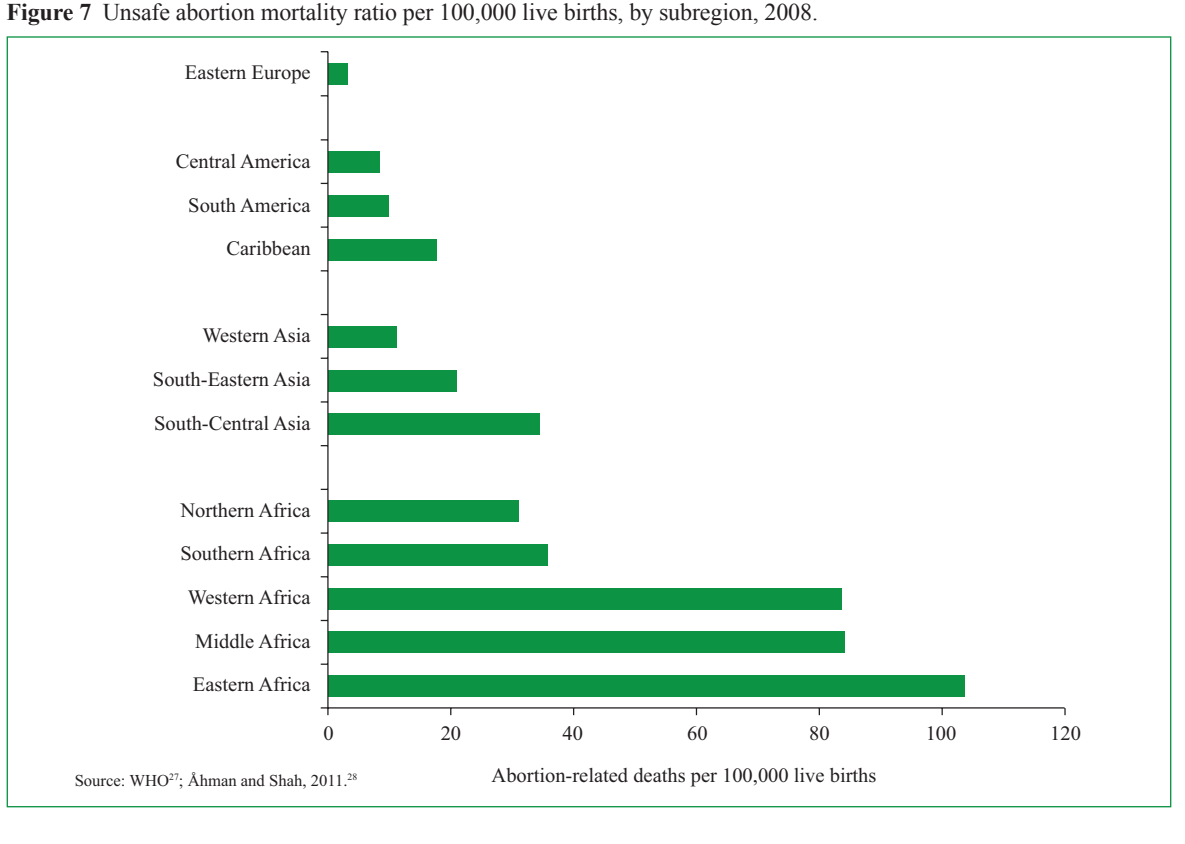
Table 2 Estimated number of maternal deaths owing to unsafe abortion and unsafe abortion maternal mortality ratio per 100,000 live births, 2008.

Region	Number of deaths owing to unsafe abortion (rounded)	Unsafe abortion mortality ratio per 100,000 live births (rounded)
World	47,000	30
Developed regions*	90	0.7
Developing regions	47,000	40
Africa	29,000	80
Asia*	17,000	20
Latin America & the Caribbean	1,100	10
Oceania*	100	30
Europe	90	1

Figures may not exactly add up to totals owing to rounding.
*Japan, Australia and New Zealand have been excluded from the regional estimates, but are included in the total for developed countries.
Source: Åhman and Shah, 2011.[28]

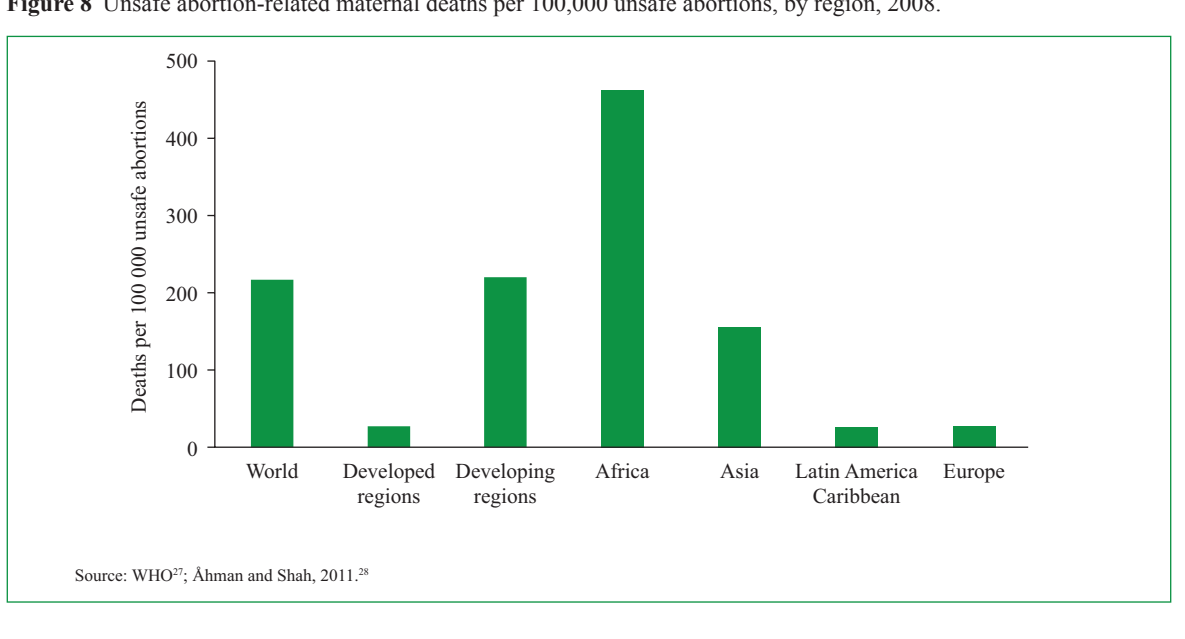
The unsafe-abortion mortality ratio was 40 per 100,000 live births for developing regions together, but it was more than twice at 100 per 100,000 in Eastern Africa (Figure 7). The ratio was 80 in Middle and West Africa where safe abortion is highly restricted. In other subregions of Africa and Asia the ratios range from 10 to 40. Although the percentage of all abortions which are unsafe in Latin America is high (Table 1), the associated risk of death is relatively low. This is probably because of a relatively well-developed infrastructure for health care and a high and apparently increasing reliance on medical abortions.[29,30] This point is further reinforced when considering the risk of death associated with the unsafe abortion procedure or the case-fatality rate (Figure 8).

Figure 7 Unsafe abortion mortality ratio per 100,000 live births, by subregion, 2008.



The risk of death associated with the unsafe abortion procedure (case fatality rate) was estimated at 220 per 100,000 unsafe abortions in 2008 (Figure 8).[27] The estimated case fatality rates of unsafe abortion are very high especially when compared to those for safe and legal abortion. For example, the case fatality rate during 2004–2008 was 0.64 in the US.[31] For Sub-Saharan Africa, it is 800 times higher than the rate for the legal abortion in the US.[27]

Figure 8 Unsafe abortion-related maternal deaths per 100,000 unsafe abortions, by region, 2008.



The deaths and disability owing to unsafe abortion are entirely preventable. Unless drastic efforts are urgently undertaken to address the issue of unsafe abortion and related mortality, women will continue to die or suffer disability.

Contraception reduces but does not eliminate the need for safe abortion services

Contraception is the primary means to prevent unintended pregnancy among sexually active women and, consequently, induced abortion. Contraceptive prevalence of any method was 63% globally in 2010 among women of reproductive age (15–49 years) who were married or in a cohabiting union.[32] The use of modern methods was about 6% lower, at 57%. The use of modern contraception has contributed to lowering the incidence and prevalence of unintended pregnancy and induced abortion.[33, 34, 35]

In countries with high contraceptive prevalence, the prevention of unintended pregnancies depends heavily on the ability and willingness of men and women to use methods with maximum effectiveness, to use them persistently and to switch promptly to alternative methods as and when the need arises. Overall discontinuation of spacing methods in developing countries is high. On average, in the 19 countries studied 38% of couples had stopped use of their method within 12 months of starting.[36] The discontinuation rates ranged from 40% to 50% for pills, injectables, condoms, periodic abstinence and withdrawal. In contrast, only 13% of intrauterine device (IUD) users discontinued within 12 months. High discontinuation would not be a problem if women switched to another method promptly after discontinuation. However, in seven of the 17 countries, less than half of couples switched within 3 months of discontinuation because of side-effects or other method-related reasons. Therefore, many women become exposed to the risk of unintended pregnancy and abortion because of delays in switching to alternative methods or owing to abandoning the contraceptive use altogether.

Contraception alone, however, cannot entirely eliminate women's need for access to safe abortion services. Contraception plays no role in cases of forced sex that can lead to an unintended pregnancy. Also, no method is 100% effective in preventing pregnancy. Using 2009 data on contraceptive prevalence[37] and the typical failure rates of contraceptive methods[38], it is estimated that approximately 36 million women may experience an accidental pregnancy annually while using a method (Table 3). Women will continue to face unintended pregnancies as long as their family planning needs or method preferences are not met or the methods they use fail. Therefore, the need for safe abortion will continue to persist even when the contraceptive prevalence is high. In the absence of safe abortion services, many women may continue resorting to unskilled providers.

Table 3 Estimated number of women using a contraceptive method and those experiencing an unintended pregnancy during the first year of contraceptive use, by type of contraceptive method, global data, 2009.

Contraceptive method	Estimated failure rate (typical use)[a] %	Number of users[b] (thousands)	Number of women with accidental pregnancy in typical use (thousands)
Female sterilization	0.5	222,805	1,114
Male sterilization	0.15	28,293	42
Injectables	0.3	41,260	124
IUD	0.8	168,577	1,349
Pill	5.0	103,740	5,187
Male condom	14.0	89,594	12,543
Vaginal barrier	20.0	2,358	472
Periodic abstinence	25.0	34,187	8,547
Withdrawal	19.0	36,545	6,943
Total	4.7	727,359	36,321

a Trussell[38] estimates are based on USA data. Estimated failure rates in *typical* use cover method- and user-failure in using a contraceptive method in typical conditions.
b Based on the estimated number of women aged 15-49 years, married or in union in 2009 and the percentage using specific contraceptive method.[37]

Abortion restrictions cause inequities in access

Inequities caused by legal restrictions are often overlooked by policy makers and service providers alike. In no other indicator of reproductive health is inequity owing to legal restrictions and to lack of services as glaring as in access to safe abortion care. Nearly all of unsafe abortions (98%) and deaths owing to unsafe abortions (99.8%) occur in developing regions.[27] Although induced abortion is a universal practice, legal restrictions and lack of information and services expose poor, rural and young women more to the risk of unsafe abortion than relatively wealthier, urban and adult women.

Pronounced differences are found by economic status with poor women much more likely to have an abortion performed by unskilled providers than wealthier women. In countries where abortion is highly restricted, women who are better-off can obtain an induced abortion from a medically trained provider (doctor or nurse) or can travel to a country with liberal laws. When abortion is legally restricted, its provision by medically trained providers becomes more expensive making it out of reach for the poor women. The information from the Health Professional Surveys by the Guttmacher Institute shows that fewer women in rural areas were likely to have the clandestine abortion performed by doctors as compared to women in urban areas (8% vs. 32% in Guatemala; 9% vs. 26% in Mexico; 22% vs. 41% in Pakistan; and 16% vs. 42% in Uganda).[39]

Because of lack of financial means and support, adolescents and young women are more likely to have an abortion, especially in Africa, by an unskilled provider. In 2008, 51% of all unsafe abortions in Africa were among young women aged 15–24 years. The corresponding figure was 44% for Asia and Latin America. Young women are disproportionately more likely to have unsafe abortion when abortion is legally restricted. The legal restrictions of abortion and lack of services thus aggravate the equity in access to reproductive health care, especially to safe abortion care.

Improving access to safe abortion services

Unsafe abortion and related high mortality and morbidity continue to persist. However, some progress has been made over the past two decades. The maternal mortality ratio of unsafe abortion declined annually by 2.1% between 1990 and 2008, while the case fatality rate fell by 2.6% during the same period.[28] However, the progress has been uneven with Africa, where it is most needed, lagging far behind Asia and Latin America. During 1994–2011, legal grounds for abortion were expanded in 70 countries compared to 11 countries where these were made more restrictive. Some countries reformed their abortion laws and made substantial progress in expanding access to safe abortion and in some countries innovative strategies have been applied to reduce the burden of unsafe abortion within the restricted limits of the abortion law. Case studies below from Nepal and South Africa illustrate the former and one from Uruguay represents the latter group of countries.

Nepal: Reforming restrictive laws

Before 2002, Nepal's 1963 legal code known as the *Muluki Ain*, prohibited abortion and characterized abortion as an *offence against life*, making no exception even when pregnancy threatened a women's life. The reproductive rights impetus of the International Conference on Population and Development (ICPD) galvanized the women's health advocates and others to reform abortion laws in Nepal. The 2002 reform permits abortion: (a) on request up to 12 weeks of pregnancy; (b) up to 18 weeks if the pregnancy is the result of rape or incest; and (c) at any time during the pregnancy if the life, physical or mental health of the woman is at risk or if the fetus is deformed. The law does not require consent from anybody, including husband or partner, except the adult woman to ensure that she is not forced or deceived into having an abortion against her will or choice. Young women under 16 years require consent of the guardian or a near relative. Sex-selective abortion is illegal. Soon after the law was passed, a Task Force was established to develop and implement plans for the provision of safe abortion services. Providers (doctors and midwives) were trained and facilities were upgraded and both providers and facilities were accredited for the provision of safe abortion. Medical abortion was introduced and expanded to 75 districts. Eight guidelines, standards and tools were developed: (1) Safe abortion procedural order (2003); (2) National safe abortion policy (2004); (3) Comprehensive abortion care training manuals (2004); (4) National reproductive health clinical protocol (2008); (5) Medical abortion training manuals (2008); (6) National medical abortion scale up activities (2009); (7) Second trimester implementation guidelines (2010); and (8) Safe abortion implementation guidelines (2011).

By June 2011, over 500,000 women had accessed safe abortion services since the legal reforms. The maternal mortality ratio (MMR) declined from 539 in 1996 to 229 per 100,000 live births in 2009.[40] Abortion complications decreased from 41% in 1998 to 26% in 2008. A recent hospital-based study shows a significant downward trend in the proportion of serious infection and injury, and a decline in the risk of serious complications[41]. Comprehensive abortion care services were expanded by strengthening post-abortion counseling and services, resulting in 80–85% of women adopting contraception following abortion during 2008–2011. Manual vacuum aspiration (MVA) was introduced and training was provided.

The success in expanding safe abortion services can be attributed to strong government leadership and commitment; applying evidence-based policies, protocols and standards; permitting trained mid-level health care providers (nurses, nurse-midwives, and auxiliary nurse-midwives) to provide comprehensive abortion care; major donor support; active involvement of international non-governmental organizations (NGOs) and a strong presence of women's health advocacy groups.

Despite the impressive progress in the availability of and access to safe abortion services, unsafe abortion has not yet disappeared. The access in remote and rural areas remains a challenge and the awareness of the legal provision of abortion continues to be poor among women (38%).[42]

The Nepal example proves that safe abortion services can be extended to women by reforming abortion laws accompanied by political commitment, support, training and improvements in the health system. This is especially noteworthy because Nepal is among the poor countries with largely rural population (81%), difficult terrain and low literacy rate.

South Africa: Recognizing women's right to abortion

In South Africa, the Choice of Termination of Pregnancy (CTOP) Act No. 92 was passed in 1996 and went into effect in 1997. The CTOP Act permitted abortion on request during the first 12 weeks of pregnancy and from 13th week up to and including 20th week for a number of broad conditions. Abortion after the 20th week of pregnancy was permitted to save the woman's life and if the pregnancy would result in a severe malformation of the fetus or posed a risk of injury to the fetus. CTOP recognized a woman's right to abortion and was exceptional in allowing trained nurse-midwives, in addition to doctors, to provide first-trimester abortion. Abortion service is provided free at public hospitals and clinics.

The national guidelines were developed in 1997 and the National Abortion Care Programme provided training in MVA and for comprehensive abortion care. Medical abortion was subsequently approved.

The abortion law reforms were attributed for a 91% decline in abortion related mortality between 1994 and 1998–2001.[43,44,45] A decline in the number and severity of complications was also observed.[46]

Despite the major headway in providing safe abortion and reducing unsafe abortion and related mortality and morbidity, obstacles remain. The knowledge of the time limit for abortion on request is not widely known, resulting in delays to seek abortion to a time beyond the limit set by the law. There is also a critical shortage of providers and less than 50% of public facilities are able to provide abortion. Moreover, abortion providers continue to face stigma and disapproval.[21]

Uruguay: Working within the restricted law and making the difference

The maternal mortality ratio (MMR) in Uruguay was estimated at 20.3 per 100,000 live births during 1992–2001.[47] During the same period, unsafe abortion accounted for 29% of maternal deaths nationwide and 48% of maternal deaths that occurred at the leading women's hospital in Uruguay, Pereira Rossell Hospital. Abortion was permitted, until October 2012, only to save a woman's life, in case of rape or when fetal malformations were incompatible with life.

An NGO (Health Initiatives or *Iniciativas Sanitarias*, in Spanish) in 2001 developed a model of risk-reduction. The model is based on the premise that health professionals are duty bound to provide appropriate counseling and care both before and after a clandestine abortion even when they are legally prevented from performing abortion. The aim of the model is to reduce the risks associated with unsafe abortion, within the existing legal limits.

The application of the risk-reduction model includes: (a) a medical visit to confirm the pregnancy; (b) counseling on the options available to a woman; and (c) information on the risks associated with different methods of inducing abortion, including the use of misoprostol. For those women who have an abortion, a post-abortion visit is scheduled to prevent complications and to provide information and services for contraception. This model became a regulation of the Ministry of Health in 2004, and in 2008 it was included in the Law of Sexual and Reproductive Health. In October 2012, the law was passed in Uruguay to decriminalize abortion.

This innovative approach proved successful in meeting the needs of women with unintended pregnancy and made illegal abortion safer by the provision of pre-abortion counseling and post-abortion follow-up, without breaking the law. The model is currently being applied in Bolivia and can be applied to other countries, especially where abortion is legally restricted. The Uruguay experience shows that simple and cost-effective interventions can reduce the sufferings associated with unsafe abortion.

Conclusion

In this paper, we have mainly focused on the public health imperative of providing safe abortion services. Other grounds for making safe abortion services available and accessible not covered in this review include: (a) equity and justice; (b) ethical and professional; (c) human rights; and (d) economics in terms of savings for women, families and the nations when safe abortion is available rather than spending precious resources on treating complications owing to unsafe abortion. The rationale for providing safe abortion services is both obvious and overwhelming.

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