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Preventing infective complications relating to induced abortion

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Infective complications following induced abortions are still a common cause of morbidity and mortality. This review focusses on defining the strategies to improve care of women seeking an induced abortion and to reduce infective complications .We have considered the evidence for screening and cost-effectiveness for antibiotic prophylaxis. Current evidence suggests that treating all women with prophylactic antibiotics in preference to screening and treating is the most cost-effective way of reducing infective complications following induced abortions. The final strategy to prevent infective complications should be individualized for each region/area depending on the prevalence of organisms causing pelvic infections and the resources available.

Epidemiology

Induced abortions are performed all over the world. About one in five pregnancies worldwide end in an abortion. Sedgh et al[1] reviewed the worldwide induced abortion figures and estimated that there were 42 million induced abortions in 2003 as compared with 46 million abortions in 1995. The induced abortion rate was 29/1000 women aged 15–44 years in 2003 compared with 35/1000 in 1995. There was a huge variation in abortion rates in different parts of the Western world, the lowest being in Western Europe at 12/1000 women. Abortion rates were 17/1000 in northern Europe, 18/1000 in southern Europe and 21/1000 women in northern America. There are approximately 20 abortions per 1000 fertile age women (Table 1).[5]

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According to the Department of Health Statistics in England and Wales (2008), the total number of abortions was approximately 201 600 in 2007 with a rise of 2.5% compared with 2006. The age-standardised abortion rate was 18.6 per 1000 women aged 15–44 years.[2] There is evidence to suggest that an increasing proportion of abortions are now carried out medically. Medical abortions account for 35% of abortions compared with 30% in 2006, showing a rise in the uptake of medical abortion. Scottish data published in 2008 showed 13 817 (Rate: 13.1/1000 women) induced abortions.[3] United States had an estimated 1 206 200 abortions during 2006–07.[4]

Although induced abortion is a safe procedure in the Western and the resource-rich countries, there still remains a concern as regards unsafe abortions, which are being carried out worldwide, leading to a large number of maternal deaths. In the UK, the Abortion Act 1967 has ensured that when there is a concern about maternal well-being, two doctors can accede to the women's request for an induced abortion. The most recently published Clinical Enquiry into Maternal and Child Health (CEMACH) report has cited one maternal death directly attributable to sepsis after unsafe abortion.[6] Nearly half (48%) of all induced abortions worldwide were estimated to be unsafe in 2003. A great majority of them (97%) were carried out in the developing world. Unsafe abortions account for 13% of maternal deaths. An estimated 5 million women are hospitalised each year for abortion-related complications such as haemorrhage and sepsis. Abortions cause approximately 68 000 deaths and 5 million disability adjusted life years (disability adjusted life years) per year worldwide.[7] Unsafe abortions account for 13% of maternal deaths. By achieving safe abortions and with the provision of adequate contraception, we will be able to reduce maternal mortality substantially and protect maternal health.[1,5,8,9]

Amongst unsafe abortions, infective complications occur most frequently, resulting in significant morbidity and mortality. Infective complications are seen in 1–45% of women following induced abortions.[10–12] This rate varies globally, being prevalent at the rate of 1–4.8% in developed countries and up to 45% in developing countries. The rates of infections are particularly high in unsafe abortions where women seek medical help late.[10–12] Pelvic infections not only increase short-term morbidity and mortality but also have long-term health consequences such as chronic pelvic pain, infertility (4–7-fold increase in risk, and recurring infections double the risk) and ectopic pregnancies.

Causative organisms for post-abortion infections

Post-abortal genital tract infection including pelvic inflammatory disease (PID) of varying degrees of severity occurs in about 10% of induced abortions.[10] Post-abortal sepsis is known to be polymicrobial. Various organisms causing post-abortion sepsis are *Chlamydia trachomatis* (CT), *Neisseria gonorrhoea*

Table 1
Global and regional estimates of induced abortion, 1995 and 2003.

Region and sub region	No. of abortions (millions)		Abortion rate[a]	
	1995	2003	1995	2003
World	45.6	41.6	35	29
Developed countries	10.0	6.6	39	26
Excluding Eastern Europe	3.8	3.5	20	19
Developing countries[b]	35.5	35.0	34	29
Excluding China	24.9	26.4	33	30
Estimates by region				
Africa	5.0	5.6	33	29
Asia	26.8	25.9	33	29
Europe	7.7	4.3	48	28
Latin America	4.2	4.1	37	31
Northern America	1.5	1.5	22	21
Oceania	0.1	0.1	21	17

Permission to reproduce table obtained from Guttmacher Institute.[5]

[a] Abortions per 1000 women aged 15–44.

[b] Those within Africa, the Americas, excluding Canada and the United States of America, Asia, excluding Japan, and Oceania, excluding Australia and New Zealand.