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CHAPTER 3

Unintended pregnancy and abortion in the USA: Epidemiology and public health impact

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LEARNING POINTS

- Unintended pregnancy occurs frequently in the USA, especially among women who are young, have low income, are Black or Hispanic, or have had a prior unintended pregnancy.
- Unintended pregnancy and abortion result about equally from non-use of contraception and imperfect use, which in turn are related to chance-taking, problems with contraceptive methods, not expecting to have sex, and barriers to access to contraception.
- Women with unwanted pregnancies have many reasons for choosing abortion, the most common of which are inadequate finances, lack of partner support, desire to continue education or career, not wanting more children, and feeling too immature.
- The US abortion rate has been falling in recent years, especially among teenagers.
- Although repeat abortion is often a source of concern, the data provide no justification for prejudicial attitudes.

Introduction

Couples in all developed countries want to control the timing and number of their children. Women typically initiate sexual activity long before they want children and continue long after they have their desired number, leaving them to rely on contraception during the majority of their reproductive lives. Failure of contraception results in abortion and unwanted births, and these outcomes occur more frequently in the USA than in most other Western developed countries. This chapter describes the reasons for unintended pregnancy in the USA, its relation to contraceptive use, the frequency and epidemiology of abortion utilization, the accessibility of services, the frequency with which various abortion procedures are used, and the public health effects of abortion legalization.

Unintended pregnancy

In 2001, 49% of pregnancies in the USA were unintended [1]. For this figure, all abortions as estimated by the

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Guttmacher Institute were considered to result from unintended pregnancies, as were 35% of births, as reported in the 2002 National Survey of Family Growth (NSFG) [2]. A pregnancy is considered to be unintended if the woman says that at the time she became pregnant she wanted no more children or did not want to become pregnant until later.

Many unintended pregnancies come to be wanted, and some women report being happy to find themselves accidentally pregnant. Attitudes toward pregnancy form a continuum from extremely unwanted to welcome, even among women who did not plan to become pregnant. Some women decide whether a pregnancy is wanted only after it occurs and the degree of social support for a birth and its other implications become apparent.

A majority of unintended pregnancies, however, were unwanted in 2001: 48% (excluding miscarriages) ended in induced abortion; undoubtedly many of the women who continued their pregnancies would have preferred not to give birth. Approximately 35% of births during the five years before the 2002 NSFG resulted from unintended pregnancies [2].

In 2001 the unintended pregnancy rate in the USA, including unintended pregnancies that miscarried, was 51 per 1,000 women aged 15 to 44 years (Table 3.1) [1,3]. This rate

Table 3.1 Unintended pregnancy rate of all women and exposed women, per cent ending in abortion, and unintended birthrate, by demographic characteristics, 2001 (Finer et al [1], Mosher et al [3].)

Characteristic	Unintended pregnancy rate ^a	Unintended pregnancy rate among exposed women ^b	Per cent of unintended pregnancies ending in abortion ^c	Unintended birthrate ^a
All women	51	109	48%	22
Age at pregnancy outcome				
<15	3	n.a.	51%	1
15–19	67	174	40%	34
15–17	40	n.a.	39%	21
18–19	108	n.a.	41%	53
20–24	104	157	49%	46
25–29	71	113	50%	32
30–34	44	87	49%	20
35–39	20	51	60%	6
≥40	6	21	56%	3
Marital status at pregnancy outcome				
Currently married	32	69	27%	20
Unmarried	67	140	58%	24
Cohabiting	138	229	54%	54
Unmarried and not cohabiting	52	117	61%	18
Income as a percentage of the poverty level				
<100%	112	266	42%	58
100–199%	81	187	50%	35
≥200%	29	58	54%	11
Education^d				
Not HS graduate	76	221	36%	40
HS graduate/GED	54	119	46%	25
Some college	47	91	60%	16
College graduate	26	48	55%	10
Race/ethnicity				
White non-Hispanic	35	73	44%	17
Black non-Hispanic	98	223	58%	35
Hispanic	78	176	43%	40

Note: n.a. = not available.

^a Per 1,000 women aged 15–44 or in age-group.

^b Per 1,000 women exposed to risk of unintended pregnancy.

^c Excluding spontaneous fetal loss.

^d Among women aged 20 and older.

and the proportion of pregnancies that were unintended remained virtually unchanged from 1994. However, the proportion of unintended pregnancies that ended in abortion declined from 54 to 48%, and the unintended birthrate increased from 20 to 22 per 1,000 women. Three possible explanations for these changes are that social acceptance of nonmarital childbearing has increased along with the proportion of births to unmarried mothers [4], that attitudes toward abortion have become less favorable, or that access to abortion services has decreased.

Although comparative data are not readily available, the unintended pregnancy rate in the USA appears to be higher than those of most other developed countries. Both the

abortion rates and the unintended birthrates are lower in most Western European countries [5]. Because women in those countries are as likely to be sexually active as US women, the explanation of their lower rates lies in the use of more effective contraceptive methods, especially oral contraceptives and the intrauterine device (IUD), less non-use of contraception, and more effective use of the methods.

The unintended pregnancy rate varies widely according to demographic characteristics of the women. In 2001, the latest year with available data, the rate was higher than 100 per 1,000 of the age-group among older teenagers and women aged 20 to 24 years, meaning that 1 in 10 accidentally became pregnant during the year (Table 3.1). The rate

declined with age, reflecting reduced fecundity and more effective contraceptive practice. Use of contraceptive sterilization increases with age, thereby reducing the risk of pregnancy among older women.

The rate of unintended pregnancy was highest among unmarried cohabiting women (138 per 1,000) and was also higher among other unmarried women than among those who were married, in part because of the younger age of unmarried women. The rate was almost three times as high among women with incomes below the federal poverty level as among those with income twice the poverty level, and it was also strongly associated with low education. Non-Hispanic Black women were almost three times as likely as non-Hispanic White women to have an unintended pregnancy, with Hispanic women in between.

These findings understate the problems couples have with unintended pregnancy because many women are not actually at risk of an unintended pregnancy. Rates are higher when women not at risk are removed from the denominator. Rates of unintended pregnancy based on women at risk of unintended pregnancy are shown in the second column of Table 3.1, where the denominator is limited to women who are sexually active, not infecund or surgically sterilized, and not pregnant or seeking pregnancy. The overall rate was 109 pregnancies per 1,000 women at risk of unintended pregnancy, which means that 11% of these women experienced a pregnancy in 2001. Among teenagers, 17% became pregnant, as did 16% of women aged 20 to 24 years. The rate of unintended pregnancy was highest among poor women (27%), cohabiting women (23%), Black women (22%), and women who had not graduated from high school (22%).

Surprisingly, the percentage of teenagers' unintended pregnancies terminated by abortion (about 40%) was lower than that among US women generally (48%). Teenagers may have been less motivated than older women to avoid childbearing but unwilling to admit an openness to having a baby. Also, they may have been more opposed to abortion on principle. The percentage was elevated (56 to 60%) among women aged 35 years and older, perhaps because these women were less willing to accept an unplanned pregnancy than were younger women. It was low (only 27%) among married women, who may have found an unexpected child less disruptive to their lives compared with unmarried women, who terminated 58% of their unintended pregnancies. Women with low income or low education were less likely than other women to resolve an unintended pregnancy by abortion, while Black women were more likely to do so.

Because of the high rate of unintended pregnancy combined with moderate use of abortion, the unintended birthrate was 22 per 1,000 women and 35% of births resulted from unintended pregnancies. The unintended birthrate was 40 per 1,000 or higher among women aged 18

to 24 years, cohabiting women, poor women, those without a high school degree, and Hispanics.

Contraceptive use

The rate of unintended pregnancy, in turn, depends on the amount of exposure and on the extent and effectiveness of contraceptive use. According to NSFG data, 11% of sexually active US women who were not seeking pregnancy were using no method in 2002, up from 7% in 1995 [3]. Women not using a method accounted for 52% of the unintended pregnancies that ended in 2001 [1].

According to a 2001 survey of 10,683 women having abortions at 100 facilities in the USA [6], about 46% did not use contraception during the month they became pregnant. Of these women, 83% had used a method in the past; in many cases, the women had recently discontinued a method and become pregnant before starting a new method. The most common reasons for non-use were as follows:

- believing the risk of pregnancy was low (33%);
- problems with methods in the past and fear of side effects (32%);
- not expecting to have sex (27%); and
- problems obtaining contraception, mainly because of financial barriers (12%).

Those who perceive a low risk of pregnancy probably know they are taking a chance but see the risk as low for a single act of intercourse.

Of the 54% of abortion patients who had been using contraception during the month they became pregnant, 51% had been using condoms, 25% oral contraceptives, 14% withdrawal, 4% periodic abstinence, and 6% other methods. Fourteen per cent of the condom users said they had used the method correctly at every exposure, 49% said they had not used the method consistently, and 42% said a condom had slipped or broken. (Some said that both their use had been inconsistent and that a condom had broken or slipped.) The most frequent reasons for inconsistent use were believing the risk of pregnancy was low (41%), not having a condom available (29%), and not expecting to have sex (26%). Twelve per cent cited attitudes and behavior of partners as reasons for inconsistent use [6].

Only 13% of the pill users said they had used the method correctly. Among the inconsistent users, 50% said they had forgotten to take pills, 21% reported that they had been away from home and did not have pills available, and 14% said they ran out of supplies [6].

Similar barriers to contraceptive use were found in a population telephone survey of US women at risk of unintended pregnancy. About one-fourth reported that they had experienced a gap in contraceptive use in the past year. Forty per cent of these women cited problems accessing or using methods, including:

- problems or side effects of a method (17%);

- difficulties paying for a method (5%);
- lack of time for medical visits to obtain a method (5%); and
- not liking any available method (5%).

Nineteen per cent reported infrequent sexual activity as the main reason for non-use [7]. All methods fail occasionally, however; even when used perfectly, between 2,000 and 3,000 abortions in 2000 were obtained by women who had relied on their own or their partners' surgical sterilization or on an IUD [6].

Although contraceptive use is often imperfect, any use is more effective than none at all. Overall, averaging together all methods and both effective and less effective users, contraceptive use has been found to reduce the probability that a woman will have an abortion by 85% [8].

Pill scares that occurred in England and Wales illustrate the importance of contraceptive use in preventing abortion. In 1977, 1983, and again in 1995, popular press reports of harmful side effects of oral contraceptives were followed by sudden increases in the abortion rate. Many pill users switched to less effective methods or temporarily stopped using any method when they became concerned that pill use might be dangerous. In October 1995, the popular press gave extensive coverage to reports that two third-generation pill formulations pose higher risk of thromboembolism than the earlier pills [9]; in 1996, the number of abortions in England and Wales jumped 8% over the 1995 number [10].

Repeat abortion

Although contraceptive use increases after abortion, women remain at elevated risk of having another abortion because they are sexually active, willing to terminate an unintended pregnancy by abortion, have difficulty using contraceptive methods effectively, and probably become pregnant more easily than other women. In 2004, 47% of US women obtaining abortions had had a prior induced abortion: 27% had had one, 12% two, and 8% three or more prior abortions. From 1973 until reaching a high of 49% in 1997, this percentage increased each year along with the proportion of women in the population who had had abortions and were therefore at risk of an additional abortion [11]. In 1994, about 30% of all US women aged 15 to 44 years had had one or more induced abortions [12], and the abortion rate among the women who had had a previous abortion was about twice that of women who had never had an abortion. Canadian statistics show that approximately 25% of teenage abortion patients will have another abortion within the next four years [13]. An analysis of the NSFG found that 42% of US women who had a repeat abortion did so within two years of the prior abortion [14].

The high rate of repeat abortion does not mean that large numbers of women are relying on abortion as their primary

means of birth control. A woman who used only abortion to limit her number of children to two would have more than 30 abortions during her lifetime [15]. No evidence indicates that American women have such large numbers of abortions.

On the contrary, women tend to improve their contraceptive use after having an abortion. According to the 2001 Guttmacher Institute survey of 10,683 abortion patients [6], 46% of women having a first abortion had used no contraceptive method during the month they became pregnant. If they had continued to use no method, on the order of 85 to 90% of second abortions would have occurred among women who had used no method because of the high pregnancy rate of non-users. In fact, the distribution of method use was similar to that of women having a first abortion, indicating that women who have an abortion improve their contraceptive use to about the same level as the women generally [16]. The Guttmacher Institute analysis found little difference between first and subsequent abortions in the reasons for non-use or inconsistent use of contraception [14].

A number of studies have sought risk factors for repeat abortion but few have been identified. The best predictors of repeat abortion are factors that reflect exposure to risk, most notably age; the older a woman is, the more opportunity she has had to experience two unintended pregnancies that end in abortion. A logistic regression analysis of the Guttmacher patient survey found that women having second or higher order abortions are also more likely to have existing children, controlling for age and other demographic variables [14]. An analysis of the NSFG in the same report found that almost half (47%) of women who have multiple abortions also have unintended births, another consequence of unintended pregnancy and therefore a risk factor for abortion. Other studies have found that women who have a second or higher order abortion engage in more frequent sexual intercourse than women having a first abortion [17,18].

The Guttmacher regression analysis of the 2001 abortion patient survey also found that women having a second or subsequent abortion were more likely than first abortion patients to be Black, enrolled in Medicaid, and cohabiting or never married. These groups include a high proportion of women in the population who have had a first abortion and are therefore at risk of another. Other studies have compared the psychological characteristics of first and repeat abortion patients but have found few differences. One of these studies concluded that the two groups do not "differ in any important ways in any of 15 measures of personality adjustment, in the length of their relationship with their partner, in their contraceptive practice, in their reasons for failing to use a contraceptive method or for seeking an abortion, or in their own feelings about their abortion decision [17]."

Reasons for terminating a pregnancy

About half of US women with unintended pregnancies choose to resolve them by abortion. In general these women believe that, given their life circumstances, taking responsibility for a new baby would be a mistake. The demographic characteristic most associated with the decision to terminate an unintended pregnancy is marital status: in 2001, 58% of unmarried women with unintended pregnancies decided on abortion, whereas only 27% of married women did so. Evidently the security of having a committed partner and the financial resources of a marriage allow most married women to continue their unplanned pregnancies.

A recent survey of 1,209 women having abortions in 11 clinics in the USA sheds more specific light on the thinking of women who have decided to end a pregnancy [19]. Most women (89%) gave more than one reason for choosing abortion, with the median number of reasons being four. The most common reason, mentioned by 73%, was financial. Many of these women indicated that their lack of resources resulted from:

- being unmarried (42% of all the respondents);
- having inadequate support from their husband or partner (14%); or
- having a husband or partner who was unemployed (12%).

Other reasons given for not being able to support a baby were that they:

- could not afford child care (28%);
- were students and presumably did not have a good source of income (34%);
- could not afford the basic necessities of life (23%);
- were unemployed (22%);
- would need more living space (19%); or
- were receiving public assistance (8%).

Almost half (48%) said they had relationship problems and did not want to be a single mother. Eleven per cent said they were not currently in a relationship, and 2% reported that their husband or partner abused them or their children. Other frequently mentioned reasons included the following:

- they have completed their childbearing (38%);
- a baby would interfere with their education (38%) or their job or career (38%) or their responsibilities for other children or dependents (32%);
- they were not ready for an(other) child (32%); and/or
- they did not feel mature enough (22%).

One per cent reported that they were the survivors of rape.

The reasons for deciding on abortion are likely to be similar in any developed country. For example, a study in Norway found that, compared with women who continued unintended pregnancies, those choosing abortion were much more likely to be single and not cohabiting, to be a student or unemployed, and/or to have a crowded living situation [20].

A study based on in-depth interviews with 38 women in four US clinics concluded that a primary concern of women having abortions is the desire to be the best possible parent for their existing children and any future children: "The women believed that children were entitled to a stable and loving family, financial security, and a high level of care and attention [21]."

Abortion epidemiology

Abortion incidence can be measured as the rate of abortions in relation to the size of a population or as a ratio of abortions to live births or pregnancies. The discussion here will rely mainly on the rate per 1,000 women aged 15 to 44 years, which directly reflects the proportion of women exposed to the risks and benefits of abortion.

In 2005, the latest year for which data are available, 1,204,500 induced abortions were obtained by women in the USA, for an abortion rate of 19.4 per 1,000. About 22% of pregnancies (excluding miscarriages) were terminated by abortion in that year [22].

The US abortion rate is similar to those of Australia, New Zealand, and Sweden but higher than those of other Western European countries (Fig. 3.1). It is lower than the rates in most of the former Soviet bloc countries and most developing countries where abortion is legal [23]. The US abortion rate has fallen one-third from its peak rate in 1981 and 9% since 2000.

Demographic patterns

A woman's probability of having an unintended pregnancy and abortion is strongly influenced by her stage in life and her socioeconomic status. Likelihood is highest around age 20 to 22 years, when most women are sexually active, highly fecund, and not seeking pregnancy. Thereafter, the abortion rate falls sharply with age.

Table 3.2 shows the abortion rate by age-group for US women in 1994. The highest abortion rate, 40 abortions per 1,000 women in the age-group, occurred among women aged 20 to 24 years. Approximately 18% of abortions were obtained by teenagers, with the abortion rate considerably higher among women aged 18 to 19 years than among younger teenagers. The abortion rate has fallen significantly among teenagers in recent years, more than among older women [24].

Another measure of abortion utilization, the ratio of abortions to births (not shown in Table 3.2), shows a somewhat different pattern with age than the abortion rate. The abortion ratio is high among teenagers, among which about 33% of pregnancies (excluding miscarriages) are terminated by abortion. The abortion ratio declines to 16% at ages 30 to 34 years, and then rises with age to 26% [24].

Among non-Hispanic White women in the USA, the abortion rate was approximately 11 per 1,000 in 2004, which

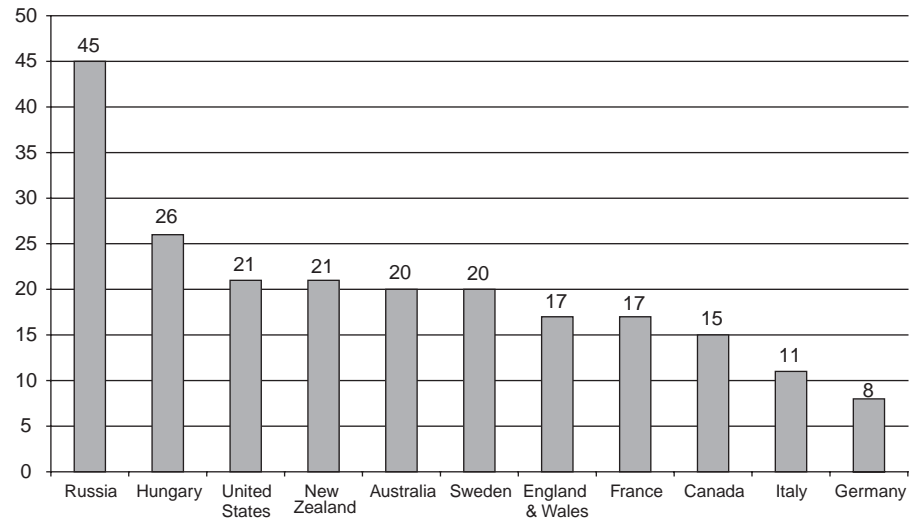


Figure 3.1 Abortion rate per 1,000 women aged 15–44, selected countries, 2003. (From Sedgh et al [23].)

is in the mid-range of the rates in other Western industrialized countries (Table 3.2). The rate among Black women (52) is more than four times as high, and that of Hispanic women (28) lies between that of Black and White women. Among both Black and Hispanic women, low income and high rates of unintended pregnancy help to explain the high abortion rates. Asian and Native American women have a moderate abortion rate; this category includes a mixture of ethnic groups with widely varying abortion patterns.

Occasional large-scale surveys of abortion patients have provided demographic information that is not available from abortion reporting forms. The most recent study was conducted by the Guttmacher Institute in 2000 and 2001 and involved 10,683 abortion patients in 100 US abortion facilities. Patients were asked to complete self-administered questionnaires at the time of the abortion. Most of the information in the rest of this section derives from the survey results and is illustrated in Table 3.2 [25].

Women of all education levels have occasion to seek abortion services, but college graduates have a lower abortion rate than less-educated women. Some 41% of abortions are obtained by women with some post-high school education but who are not college graduates.

Never-married women obtain the bulk of abortions (67%); married women account for only 17%. The abortion rate is higher among never-married women (35 per 1,000) than among previously married (29) or currently married women (8). The high rate among never-married women results partly from their young age compared with the other marital groups.

Women living with a partner to whom they are not married account for 25% of abortions but only about 10% of women in the population. Their abortion rate is almost two times that of other unmarried women. Thus, cohabiting is one of the strongest risk factors for abortion.

A majority (61%) of women having abortions in 2004 had had at least one birth, and one-third had had two or more. When age is taken into account, women who have children are substantially more likely than women without children to have an abortion, and the highest abortion rate is found among women with four or more children. Such women may have difficulty using contraception and thus may have unplanned children as well as abortions. A large majority of abortion patients with children is unmarried (76%), and more than half (56%) of the unmarried abortion patients have children (not shown).

The abortion rate among Protestants (18 per 1,000) is somewhat lower than that of all women (21 in the year 2000), while that of Catholics (22) is about the same. Women of other religions, including Russian and Greek Orthodox as well as Islam and others, and those who claim no religious identification appear to have somewhat higher abortion rates (30–31). The rate among women who name no religion is somewhat uncertain, because answers to questions on religious identification vary according to the context and wording of the question.

The higher abortion rate of Catholics compared with Protestants is confirmed by a comparison of their rates after excluding women from minority groups with high abortion rates, namely Black and Hispanic women. As expected, excluding Black and Hispanic women reduces the abortion rates of both Protestants and Catholics but that of Catholics remains higher (not shown). Possible reasons for the higher rate among Catholics include that Catholics use less effective methods of contraception, are more opposed to child-bearing outside marriage, and are concentrated in cities and geographic areas with high abortion rates.

Household income is strongly associated with abortion utilization. Women whose income is below the federal poverty level are over four times as likely to have an

Table 3.2 Percentage distribution of abortions and abortion rate per 1,000 women aged 15–44, by selected characteristics, USA, 2000^a (Jones et al [25], Ventura et al [24].)

Characteristic	%	Rate
Total^a	100	20
Age years^a		
<15 ^b	1	3
15–17	6	12
18–19	11	32
20–24	33	40
25–29	23	30
30–34	15	18
35–39	8	10
≥40 ^c	3	3
Race/ethnicity^a		
White non-Hispanic	33	11
Black non-Hispanic	37	52
Other non-Hispanic	8	23
Hispanic	22	28
Education^d		
Not HS graduate	13	23
HS graduate/GED	30	20
Some college	41	26
College graduate	16	13
Marital status		
Married	17	8
Previously married	16	29
Never-married	67	35
Cohabiting^e		
Unmarried, cohabiting	25	55
Unmarried, not cohabiting	58	29
Number of live births		
0	39	19
1	27	32
2 or more	34	18
Religion^f		
Protestant	43	18
Catholic	27	22
Other	8	31
None	22	30
Income as a percentage of the poverty level		
<100%	27	44
100–199%	31	38
200–299%	18	21
≥300%	25	10
Has Medicaid coverage		
Yes	24	57
No	76	18
County of residence		
Metropolitan	88	24
Nonmetropolitan	12	12

^a Total, age, and race/ethnicity are for 2004.

^b Denominator is women aged 14.

^c Denominator is women aged 40–44.

^d Among women aged 20 and older.

^e Based on single women only.

^f Limited to women over 17.

abortion as are those with income three or more times the poverty standard.

The high relative abortion rate of low-income women is reflected in the abortion rate according to Medicaid coverage. Twenty-four per cent of abortion patients say they are covered by Medicaid (although not necessarily for the abortion per se, except in the states that allow Medicaid to pay for abortion services), while only 9% of all US women of reproductive age have Medicaid coverage (as of 2000). Thus, the abortion rate of women with Medicaid coverage is three times as high as that of other women.

Women covered by Medicaid have a number of attributes that may contribute to their relatively high risk of abortion: they are disproportionately non-White, unmarried, and poor, all characteristics associated with high abortion rates. In addition, many women on Medicaid are covered by that program because of a prior accidental pregnancy that they carried to term and are prone to unplanned pregnancy.

Gestational age and procedure

Gestational age

More than half (62%) of all induced abortions in the USA occur at eight weeks' gestation or earlier, counting from the first day of the last menstrual period (LMP) or two weeks before the estimated date of conception (Table 3.3). Approximately 12% of abortions are performed past 12 weeks LMP, including 1.4% past 20 weeks LMP [26]. In most developed countries other than England and Wales, somewhat fewer abortions take place after 12 weeks LMP, probably because women respond more promptly to unwanted pregnancies and because restrictions in some countries make later abortions more difficult to obtain. Moreover, most other countries provide universal health insurance that covers abortion services. In contrast, women in the USA may be delayed by difficulty gaining access to abortion services and acquiring money to pay for the procedure [19,22].

In all countries with relevant statistics, teenagers obtain abortions later in gestation on average than do older women. In the USA in 2004, 27% of abortions obtained by women younger than age 15 years were past 12 weeks LMP as were 17% among women aged 15 to 19 years, compared with 11% among women aged 20 and older (Fig. 3.2). Abortions generally occur earlier with age until age 40, after which a few women are delayed because they mistake pregnancy for the menstrual changes of menopause [27].

The delay among younger women probably reflects their inexperience in recognizing the symptoms of pregnancy, their reluctance to accept the reality of their situation, lack of knowledge of where to seek advice and services, and their hesitation to confide in adults. In addition, teenagers may have more difficulty paying for abortions, and minors may be affected by parental consent or notification requirements (Chapter 4). In the USA, laws requiring minors to either

Table 3.3 Percentage distribution of reported legal abortions, by weeks of gestation and type of procedure – USA, 2005^a (From Gamble et al [26].)

Type of Procedure	Weeks of Gestation						Total
	≤8	9–10	11–12	13–15	16–20	>20	
	%	%	%	%	%	%	%
Curettage (suction or sharp) ^b	82.4	97.3	98.7	98.6	95.4	85.1	88.0
Intrauterine instillation	0.1	0.1	0.1	0.1	0.7	1.1	0.1
Medical (nonsurgical) ^c	15.1	2.0	0.5	0.4	2.1	4.7	9.9
Other ^d	2.5	0.6	0.7	0.9	2.0	9.1	2.0
Total ^e	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Percent of all abortions	62.1	17.2	9.3	6.3	3.8	1.4	100.0

^a Based on 587,607 abortions reported to state health agencies.

^b Primarily vacuum aspiration; includes D&C and dilation and evacuation.

^c Procedures at ≤8 weeks were primarily by mifepristone or methotrexate with misoprostol; later abortions were primarily by vaginal prostaglandins.

^d Includes hysterotomy/hysterectomy and procedures reported as “other.”

^e Percentages may not add to 100.0 because of rounding.

consult their parents or obtain a court order permitting the abortion cause some teenagers to experience delay in obtaining abortions [27,28,29].

Procedure

As shown in Table 3.3, approximately 88% of abortions in the USA in 2005 were accomplished by suction or sharp curettage (primarily suction), which includes dilation and evacuation (D&E). During the first trimester, vacuum aspiration represented the most frequently used method, although early medical abortions utilizing mifepristone or methotrexate followed by a prostaglandin accounted for at least 15%

of abortions before 9 weeks LMP. (Some early medical abortions were probably classified as “other” in states whose reporting forms have no separate category for nonsurgical procedures.) According to the Guttmacher survey of US abortion providers, 161,000 early medical abortions were provided in 2005, accounting for about 21% of abortions before 9 weeks LMP [22]. Provision of suction abortion before 7 weeks LMP represents another recent trend, because use of sensitive pregnancy tests and vaginal ultrasound have reduced the risk of failing to end an early pregnancy or to detect an ectopic pregnancy (see Chapter 18). The proportion of US abortions occurring before 7 weeks LMP increased from about 16% in 1995 to 30% in 2005 [26].

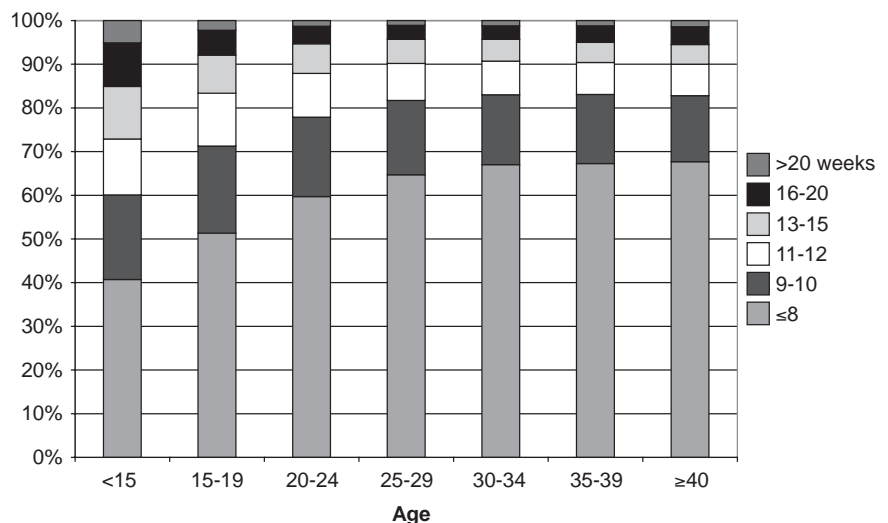


Figure 3.2 Gestation by woman's age, 2004. (From Strauss et al [26].)

Of all US abortions past 12 weeks LMP, the vast majority (96%) are performed by D&E (Table 3.3). Even after 20 weeks LMP, this method was used for 85% of abortions. D&E is at least as safe as labor induction abortion and has other advantages: It is preferred by most women, because it is fast and avoids the pain and stress of labor [30]; it can be performed outside of hospitals; and it is less expensive than induction abortion (see Chapter 11). Second trimester induction abortion using prostaglandin administered by various routes has almost completely replaced saline instillation. (Some prostaglandin induction procedures may have been reported as "other" in states where the reporting form makes no provision for this method.) Abortions by hysterotomy or hysterectomy involve higher risk of morbidity and mortality than do other methods, and these methods have almost disappeared in the USA.

Setting

Both first and second trimester abortions can be provided safely in clinics and physicians' offices [31,32]. The proportion of US abortions performed in hospitals has declined from more than 50% in 1973 to 5% in 2005 [22]. The number of hospitals where abortions are performed has dropped sharply, as has the average number of abortions per hospital provider. A tabulation of data on approximately 300,000 abortions in 14 states in 1992 indicates that, even after 20 weeks LMP, 83% were performed outside of hospitals. Near universal agreement as to the safety of second trimester abortion outside of hospitals is further demonstrated by the finding that in 2001 about 55% of abortion clinics offered the service at 18 weeks LMP or later [33].

Accessibility of abortion services

Despite the large number of women who need abortion care, services are less available than for other common medical conditions. A significant but unknown number of women continue unwanted pregnancies because of lack of access to an abortion provider.

Distance

The number of large nonhospital abortion providers (those that provided 400 or more abortions per year) in the USA fell from 668 in 2000 to 616 in 2005, continuing a long-term decline in the number of facilities where abortions are provided. Although some 604 hospitals and 367 physicians' offices offered abortion services in 2005, the large nonhospital facilities accounted for 91% of abortions provided during the year [22].

Abortion providers are concentrated in large and medium-size metropolitan areas, leaving many smaller cities and rural areas without services. Of the 362 metropolitan areas

defined by the US government, 134 (37%) have no abortion provider. In 2005, 35% of women lived in counties without a provider, and 42% lived in counties without a provider of 400 or more abortions. The size of the provider affects access because facilities with small abortion caseloads charge more on average and are unlikely to advertise or make their services widely known in the community. As a consequence of the absence of abortion services in many areas, 8% of abortion patients in 2005 traveled more than 100 miles for services and 19% traveled 50 to 100 miles, according to providers' estimates [22]. The abortion rate of non-metropolitan women is about half that of women who live in metropolitan counties, possibly because of access problems [25].

The task of finding an abortion provider is more difficult for a woman whose pregnancy has advanced into the second trimester. At each additional week of gestation, fewer providers are available to terminate the pregnancy. In 2005, 20% of US providers offered abortions after 20 weeks LMP and only 8% did so at 24 weeks LMP [22].

Cost

Cost represents a barrier for women of limited means, who constitute a majority of abortion patients. In 2001, 57% of US women obtaining abortions had family income less than two times the federal poverty level [25]. In that year, 74% paid in cash; of the remainder, half had Medicaid coverage in states where Medicaid pays for all or most medically necessary abortions, and half had private insurance that was accepted by the provider [33]. In states where Medicaid does not cover abortion except in extremely limited circumstances, 91% of women paid out of pocket. An unknown but probably small proportion of these women received reimbursement from private insurance, and some chose not to use insurance because of concerns about confidentiality.

Some poor women without insurance are unable to secure funds to pay for an abortion. Studies have found that public funding of abortion makes services accessible to women who would otherwise carry unintended pregnancies to term. Between one-fifth and one-third of eligible women who would seek abortion continue their pregnancies in the absence of Medicaid or other public funding [34,35]. In a 1995 survey of abortion patients, in states where Medicaid paid for abortions the abortion rate of women covered by Medicaid was 3.9 times that of women who were not covered; while in nonfunding states, Medicaid recipients were 1.6 times as likely to have abortions as were non-Medicaid women [8]. Similar patterns were found in the 2001 patient survey. This difference indicates that Medicaid coverage of abortion has an important impact on the ability of poor women to end unwanted pregnancies.

Another effect of the cost barrier is that the time required to secure the necessary funds causes women to delay their

abortions to later points in gestation. One recent study found that 26% of women having abortions said they were delayed by the time needed to raise money to have the abortions. For women having second trimester abortions, the percentage was 36%. Poor women were delayed 11 days on average [36]. A study of the impact of the discontinuation of Medicaid coverage of abortion in one clinic found that 22% of Medicaid-eligible women who had second trimester abortions would have had their abortions in the first trimester if they had not been delayed by the need to find money to pay for the procedure [37].

Other barriers

Harassment by antiabortion activists adds to the difficulty women experience in accessing abortion services and the challenges of providing services. In 2000, 80% of large non-hospital facilities (400 or more abortions a year) in the USA experienced picketing. Picketing was much less common among low-volume providers; only 10% of providers that performed fewer than 30 abortions reported being picketed. Other forms of harassment were also fairly common. Of large providers, 28% reported one or more incidents of picketing with physical contact or blocking of patients, and 18% reported vandalism [33]. These activities impede access for women who might be intimidated by aggressive protesters.

The stigmatization of abortion also undoubtedly affects many women, although this factor is difficult to measure. Fear of the disapproval of relatives or others in the community may inhibit many women who would choose to end their pregnancies. Some women in the USA remain unaware that abortion services are legal and available.

Public health effects of abortion legalization

The legalization of abortion in the USA, which began in several states in 1967 and culminated in the *Roe v. Wade* Supreme Court decision in 1973, brought significant health and social benefits. Before the laws changed, illegal abortions had been common. From a survey in North Carolina in 1967, researchers estimated that 829,000 abortions were occurring in the country as a whole, which is about 80% of the number of legal abortions that took place in 1975, when legal abortion services were available in all states [38]. Other studies based on the change in the birthrate after legalization suggest that the number of illegal abortions was around 600,000 to 700,000 per year [39,40]. Legalization converted those abortions to safe procedures and allowed additional women, some at high risk of complications of pregnancy and childbirth, to avoid unwanted childbearing.

Over the decade spanning 1958 through 1967, more than 3,400 women died from induced abortions, almost all ille-

gal [41]¹. The number rose during the 1950s and reached at least 430 in 1961, then fell during the 1960s when more physicians started providing abortions. The number of deaths fell rapidly after abortion was legalized, from 251 in 1966 to 14 in 1976. In recent years, the number of deaths has ranged between 4 and 12 per year according to the Centers for Disease Control and Prevention (CDC) [26]. During the five years from 2000 to 2004, only 43 deaths were related to legal abortion and two to illegal abortion, for a mortality rate of 0.7 per 100,000 legal abortions².

In the 10 years between 1970 and 1980, legal abortion in the USA is estimated to have prevented 1,500 pregnancy-related deaths and thousands of other complications [42]. The deaths prevented were from both unsafe abortions and from childbirth, which has higher mortality and morbidity than induced abortion. Abortions tend to be obtained by women for whom childbirth involves above-average risk (women over aged 35, minorities, low-income women, and women with health problems), so more maternal deaths are prevented than would otherwise be the case.

For each death from unsafe abortion, many other women suffered complications. Several hospital studies of the number of women treated for abortion complications found sharp decreases after legalization. For example, in municipal hospitals in New York City, for each 1,000 births, 234 admissions for incomplete abortion occurred in 1969 compared to 130 such admissions in 1971 after the repeal of abortion restrictions [43].

The availability of safe abortion carries other benefits as well. A study by economists associated with the National Bureau of Economic Research found that the increase in the abortion rate was the most important factor explaining the reduction in neonatal mortality between 1964 and 1977. The abortion rate dominated other public policies, including Medicaid, subsidized family planning services, and maternal and infant care projects, in explaining the mortality decline among both White and Black women [44,45]. Another economist found that abortion also reduced the rate of low-birth-weight and preterm births. This economist attributed these results to a reduction in births among the most high-risk women, specifically the very young, the very old, and women in poor health. The data also suggest that women with wanted pregnancies have healthier children [46]. Also, it is well established that births that are spaced too closely pose health risks for both the children and the mothers.

¹ The number of deaths reported by the National Center for Health Statistics has been adjusted to include deaths *associated* with abortion as well as those *attributed* to abortion so they will be comparable to legal abortion mortality statistics compiled by the CDC.

² Calculated from the number of deaths reported by Gamble, Strauss, Parker et al 2008 [26], and the number of abortions estimated by Jones, Zolna, Henshaw et al 2008 [22].

One component of infant mortality is infanticide. The homicide rate for infants in the first hour of life decreased from 1.41 per 100,000 during 1963 to 1972 to 0.44 per 100,000 during 1974 to 1983. The rates for children in the first week of life and the first month of life also declined, whereas the overall homicide rate for all ages increased from 7.0 to 9.7 per 100,000 [47]. Moreover, in Kings County Hospital, Brooklyn, the rate of abandonment of newborn infants fell by 56% in the year beginning six months after the change in the law [48].

Studies spanning the period in which abortion was legalized found that birthrates fell, especially among groups without the resources to terminate pregnancies illegally. The most thorough study examined the period between 1970 and 1973 and compared the four states that repealed their abortion laws with all other states [39]. The study found that overall, birthrates in the repeal states fell by 6% compared with those in the nonrepeal states. Over the longer term the effect on birthrates would be less, because a majority of women who have abortions intend to have children in the future [8]. Abortion, like contraception, allows women to postpone childbearing to a time when their life circumstances are more suitable. The groups whose birthrates were most affected were those who currently experience the highest proportion of unintended pregnancies and who tended to have less access to illegal abortion. These groups included teenagers, whose birthrate fell by 12%; non-White women, also 12%; women over age 35 years, 8%; and unmarried women, whose birthrate had been increasing at an accelerating rate until 1970, then fell 6% until 1974, when it resumed its rise.

The birthrate among couples who know they are at risk of giving birth to children with genetic abnormalities is actually higher when abortion services are available. For example, each child of carriers of Tay-Sachs disease has a 25% chance of inheriting a genetic condition that causes death by age 5 years. With prenatal testing and abortion, these couples can have a full and healthy family and avoid having a child who will inevitably die at an early age. Without prenatal testing and second trimester abortion, many such couples would not dare to have children [42].

Conclusion

The prevention of unintended pregnancy avoids both unwanted births and abortions. Nevertheless, contraceptive services receive low priority in many US medical settings, including some facilities that provide abortions. Unnecessary barriers to contraception, including cost, insurance inadequacies, and misconceptions on the part of patients and staff, prevent many couples from receiving optimal contraceptive services. Although the perfect health care system may not exist, most other industrialized countries make contra-

ception more available and have lower rates of unintended pregnancy and abortion.

The groups most at risk of unintended pregnancy are minorities and families with low income. These groups also may have difficulty accessing abortion care because of cost, distance from a provider, and unavailability of second trimester services. If they do overcome these barriers, many teenagers and low-income women experience delay, with the result that their abortions occur later in pregnancy than necessary.

Women who have an unwanted birth or abortion are at high risk of another unintended pregnancy because they are sexually active, fecund, not seeking pregnancy, and have proven difficulties using contraception. Women should be offered the full range of contraceptive methods with special attention to methods such as the IUD, implant, and sterilization that are effective over a long period without attention on the part of the user (see Chapter 14). Both contraception and abortion are remarkably safe—safer than pregnancy and childbirth. Better access to contraceptive and abortion services would benefit public health.

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