

Early Medical Abortion Regimens Using Different Dosages of Mifepristone Are Equally Successful

A regimen of medical abortion consisting of 200 mg of mifepristone and 400 mcg of misoprostol is as likely to successfully terminate an early pregnancy as a regimen using the same dosage of misoprostol and 600 mg of mifepristone. In a study of treatment effectiveness conducted at 17 centers worldwide, 89% of women treated with the lower dose of mifepristone and 88% of those treated with the higher dose of the drug had a complete abortion.¹ The proportion of women in each group who experienced side effects such as lower abdominal pain, nausea, vomiting and diarrhea was similar. The success of both of the regimens was related to gestational age: The risk of a continuing pregnancy was more than twice as high among women who received treatment 4–5 weeks after the expected date of menses as it was among those who were treated no more than 15 days after they missed their menstrual period.

Women were eligible to enroll in the study if they had positive pregnancy test results, were in good health, had a history of regular menstrual periods and were no more than 35 days past the expected date of their menses; gestational age was confirmed through a pelvic exam. Exclusion criteria included medical conditions that would contraindicate use of either of the drugs in the treatment regimen, and a history of thromboembolism, liver disease or pruritus of pregnancy (an inflammatory skin condition characterized by severe itching). In addition, women could not participate in the study if they were heavy smokers (defined as having smoked 10 or more cigarettes per day over the prior two years), were using an IUD, were breastfeeding or had a known or suspected ectopic pregnancy.

A total of 1,589 women were randomly assigned to one of two treatment regimens. One group of women was treated with a single oral dose of 600 mg of

mifepristone, followed 48 hours later by a 400 mcg oral dose of the prostaglandin misoprostol. Women in the second group received 200 mg of mifepristone, also followed by 400 mcg of misoprostol. The women's vital signs and any side effects of the drug were assessed hourly for three hours after the administration of misoprostol. All women were asked to maintain a diary of side effects (e.g., nausea, vomiting, diarrhea and lower abdominal pain) and to note any days of bleeding during the study period. Study participants were evaluated 15 days and 43 days after beginning treatment.

The mean age of the women in the sample was 27, and approximately two-thirds had ever given birth. At enrollment, the study participants were an average of 19 days past the expected date of menstrual onset. The two treatment groups did not differ significantly on any of these baseline characteristics.

Eighty-nine percent of women who received the 200 mg dose of mifepristone and 88% of those who received the 600 mg dose had a complete abortion without surgical intervention. When the data were re-analyzed to omit 41 cases in which the treatment regimen was not completed properly or the outcome was unknown, the success of the two regimens increased to 92% and 91%, respectively. Some 3% of patients who took the lower dose of mifepristone and 5% of those who took the higher dose had incomplete abortions and required curettage. Three percent of women who received the 200 mg treatment and 2% of those who received the 600 mg treatment had a continuing pregnancy. In about 2% of cases in each group, no cardiac activity was present after treatment, but the gestational sac was not expelled.

Regardless of mifepristone dosage, the likelihood of treatment failure rose with increasing delay in menses ($p < .01$). Overall, the failure rate was 8% among women with a menstrual delay of no more than 14 days, 11% among those with a delay of 15–21 days and 13% among those with a

delay of 22–28 days; that rate rose to 20% among women with a menstrual delay of 29 days or more.

Compared with women who had a menstrual delay of fewer than 15 days, women who had a menstrual delay of 22–28 days or 29 days or more had odds of abortion failure more than twice as high (2.2–2.3) after the effects of treatment center were accounted for.* In addition, the proportion of women with a continuing pregnancy after treatment increased significantly with the length of the delay ($p < .01$), from fewer than 2% among women with a delay of no more than 21 days and 3% among those with a delay of 22–28 days to 9% among those with a delay of 29–35 days.

The dose of mifepristone was not related to the occurrence of side effects. More than 80% of women receiving either dosage regimen reported experiencing lower abdominal pain at some point during treatment, and more than 65% reported experiencing nausea. Nearly 30% of the women in each group reported vomiting, and about 10% reported diarrhea. However, five women who took the higher dose of mifepristone needed a blood transfusion, compared with none of those who took the lower dose of the drug ($p = .03$).

The researchers conclude that, in combination with a 400 mcg dose of misoprostol, a 200 mg dose of mifepristone is as effective as a 600 mg dose for medical termination of pregnancy within the first three weeks after a missed menstrual period. They note, however, that the efficacy of either oral regimen among women with a menstrual delay of more than 21 days “is too low to justify [its use] in such pregnancies.”—*K. Mahler*

Reference

1. World Health Organization Task Force on Post-Ovulatory Methods of Fertility Regulation, Comparison of two doses of mifepristone in combination with misoprostol for early medical abortion: a randomized trial, *British Journal of Obstetrics and Gynaecology*, 2000, 107(4):524–530.

*The center at which a woman received treatment was the only variable with a significant effect on the risk of failure ($p < .01$).

Low-Dose Pill with New Progestogen Is as Effective As Current Formulations

A new low-dose combination oral contraceptive is effective, safe and acceptable to women, according to a study of 326 women recruited from six centers in the United States.¹ Women's pregnancy rates and levels of intermenstrual bleeding with the new pill are comparable to those of women who use other low-dose combination pills.

Yasmin, the new contraceptive, contains 3 mg of a new synthetic progestogen called drospirenone and 30 mcg of ethinyl estradiol. Drospirenone was developed to provide an alternative for women who sometimes experience adverse effects with current oral contraceptives—principally, thrombosis, hypertension, weight gain, breast pain and acne. Like progesterone (but unlike other synthetic progestogens), drospirenone promotes the excretion of sodium and water, and therefore may reduce water retention symptoms. In addition, because it is antiandrogenic, it may help prevent users from developing acne.

Researchers recruited 18–35-year-old women from six centers in the United States for their study of the new pill. Women were eligible to participate if they were within 25% of ideal body weight, at risk of becoming pregnant and willing to use an oral contraceptive for at least 13 menstrual cycles. Women were excluded from the research if they smoked more than 10 cigarettes a day; were older than 30 and smoked; had used injectable hormones within the previous three months or a contraceptive implant within the previous six months; or had diabetes, high blood pressure or other conditions that are contraindications for oral contraceptive use. The analyses are based on 326 women, the majority of whom were white. The mean age of the participants was 26; 54% had used the pill prior to participating in the study.

The women received packages containing 28 pills and were instructed in their use. They returned to the centers for office visits at the end of cycles one, three, six, nine and 13; three months after cycle 13; and one year after the completion of the study. Women responded to a questionnaire about menstrual symptoms (including impaired concentration, water retention, mood changes, increased appetite, feelings of well-being and undesirable hair change) upon enrolling in the study and at the end of cycle six. The questionnaire asked about symptoms during the four-

day period prior to menstruation, throughout menstruation and during the remainder of the cycle.

Study participants were given complete physical and gynecologic examinations upon enrolling in the study and at the end of cycles six and 13. Women's body weight and blood pressure were measured at each visit to the center.

Sixty-seven percent of the sample completed all 13 cycles, and 73% missed no pills during the study period. Only one woman became pregnant, yielding a rate of effectiveness (0.5 pregnancies per 100 woman-years of use) similar to that associated with other low-dose pills.

More than half (54%) of the women reported no intermenstrual bleeding, and 30% reported intermenstrual bleeding during only one or two pill cycles. Intermenstrual bleeding was most common during the first pill cycle. Breakthrough bleeding with spotting occurred among 1–5% of all participants per cycle and among 19% of participants during at least one cycle. Breakthrough bleeding alone occurred among no more than 2% of all women per cycle and among 2% of women during at least one cycle. Thirty percent of women experienced spotting alone during at least once cycle; the proportion ranged from 5% to 20% per cycle. Five percent of women experienced amenorrhea at the end of the first cycle. After cycle one, amenorrhea occurred for 1–5% of women per cycle and for 21% of women in at least one cycle. These levels of breakthrough bleeding, spotting and amenorrhea are similar to those reported in studies of other low-dose oral contraceptives.

Women were significantly less likely to report mood changes and water retention in all three menstrual phases after cycle six than they were upon enrollment in the study. For the premenstrual and menstrual phases, women were significantly less likely to report an increased appetite after cycle six than they were at the beginning of the study. There were no significant changes during any menstrual phase in women's reports of impaired concentration, hair change or feelings of well-being.

Seventy-one percent of the women reported at least one adverse effect during the study. Five percent of the sample experienced headaches, and 9% said they experienced breast pain. Six percent discontinued use of the contraceptive, primarily because of uncontrollable mood, headache, nausea, dysmenorrhea, intermenstrual bleeding or depression; fewer than 2% cited each of these effects as their

reason for discontinuing. No women reported experiencing serious side effects related to contraceptive use.

Weight loss was statistically significant at cycle six, and weight gain was significant at cycle 13. There was no significant change in the women's blood pressure or the results of their blood tests or urinalysis. In addition, women's cholesterol, triglyceride and lipoprotein levels remained normal.

The researchers conclude that the new pill, with its combination of drospirenone and ethinyl estradiol, is "effective, safe, and well tolerated" by women and that it "may decrease the severity of some menstrually related symptoms."—*B. Brown*

Reference

1. Parsey KS and Pong A, An open-label, multicenter study to evaluate Yasmin, a low-dose combination oral contraceptive containing drospirenone, a new progestogen, *Contraception*, 2000, 61(2):105–111.

Condom Users Find Baggy Design an Improvement Over the Standard Version

A new loose-fitting male latex condom and a standard straight-shaft condom have similar rates of breakage and slippage, according to results of a randomized crossover study. However, participants said that the baggy condom, which creates more friction for both partners, feels more natural during sex and makes intercourse more enjoyable than the conventional one. As the researchers observe, since many couples are reluctant to use condoms or do not use them consistently because they reduce pleasure during intercourse, the development of a more acceptable version could be a key factor in increasing use of the method.¹

Study participants were recruited at two university health centers in 1999. After completing an interview to provide baseline data, they were randomly assigned to use one type of condom and then the other. They were given five condoms of the first type and a log, or questionnaire, for each, requesting detailed information about their experience with its use. After they had used the five condoms, they returned to the center to turn in the log, participate in a follow-up interview and receive a set of the second type of condoms and a log. A final interview took place when participants returned the log for the second set of condoms.

To be eligible, couples had to be mutually monogamous and using a nonbarrier method of contraception; they also had

to have intercourse an average of five times a month. Couples were excluded if either partner was allergic to latex or had had a sexually transmitted disease in the past two years. The analyses are based on 102 couples (represented in interviews by one partner each) who followed the prescribed protocol, completed the logs and participated in all interviews; together, they used 510 condoms of each type.

On average, participants were in their early 30s and had had nearly 16 years of education; most (87% of men and 84% of women) were white and had a college or graduate degree (64% of men and 71% of women). Virtually all couples (96%) had used condoms at some time, although few (17%) had used them in the preceding 30 days. Thirty-seven percent had experienced condom breakage.

In all, participants reported that eight loose-fitting and six standard condoms broke. The resulting breakage rates were 1.6 and 1.2 per 100 uses, respectively; the difference was not statistically significant, and a fairly narrow confidence interval around the difference (ranging from -1.0% to 1.8%) supports the similarity of the two rates. Although the logs asked about when breakage occurred, the number of condoms that broke was too small for analysis.

Similarly, the number of times that condoms slipped (50 for baggy and 58 for standard condoms) yielded statistically indistinguishable rates of this event—9.8 and 11.4 per 100 uses, respectively. In most cases, condoms slipped less than an inch; rates of more severe slippage, including instances when the condom slipped completely off the penis, were therefore much lower than overall rates—2.2 per 100 uses for the baggy condom and 3.5 per 100 for the conventional one. Again, the difference between rates was not statistically significant, and the confidence interval was small (-5.4% to 2.2%).

Of the 10 couples who had a condom break, only one reported multiple breakages. By contrast, 26 of the 45 couples who experienced slippage said that this occurred more than once. Participants reported more clustering of slippage with standard condoms than with loose-fitting ones, but 16 couples experienced slippage with both condom types. Logistic regression analyses that took into account the correlation of breakage and slippage within couples confirmed that these events were not associated with the type of condom used.

Finally, the researchers asked participants to rate the relative acceptability of the two types of condom with respect to

nine features. The responses showed that couples considered the baggy condom to have an advantage in four areas: It makes sex more enjoyable, feels more natural during intercourse, is easier to keep on during sex and is not as disruptive during intercourse as the standard condom. Couples gave both condoms comparable ratings on the remaining features (how easy the condom is to learn to use, to put on and to remove, messiness and the sense of safety the condom imparts).

Commenting on their findings, the researchers note that the study design and a high level of compliance with the protocol lend "high credibility" to the comparisons of breakage and slippage rates between the two types of condoms. Furthermore, they suggest that the higher acceptability ratings that participants gave to the baggy condom may mean that couples will find it easier to use for long periods than the standard condom. This, in turn, is "likely to lead to higher typical use efficacy, even if the failure rates of the new condom are similar to those of other condoms."—*D. Hollander*

Reference

1. Macaluso M et al., Safety and acceptability of a baggy latex condom, *Contraception*, 2000, 61(3):217-223.

Despite Their Elevated Risk, Very Few Women Who Use Oral Contraceptives Will Experience an Ischemic Stroke

Women of reproductive age have a low risk of ischemic stroke, but studies conducted since the introduction of oral contraceptives have produced contradictory results on whether pill use increases that risk. A meta-analysis including 16 of those studies finds that over the last 40 years, the relative risk of stroke among current users of oral contraceptives has been almost three times that among nonusers.¹ The omission of studies whose results were found to be biased by aspects of research design—those that did not control for estrogen dosage, smoking and hypertension and those that used hospital controls—reduces the relative risk of ischemic stroke for current users of low-dose pills to 1.9 times the risk among nonusers. This risk represents four additional strokes per 100,000 women annually.

To determine whether stroke risk and oral contraceptive use are related, investigators searched the medical literature for relevant studies and conducted a meta-analysis using the 16 studies that met the following criteria: They included at least 10 cases of ischemic stroke* or cerebral ve-

nous sinus thrombosis;[†] clearly differentiated between types of stroke; used a cohort design or a case-control design with controls selected within two years of cases; presented data adequate to calculate the odds ratio or relative risk and confidence interval comparing pill users with nonusers; controlled for age; and were not followed by other publications reporting the same data. Overall, women currently using the pill were almost three times as likely as nonusers to have an ischemic stroke (relative risk, 2.8).

Eleven of the 16 studies found a significantly elevated risk of stroke among pill users, while five did not; published relative risks varied from 1.2 to 8.8. Because of the wide range of relative risk estimates from these studies, the investigators examined factors that might have biased the results.

The variation in study results was reduced after stratification by estrogen dosage. The relative risk of stroke rose from 2.1 for women using a pill with less than 50 mcg of the hormone to 2.8 among those using a preparation containing 50 mcg and

to 4.5 among those using an oral contraceptive with more than 50 mcg.

The pill-related risk of ischemic stroke in case-control studies was similar to that in cohort studies, which are less susceptible to bias. However, the risk was significantly higher in case-control studies using controls from hospitals than in those using controls from the general population (4.3 vs. 2.3), indicating an underestimation of oral contraceptive use among hospital controls.

Finally, studies that controlled for smoking or for smoking and hypertension yielded significantly smaller risk estimates (2.5-2.6) than did studies that did not control for those factors (3.8-4.3). The investigators note that many studies conducted in the 1960s and 1970s, a period when pill use was positively associated with smoking, did not control for smoking; thus, the elevated stroke risk due to smoking was incorrectly attributed to pill use.

*A stroke caused by impaired blood flow to the brain, usually because of vascular constriction or obstruction.

†The risk of this rare clotting condition, which causes strokes, appears to be increased by pill use.

Limiting the analysis to case-control studies that stratified data by estrogen dosage, used controls from the general population, and accounted for the effects of both smoking and hypertension decreased (but did not eliminate) variation in risk estimates. In these five studies, the risk associated with current use of pills containing low doses of estrogen by women who neither smoked nor suffered from hypertension was 1.9, which represents four additional strokes per year per 100,000 women.

According to the investigators, their results suggest that the risk of stroke associated with pill use has declined over the past four decades as the dosage of estrogen contained in oral contraceptives has decreased. They conclude that although women currently using the pill have an elevated risk of ischemic stroke, "the absolute effect is small with current dosages." Moreover, they say, "this additional risk appears to be outweighed by the health benefits of [pill] use in improved birth control."—*F. Althaus*

Reference

1. Gillum LA, Mamidipudi SK and Johnston SC, Ischemic stroke risk with oral contraceptives: a meta-analysis, *Journal of the American Medical Association*, 2000, 284(1):72-78.

Preexisting Factors, but Not Logistical Barriers, Inhibit Timely Use of Prenatal Care

One in four low-income California women with third-party health insurance who gave birth in 1994-1995 did not obtain prenatal care during the first trimester. Researchers who interviewed more than 3,000 women about their attitudes, beliefs and perceptions found that logistical barriers played relatively little role in the failure to receive early care. However, in an analysis that controlled for the effects of a range of factors that might serve as barriers to prenatal care, women with an unwanted or unplanned pregnancy were roughly 35-40% more likely than those with a wanted pregnancy to have received no prenatal care in the first trimester. Additionally, those with no regular health care provider in the period before conception were nearly 40% more likely than women with a regular source of care, and those with no post-high school education were 40-70% more likely than those with a higher education, to have waited until the second trimester (or later) to initiate prenatal care.¹

Despite wide societal agreement that

women should begin prenatal care during the first trimester, many low-income women initiate prenatal care late or do not receive it at all. Lack of health insurance can be a serious barrier, but even women covered by Medicaid may fail to receive timely prenatal care. Past research has identified a range of other potential barriers to timely receipt of care (among them child care or transportation problems, a lack of appreciation for the importance of early prenatal care, negative attitudes about the pregnancy or personal stress), but consensus is lacking on which have the greatest impact.

To examine these issues, researchers utilized information collected from more than 10,000 women in California who delivered between August 1994 and July 1995. All were surveyed face-to-face shortly after giving birth at one of 19 randomly selected hospitals in the state. From this population, the investigators extracted data on 3,071 women who were aged 18 or older when interviewed, who had a family income that was no more than twice the federally designated poverty level and who were covered either by Medi-Cal (California's Medicaid program) or by private insurance both before becoming pregnant and during the pregnancy.

Prenatal care was considered timely if a woman made her initial visit during the first trimester; a later start was classified as untimely. The researchers examined differences in receipt of care according to a number of factors that might deter a woman from seeking services: seven social and demographic characteristics (such as age, income or ethnicity); 10 knowledge-related or attitudinal variables (among them knowledge of the importance of early care and planning status of the pregnancy); five stress-related factors (ranging from homelessness to preexisting health problems); and four logistical barriers (including transportation problems and child care difficulties).

Seventy percent of the women had 2-4 children, 65% had an income at or below the poverty level, 52% were covered by Medi-Cal, 36% had not completed high school and 49% were unmarried. Fifty-four percent were Hispanic, and the majority of these (37% overall) spoke only Spanish at home. Very few did not know the importance of prenatal care (3%) or doubted that prenatal care was important (4%), but 22% had no regular source of health care before the pregnancy. Sixty-six percent reported that the pregnancy was unplanned, and 43% said it was unwanted. Sixteen percent said their health was

fair or poor before the pregnancy.

Twenty-eight percent of the women obtained either untimely prenatal care or none at all—39% of those covered by Medi-Cal and 16% of those who had private insurance. Six percent were not aware that they were pregnant until after the first trimester; thus, 22% knew that they were pregnant in the first trimester yet did not begin prenatal care then.

When the researchers controlled for the effects of a broad range of variables and restricted their analyses to women who knew during the first trimester that they were pregnant, they found that nine factors had a statistically significant impact on the likelihood of not beginning prenatal care in the first trimester. Women who had had five or more births were twice as likely as those having their first birth and women who did not know that prenatal care is important were twice as likely as those who did to have failed to initiate prenatal care in a timely way (odds ratio of 2.0 for each).

Education played an important role in receipt of prenatal care: Women who lacked a high school education and those who had only graduated from high school were 71% and 41% more likely than others not to have received early prenatal care (odds ratios of 1.7 and 1.4, respectively). Attitudes about the pregnancy were also major predictors: Those who feared disclosure of the pregnancy were 47% more likely to have missed out on timely care than those who did not; moreover, women with an unwanted pregnancy were 41% more likely and those with an unplanned pregnancy were 35% more likely than those with a planned pregnancy. Women with no regular source of health care before conception were 37% more likely than those with a regular health provider to have received untimely care. Finally, women who reported transportation problems were 68% more likely than those without such problems; however, only 8% of women reported experiencing transportation problems.

Characteristics often considered related to receipt of inadequate prenatal care (such as being unmarried, being black or Hispanic and being Spanish-speaking) were not significantly linked to untimely prenatal care once the effects of other factors were controlled for. The analysts suggest several explanations for this finding, among them the investigation's focus on timely care (as opposed to a composite measure of the adequacy of prenatal care) and on women already covered by health insurance.

The researchers also examined what characteristics predicted women's not

knowing that they were pregnant during the first trimester. Women with an unplanned pregnancy (odds ratio of 2.7) and 18–19-year-olds (1.9) were significantly more likely than others to have been unaware; no other factors had a statistically significant effect.

The results, the investigators note, reveal important barriers to timely prenatal care that are mostly related to issues affecting women before pregnancy. “Logistic barriers during pregnancy, frequently cited in previous literature, appeared to play a relatively limited role in explaining untimely initiation of prenatal care,” the researchers observe.

Substantial improvements in the receipt of early prenatal care among women such as those included in the study sample “are most likely to be accomplished through policies that focus on these women before they become pregnant,” the researchers conclude. They argue that their analysis suggests the importance of “reducing barriers to effective family planning, increasing the proportions of nonpregnant women who have a regular source of health care, and reducing the disadvantages associated with lack of education beyond high school.”—*M. Klitsch*

Reference

1. Braveman P et al., Barriers to timely prenatal care among women with insurance: the importance of prepregnancy factors, *Obstetrics & Gynecology*, 2000, 95(6):874–880.

U.S. Births Rise for First Time in Eight Years; Births To Teenagers Still Falling

For the first time in eight years, the number of births in the United States rose in 1998, by 2% from 1997, according to a report by the National Center for Health Statistics.¹ Among women in their 30s, birthrates rose to their highest points in decades. The birthrate among teenagers, by contrast, continued its seven-year decline, decreasing 2%, to 51.1 births per 1,000 women aged 15–19; the rate among 15–17-year-olds reached a record low. While overall rates of preterm birth and low birth weight increased slightly in 1998, there also was an increase in the proportion of women who received prenatal care in the first trimester, continuing a nine-year trend.

Fertility Patterns

The number of births in the United States rose to 3,941,553 in 1998, marking a 2% increase from 1997 and the first increase

since 1990. The fertility rate rose 1% in 1998, to 65.6 births per 1,000 women aged 15–44, after decreasing 8% between 1990 and 1997. Non-Hispanic women are largely responsible for the change in the fertility rate: While rates fell among both non-Hispanic white and non-Hispanic black women between 1990 and 1997, they rose 1% (to 57.7 and 73.0 per 1,000, respectively) in 1998. By contrast, Hispanic women’s fertility rate also has been declining, but did not make a turnaround in 1998: The rate decreased almost 2%, to 101.1 per 1,000—its lowest point in nine years.

The total fertility rate, or the estimated number of births that a hypothetical group of 1,000 women would have if during their childbearing years they experienced the age-specific birthrates recorded in a given year, increased 1% in 1998 to 2,059. This rate has increased 2% since 1995, but remains below replacement level (2,100 births per 1,000 women).

The birthrate among 15–19-year-olds fell 2% in 1998, to 51.1 births per 1,000 women. The rate has declined 18% since 1991, when it reached its peak of 62.1 per 1,000. The birthrate for 15–17-year-olds reached 30.4 per 1,000, a record low. Although the birthrate for 18–19-year-olds decreased 2% (to 82.0 per 1,000), the number of births increased 3% because the number of women in this age-group increased 5% from 1997 to 1998.

The decline in the teenage birthrate from 1997 to 1998 occurred among all racial and Hispanic-origin groups except for women of American Indian, Puerto Rican and “other” Hispanic descent. Between 1991 and 1998, the birthrate decreased 12% among Hispanic teenagers (to 93.6 per 1,000), 19% among non-Hispanic whites (to 35.2) and 26% among non-Hispanic blacks (to 88.2).

Teenage birthrates varied widely by state—from 24.4 per 1,000 women aged 15–19 in Vermont to 73.0 per 1,000 in Mississippi. The rates were lower in 1998 than in 1997 in all but nine states. When compared with 1991 rates, however, the 1998 rates were lower in all states and the District of Columbia. Thirteen states and the District of Columbia achieved declines of 20% or more between 1991 and 1998; five states achieved declines of 25% or more.

Birthrates for women in their 20s, who are in the peak reproductive years, have been relatively stable during the past two decades. They increased between 1997 and 1998—by 1%, to 111.2 per 1,000, among women aged 20–24 and by 2%, to 115.9 per 1,000, among those 25–29.

Unlike other age-groups, women in

their 30s have had steadily increasing birthrates since the late 1970s; in 1998, the birthrate for these women reached its highest recorded level in three decades. In 1998, the birthrate for 30–34-year-olds increased 2%, to 87.4 per 1,000, and the rate for 35–39-year-olds increased 4%, to 37.4 per 1,000.

The birthrate for women aged 40–44 increased slightly between 1997 and 1998, from 7.1 to 7.3 per 1,000, but the number of births among this group increased 6%. Similarly, for women 45–49 years old, the birthrate was unchanged (at 0.4 per 1,000), but the number of births rose 9%, reaching the highest total recorded since 1968.

Though the birthrate among unmarried women has experienced a general decline in recent years, it increased 1% in 1998, to 44.3 per 1,000 unmarried women aged 15–44. Among unmarried women, those aged 18–19 and 20–24 have a higher birthrate (64.5 and 72.3 per 1,000, respectively) than other age-groups. The birthrate among unmarried Hispanic women is 90.1 per 1,000. The rates among unmarried white and black women of any ethnicity are 37.5 per 1,000 and 73.3 per 1,000, respectively.

The proportion of all births that occurred to unmarried women increased in 1998 to 33% from 32% in 1997. Sixty-nine percent of births to non-Hispanic black women were to unmarried women, as were 42% of births to Hispanic women and 22% of births to non-Hispanic white women.

Birthrates among unmarried teenagers have been declining since 1994 and reached 41.5 per 1,000 in 1998. Between 1994 and 1998, the rate declined 16%, to 27.0 per 1,000, among 15–17-year-olds and 8%, to 64.5 per 1,000, among 18–19-year-olds. Among unmarried black women aged 15–19, birthrates have declined 23% since 1991, to a 1998 rate of 83.4 per 1,000.

Pregnancy, Delivery and Birth Weight

The proportion of women who received prenatal care in the first trimester has increased 10% since 1989. In 1998, 83% of pregnant women began prenatal care in the first trimester; 4% received care only in the third trimester or not at all. Among women aged 15 and older in all racial groups, 15–19-year-olds were the most likely to receive late or no prenatal care—7%, compared with 3–5% of older women.

Thirteen percent of women who were pregnant in 1998 smoked cigarettes—a 34% decline since 1989, and a 2% decline since 1997. The proportion of women who smoked during pregnancy declined or remained the same among most racial and ethnic groups. For the fourth consecutive

year, smoking among pregnant teenagers increased, by approximately 1%, to 18% of those aged 15–19.

The rate of cesarean delivery increased 2% in 1998, to 21.2 per 100 live births. The primary cesarean rate, or the rate of cesarean delivery among women who had had no previous cesarean, also increased 2%, to 14.9 per 100 live births. Non-Hispanic black women had a higher cesarean rate—22.4 per 100 live births—than did non-Hispanic white women and Hispanic women (21.2 and 20.6 per 100, respectively). The percentage increase in cesarean rates also was highest among black women.

The proportion of births that were preterm, or that occurred earlier than 37 weeks of gestation, increased to 11.6%, from 11.4% in 1997. The 1998 rate represents an overall increase of 9% since 1990. Among non-Hispanic white women, the rate of preterm births has increased 20% since 1989, partly because of increases in the rate of multiple births. The rate of preterm births among non-Hispanic black women remained at 17.6% in 1998, and the rate among Hispanic women rose slightly, from 11.2% to 11.4% between 1997 and 1998.

The proportion of infants who had a low birth weight (less than 2,500 g at birth)

increased slightly, from 7.5% to 7.6%. This rate is as high as rates recorded in the 1970s, a result of the increases in the proportion of multiple births, which have a substantially higher association with low birth weight than singleton births. Among singletons, low birth weight decreased slightly, from 6.08% in 1997 to 6.05% in 1998. Although the incidence of low birth weight has risen 9% overall since 1989, it has increased less than 1% among singletons.—*B. Brown*

Reference

1. Ventura SJ et al., Births: final data for 1998, *National Vital Statistics Reports*, 2000, Vol. 48, No. 3.

Most Abortion Patients View Their Experience Favorably, But Medical Abortion Gets a Higher Rating Than Surgical

A group of U.S. women who had a medical abortion reported a significantly higher level of satisfaction with the method than a similar group who underwent suction curettage at the same facility. Nearly all women in both groups (93–97%) said that they would recommend their method to a friend, but those who had a medical procedure were more likely than those who had surgery to say that they would choose the same method if they needed to terminate another pregnancy.¹

Using self-administered questionnaires given to abortion patients just before and about three weeks after their procedure, researchers gathered information on women's expectations about and actual experiences with their method. To be included in the study, women had to be at least 18 years old and no more than nine weeks pregnant.

The analyses are based on data from 146 women who participated in an acceptability trial of abortion using mifepristone and misoprostol in 1994–1995 and 174 women who had a surgical procedure in 1995–1996. Women in both groups were predominantly white (90–92%), with an average age of 26–27. The average gestation of their pregnancies was 51–52 days, and roughly three in 10 had never been pregnant before.

Participants were asked to rate the amount of discomfort, anxiety and bleeding that they expected and experienced, on a scale from one (indicating none) to five (signifying extreme). They also were asked to rate their expected and actual length of bleeding on a scale from one (denoting 1–3 days) to five (indicating 13 or more).

The two groups both expected and experienced similar levels of discomfort, but

differed on most other measures. Women undergoing surgical abortions anticipated a significantly higher level of anxiety (mean rating, 3.1) than those having medical procedures (2.9), yet ratings of the actual level were statistically indistinguishable (2.7–2.8). Those who had medical abortions expected significantly more bleeding than those who had surgical procedures (3.6 vs. 3.1) and experienced significantly more (3.4 vs. 2.6). Likewise, the medical abortion group thought they would bleed longer than women having surgical abortions (3.2 vs. 2.8) and rated the actual duration of bleeding higher (3.8 vs. 3.2).

Women's overall satisfaction with their abortion, rated on a scale from one (signifying very satisfied) to five (denoting very dissatisfied) was high, but those in the medical group gave the procedure a significantly more positive rating (1.4) than those in the surgical group (1.8). The overwhelming majority in both groups would recommend their method to a friend: 93% of those who had surgical procedures and 97% of those who had medical abortions. However, women in the medical abortion group were significantly more likely than surgical abortion patients to say that they would choose the same procedure if they had to have another abortion (91% vs. 58%).

Among women who had medical abortions, overall satisfaction with the method was reduced if bleeding was heavier than expected. Also in this group, overall satisfaction, the likelihood of recommending the procedure to a friend and the likelihood of choosing the same method to terminate a subsequent pregnancy declined if the method failed and the woman required a surgical procedure. Failure of

surgical abortions, however, had no effect on these measures.

The researchers point out that their study has the advantage of directly comparing women undergoing medical and surgical abortion. However, they add, medical abortion patients “made a conscious decision to seek out a generally unavailable [procedure] as research subjects,” whereas surgical abortion patients had no choice of procedure, and this difference may have biased the results. For example, women in the medical abortion study may have viewed the procedure more favorably and may have reported symptoms more accurately than those in the surgical abortion group. Furthermore, some surgical abortion patients might have chosen a medical procedure if given the option.

Despite the study's limitations, the investigators conclude that women's experiences with abortion depend to some extent on the procedure used. Although both medical and surgical abortion are safe and effective, they note, women contemplating abortion should receive thorough counseling and education about both methods before making their choice. In particular, “attitudes and expectations regarding fears of instrumentation and bleeding should be explored,” to help ensure that women choose the procedure with which they are most likely to feel satisfied.—*D. Hollander*

Reference

1. Jensen JT, Harvey SM and Beckman LJ, Acceptability of suction curettage and mifepristone abortion in the United States: a prospective comparison study, *American Journal of Obstetrics and Gynecology*, 2000, 182(6):1292–1299.