



NATURAL FAMILY PLANNING

TwoDay Method of Family Planning Found to Have 96.5% Correct Use Effectiveness to Avoid Pregnancy

Researchers at the Georgetown University Institute for Reproductive Health (IRH) have recently developed two simple, fertility-awareness-based methods of family planning. The effectiveness of the Standard Days Method (SDM) that utilizes a fixed day calendar system of family planning, whereby days 8—19 are always considered fertile, was reported in the journal *Contraception* in 2002.⁽¹⁾ This method, when used correctly and within the parameters of having cycles between 26 and 32 days, was reported to have a use effectiveness rate of 95% in avoiding pregnancy. In addition to this simplified method, IRH researchers have recently reported on the effectiveness of their new system called the “TwoDay Method.”⁽²⁾

The TwoDay Method involves self-monitoring of cervical-vaginal secretions and interpretation of it by asking two simple questions: 1) “Did I notice cervical-vaginal secretions today?”; and 2) “Did I notice secretions yesterday?” If the woman observer answers “no” to each of these questions, she can consider herself infertile. There is a low probability of fertility on any day following a day with two “no” responses.

The IRH researchers conducted a 5-site 3-country (Guatemala, Peru, and Philippines) prospective study that involved 450 women with a mean age of 29.2 years (range 18–39). The women participants were taught how to observe for vaginal secretions and were asked to record their observations, acts of intercourse, and use of barriers on a diary card for 13 cycles of use. Almost 53% of the women participants completed 13 cycles of use. Most of those who did not were asked to withdraw from the study due to method-related reasons, i.e., too little or too much secretions, or study-related reasons, i.e., not complying with the requirements of daily observations and keeping a diary. The 450 women contributed 3,928 cycles of use with 47 pregnancies. The Life Table pregnancy rate for correct use was 3.5 (CI = 1.44 – 5.52) over 13 cycles or one year of use. The typical use Life Table pregnancy rate (i.e., all cycles and all pregnancies) including those with intercourse during the known fertile time was 13.7 (CI = 9.93 – 17.34). The researchers also calculated a pregnancy rate based

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on use of barriers and or withdrawal during the fertile time, and found a pregnancy rate for the first year of use of 6.3 (CI = 3.61 – 8.81). The researchers indicated that all women who completed 13 cycles of use reported being satisfied with the method and 96.1% gave positive comments. Twenty participants who left the study before 13 cycles of use indicated that it was either too hard to use or there were too many days of abstinence.

The authors discussed several strengths of the study. For example, the participants started using the method (i.e., could have intercourse the first cycle of use) immediately, instead of having to wait 3 cycles. Another strength, was that the participants recorded all acts of intercourse and eliminated cycles with no intercourse. Identified weaknesses included: the self-reporting of the acts of intercourse, probable underreporting of intercourse, and the possibility that the follow-up schedule (i.e., up to 3 times the first cycle of use and each cycle thereafter) and the daily diary could have influenced results. This method, the authors concluded, was as effective as other coital dependent methods (e.g., condoms), and that it offers another contraceptive choice.

COMMENTS

Secondary findings of interest include the average rate of intercourse per cycle: 5.6 days. This rate equals the normative rate among all couples. In addition 40.5% of the women participants were breastfeeding while in the study and contributed 44.4% of the pregnancies. These women, however, had at least three full menstrual cycles since the return of menses. How much the variability in these cycles and the amount of intercourse contribute to these pregnancies is unknown. Furthermore, the question should be asked as to how many days of cervical secretions on average were experienced by the breastfeeding women? The researchers eliminated from the study those women who had more than 14 days of secretions or less than 5 days.

The instructions used for determining secretions in this study are of interest to NFP teachers who use cervical mucus based methods. The women were taught to record any vaginal secretion they detected. They could detect secretions by use of tissue, hand to genitals, or what they observed on their undergarments. They were not asked to differentiate the secretions like other mucus-based NFP methods. They were asked to ignore seminal fluid and to record secretions only on days of intercourse after 12 noon. These rules certainly simplify mucus based methods. It will be interesting to see the teaching pedagogy and sequence of follow-up the IRH researchers recommend with this method of NFP.

1. Arevalo, M., Jennings, V., & Sinai, I. **Efficacy of a new method of family planning: The Standard Days Method.** *Contraception*. 2000; 65: 333-338.
2. Arevalo, M., Jennings, V., Nikula, M., & Sinai, I. **Efficacy of the new TwoDay Method of family planning.** *Fertility and Sterility*. 2004; 82: 885-892.

Effectiveness of Mucus Plus Hormonal Monitoring: Preliminary Results

The January / February (2005) issue of the *Journal of Midwifery and Women's Health* (JMWH) featured an article on new low- and high-tech calendar based methods of family planning.⁽¹⁾ The article has a short description of the Standard Days Method (SDM) developed at Georgetown University Institute for Reproductive Health. The SDM is a blanket or fixed day method of family planning and employs the use of Cyclebeads for the women to track their cycles and the fixed days (i.e., days 8-19) of abstinence. The article also includes a description of the use of an electronic fertility monitor (the Clearblue Fertility Monitor previously called the Clearplan Easy Fertility Monitor) along with the self-observation of cervical mucus as a means of estimating the fertile phase and avoiding pregnancy.

The Clearblue monitor measures threshold levels of estrone glucuronide (E3G) and luteinizing hormone (LH) in the urine, and provides the user with low, high, and peak fertility readings. The high reading coincides with the first threshold rise in E3G and the peak reading with LH threshold. The monitor is sold in the United States for the purposes of monitoring the fertile phase and helping to target the optimal days for intercourse to achieve pregnancy.

The hormonal fertility monitor could be used in reverse (i.e., avoiding intercourse on high and peak reading days) to avoid pregnancy. But at times, the monitor probably does not provide a long enough warning to cover the beginning of the 6-day fertile window and to avoid pregnancy. On average the monitor will provide 5 days of high and peak readings but sometime it will go from a "low" to a "peak" reading without any "high" readings as a warning. To enhance the use of the monitor as a means for avoiding pregnancy, researchers have investigated the use of the monitor as a double check for the beginning and end of the fertile phase along with self monitoring of cervical mucus. The beginning of the fertile phase for this method is either the first high day on the monitor or the first day of change from the basic infertile pattern of cervical mucus readings. The end of the fertile phase is the last day of a peak reading on the monitor plus three full (24 hour) days.

Approximately 200 women couples are using the monitor plus mucus monitoring to avoid pregnancy in a multi-site effectiveness study being conducted at Marquette University College of Nursing Institute for NFP. Data from the first 116 couples (from 2 sites, i.e., Marquette University and a private physician's practice in Atlanta, Georgia) was utilized to calculate preliminary 6 and 12 month Life Table effectiveness results to avoid pregnancy.

The survival rate (or i.e., the non-pregnancy rate) for the first 6 months with correct use was 100% and for the first 12 months 99% (95% CI = 0.96-1.00). The 6 month typical use non-pregnancy rate was 96% (CI = 0.92-1.00) and at 12 months 93% (CI = 0.89 - 0.97). There were a total of 13 unintended pregnancies among the 116 couples, two of which were with correct use. As mentioned these are preliminary results, and the final results will not be calculated until all couples have completed 12 months of use, have discontinued the use of the method, or have achieved an unintended pregnancy. The results, however, are encouraging, especially, if the correct use and typical use pregnancy rates are closer to one another as compared to other NFP rates. It is noteworthy that the JMWH article includes an algorithm to use with the monitor alone, i.e., without cervical mucus monitoring, and an example chart for the mucus-less system of NFP.

COMMENT

A one-page instruction on the use of the Clearblue monitor with the algorithm and the charting system is available from the author upon request at richard.fehring@marquette.edu. A later (2000) version of Microsoft Office is needed to use the electronic document.

1. Fehring, R. **New low and high tech calendar methods of family planning.** *Journal of Midwifery and Women's Health.* 2005; 32: 1-20.

INFERTILITY

Assisted Reproductive Technology (ART) Success Rates Decline with Age of Mother

In 1992, the Congress of the United States passed a law called the *Fertility Clinic Success Rate and Certification Act* that requires the Centers for Disease Control and Prevention (CDC) to publish pregnancy success rates for assisted reproductive technology (ART) in fertility

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clinics throughout the United States and Puerto Rico. The CDC provides this data in collaboration with The Society for Assisted Reproductive Technology (SART), an organization of ART providers, and with the American Society of Reproductive Medicine (ASRM). In December of 2004, the CDC released the eighth of such reports that included data from ART produced cycles in the year 2002 from fertility clinics in the United States.⁽¹⁾ These ART data reports were mandated by the US Congress so that consumers of ART (i.e., couples with infertility) can make informed decisions about the use of ART and the potential outcome. In other words “What are the chances of having a child with ART?” and “Where does one go to get the best services?”

As defined by the congressional act of 1992, ART includes all fertility treatments in which both eggs and sperm are handled, and in general involves the surgical removal of the eggs from the ovaries, fertilization of egg with sperm in a laboratory setting, and then returning the embryo to the woman’s body or donating it to another woman. ART does not include artificial (intrauterine) insemination or procedures in which a woman is given drugs to stimulate egg production without removal. The types of ART procedures reported by the CDC include the following definitions taken directly from the CDC report, p. 3:

- **IVF (in vitro fertilization).** Involves extracting a woman’s eggs, fertilizing the eggs in the laboratory, and then transferring the resulting embryos into the woman’s uterus through the cervix. For some IVF procedures, fertilization involves a specialized technique known as intracytoplasmic sperm injection (ICSI). In ICSI a single sperm is injected directly into the woman’s egg.
- **GIFT (gamete intrafallopian transfer).** Involves using a fiber-optic instrument called a laparoscope to guide the transfer of unfertilized eggs and sperm (gametes) into the woman’s fallopian tubes through small incisions in her abdomen.
- **ZIFT (zygote intrafallopian transfer).** Involves fertilizing a woman’s eggs in the laboratory and then using a laparoscope to guide the transfer of the fertilized eggs (zygotes) into her fallopian tubes.

In addition to the above definitions, there are other terms to know in order to interpret the CDC data. ART procedures can be classified as to whether a procedure uses the woman’s own eggs which are called “non-donor” eggs or eggs from another woman called “donor” eggs. The fertilized eggs or embryos are also classified as “fresh” if newly fertilized or “frozen” if they had been previously obtained, selected, fertilized in the laboratory, frozen, stored, and then retrieved and thawed for an ART cycle. An ART “cycle” involves a number of steps and takes approximately 2 weeks. The ART cycle begins when a woman starts taking drugs to stimulate egg (i.e., follicular) development and/or starts to undergo ovarian monitoring with the intent to have the embryos transferred.

The data from the 2004 report comes from 391 fertility clinics in the United States that provided and verified information about the outcomes of the ART cycles initiated in their clinics in 2002. According to the CDC there were 428 ART clinics in the United States in 2002. The 2004 CDC report includes data from 115,392 ART cycles. The outcome successes are presented as either 1) a pregnancy, 2) birth of one or more living infants, and 3) birth of a singleton live-born infant. In 2002 there were 33,141 live births and 45,751 babies from the 115,392 ART cycles.

ART cycles using fresh non-donor eggs or embryos yielded an average live birth rate of 28.3%. The live birth success rate for IVF without ICSI was 34.0%, for IVF with ICSI 31.9%, for GIFT 25.4%, for ZIFT 26.3%, and for a combination IVF with or without ICSI and either GIFT or ZIFT was 22.9%. One of the most remarkable results from the 2004 report is the

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decline in live birth rate from fresh non-donor eggs as the woman ages. The pregnancy rate and the live birth rate declines dramatically after age 36 to close to 0% at age 46. See Table 1 for the pregnancy rate and birth rate for ART cycles using non-donor eggs or embryos among women aged 40 or older. Furthermore, the miscarriage rate goes up considerably after the age of 37 to over 60% after the age of 43.

However, if fresh donor eggs are used instead of fresh embryos from self, the pregnancy rate remains similar from age 25 through 45. The average pregnancy rate with fresh donor eggs (usually from women in their 20s or early 30s) is approximately 50%. The number of embryos transferred per ART cycle also affects pregnancy rates. For example, with the transfer of 1 fresh non-donor embryo the pregnancy rate is 12.8%, for 2 embryos the rate is 39.5%, for 3 embryos 37.7%, for four 32.8%, and 5 or more the rate is 28.9%. According to a note provided with these rates by the CDC, pregnancies with multiple fetuses involve the possibility of multi-fetal reduction, which can happen naturally, or through therapeutic multi-fetal reduction, i.e., through an abortion procedure. The CDC does not provide figures on the number of induced multi-fetal reductions that have occurred in IVF clinics. However, 31.6% of the ART cycles in 2002 involved the transfer of 2 embryos, 33.6% involved 3 embryos transferred, and approximately 35% of ART cycles involve 4 or more embryos being transferred.

According to the CDC, approximately 15% of childbearing age women in the United States have received an infertility service. According to the 1995 National Survey of Family Growth, of the 60 million women of reproductive age (between 15 and 44), approximately 1.2 million or 2% had received infertility services in the past year and about 13% had received services sometime in their lives.

The 2004 CDC report on fertility clinics also provides a percent break down in the type of infertility diagnosis given to the men and women attending the clinics in 2002. The diagnoses are as follows:

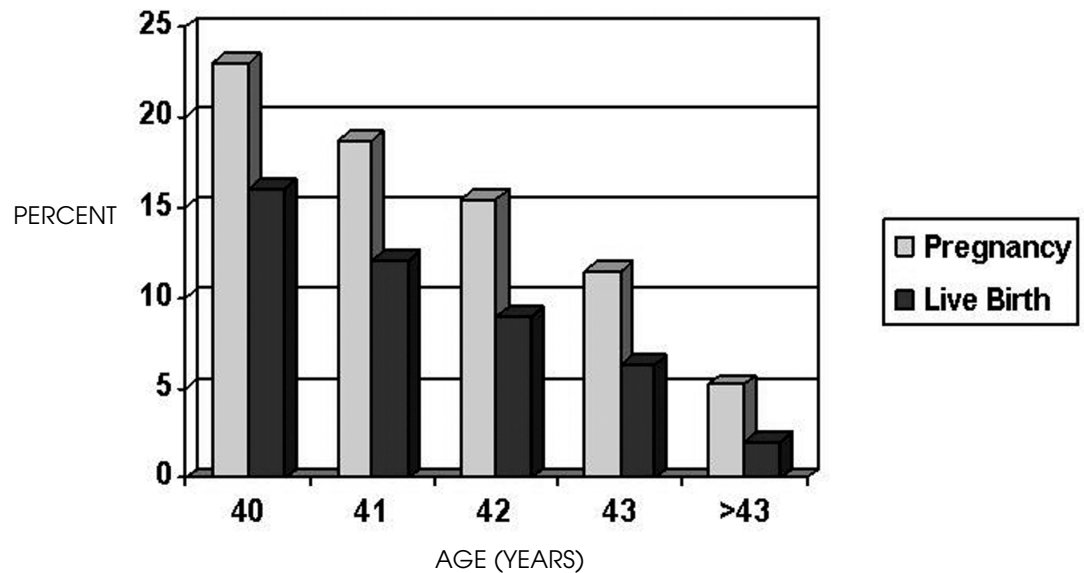
• Tubal factor	13%
• Ovulatory dysfunction	6%
• Diminished ovarian reserve	9%
• Endometriosis	6%
• Uterine factor	1%
• Male factor	17%
• Other factor	7%
• Unknown factor	10%
• <i>Multiple Factors</i>	
Female factors only	13%
Female & male factors	18%

Other facts of interest in the CDC fertility clinic report include the type of ART procedures and services provided by the fertility clinics in the United States. In 2002, greater than 99% of the 391 fertility clinics (in the report) provided IVF procedures. Less than 1% provided GIFT, ZIFT, or a combination of the above. Approximately 53% used ICSI and 99% of the ART cycles were stimulated with drugs. Of the 391 clinics, 90% provided donor eggs, 60% provided donor embryos, 85% would provide services to single women, 72% provide gestational carriers (i.e., surrogates), and 97% provided cryopreservation of embryos.

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TABLE 1: Pregnancy and Live Birth rates for ART cycles using fresh non-donor eggs or embryos among women aged 40 or older, 2002



COMMENTS

In 2002, there were approximately 108,000 fresh or frozen human embryos utilized for ART purposes. The live birth rate from ART procedures ranges from 30 – 50% at optimal conditions. Therefore, conservatively 50,000 – 75,000 human embryos (human lives) were destroyed at some time in the ART process. ART providers might reply that this percentage occurs naturally in real life with natural pregnancy and pregnancy loss.

The report does not indicate how many men and women went through ART services, how much these services cost, and the number of multifetal reductions performed in the US clinics. There is more to the panorama of ART, the ART outcomes, and the ART support services surrounding these endeavors than the report provides. The per cycle cost of ART can range from \$ 6,000 to \$ 10,000, thus the 115,392 cycles of ART cost from \$692,352,000 to \$1,153,920,000 – i.e., a potential billion dollar business in the United States alone.⁽²⁾ It would be interesting to determine the revenue generated by each ART clinic in the United States by dividing the revenue generated by the number of successful pregnancies.

Another factor not revealed is how many ART cycles are not included in the published outcomes. ART clinics exempt many cycles from the required reporting by classifying them as “experimental.” These cycles often involve women and couples with a lower chance of a positive outcome. Finally, the outcomes reported in the CDC are based on self-reporting from these fertility clinics. Since the financial outcomes from the clinical services are huge, there is intense pressure to have good outcomes (i.e., successful pregnancies and births) and to report them as being good. (See accompanying Review article about criteria used for couple access to ART services.)

1. Center for Disease Control and Prevention. **2002 Assisted Reproductive Technology Success Rates. National Summary and Fertility Clinic Reports.** U.S. Department of Health and Human Services, December, 2004.
2. Hidlebaugh, D.A., Thompson, I.E., & Berger, M.J. **Cost of assisted reproductive technologies for a health maintenance organization.** *Journal of Reproductive Medicine.* 1997;42:570-574.

Majority of ART Program Directors Agree that Everyone Has a Right to Have a Child

Bio-ethicists from Harvard, the University of Pennsylvania, and Thomas Jefferson University Hospital recently conducted a National survey of program directors of Assisted Reproductive Technology (ART) clinics to determine on what grounds candidates seeking ART services are denied access.⁽¹⁾ They developed and pilot tested a questionnaire that asked respondents about the process for screening ART candidates and submitted it anonymously to 369 ART program directors in August of 2001. The bioethicist researchers obtained a completed survey from 210 ART programs for a response rate of 58%. Some interesting results are as follows.

ART program directors reported turning away only 4% of their couple candidates each year, 3% for medical reasons, and 1% for psychological, social, or emotional reasons. Surprisingly, only 18% of the candidates meet with a psychologist or social worker for screening purposes, yet 80% meet with a financial coordinator. In regard to screening candidates, 59% of the directors agreed that everyone has a right to have a child, and only 43% thought that they (i.e., the directors) have no right to deny anyone from attempting to conceive.

As illustrated in the CDC report of the 2002 ART programs (see above report reviewed in this issue of CMR), the success of programs relies on obtaining fresh donor eggs and sperm. Most ART programs allow relatives to be gamete donors. For example, 73% would use sperm from the man's brother who has children of his own, and 87% would use eggs from a sister who has children of her own. Surprisingly, 29% would use sperm from the man's father and 18% would use eggs from the woman's mother.

Most (77%) ART program directors indicated they would be unlikely to turn away a single woman not having a husband or partner, 82% would be unlikely to turn away lesbian couples, 44% would accept a gay couple using sperm from one of the partners, and 37% would accept a single man not having a wife or partner. The strongest reason for rejecting a candidate would be that the man in the relationship has a history of being abusive to an existing child. However, even if the last criterion was met, 5% would still be unlikely to turn the candidate away. Furthermore, 71% of those programs that would turn away a candidate with an abusive husband do not actually collect information about that characteristic. The authors of the study stated that the results of their survey were striking because of the wide variability in the criteria used to determine fit or unfit parents and in the reporting and screening practices. Part of the reason for this is that the United States does not have guidelines for screening ART program candidates. ART clinic providers are left to themselves for making those decisions. The authors suggested a national debate as to what criteria should be used to determine ART eligibility.

COMMENT

The authors indicated in the beginning of their article that an overriding ethic in the United States is the right to reproductive choice. There is a great resistance for any limitations on this "right." From this study it is obvious that ART clinics are unable to set any limitations and to provide any criterion for limitation – with the possible exception of child abuse by the potential father (disregarding selective intrauterine reductions of multi-fetal pregnancy or freezing human embryos in suspended animation, or providing excess embryos for stem cell research as forms of abuse). The overriding ethics are the right to choose, the right to have a child, the right to provide couples with a chance for that choice, as long as they are able to pay for that right!

Of the clinic providers, 47% indicated they would provide ART to couples living on

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welfare but without third party insurance or State or Federal support. How many of these clinics would really be willing to provide these services to the poor without some type of third party reimbursement?

1. Gurmankin, A.D., Caplan, A.L., & Braverman, A.M. **Screening practices and beliefs of assisted reproductive technology programs.** *Fertility and Sterility.* 2005; 83: 61-67.

UNDER THE MICROSCOPE

Use of Natural Family Planning in United States Remains Low: New Data from the National Survey of Family Growth

Every 3 to 7 years, researchers at the National Center for Health Statistics administer a nationwide survey on issues that affect family life, including marriage, divorce, cohabitation, and the use of contraception. This survey is called the National Survey of Family Growth (NSFG) and was conducted in 1973, 1976, 1982, 1988, 1995, and 2002. These surveys entail a national random selection of 7,000 to 10,000 women between the ages of 15 and 44 and have a response rate close to 80%. The participants are interviewed in-person by trained interviewers. The in-person laptop computer-assisted survey interview takes approximately 85 minutes. The data generated from the surveys are accessible to researchers in a CD format from the National Center for Health Statistics. Many published studies by researchers and scholars around the United States result from the NSFG data. The survey data are also used to calculate contraceptive effectiveness, and, as such, has influence in the health care community, especially for women's health and contraceptive decision making.

The 2002 survey involved, for the first time, both men and women (N = 12,571) between the ages of 15 and 44. On December 10, 2004 the Centers for Disease Control and Prevention (CDC) submitted a report on the use of contraceptives and family planning services in the United States between 1982 and 2002 that was generated from the NSFG data.⁽¹⁾ There were 7,643 women interviewed for this report, and a future release will include the (4,928) men participants. The report is 33 pages long and has 18 data tables. The following are some highlights of interest:

- Approximately 38 million women in the United States between the ages of 15-44 were using some method of contraception in 2002.

Of these the hormonal oral contraceptive pill was the leading method of contraception. In 2002 an estimated 11.6 million women — 18.9% of the 38 million women who were using some form of contraception — used the birth control pill.

The 2nd most used method in 2002 was female sterilization which was used by 10.3 million women or 16.7% of the total contraceptive users.

The 3rd leading method of contraception was the condom used by the male partner of 5.4 million women (11.1%).

The 4th leading method is male sterilization (5.7%).

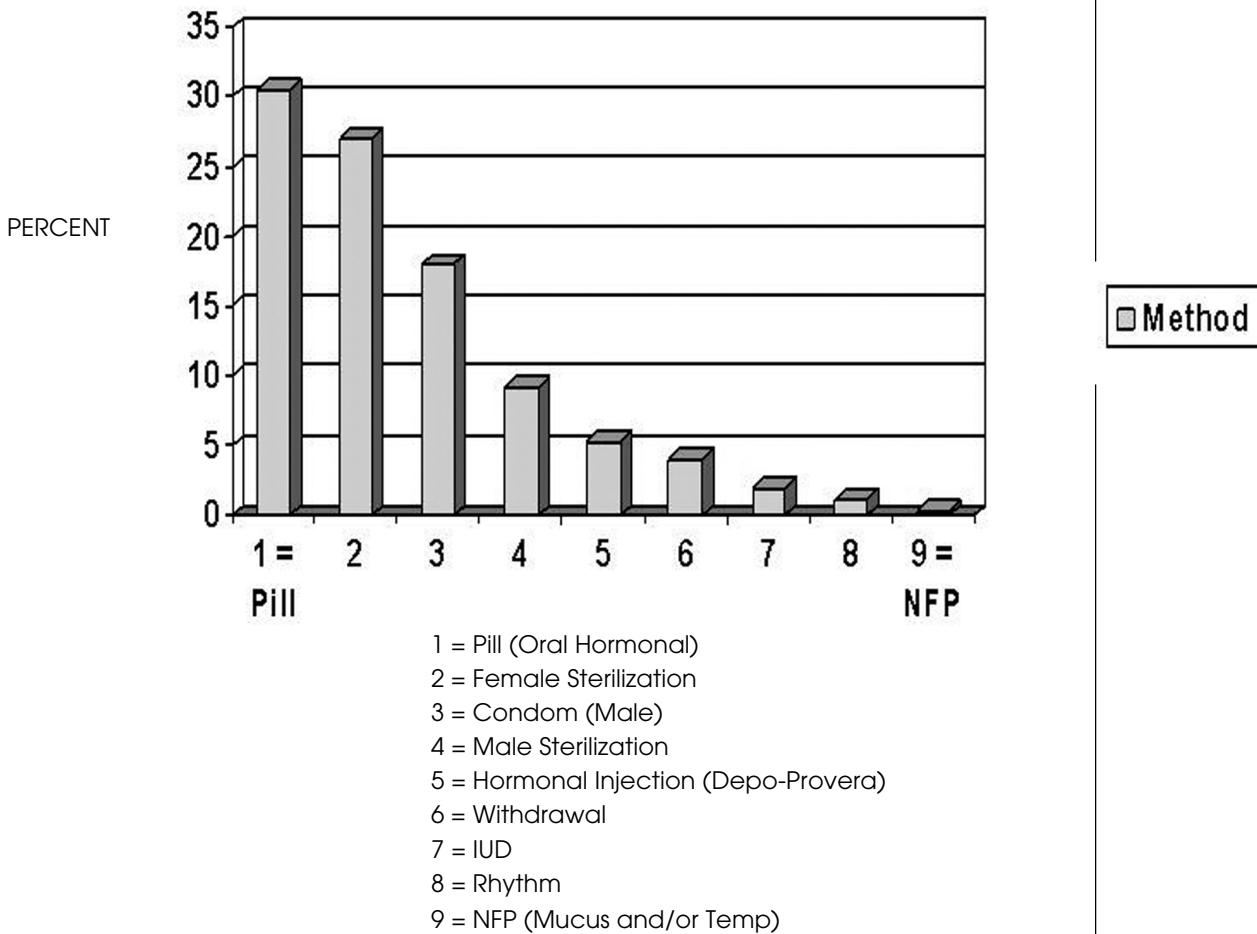
The 5th leading method is the 3-month hormonal injectable, Depo-Provera (3.3%).

Added together, these five methods accounted for approximately 90% of the contraceptive users, and contraceptive users were 61.9% of the total number of women participants. (See Table 1)

- Of women between 15 and 44, 39.1% were not using any contraceptive in the month interviewed in 2002. Of that group of women, 18.1% either never had intercourse or did not have intercourse in the past 3 months. Another 9.5% were either pregnant, post-partum, or seeking pregnancy.
- The oral hormonal pill was the most frequent method of contraception used by women in 2002.

However, if the sterilized male partner is added to the equation, sterilization is by far the leading method, involving 22.4% of either the woman participants or the partners of the woman participants. Furthermore, sterilization was the leading method among all women 35 years and older.

TABLE 1: Percent distribution of current contraceptive methods among United States Women 51-44 years of age.



- The condom is the leading method of contraception at first intercourse. The number of women using condoms at first intercourse has increased steadily from 1982 through 2002. About 22% used the condom at first intercourse before 1980 and around 67% in 2002.
- The ever use of withdrawal as a method of contraception has increased from 24.9% in 1982 to 56.1% in 2002. Withdrawal was currently used by about 4% of those interviewed in 2002 approximately 1.5 million users.

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Some of the findings specific to natural family planning use are as follows:

- About 16% of women between the ages of 15-44 who have ever had sexual intercourse reported ever using calendar-rhythm. This is down from 24.3% in 1995. However, only 3.5% ever used Natural Family Planning (NFP), i.e., cervical mucus or temperature monitoring. This percent use of NFP is down from the 4.2% ever use in 1995. (See Table 2)

TABLE 2: Percent ever use of Rhythm and NFP among sexually active women 15-44 in the United States by year.

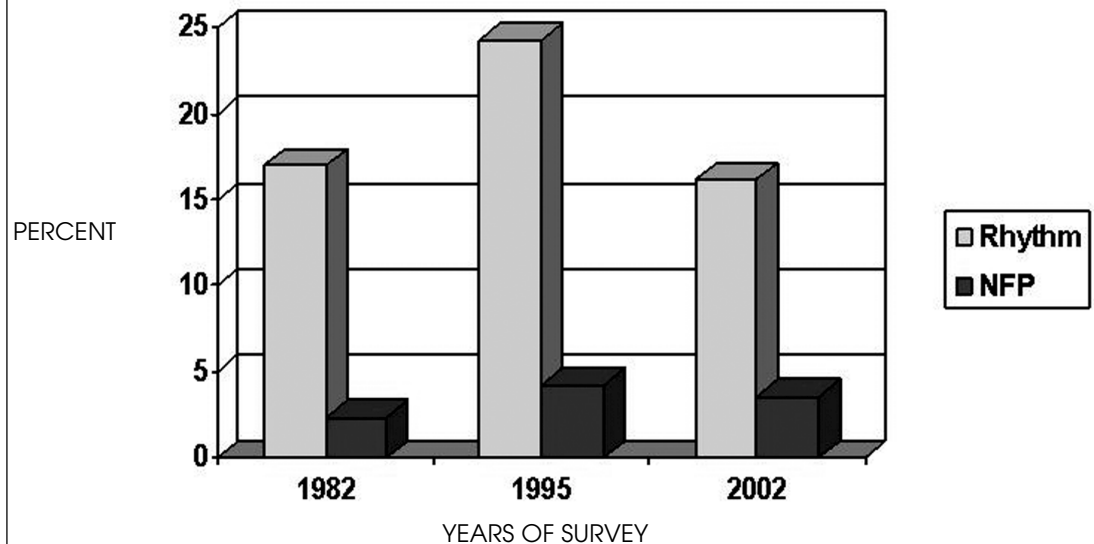
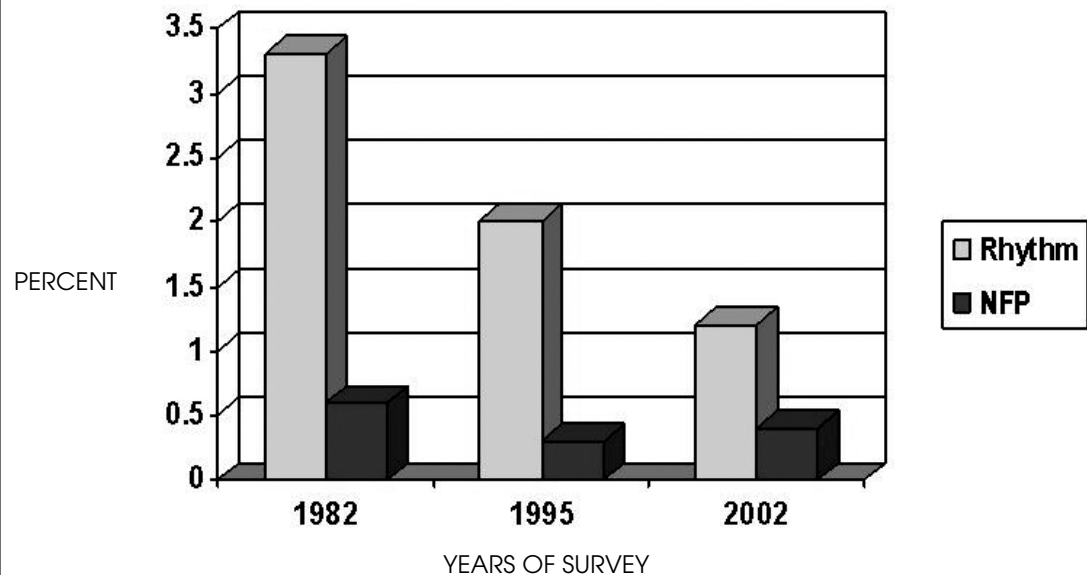


TABLE 3: Percent current use of Rhythm and NFP among sexually active women 15-44 using contraception in the United States by year.



- About 430,000 (or 0.7%) of women in the United States reported current use of "Rhythm" and approximately 230,000 (0.2%) reported current use of NFP. This percentage using NFP was the same as that reported in 1995 and down from the percentage in 1982 (0.3%).

The percentage using Rhythm among women reporting use of contraception during the month of interview was 1.2% which is down from 3.3% in 1982. For

NFP the percent of use current use was 0.4%, slightly higher than the 0.3% in 1995 but down from the 0.6% in 1982. (See Table 3)

TABLE 4: Current percent use of Rhythm and NFP by age group among sexually active women 15-44 years of age in the United States, 2002.

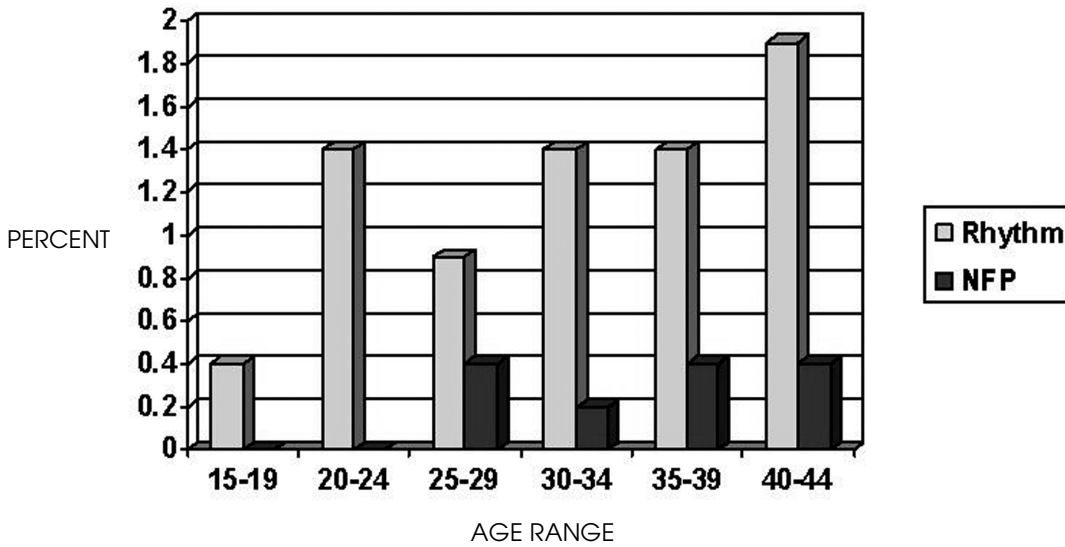
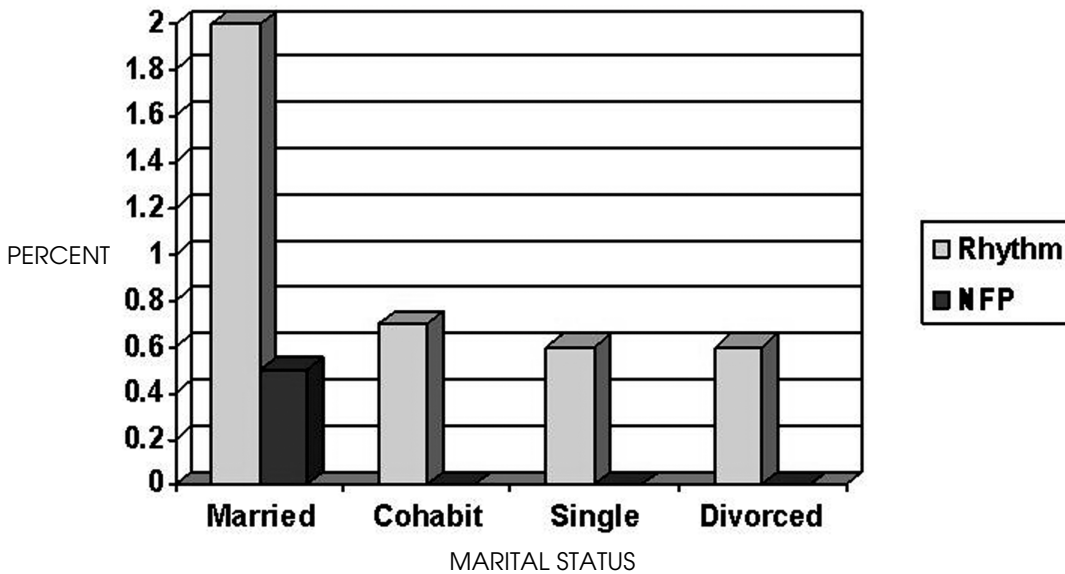


TABLE 5: Percentage using NFP or Rhythm among sexually active women 15-44 years old in the United States by marital status.



- The percentage using NFP ranges from 0% in the 15-24 age group to a high of 0.4% among the 25-29 and 40-44 age groups. See Table 4.
- No sexually active women, not currently married, between the ages of 15-44 in the United States reported current use of NFP.
- Approximately 0.6% of cohabitating, formerly married, and never married, sexually active women used Rhythm as a method of contraception. In contrast almost 6% of married couples reported the use of withdrawal. (See Table 5)

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TEENAGE SEXUAL ACTIVITY AND CONTRACEPTIVE USE

A second report on sexual activity, contraception use, and childbearing from the same data set of the 2002 NSFG was released by the CDC in December of 2004.⁽²⁾ This report involved the teen (15-19 year old) male (N= 1,121) and teen female (N=1,150) participants in the 2002 NSFG. The report compares the sexual activity, contraceptive use, and childbearing results with data sets collected in 1988 and 1995.

The CDC article begins by stating that the U.S. birthrate for females 15-19 years of age was 43 births per 1,000 in 2002 and is the highest teen pregnancy rate among the developed countries in the world. In comparison, Canada has a rate of 20 births per 1,000, Germany 10, France 8, and Japan 5 births per 1,000 teens. The US teen birthrate, however, is a significant decline from 1991 when the rate in the U.S. was 62 per 1,000 females. Background information for the CDC report also mentioned that approximately 19 million cases of sexually transmitted diseases occurred in the year 2000, of which about half involved persons 15-24 years of age. According to the background section of this report, the data on teen sexual activity and contraceptive use from the NSFG could help us understand the trends in birthrates and STDs among teenagers.

Some of the relevant findings on teen sexual activity from the 2002 NSFG are as follows:

- Sexual activity (i.e., sexual intercourse) among never married male and female teens declined considerably from 1988 to 2002. See Table 6.

In 1988 the teen female percent rate of sexual activity was 51.1% and in 2002 it was 45.5% (this change or decrease was not statistically significant). Among males the rate was 60.4% in 1988 and 45.7% in 2002, this rate was statistically significant. However, never married teen females between the ages of 15-17 had a significant decline in sexual activity from 37.2% in 1988 to 30.0% in 2002. Among teen males between the ages of 15-17, the decline was from 50% in 1988 to 31.3% in 2002.

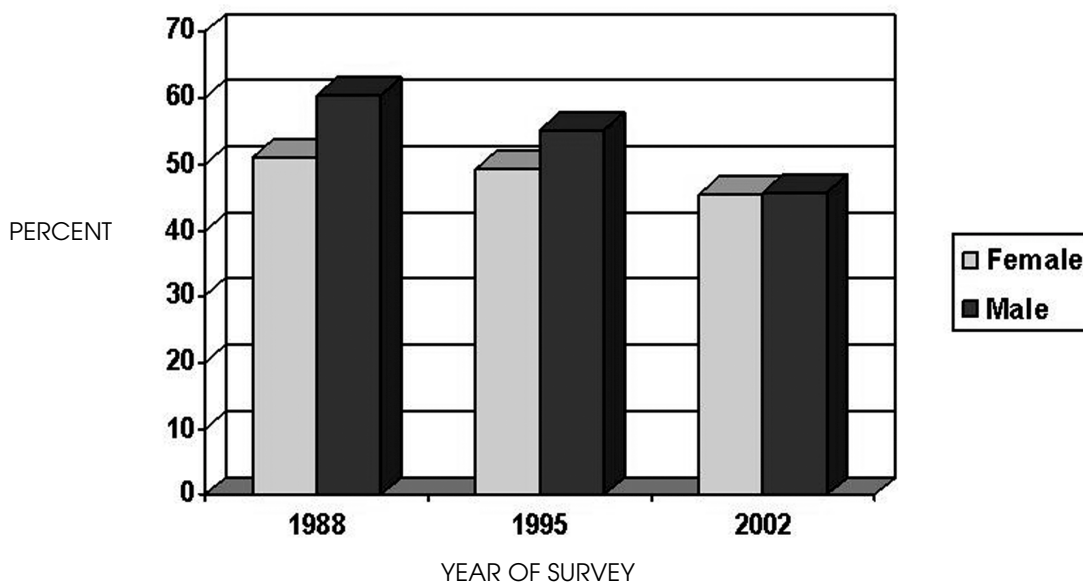
- The good news was that the majority of never married teenagers (i.e., 72% of females and 75% of males) reported not having intercourse the month prior to being interviewed.

A minority of participants (16% of females and 12% of males) admitted vaginal intercourse in the past month.

- The most used method of contraception at first intercourse was the male condom: 66 % of females and 71% of males reported the use of condoms at first intercourse. However, about 25% of teen females and 16% of males reported no method of contraception at first intercourse.

- The ever use of the injectable method of contraception (i.e., Depo-Provera and

TABLE 6: Percent of never-married United States males and females 15-19 years of age who ever had sexual intercourse.



Lunella) increased from 10% in 1995 to 21% in 2002 among teen females who ever had intercourse. Ever use of condom use among the same group was as high as 94% in 2002.

- Approximately 20.5% of the teenage females (ages 15-19) who were interviewed for the NSFG study took a pledge to remain a virgin until marriage. Of these pledge teens, 77% reported never having sexual intercourse. Of the 25.1% teenage males who reported taking a pledge to remain a virgin until marriage 78.8% reported never having sexual intercourse.
- The number one reason the 5.5 million male and 5.2 million females gave for not yet having vaginal intercourse was, "it was against religion or morals." The number two most frequent response was, "I don't want to get (a female) pregnant." The third highest response was, "haven't found the right person yet."
- However, 66.8% of the males and 62.8% of the females disagreed or strongly disagreed that a young couple should not live together unless they are married. Furthermore, 50% of the males and 65% of the females agreed or strongly agreed it was "okay" for an unmarried female to have a child.

COMMENTS

It is apparent from the data presented in the NSFG 2002 survey that very few women in the United States use NFP as a means of family planning. Only about 230,000 sexually active women report current use of modern methods of NFP. Interestingly, the only persons using NFP are married couples. This could reflect the belief that it takes commitment and mutual support to use NFP successfully. However, around 750,000 women report current use of Calendar Rhythm as a method of family planning, perhaps because calendar methods are more accessible and easier to use. Often calendar rhythm methods are self-devised and "blanket type," i.e., starting abstinence on a certain day in the beginning half of the menstrual cycle and ending abstinence sometime after the middle of the menstrual cycle.⁽³⁾

According to the CDC report, most women seek family planning and women's health services from a medical or health systems service provider. For example, about 44.7 million received medical or family planning services in 2002, and of these, 34.4 million received family planning services from a private physician or HMO, 13.5 million from a health clinic, and 1.2 million from other sources (e.g., military health facilities). Of the 13.5 million who obtained family planning services from a private clinic, 5.4 million received care from a Department of Health and Human Services Title X family planning program. In other words, most family planning services are provided by some type of health professional (e.g., Title X clinics primarily use nurse practitioners). They are the gatekeepers of family planning services. Therefore, one way to increase use of NFP services is to convince health professionals that NFP services are viable and wanted, and, ideally, simple enough to be prescribed in a short office visit.

The data on adolescent sexual activity and use of family planning services are enlightening. Although the majority of male and female teens mentioned morals and religion or fear of pregnancy as a prime reason for not engaging in sexual activity, their attitudes about cohabitation and having a baby outside of marriage does not match their religious or moral beliefs. Furthermore, it seems prudent to design teen sexual abstinence programs so as to reinforce those beliefs rather than facilitate beliefs promoting sexual activity with one contraceptive preventing pregnancy and another preventing STDs. The fact that a simple intervention like a pledge to remain a virgin can help teens remain sexually inactive is remarkable. There is a need to build environments that facilitate abstinence and reinforce religious and moral beliefs, instead of environments that undermine them.

(Continued on p. 14)

(Continued from p. 13)

1. Mosher, W.D., Martinez, G.M., Chandra, A., Abma, J., & Willson, S.J. *Use of contraception and use of family planning services in the United States: 1982-2002. Advance Data from Vital and Health Statistics.* CDC Number 350, December 10, 2004.
2. U.S. Department of Health and Human Services. Center for Disease Control and Prevention. **Teenagers in the United States: Sexual Activity, Contraceptive Use, and Childbearing, 2002.** *Vital and Health Statistics, Series, 23, Number 24, December, 2004.*
3. Lamprecht, V.M. & Grummer-Strawn, L. **Development of new formulas to identify the fertile time of the menstrual cycle.** *Contraception.* 1996; 54: 339-343.

OF INTEREST . . .

What is a Regular Menstrual Cycle? Statistical Parameters of the Menstrual Cycle

A recent study at the University of Pittsburgh found that the actual length of the menstrual cycle varied considerably among 130 women who tracked their menstrual cycle length for 1 to 30 cycles.⁽¹⁾ Forty-six percent of all subjects in this study had menstrual lengths varying by 7 days or more and 20% by 14 days or more.

The 130 subjects were participants in 3 previous prospective studies of barrier contraception effectiveness. To be a part of the 3 studies, the participants were required to be between the ages of 18 and 40 and to have "regular" menstrual cycles, and persistent cycle lengths between 21 and 35 days. The subjects provided their estimated cycle length prior to the beginning of the study. Each participant recorded from 4–8 menstrual cycle lengths and the length of their menses, which resulted in 786 usable cycles of data.

After analyzing the data set, the researchers from the University of Pittsburgh Medical School found that the average participant estimated cycle length (29.0 ± 2.7 days) did not statistically differ from the average actual cycle length (29.1 ± 3.5 days). They also found that the average length of the menses was 5.2 ± 1.0 days and had a positive significant correlation with cycle lengths between 21 to 35 days. As stated, however, they did find considerable variability in cycle length among women who reported having regular cycles. This variability in cycle length, they concluded, could have an impact on clinical contraceptive practice and research, e.g., the timing of pregnancy based on menstrual cycle length. They mentioned menstrual cycle variability is likely due to when ovulation occurs in the cycle and that prospective research needs to be conducted to determine the impact on clinical practice and pregnancy related care.

COMMENTS

The assessment of the researchers seems correct that the variability in cycle length should be judged in regard to when ovulation and the 6-day fertile window occur. The variability of the fertile window from cycle to cycle will make a bigger impact on clinical practice and natural methods of family planning. Requirements for the three barrier method studies included that the participants were not pregnant or on hormonal contraception. Not disclosed, however, was how many were actually within the first 4-8 cycles after discontinuing a hormonal method. All NFP teachers know that if there were a sizable number of participants post hormonal pill or injection, it could account for some of the cycle variability.

1. Creinin, M.D., Keverline, S., & Meyn, L.A. **How regular is regular? An analysis of menstrual cycle regularity.** *Contraception.* 70 (2004): 289-292.

Attitudes and Intentions of Future Health Care Providers Toward Abortion Provision

A study was recently conducted at the University of Washington to determine the willingness among students in the health care professions (i.e., medical, physician assistants, and advanced practice nursing students) to provide abortion services.⁽¹⁾ The researchers were concerned there would not be enough health care providers trained to provide abortion services for the future. The article cites data showing that 87% of the counties in the United States do not have an abortion provider, that the number of current abortion providers is declining, and that many of the providers are over 50 years of age.

A 22-item survey was developed by the researchers and offered to 1st and 2nd year advanced practice nursing and physician assistant students, and 2nd year medical students. Of the 363 eligible students, 312 completed the questionnaire for a response rate of 86%. The questionnaires were administered anonymously at the end of a seminar or class period.

Of the 312 students, 70% indicated that legal abortion services should be available under any circumstance and 72.8% agreed that it is acceptable for a woman to choose an abortion because of a fetal anomaly or congenital disorder. However, only 31% planned to provide medical abortion in their practice and only 18% planned on including surgical abortion into their practice. However 90% would be willing to refer patients for abortion services. Interestingly, 42% of the medical students as compared to 83% of the nursing students felt advanced clinical providers should be able to provide medical abortion, and only 21% of the medical students as compared to 72% of the nursing students felt advanced clinical providers should be able to provide surgical abortion services. A majority of the students (64%) would attend a program that requiring abortion training. The authors of this report concluded that making abortion services a standard part of clinical training would provide opportunities for future advanced clinical providers and help ameliorate the shortage of abortion providers.

COMMENTS

One reason fewer medical students felt advanced practice providers should not provide medical and surgical abortion services might be that they thought it was out of the scope of their practice. However, there were only 29 nurse respondents compared to 147 medical students and 136 physician assistant students. It is noteworthy that over 30% of the students had no religious affiliation and only 24% felt that providing abortion services would be against their religion. The authors of the article did mention a limitation of the study in that the students going to the University of Washington might be more liberal than those in other areas of the country and that the University of Washington has a history of offering abortion training.

1. Shotorbani, S, Zimmerman, F.J., Bell, J.F., Ward, D.W., & Assifi, N. **Attitudes and intentions of future health care providers toward abortion provision.** *Perspectives on Sexual and Reproductive Health.* 2004; 36: 58-63.

ERRATUM — WE REGRET THE FOLLOWING ERRORS IN THE SUMMER/FALL 2004 ISSUE OF CURRENT MEDICAL RESEARCH.

Page 4, Table 1: Effectiveness Rates of NFP Methods should read:

Typical Use	Perfect Use	% Continuing
Periodic Abstinence	25	51
Calendar	9	
Ovulation method	3	
Sympto-Thermal	2	
Post ovulation	1	

Page 8, second sentence in second to last paragraph should read:

By combining two data sets (for a total of 285 women participants and 867 cycle s of data) they found a small (but statistically weak) rise in the frequency of ovulation after weekend intercourse.



Current Medical Research, a supplement of *NFP Forum (Diocesan Activity Report)*, is published biannually. Richard Fehring, DNSc, RN is the editor. Theresa Notare, MA, is the managing editor. The purpose of the supplement is to serve the Roman Catholic diocesan NFP programs of the United States through providing them with up-to-date information on research within the field of fertility, family planning, and related issues. The diocesan NFP teacher should be equipped to understand the various methods of contraception and be able to explain their incompatibility with the practice of the natural methods of family planning.

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