Child Trends Research Brief

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4301 Connecticut Avenue, NW, Suite 350, Washington, DC 20008
Phone 202-572-6000 Fax 202-362-8420 www.childtrends.org

What Young Adults Know—and Don't Know—About Women's Fertility Patterns: Implications for Reducing Unintended Pregnancies

By Amanda Berger, Ph.D., Jennifer Manlove, Ph.D., Elizabeth Wildsmith, Ph.D., Kristen Peterson, B.A., and Lina Guzman, Ph.D. September 2012

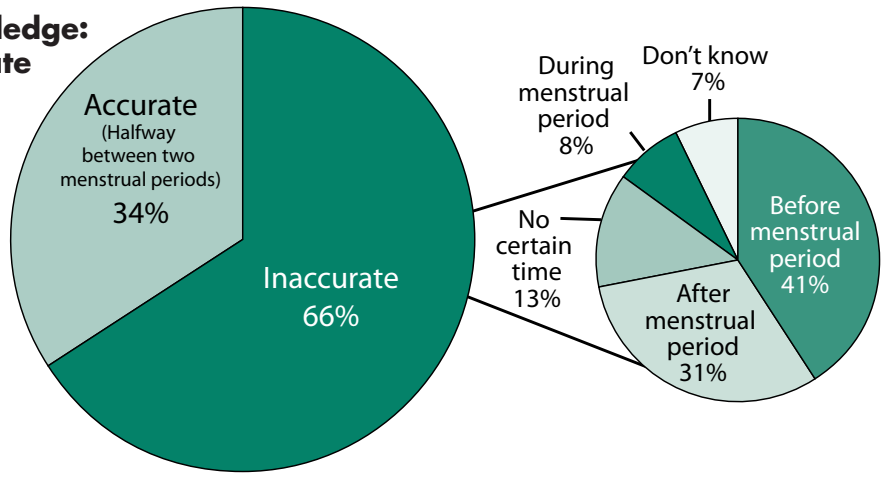
Overview. *Recent estimates suggest that one-half of all pregnancies in the United States are unintended (either unwanted or mistimed),[2] and such pregnancies are linked with numerous negative outcomes for parents and their children.[8] Young adults have one of the highest proportions of unintended pregnancies,[2,12] in part because many sexually active young adults fail to use contraceptives consistently[15] or they rely on less effective contraceptive methods, such as withdrawal.[10] Because the average woman is only able to get pregnant during six days of her 28-day menstrual cycle,[16] being able to accurately identify when women are most fertile could help young adults make informed decisions about sexual activity and contraceptive use. For example, a couple having sex or anticipating having sex may think twice about relying on less effective contraceptive methods, such as withdrawal, if they know that the woman is in her most fertile period. Having basic biological knowledge of how a woman's body works—and being empowered to use this knowledge to make decisions about when to have sex and what birth control methods to use[3]—may lower the chance of unintended pregnancies.*

This Research Brief *draws on data from the National Survey of Reproductive and Contraceptive Knowledge to describe the level of "fertility awareness knowledge"—defined as being able to identify the point during a woman's menstrual cycle at which she is able to become pregnant—among a sample of unmarried young adults in the United States between the ages of 18 and 29. Child Trends' analyses of these data show that fertility awareness knowledge among this group is low – only one-third can correctly identify a woman's fertile period. This brief examines differences in fertility awareness knowledge by gender, race/ethnicity, education, age, receipt of sex education or sexual health care, sexual experience, pregnancy or childbearing status, and use of various contraceptive methods.*

Along with analyzing the survey data, Child Trends conducted in-depth interviews with more than 50 young, urban, minority women who had used natural family planning methods, including calendar or rhythm methods. The interviews shed further light on the gap in fertility awareness knowledge among those who use these methods.[3]

Figure 1

Fertility awareness knowledge: Accurate and inaccurate knowledge of a woman's fertile period



ABOUT THE DATA SOURCE FOR THIS BRIEF

Data for all quantitative analyses in this brief were drawn from the National Survey of Reproductive and Contraceptive Knowledge, a nationally representative survey of 1,800 unmarried 18- to 29-year-old men and women. Data collection occurred in fall 2008 and spring 2009 via telephone interviews using a random digit dial sample, a targeted sample of listed telephone numbers, and a random sample of cell phone numbers.[13] The research sample included roughly equal numbers of males and females (903 males and 897 females) and was racially and ethnically diverse (60 percent of the sample was white; 16 percent black; 17 percent Hispanic; and 7 percent Asian, Pacific Islander, or another racial/ethnic group).

In the quantitative analyses, we assessed whether respondents had accurate knowledge about a woman's fertile period on the basis of their answers to two questions: *"During a woman's monthly cycle, are there certain days when she is more likely to become pregnant if she has sex?" and "For most women, is this time a) just before her period begins; b) during her period; c) right after her period has ended; or d) halfway between two periods?"* Respondents who answered yes to the first question and selected the last option (halfway between two periods) for the second question were coded as having accurate fertility awareness knowledge. All analyses were weighted, and differences presented in this brief are statistically significant at $p<0.05$.

Additional qualitative data were drawn from in-depth interviews with 58 black and Hispanic young adult women (ages 18 to 30) in an urban metropolitan area who had ever used natural family planning methods to better understand when, how, and why these methods are used.[3] Information from these interviews was used as the basis for the "Natural Family Planning Users and Fertility Awareness Knowledge" pull-out box at the end of the brief.

Fertility Awareness Knowledge

Among the young adults who provided survey data, only one-third accurately identified a woman's fertile period. That is, only 34 percent knew that there is a certain time in a woman's menstrual cycle when she is most likely to become pregnant and could identify that time as roughly halfway between her two periods (See Figure 1).

- Among the two-thirds (66 percent) of young adults who did not have accurate fertility awareness knowledge, 13 percent reported that there was no certain time when a woman was most likely to get pregnant, and seven percent reported that they thought there was such a time but did not know when that time was.
- Most of the young adults who did not have accurate fertility awareness knowledge understood that there was a fertile period, but they were unable to correctly identify when it occurred during a woman's cycle; eight percent reported that it was during a woman's period, 31 percent reported it was just after a woman's period, and 41 percent reported it was just before a woman's period.

Among the young adults in the research sample, males had less accurate fertility awareness knowledge than did females, and Hispanics and blacks had less accurate fertility awareness knowledge than did whites.

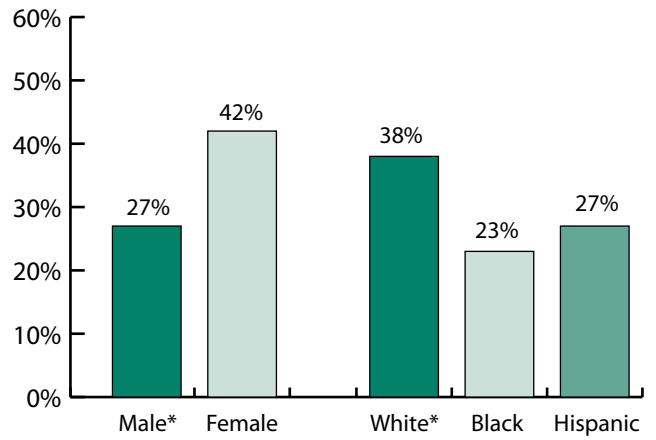
- Forty-two percent of young adult women could accurately identify a woman's fertile period, compared with only slightly more than one-quarter (27 percent) of young adult men (See Figure 2).
- Black and Hispanic young adults had comparable levels of fertility awareness knowledge (23 percent and 27 percent had accurate knowledge, respectively), but both groups were less likely than were white respondents to accurately identify a woman's fertile period (38 percent of whites had accurate fertility awareness knowledge) (See Figure 2).

Accurate fertility awareness knowledge increased with education and, among women, with age.

- Only 25 percent of young adults in the research sample who had a high school education or less reported accurate fertility awareness knowledge. This proportion increased to

Figure 2

Correct fertility awareness knowledge, by gender and race/ethnicity



*Differences between males vs. females and whites vs. blacks and Hispanics significant at the p<0.05 level

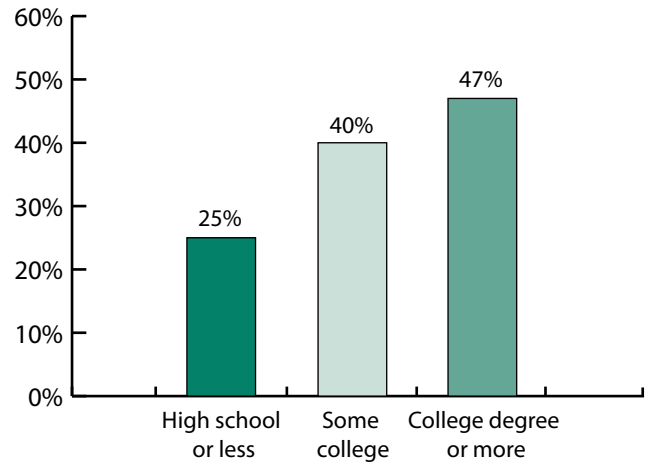
40 percent among young adults with some college education and to 47 percent among young adults with a college degree or higher (See Figure 3).

- Regardless of age, men's fertility awareness levels were low. However, women appear to gain knowledge as they get older. Only 32 percent of 18- and 19-year-olds accurately identified a woman's fertile period, compared with 41 percent of young adults ages 20 to 24 and 50 percent of young adults ages 25 to 29 (See Figure 4).

Having experiences such as being sexually active or receiving formal sex education – or even getting pregnant or getting someone pregnant – had little or no effect on whether young adults had accurate knowledge about when a woman is fertile. As part of our analyses, we looked at the link between accurate fertility awareness knowledge and a host of other characteristics related to young adults' sexual and reproductive health. Our most startling findings pertained to several important characteristics of the young men and women in this sample that were not associated with fertility awareness knowledge, namely:

Figure 3

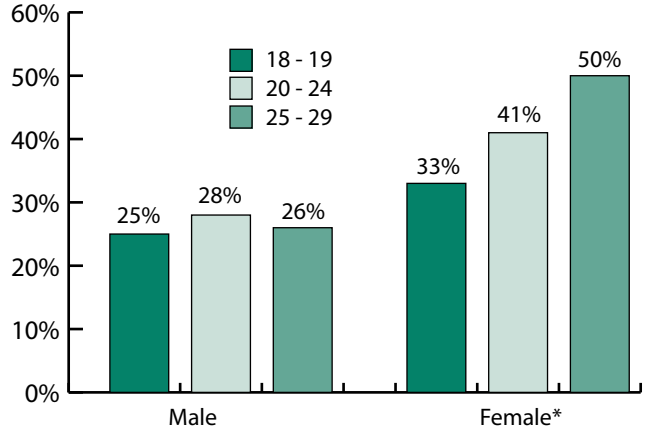
Correct fertility awareness knowledge among adults ages 22-29, by education*



*Differences by education significant at the p<0.05 level

Figure 4

Correct fertility awareness knowledge among males and females, by age



*Differences by age significant at the p<0.05 level for females only

- **Neither having received sexual health care from a clinic or doctor's office nor having had a formal sex education class was linked to increased fertility awareness knowledge.** Although 85 percent of women and 40 percent of men reported that they had received sexual and reproductive health services at a clinic or doctor's office, receipt of these services was not linked with more accurate fertility awareness knowledge. Similarly, although the majority (79 percent) of young adults reported that they had received some form of formal sex education, this education was not linked with more accurate fertility awareness knowledge. This finding was true regardless of whether an individual reported receiving abstinence-only sex education, abstinence-focused sex education, or comprehensive sex education.
- **Neither having ever had sex nor having a prior pregnancy was linked to more accurate fertility awareness knowledge.**

The majority (86 percent) of the young adults in this sample reported that they had had sex, and, among these sexually active young adults, many reported past experiences with pregnancy and childbearing; 3 out of 10 reported that they had been pregnant or had gotten a woman pregnant, and 2 out of 10 reported having had a child. However, similar proportions of young adults had accurate fertility awareness knowledge (roughly one-third), regardless of whether they had ever had sex or had a history of pregnancy or childbearing.

- **In general, use of condoms or hormonal contraceptive methods was not associated with more accurate fertility awareness knowledge among those who had ever had sexual intercourse.** As stated above, roughly 8 out of 10 men and women in this sample reported having sex at least once in their lifetime. Among those who were sexually active, the 85 percent of men who reported having ever used condoms had similarly low levels of fertility awareness knowledge as those who had not ever used condoms (See Figure 5). Likewise, the 81 percent of sexually active women who reported having ever used hormonal methods had comparable levels of fertility awareness knowledge as those who had not.

- **However, young adults who had ever used "traditional methods" of birth control,**

NATURAL FAMILY PLANNING USERS AND FERTILITY AWARENESS KNOWLEDGE—GOOD INTENTIONS GONE WRONG

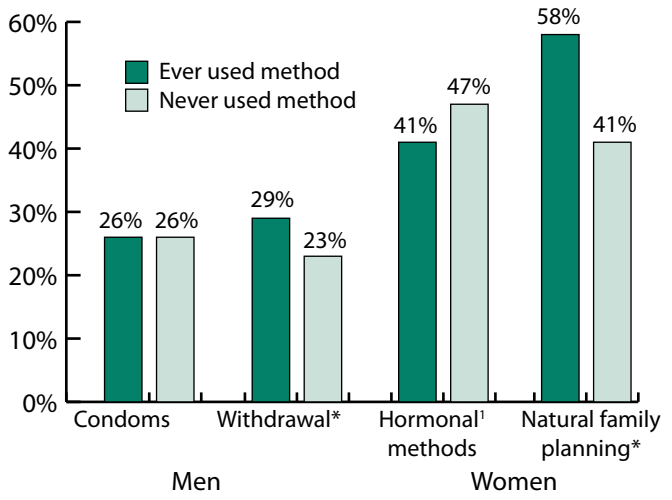
Results of Child Trends' survey analyses show that the young adults who rely on natural family planning methods to avoid pregnancy[a], including those who use calendar or rhythm methods, have more accurate fertility awareness knowledge than do young adults who do not use these methods. However, our analyses revealed that 4 in 10 young women who have used natural family planning methods – methods that depend on accurate tracking of women's fertile periods – cannot accurately identify the most fertile time in their menstrual cycle. This finding is comparable to findings from Child Trends' semi-structured, in-depth interviews with women who have used natural family planning.[3] It became apparent through these interviews that although many young women are willing to take the actions necessary to implement natural family planning methods (such as abstaining from sex or using another method to avoid pregnancy during the women's most fertile period), they sometimes lack the knowledge to do so effectively. The following story of "Joelle," a 26-year-old black woman who shared her experiences using natural family planning methods, illustrates this quandary.

Joelle lives with her partner of six years; they have a two-year-old daughter together, and Joelle has a nine-year-old son from a previous relationship. Joelle used Depo Provera (often called "the birth control shot") for five years, but was dissatisfied with this method because she said she had difficulty getting pregnant with her daughter when she stopped using it: "It took me almost two years to get pregnant [because] the hormones are too high...I literally had to wait for it to come out of my system." As a result, Joelle began using natural family planning. She recalls "thinking back to [learning about fertility in] high school and [thinking] maybe I can just track it, and maybe this can work." However, while Joelle remembers learning about fertility in her high school sex education course, it appears that she has retained incorrect information. Joelle reports that "there's a certain day in a woman's cycle when they are more...likely to become pregnant...[and] I always thought...it was six or seven, but maybe like three to four...days before and after [your period]...because that's when your eggs are generally released." Joelle reported confirming this information on WebMD. During the time that Joelle (erroneously) believes herself to be most fertile, she reports abstaining from sex, which she generally finds "easy [to do] because I know I don't want a child." Although her information is incorrect, Joelle monitors her cycle based on this information. Thus, while Joelle believes she is using natural family planning methods correctly, her misconceptions about her own fertility patterns negate the effectiveness of those methods, leaving her vulnerable to an unintended pregnancy.

[a]The term natural family planning methods is often used to describe contraceptive planning that is based on tracking a woman's cervical mucus or basal body temperatures to determine her monthly fertile period. When we refer to NFP in this brief, we also include nonmedical tracking methods, such as the calendar or rhythm method.

Figure 5

Correct fertility awareness knowledge among men and women, by contraceptive method use



[1]Includes oral contraceptives, injectable birth control, vaginal rings, birth control patches, contraceptive implants, and IUDs

*Differences by method use significant at the $p<0.05$ level

such as withdrawal or natural family planning, did have more accurate knowledge about women's fertility patterns than did those who had never used these methods. The 53 percent of sexually active young men who reported they had ever used withdrawal ("pulling-out") reported more accurate knowledge than did those who had not used this method (29 percent compared with 23 percent, respectively). The eight percent of sexually active young women who reported that they had ever used natural family planning methods also had more accurate fertility awareness knowledge than did those who had never used these methods (58 percent compared with 41 percent, respectively) (See Figure 5).

Discussion

This *Research Brief* describes the current state of fertility awareness knowledge among young adults in the United States, highlighting several notable patterns, which may help target future interventions to ensure that young adults have accurate information about sexual and reproductive health.

Fertility awareness knowledge among young adults is very low. Our analyses revealed that two-thirds of all young adults are unable to accurately identify a woman's fertile period. Many young adults report that pregnancy should be planned and that an unintended pregnancy would be a "big deal,"[14] yet the findings presented here indicate that they lack knowledge about the time when an unintended pregnancy is most likely to occur and when effective contraception is most critical (which is particularly important for the 53 percent of sexually active men and the eight percent of sexually active women who use withdrawal or natural family planning methods – and even more so for the eight percent of the sexually active young adults in the research sample who reported never using any contraceptive method). Prior analyses of the same data revealed that 9 out of 10 young adults believe they have all the knowledge they need to avoid an unintended pregnancy,[5] but their low levels of fertility awareness knowledge suggest that young adults might not know as much as they think they do in this area.

Young adult men have particularly low levels of fertility awareness knowledge. Not surprisingly, the young women in the research sample had more accurate fertility awareness knowledge than the men. This difference may reflect the facts that women pay greater attention to their menstrual cycle and that they bear the greater burden when it comes to unintended pregnancies. However, it is important to note that sexual and contraceptive decisions occur within the context of sexual relationships.[9] For example, the choice to use a contraceptive method, as well as which one to use, is often made by the couple and not just the woman.[7] Prior research demonstrates that reproductive health interventions are most effective when they include both partners,[1] suggesting that programs aiming to increase fertility awareness knowledge should target men as well as women.

Young adults from racial and ethnic minority backgrounds, as well as young adults with less education, have particularly low levels of fertility awareness knowledge. They also had exceptionally high rates of unintended pregnancy.[2] These findings suggest that lower fertility awareness knowledge among these young adults may help explain, at least in part, the widely acknowledged disparities in unintended pregnancies among these groups.

Surprisingly, prior experience with sex education or receipt of reproductive health services is not associated with fertility awareness knowledge. Despite evidence that school-based sex education programs increase adolescents' overall sexual and reproductive health

knowledge,[6,11] having received formal sex education was not linked to increased fertility awareness knowledge for the young adults in the research sample. Neither was having received sexual and reproductive health care from a clinic or health professional, having been pregnant (or having gotten someone pregnant), nor having used the most common contraceptive methods (condoms or hormonal methods). It is not clear whether the young adults who received such education or services or who had pregnancy experience or who had experience using these forms of contraception were never exposed to fertility awareness information or whether they just did not retain the information. Nonetheless, sex educators and providers of reproductive health care services represent critical and trusted sources of reproductive health information for teens and young adults.[5] As such, efforts should be made to ensure that they are effectively conveying information about women's fertility patterns as one part of their educational approach.

Although fertility awareness knowledge is higher among young adults who use withdrawal and natural family planning methods for birth control, a large percentage of these young adults lack accurate knowledge about women's fertility patterns. This gap in knowledge puts these young adults at especially heightened risk of unplanned pregnancy. For example, the women who rely on natural family planning methods, which are by definition fertility awareness-based, but who are mistaken about when they are most fertile, may dramatically increase the chance that they will become pregnant (as is evidenced in the very high contraceptive failure rates associated with typical use of these methods, which is not always consistent or correct[4]). Similarly, couples who rely on withdrawal (which has an even higher typical failure rate when not used consistently or correctly[4]) will dramatically increase their risk of contraceptive failure if they use this method during the woman's most fertile period.

Conclusion

Findings reported in this brief highlight the need to increase young adults' fertility awareness knowledge. To the extent that fertility awareness knowledge helps individuals make more informed decisions about when to have sex and about which methods of contraception to use, increasing fertility awareness knowledge may help reduce the high rates of unintended pregnancy among young adults. Effective reproductive health policies and programs can be instrumental in helping teens and young adults (particularly those that serve young, uneducated, racial and ethnic minority men and women) acquire and retain accurate fertility awareness knowledge.

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References

[1] Becker, S. (1996). Couples and reproductive health: A review of couple studies. *Studies in Family Planning, 27*(6), 291-306.

[2] Finer, L. B. & Zolna, M. R. (2011). Unintended pregnancy in the United States: Incidence and disparities, 2006. *Contraception, 84*(5), 478-485.

[3] Guzman, L., Caal, S., Ramos, M., & Manlove, J. (2011). FABM use among young adult low-income minority women. In *Human Fertility: Where Faith and Science Meet*. Milwaukee: Marquette University Press.

[4] Hatcher, R., Trussell, J., Nelson, A., Cates Jr., W., Stewart, F., & Kowal, D. (2009). *Contraceptive Technology* (Rev. 19th ed.). New York: Ardent Media, Inc.

[5] Kaye, K., Suellentrop, K., & Sloup, C. (2009). *The Fog Zone: How misperceptions, magical thinking, and ambivalence put young adults at risk for unplanned pregnancy*. Washington, DC: The National Campaign to Prevent Teen and Unplanned Pregnancy.

[6] Kirby, D. & Laris, B. A. (2009). Effective curriculum-based sex and STD/HIV education programs for adolescents. *Child Development Perspectives, 3*(1), 21-29.

[7] Kusunoki, Y. & Upchurch, D. M. (2011). Contraceptive method choice among youth in the United States: The importance of relationship context. *Demography, 48*(4), 1451-1472.

[8] Logan, C., Holcombe, E., Manlove, J., & Ryan, S. (2007). *The consequences of unintended childbearing: A white paper*. Washington, DC: Child Trends and The National Campaign to Prevent Teen and Unplanned Pregnancy.

[9] Manlove, J., Welti, K., Barry, M., Peterson, K., Schelar, E., & Wildsmith, E. (2011). Relationship characteristics and contraceptive use among young adults. *Perspectives on Sexual and Reproductive Health, 43*(2), 119-128.

[10] Mosher, W. D. & Jones, J. (2010). *Use of contraception in the United States: 1982-2008*. Hyattsville, MD: National Center for Health Statistics, *Vital and Health Statistics*. Series 23, No. 29.

[11] Song, E. Y., Pruitt, B. E., McNamara, J., & Colwell, B. (2000). A meta-analysis examining effects of school sexuality education programs on adolescents' sexual knowledge, 1960-1997. *Journal of School Health, 70*(10), 413-416.

[12] The National Campaign to Prevent Teen and Unplanned Pregnancy. (2007). *Unplanned pregnancy among 20-somethings: The full story*. Washington, DC: The National Campaign to Prevent Teen and Unplanned Pregnancy.

[13] The National Campaign to Prevent Teen and Unplanned Pregnancy. (n.d.). *The Fog Zone: Methodology report prepared by Field Research Corporation*. Retrieved June 27, 2012, from http://www.thenationalcampaign.org/fogzone/PDF/methodology.pdf

[14] The National Campaign to Prevent Teen and Unplanned Pregnancy. (n.d.). *Magical thinking: Young adults' attitudes and beliefs about sex, contraception, and unplanned pregnancy*. Washington, DC: The National Campaign to Prevent Teen and Unplanned Pregnancy.

[15] Welti, K., Wildsmith, E., & Manlove, J. (2011). *Trends and recent estimates: Contraceptive use among U.S. teens and young adults*. Washington, DC: Child Trends.

[16] Wilcox, A. & Dunson, D. (2000). The timing of the "fertile window" in the menstrual cycle: Day specific estimates from a prospective study. *BMJ, 321*(7271), 1259-1262.