

Marquette University
e-Publications@Marquette

College of Nursing Faculty Research and
Publications

Nursing, College of

8-1-2015

The Influence of Contraception, Abortion, and Natural Family Planning on Divorce Rates as Found in the 2006–2010 National Survey of Family Growth

Richard Jerome Fehring
Marquette University, richard.fehring@marquette.edu

Accepted version. *The Linacre Quarterly*, Vol. 82, No. 3 (2015): 273-282. DOI. © 2015 Catholic
Medical Association. Used with permission.

The Influence of Contraception, Abortion, And Natural Family Planning On Divorce Rates as Found in The 2006–2010 National Survey of Family Growth

Richard J. Fehring

*College of Nursing, Marquette University
Milwaukee, WI*

Abstract: The purpose of this study was to determine the influence of contraception, abortion, and natural family planning (NFP) on divorce rates of US women of reproductive age. The variables of importance of religion and frequency of church attendance were also included in the analysis. The study involved 5,530 reproductive age women in the (2006–2010) National Survey of Family Growth who indicate that they were ever married. Among the women who ever used NFP only 9.6 percent were currently divorced compared with the 14.4 percent who were currently divorced among the women who never used NFP ($x^2 = 5.34, P < 0.21$). Odds ratio analysis indicated that ever having an abortion, sterilization, and/or methods of contraception increased the likelihood of divorce – up to two times. Frequency of church attendance decreased the risk of divorce. Although there is less divorce among NFP users the reason might be due to their religiosity.

Lay summary: Providers of natural family planning (NFP) frequently mention that couples who practice NFP have fewer divorces compared to couples who use contraception. Evidence for this comment is weak. This study utilized a large data set of 5,530 reproductive age women to determine the influence

that contraception, sterilization, abortion, and NFP has on divorce rates. Among the women participants who ever used NFP only 9.6 percent were currently divorced compared with the 14.4 percent who used methods of contraception, sterilization or abortion as a family planning method. Frequency of church attendance also reduced the likelihood of divorce.

Keywords: Divorce, Marriage, Contraception, Natural family planning

Introduction

How use of family planning methods (including abortion) affects marital relationships (and especially divorce and separation) is a question of importance to married couples and health professionals who provide family planning services. Providers of natural family planning (NFP) methods often mention that there is less divorce among couples who use NFP compared to couples who use artificial contraception. However, there is very little evidence and scant research to validate this statement. So too, there is little evidence of how use of the most common family planning methods (i.e., hormonal pill, condoms, and sterilization) and abortion effects marital life, marital separation, and divorce. Therefore, the purpose of this paper is to determine the influence of common family planning methods (i.e., the contraceptive pill, sterilization, and condoms), abortion, and NFP on divorce rates among ever married women of reproductive age as found in data from the 2006–2010 National Survey of Family Growth (NSFG).

Soon after modern methods of family planning (and in particular the contraceptive pill) were approved by the United States Food and Drug Administration and used by large numbers of women, there was speculation on what influence modern methods of family planning, and in particular the contraceptive pill, would have on marriage and family life ([Westoff 1978](#)). The most controversial speculation was provided by the Catholic Church document and papal encyclical *Humanae vitae* (Of Human Life) ([Paul VI 1968](#), n. 27). The pope at that time (i.e., Paul VI) predicted that the use of artificial methods of contraception would result in the dissolution of the marital bond due to the separation of fertility and sexuality, i.e., the procreative and intimate bonding characteristic of marital conjugal relationship. Non-Catholic secular scientists at that time also made predictions on the effects of the hormonal birth control pill on society and marriage. [Westoff \(1978\)](#) predicted that large use of modern methods of contraception, and

especially the hormonal pills, would have a dramatic effect on marriage (i.e., marriage later in life, fewer marriages, more cohabitation, sexual relations outside of marriage, a decline in the fertility rate below replacement, continued high levels of divorce, and a notion that marriage for life is not doable). Forty years from that key point in history, others have pointed out the subsequent rise in divorce rates and co-habitation, the delay and decrease in marriage (particularly among the poor), and the decrease in fertility rates below replacement due to the use of modern methods of contraception and the legalization of abortion ([Fehring and Kurz 2002](#); [Rodriguez and Fehring 2012](#)). Surprisingly there is little to no research evidence on the influence of contraception and abortion on divorce and separation in the United States or, for that matter, in other parts of the world.

Review of Studies

Divorce and the NSFG

The National Center for Health Statistics (NCHS) and the Centers for Disease Control and Prevention (CDC) conduct the NSFG every five to seven years in order to explain trends in contraception use, infertility, sexual activity, abortion, pregnancy outcomes, and marital status. The NSFG involves a nationally representative, randomly selected sample of women 15–44 years of age in the United States; and the NSFG web site (http://www.cdc.gov/nchs/nsfg/key_statistics/d.htm#divorce) also presents data on divorce rates.

The 2002 Cycle 6 of the NSFG resulted in a published report on rates of divorce based on a nationally representative sample of 12,571 men and women aged 15–44 living in households in the United States (US Department of HHS, CDC, and NCHS 2010). The report showed that 40 percent of men and women aged 15–44 were currently married at the date of interview, and about 78 percent of marriages lasted 5 years or more. Variations—often large variations—in marital and cohabiting relationships and durations were found by race and Hispanic origin, education, family background, and other factors. The latest data set is from 2006 to 2010 and is known as Cycle 7. The 2006–2010 NSFG report on the state of marriage indicated that within

20 years 48 percent of first-time marriages will be disrupted by divorce or separation, and that by 5 years 86 percent of couples who are separated will be divorced. The report also indicates that within 5 years 46 percent of second marriages will end in marital disruption.

Recent research on the effects that hormonal contraception has on the female brain and the attraction of a potential spouse is dramatic ([Alvergne and Lummaa 2010](#)) and could help explain marital dynamics that lead to divorce. A study reported in the journal *Brain* indicated that the female brain is a major receptor of the synthetic hormonal steroids found in hormonal contraception and that the birth control pills have structural effects on regions of the brain that govern higher-order cognitive activities, suggesting that a woman on birth control pills may literally not be herself – or is herself, on steroids ([Pletzer et al. 2010](#)). Other research indicates that women on the pill have a lower sex drive and having intercourse available all of the time results in less intercourse and a sense that sexual intercourse is boring ([West 2008](#)). A report in *Scientific American* recommended that women go off of the hormonal pill for at least six months before marriage, so that the potential spouse will know who she really is and the woman could eventually feel herself ([Weaver 2012](#)). Another report also suggested that women on the pill are more attracted to men who are less masculine and have lower levels of testosterone ([Kinsley and Meyer 2010](#)).

NFP, marital dynamics, and divorce

Research on the marital, sexual, and spiritual dynamics of NFP provides evidence that use of NFP can be beneficial to marital life ([McCusker 1977](#)). [Marshall and Rowe \(1970\)](#) reported that 74 percent of husbands and 75 percent of the wives found the use of NFP to be helpful to marriage, and a similar study among English and Welsh couples found that 75 percent of the wives felt NFP was helpful to marriage ([Fragstein, Flynn, and Royston 1988](#)). More recently, [Fehring and Rodriguez \(2013\)](#) also found high levels of satisfaction of NFP among US couples and discovered that 80 percent of the husbands and 85 percent of the wives felt that using NFP was helpful to their marriage. Qualitative researchers also found that most couple users of NFP are satisfied with use of NFP, find periodic abstinence is

manageable, and find that NFP enhances their spiritual well-being as well as their sexual desire ([VandeVusse, Hanson, and Fehring 2003](#)).

In comparing couple users of NFP with a similar cohort of couples using contraceptive methods (i.e., the hormonal birth control pill), [Fehring and Lawrence \(1994\)](#) found that NFP couples reported higher levels of spiritual well-being and intimacy. In contrast, [Oddens \(1999\)](#) found greater satisfaction with sterilization, the birth control pill, and condom use among European couples but less sexual satisfaction and fear of side effects compared with NFP users. Despite this work, all of these results need to be qualified in that there are not a lot of good published studies on the effects of NFP on marital dynamics. In addition, there are no studies comparing divorce rates and marital dynamics with couples who are using other methods of family planning in which participants are selected from a large diverse population of users.

New information on NFP and divorce rates

[Wilson \(2005\)](#) reported a study in which she compared the divorce rate of 505 Catholic women users of NFP with 10,471 women in the 1995 NSFG and found a 3 percent divorce rate among the NFP users and a 15 percent rate among NSFG participants that were using contraceptive methods. A similar study among 1,131 German users of the symptom-thermal method of NFP showed a 3.1 percent divorce rate ([Rhomberg, Rhomberg, and Weissenbach 2013](#)). The study, however, only had a 43 percent response rate, i.e., we have no idea of the divorce rate of the remaining 57 percent. Both the [Wilson \(2005\)](#) and the [Rhomberg, Rhomberg, and Weissenbach \(2013\)](#) studies were not population based and thus lack external validity. Furthermore, the two groups of women in the Wilson study are not comparable and differences found in divorce rates could be due to many factors, such as religious beliefs and the importance that religion plays in their lives.

[Fehring \(2013\)](#) reported results of a study to determine the influence of ever use of select family planning methods (i.e., the hormonal pill, sterilization, and NFP) and frequency of church attendance on the divorce rates of sexually active Catholic women from the 2006 to 2010 (Cycle 7) NSFG. There were 1,502 Catholic women in the 2006–2010 NSG or approximately 12 percent of the total population. Among the

Catholic women who ever used NFP (i.e., the cervical mucus method and/or basal body temperature method) only 9.5 percent were currently divorced, this compares with 18.3 percent who never used NFP. Fehring found that those women who were sterilized were 2.4 times more likely to be divorced compared to those Catholic women who were never divorced. Those Catholic women who ever used NFP in their marital life were 53 percent less likely to be divorced compared to those women who never used NFP. However, those women who had frequent church attendance had a 34 percent less likelihood of being divorced compared with women who had less frequent church attendance. The use of the pill and rhythm had no significant influence on divorce rates (see Table 1).

Table 1. Odds ratios of divorce and separation as found in the 2010 NSFG (n = 1,502 Catholic Women) by family planning method

Method	Odds ratio	95% CI	Significance
Pill (OC)	1.05	0.76–1.45	<i>P</i> < 0.742
Sterilized	2.41	1.82–3.20	<i>P</i> < 0.001
Rhythm	0.76	0.54–1.06	<i>P</i> < 0.109
NFP	0.47	0.24–0.91	<i>P</i> < 0.023
Church attend	0.66	0.49–0.89	<i>P</i> < 0.007

The 2014 Fehring study was limited to Catholic women, did not include ever use of abortion, and did not include ever use of condoms. Furthermore, all Catholic women were included in the data set, not just those who were ever married. Therefore, the purpose of this current study is to determine the influence of ever use of the most common family planning methods (i.e., the hormonal pill, sterilization, and condoms), the ever use of abortion, the ever use of NFP and rhythm, and importance of religion and frequency of church attendance on the divorce rate of all ever married women from the 2006 to 2010 (Cycle 7) NSFG. The variables of importance of religion and frequency of church attendance were also included in this study since they are variables that have an influence on sexual activity outside of marriage, early sexual debut, and use of abortion ([Haglund and Fehring 2010](#); [Haglund et al. 2011](#)).

The specific questions to be answered through this paper and analysis are as follows:

1. What is the influence of the ever use of the most common methods of family planning and abortion on divorce rates of US women of reproductive age?
2. What is the influence of the ever use of NFP and rhythm on the divorce rates of US women of reproductive age?
3. What is the influence of importance of religion and frequency of church attendance on the divorce rates of US women of reproductive age?

Methods

The 2006–2010 NSFG was conducted by epidemiologists at the University of Michigan using a nationally representative, randomly selected sample of US women. Under-representative subpopulations, such as Hispanics, are adjusted by over-sampling these groups. Interviews were conducted in person and take approximately 80 minutes to complete. Sensitive questions (such as the use of abortion) are asked through a self-paced computer-assisted interview program. The response rates of these surveys range from 75 to 80 percent. In 2010, data sets were released from Cycle 7 of the NSFG, which was conducted from January 2006 through June 2010. The data set contains variables on ever use of abortion, methods of contraception, and variables on marital status, importance of religion, church attendance, and attitudes on human sexuality. This report includes the 5,530 women in the NSFG who indicate that they were ever married.

The independent or predictor variables for this study taken from the NSFG data set were ever use of the hormonal pill, sterilization (including vasectomy of the sexual partner/husband), ever use of condoms, ever use of abortion, abortion in the past twelve months, ever use of rhythm, and ever use of NFP. The hormonal pill, sterilization, and condoms were used because they are the most frequently used methods of contraception in the United States.

The predictor variables chosen from the NSFG data set to represent religiosity were the variables of importance of religions and frequency of church attendance. The variable of importance of religion was dichotomized into two categories: (1) very important and (2) not important. The variable frequency of church attendance was collapsed into two categories: (1) frequent church attendance=more than once a week and once a week, and (2) not frequent church attendance, i.e.,

one to three times per month, less than once a month, and never. The dichotomous dependent variables for this study were currently divorced, divorced or separated, or not.

The variable of age of the woman participant at time of interview and the variable total family income level were also included as predictor variables. Total family income level was entered as 14 levels of family income from a low-annual income of \$5,000 to a high of \$75,000 and more.

Chi square and relative risk odds ratios, i.e., likelihood to be divorced or separated by ever use a method of contraception (with 95 percent confident intervals) or abortion were calculated. Statistical significance was set at the 0.05 probability level. To control for increased error rates with multiple testing, the Bonferonni average of 0.006 was determined. Logistic regression analysis was used to determine the combination influence of contraceptive methods and abortion on divorce and the combination influence of NFP, rhythm, church attendance, importance of religion on divorce and separation and demographics of age and family income level. Statistical analysis was performed by use of the Statistical Package for Social Sciences (IBM SPSS version 19). Only variables that are in the public use access of the Cycle 7 data set were used for analysis for this report.

Results

Demographics

The 12,736 women participants in the Cycle 7 NSFG data set had a mean age of 28.64 (range 15–45), 32 percent of whom were married, 12 percent cohabitating, and 46 percent never married. The majority (57 percent) were of the Caucasian race, 21 percent were listed as Black, and 15 percent were Hispanic. The majority (51.0 percent) indicated their religion as some form of Protestant, 29.4 percent were Catholic, 8.7 percent other religion, and 14.9 percent no religion. Approximately 78 percent had a high school diploma or higher degree, and 31 percent indicated a family income of \$50,000 or more.

The 5,530 women in the Cycle 7 data set, that indicated they were ever married, had a mean age of 30.17 (range 15–45), 73 percent of whom were married, 1 percent were widowed, and 26.5 percent were divorced or separated. As with the total data set, the majority (67 percent) were of the Caucasian race, 22 percent were listed as Black, and 11 percent other race. The majority (46.4 percent) indicated their religion as Protestant, 26 percent were Catholic, 8.7 percent other religion, and 18.9 percent no religion. Approximately 81 percent had a high school diploma or higher degree, and 41.5 percent listed a family income of \$50,000 or more.

Rates of divorce and separation among ever use of NFP

There were 28 women (9.6 percent) who were currently divorced among the 292 women who ever used NFP. This rate of divorce was statistically lower than the 756 women (14.4 percent) who were currently divorced among the 5,237 women who never used NFP (Chi square = 5.34, $P < 0.21$).

Influence of family planning methods on divorce rates by odds ratios

Table [2](#) summarizes the influence of the most frequent methods of contraception, ever abortion, abortion in the last twelve months, NFP and rhythm, religiosity (i.e., important of religion and church attendance) on divorce among ever married reproductive age women in the United States. As shown ever abortion, sterilization, and methods of contraception increase the likelihood of divorce compared to ever married women who have never used these methods of family planning from one to two times the risk of divorce, having an abortion in the past twelve months did not meet statistical significance. In contrast, use of NFP, rhythm, and those who have high levels of religiosity (i.e., importance and church attendance) have lower risk compared to ever married women who never used those natural methods of family planning and have lower levels of religiosity; but only frequency of church attendance reached statistical significance.

Table 2. Odds ratios of divorce as found in the 2010 NSFG (n = 5,530 women) by family planning method and religiosity

Method	Odds ratio	95% CI	Significance
Ever abortion	1.88	1.55–2.29	$P < 0.001$
Abort 12 month	2.03	0.86–4.78	$P < 0.100$
Pill (OC)	1.73	1.36–2.21	$P < 0.001$
Sterilized	1.67	1.42–1.97	$P < 0.001$
Vasectomy	1.74	1.45–2.01	$P < 0.001$
Condom	2.22	1.57–3.13	$P < 0.001$
Rhythm	0.84	0.69–1.02	$P < 0.084$
NFP	0.63	0.43–0.94	$P < 0.021$
Imp religion	0.89	0.77–1.05	$P < 0.168$
Church attend	0.63	0.53–0.75	$P < 0.001$

Regression Analysis

Logistic regression with contraceptive variables predicting divorce

Statistical analysis enables the ability to determine how a group of variables influences an outcome, for this study how the combined influence of the most frequently used methods of contraception, i.e., the contraceptive pill, sterilization, condom, and abortion influence the probability of divorce. Application of regression analysis determined that the significant predictors are ever use of the pill, condom, sterilization, vasectomy, and abortion. These methods of family planning generate about 50–74 percent of the influence of the likelihood of divorce. However, the combined influence is about 4 percent of the reasons explaining the variability of being divorced or not. When age of participant and total family income level are added to the regression equation, the combined influence of the variables is approximately 8 percent, with age having a decreased likelihood of divorce of about 6 percent and family income increasing the likelihood about 19 percent.

Logistic regression with NFP and religious variables predicting divorce

The combined influence of ever use of NFP, rhythm, importance of religion, and frequency of church attendance resulted in a significant influence on divorce. However, only ever use of NFP and frequency of church attendance were significant in decreasing the likelihood of divorce, with church attendance having a beta = 0.582. The combined predictive variable influence was only 1.3 percent. When the variables of age and total family income were added to the regression equation, the combined predictive influence was around 7 percent, with age decreasing the likelihood of divorce about 7 percent and family income increasing the likelihood of divorce to about 18 percent (Table 3).

Table 3. Odds ratios of divorce and separation as found in the 2010 NSFG (n = 5,530 women) by family planning method and religiosity

Method	Odds ratio	95% CI	Significance
Ever abortion	1.98	1.69–2.33	<i>P</i> < 0.001
Abort 12 month	3.07	1.46–6.46	<i>P</i> < 0.002
Pill (OC)	1.26	1.06–1.49	<i>P</i> < 0.008
Sterilized	2.09	1.83–2.37	<i>P</i> < 0.001
Vasectomy	1.51	1.30–1.76	<i>P</i> < 0.001
Condom	1.64	1.31–2.04	<i>P</i> < 0.001
Rhythm	0.79	0.68–0.92	<i>P</i> < 0.003
NFP	0.67	0.50–0.90	<i>P</i> < 0.007
Imp religion	0.80	0.71–0.91	<i>P</i> < 0.001
Church attend	0.66	0.49–0.89	<i>P</i> < 0.001

Discussion

This study discovered that the percentage of ever married US women of reproductive age who ever used NFP had a divorce rate of about 9.6 percent compared with the 14.4 percent divorce rate among US women of reproductive age who never used NFP methods. In the current study, the percentage of US women who had ever used NFP methods and who indicated that they were divorced was more than the 3 percent of Catholic women in the [Wilson \(2005\)](#) study and the 3.1 percent in the German STM study ([Rhombert, Rhombert, and Weissenbach 2013](#)) study, but similar to the 8 percent in the earlier [Fehring \(2013\)](#) NSFG study of Catholic women. These differences

might be reflected in the fact that the NSFG results are population based and the Wilson and Rhomberg, Rhomberg, and Weissenbach studies were not. Furthermore, the Rhomberg et al. study did not involve US women. The [Fehring \(2013\)](#) study included all Catholic women, not just those who were ever married.

The most dramatic findings from this study of ever married, reproductive age women in the US indicate that the ever use of the most frequent methods of family planning, i.e., the hormonal pill, sterilization, condom use, and abortion were the most significant factors that increased the likelihood of divorce compared with ever married, reproductive age women who never have used those means of family planning. From almost two times greater likelihood with abortion, the pill, and sterilization to over two times likelihood with ever use of condoms. Furthermore, ever married reproductive age women who have low levels of religiosity (as expressed by less frequent church attendance) have a greater likelihood of being divorced or separated. The use of abortion, sterilization, and low levels of religiosity might reflect a marital relationship that is already at risk for disruption.

Frequent church attendance was the only religious variable that provided a protective influence from divorce. This findings parallel the results that religiosity and, in particular, church attendance have on sexual activity outside of marriage, early sexual debut among adolescents, and multiple sex partners—i.e., less likely with ever use and higher levels of religiosity ([Haglund and Fehring 2010](#); [Haglund, Edwards, Fehring, and Pruzynski 2011](#)). The results also reflect the less likelihood of having an abortion with ever use of NFP ([Rodriguez and Fehring 2012](#)). Ever use of NFP or rhythm failed to provide a significant protective effect from abortion except when mixed with the religious variables.

Strengths of using data from the NSFG are that it is population based and findings apply to the US population of every married women of reproductive age. Of interest is that the influence of sterilization and vasectomy was almost two times the rate of divorce compared to women (or their male partners) who were never sterilized. In a previous study with this same data set, this author also showed that sterilization had a very significant influence on the rates of abortion

([Rodriguez and Fehring 2012](#)). Sterilization indicates not being open to future children, not being able to live with fertility, and certainly a lack of trust or support from a spouse.

A limitation of this study is that many other factors contribute to divorce or help prevent divorce. This study only explained around 4–8 percent of the variability. Choice of family planning method and especially the use of NFP might be associated with less divorce but it might be due to the religiosity of the woman and couple as well. This was reflected in the finding that frequency of church attendance was associated with a reduced likelihood of divorce. Another factor is that there are not a lot of women who have ever used NFP (only about 4 percent of sexually active women) in the United States as compared to other family planning methods. So too, these results are based on ever use of NFP or a contraceptive method and not on current use. Some of these NFP women could have used contraceptive methods in the past or are currently using sterilization or hormonal methods for family planning purposes. Future studies are needed that follow use of NFP, other family planning methods, and divorce over time.

Another limitation is that the frequency of divorce among the women in the NSFG data set might be under-reported as the results were based on the current marital status. Some of these women most likely were divorced in the past and now are currently married. Future studies should look at other factors that contribute to divorce, such as ever use of cohabitation, sexual intercourse before marriage, early sexual debut, number of sexual partners outside of marriage, and growing up in an intact family with a mother and father. A confusing finding of this study is that there was a greater likelihood of divorce with increased total family income. This is contrary to the findings of the National Marriage Project that saw a 31 percent decrease in divorce among couples with incomes greater than \$50,000 compared with incomes less than \$25,000 ([Marquardt et al. 2012](#)). However, the current study did not look at differences but rather a continuum of income from under \$5,000 to \$75,000 or more, with 14 levels of income increases. It could be that the wealthier could afford a divorce and the resultant alimony and child support.

A final limitation is that the NSFG only covers women until the age of 44. Divorces can come after the children leave home, and

couples, who have been drifting apart, often with the use of contraception, find they have nothing left to bind them together. This may be a function of contraception which that data base does not touch but is important for human flourishing. However, when age was added to the regression variables there was a slightly less likelihood of divorce as age increased. The influence of increased age might be because women who marry later are more mature. According to the National Marriage Project there is a 24 percent decrease in divorce among women who marry at age 25 or later ([Marquardt et al. 2012](#)).

Conclusion

Ever use of NFP certainly has some influence on divorce among reproductive age women. However, how much influence use of NFP has on divorce is not known, certainly religiosity (and in particular frequent church attendance) has some influence, as well as positive marital dynamics that are developed with use of NFP, i.e., communication, self-control, and mutual motivation. Contraceptive use, sterilization, and abortion seem to have a destructive effect on the marital bond.

Biography

- Richard J. Fehring, Ph.D., R.N., F.A.A.N., is a professor emeritus at Marquette University and is Director of the Marquette University College of Nursing Institute for Natural Family Planning, Milwaukee, Wisconsin. His email address is richard.fehring@marquette.edu.

Reference

- Alvergne A., and Lummaa V. 2010. Does the contraceptive pill alter mate choice in humans? *Trends in Ecological Evolution* 25(3): 171–9.
- Fehring R. 2013. Under the microscope: The influence of ever use of natural family planning and contraceptive methods on divorce rates as found in the 2006–2010 National Survey of Family Growth. *Current Medical Research* 243&4 (Summer/Fall): 12–16.

- Fehring R., and Lawrence D. 1994. Spiritual well-being, self-esteem, and intimacy among couples using natural family planning. *Linacre Quarterly* 61: 18–29.
- Fehring R., and Kurz W. 2002. Anthropological differences between natural family planning and contraception. *Life and Learning* 10: 237–64.
- Fehring R., and Rodriguez D. 2013. Spiritual care of couples using natural family planning. *Linacre Quarterly* 80(3): 225–38.
- Haglund K., Edwards L., Fehring R., and Pruzynski J. 2011. Religiosity and sexual risk behaviors among latina adolescents: Trends from 1995–2008. *Journal of Women's Health* 20(6): 871–877.
- Haglund K.A., and Fehring R.J. 2010. The association of religiosity, sexual education, and parental factors with risky sexual behaviors among adolescents and young adults. *Journal of Religion and Health* 49: 460–472.
- Kinsley Craig H., and Meyer Elizabeth A. 2010. Women's brains on steroids; birth control pills appear to remodel brain structure. *Scientific American*, Sep 28.
<http://www.scientificamerican.com/article/womens-brains-on-steroids/>.
- Marquardt E., Blankenhorn D., Lerman R.I., Malone-Colon L., and Wilcox W.B. 2012. The president's marriage agenda for the forgotten sixty percent. *The state of our union*. Charlottesville, VA: National Marriage Project and Institute for American Values.
- Marshall J., and Rowe B. 1970. Psychological aspects of the basal body temperature method of regulating births. *Fertility and Sterility* 21: 14–19.
- McCusker M. P. 1977. Natural Family Planning and the Marital relationship: The Catholic University of America Study. *International Review of Natural Family Planning* 1: 331–40.
- Oddens B. J. 1999. Women's satisfaction with birth control: A population survey of physical and psychological effects of oral contraceptives, intrauterine devices, condoms, natural family planning, and sterilization among 1466 women. *Contraception* 59: 277–86.
- Paul VI, Pope. 1968. *Humanae vitae* (Of Human Life) Boston: Pauline Books.
- Pletzer B., Kronbichler M., Aichhorn M., Bergmann J., Ladurner G., and Kerschbaum H.H. 2010. Menstrual cycle and hormonal

- contraceptive use modulate human brain structure. *Brain Research* 1348: 55–62.
- Rodriguez D., and Fehring R. 2012. Family planning, natural family planning, and abortion use among U.S. Hispanic women. *Linacre Quarterly* 79(2): 192–207.
- Rhomberg W., Rhomberg M., and Weissenbach H. 2013. Natural family planning as a family binding tool: A survey report. *Catholic Social Science Review* 18: 63–70.
- U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, and National Center for Health Statistics. 2010. Marriage and cohabitation in the United States: A statistical portrait based on cycle 6 (2002) of the National Survey of Family Growth. *Vital Health Statistics Series 23*, Number 28. (PHS) 2010–1980. February 2010.
- VandeVusse L., Hanson L., and Fehring R. 2003. Couples' views of the effects of natural family planning. *Journal of Nursing Scholarship* 35: 171–6.
- von Fragstein M., Flynn A., and Royston P. 1988. Analysis of a representative sample of natural family planning users in England and Wales, 1984–1985. *International Journal of Fertility* 33(suppl): 70–77.
- Weaver J. 2012. Birth control pills have lasting effects on relationships: Using oral contraceptives may affect relationship satisfaction. *Scientific American Mind* 1 (23).
<http://www.scientificamerican.com/article/the-problem-with-the-pill/>.
- West S. 2008. Prevalence of low sexual desire and hypoactive sexual desire disorder in a nationally representative sample of US Women. *Archives of Internal Medicine* 168(13): 1441–1449.
- Westoff Charles F. 1978. Some speculations on the future of marriage and fertility. *Family Planning Perspectives* 10(2): 79–83.
- Wilson M. A. 2005. The practice of natural family planning versus the use of artificial birth control: Family, moral and sexual issues. *Catholic Social Science Review* 7: 185–211.