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Efficacy and Efficiency in Natural Family Planning Services*

by

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Abstract

Relatively few Catholic couples in the United States use modern methods of natural family planning (NFP). So too, few Catholic physicians and health professionals prescribe the use of NFP methods for their patients. Reasons for low use of NFP methods include their perceived low efficacy; the complexity of learning, using, and teaching these methods; and the prolonged (and often unnecessary) required abstinence. Newer and simplified methods of NFP have been developed by physicians and scientists that are less complex and use modern technologies of detecting fertility and communicating instructions. Catholic physicians and scientists need to continue to answer the call by the Holy Fathers (from Pius XII to Benedict XVI) to develop secure and scientifically sound methods of NFP.

Prelude

This past semester the research active faculty of the Marquette University College of Nursing met together to present their research ideas for writing federal research grants. The gathering was called by the interim dean who is a National Institute of Health (NIH)-level researcher and reviewer. When I presented my research idea for conducting a comparative study of natural family planning (NFP) methods, she (the dean) quickly dismissed the idea and said, "Richard, that topic will not fly. The term NFP will be a big turn off to the reviewers. You will never get that funded." Other faculty

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members agreed. Although her response was a disappointment for me, I appreciated her honesty. I did not want to waste time writing a federal grant proposal with no hope of acceptance. This experience highlighted for me the sad state of NFP in this country and the low opinion of it held by health professionals.

Introduction

For the past twenty-three years, I have been involved with NFP at Marquette University, a Catholic Jesuit university—providing NFP services, researching NFP methods, and educating health professionals on how to provide NFP services. I have been writing and editing *Current Medical Research in NFP* for the United States Conference of Catholic Bishops for the past ten years. My experience in providing NFP services, training health professionals, and writing about and conducting research in NFP has provided me with a unique perspective that I would like to share. However, before I do so, I would like to relate some of my concerns about the state of NFP in the United States. I share these concerns at a professional and personal level because each unintended pregnancy that I (and our professional NFP staff at Marquette) encounter affects me and makes me wonder whether we are providing the best NFP methods we can, and at the same time, upholding the dignity of the women and couples we serve.

Let me begin by noting an increase in the number of unintended pregnancies that have occurred over the past twenty-three years through the Marquette University NFP programs. At first, I attributed the increase in unintended pregnancies to anecdotal evidence and not reflective of our entire program. However, as the number of unintended pregnancies increased, I became more uncomfortable. I sympathized with the couples who were following the methods consistently and yet were experiencing unintended pregnancies even when they had serious reasons not to. As the director of a university-based NFP program, I knew I had an obligation to conduct research on the efficacy of the NFP methods that we provide.

Secondly, I recently conducted a review of our NFP couples' charting records and was dismayed at the amount of confusion and prolonged abstinence that they often had to experience. I asked myself if this confusion is necessary, and what is such prolonged abstinence doing to the couples' relationships. I also reflected on the struggle that our health professionals have in making sense of these charts.

Thirdly, providing NFP services is complex, time consuming, and expensive. The training of health professionals to provide NFP services is also time consuming and expensive. Many NFP providers experience burn out providing the often intense NFP services. In the past twenty-three years, we have lost eight out of the fourteen health professionals who were trained for our NFP staff at Marquette. The NFP methods we have been using are inefficient, and it often takes months to properly teach couples to the point that they are confident in their use. Finally, we have seen few changes in NFP in the past 30–50 years. What we call the "modern" methods of NFP were developed in the 1950s and 60s—40–50 years ago.

Based on the 2002 National Survey of Family Growth—a survey of the U.S. National Health Statistics division of the CDC—there are only 124,000 women in their reproductive years that use modern methods of NFP, i.e., temperature- or cervical mucus-based methods. That represents only 0.2 percent of all U.S. women and 0.4 percent of all U.S. Catholic women between the ages of 15–44.¹ We also know (based on a recent, peer-review synthesis of the best efficacy studies) that NFP methods have been judged somewhat ineffective in helping couples avoid pregnancy.² This synthesis study will have an impact on health professionals, most likely decreasing prescribing of these methods by health professionals and re-confirming the impression that they are not effective. Finally, based on two recent studies, we know that women prefer to have family-planning methods that are effective, easy to use, and convenient.³

It is my thesis that there are three major reasons why so few couples use NFP methods: 1) NFP methods are relatively ineffective—average or typical use will provide an approximately 20–25 unintended pregnancies per 100 women over a 12 month time period; 2) NFP methods are not all that easy to provide or to use; and 3) health professionals are reluctant to provide NFP services due to their inefficiency and poor efficacy. Only about 6–10 percent of physicians in the U.S. and Europe would consider prescribing them for birth-control purposes.⁴

The late Pope John Paul II in the encyclical *The Gospel of Life* mentioned that one of the best means of building a culture of life is to have centers for natural birth regulation. He also said that health professionals and in particular Catholic health professionals and universities need to be involved in the provision of these services. But he also stressed the need to provide an honest appraisal of their efficacy. In the remainder of this paper, I hope to provide an honest appraisal of NFP, and in doing so, to 1) analyze some evidence for the inefficiency in current NFP methods, 2) describe perfectuse and typical-use efficacy of new NFP methods, and 3) discuss efforts to increase the efficiency and efficacy in the provision of NFP services. I will then conclude with a call for greater participation in the use of NFP methods by Catholic physicians and health-care professionals and echo a call for further research in helping to make these methods more efficient and effective.

Efficiency and Accuracy of Natural Biological Markers of Fertility

To begin, let me first briefly describe what I mean by Natural Family Planning (NFP) and describe the natural biological markers used in NFP to estimate the fertile time of the menstrual cycle. This will provide the foundation for further discussion.

NFP is simply the ability to estimate the fertile time in the menstrual cycle by the self-observation of natural biological markers of fertility. With information about fertility, a couple can decide to avoid or achieve a pregnancy through periodic abstinence (to avoid) or focused intercourse (to achieve) during the fertile time.

We now know that a man and woman together are fertile only for six days in the menstrual cycle. These six days are known as the fertile window. They were confirmed by Wilcox and others in a classic study reported in a 1995 article in *The New England Journal of Medicine.*⁵ The six days are based on the physiological knowledge that a human female egg is viable and capable of being fertilized only 12–24 hours after ovulation and that sperm will survive only 3–5 days in a cervical mucus enriched environment. NFP involves using natural biological markers to estimate the beginning, peak, and end of that fertile window.

The most common natural biological markers that women use to selfidentify or estimate the fertile window in current systems of NFP include calendar-based formulas (determined by statistical estimates of when the fertile window will occur within the menstrual cycle), a rise in the woman's basal body temperature (BBT) as a result of the progesterone-stimulated upward shift in body temperature after ovulation, the changes in cervical mucus and the cervix due to the influence of rising levels of estrogen from a ripening egg, and self-measured threshold levels of estrogen and lutuenizing hormone (LH) in the urine.

As a human egg ripens in a follicle, the follicle-oocyte complex secretes increasing levels of the female hormone estrogen. The rising levels of estrogen stimulate cells lining the cervical canal to produce mucus. Women can sense and observe this mucus externally, which indicates the beginning of the fertile phase. When the follicle-egg complex reaches the final stage of development and is at its largest diameter, it is producing the highest amount of estrogen. At this time the special cells in the cervix produce mucus that is very watery, clear, profuse, stretchy, and slippery. This type of mucus is very obvious to a woman, and it indicates to her a peak in fertility. At the time of ovulation (when the egg is released from the ovary), the follicle becomes luteinized and produces the female hormone progesterone. The rising levels of progesterone increase the temperature of the human female body about one degree Fahrenheit producing a temperature shift that can be measured. Progesterone also dries up cervical mucus and forms a plug in the cervix so that sperm and bacteria cannot enter the uterus. The drying of the cervical mucus can also be observed and felt. Consequently, if a woman tracks cervical mucus changes and/or basal body temperature, she has markers to estimate the beginning, peak, and end of the fertile phase.

One of the hormones that stimulates the release of the egg is LH, which surges or peaks about twenty-four hours before ovulation; and, as mentioned above, the rising level of the hormone estrogen signals the beginning of the fertile phase. If a woman can self-measure the rising level of estrogen and the LH surge, she will have a good hormonal estimate of the fertile phase. Hormonal fertility monitors are now available for women to self-monitor these two reproductive hormones. However, of concern is the accuracy and ease of use of observing and interpreting these markers (i.e., temperature, cervical mucus, estrogen, and LH) to estimate fertility.

At the Marquette University Institute for NFP, we use and teach all the common, natural biological markers of fertility, particularly cervical mucus observations and hormonal monitoring of a urinary metabolite of estrogen (E3G) and LH with an electronic, hormonal fertility monitor—called the ClearBlue Easy Fertility Monitor (CEFM; Inverness Medical Innovations). This monitor is a small handheld device designed to measure threshold levels of estrogen and LH in the urine (with a dip stick) and to provide the user with three levels of fertility: low, high, and peak.

Figure 1 shows the early charting systems that our couples employ to record and rate their cervical mucus observations on a scale of 1 to 8 and to record the results from the electronic, hormonal fertility monitor. The rating of 1 means no mucus observed and a sensation of dryness. The highest rating of 8 indicates that the cervical mucus is at its peak and the woman is at peak fertility. Note in the sample chart that the mucus ratings show a gradual rise, then a peak (when the mucus is watery, clear, slippery, and profuse), and then a sharp drop off. On the bottom of the chart you can see the markings of the results from the electronic, hormonal fertility monitor. By charting both natural indicators of fertility, there are two markers for the beginning, peak, and end of the fertile phase. The two markers also allow for a comparison.

The Marquette University Institute for NFP currently has accumulated a thousand fertility charts with both the cervical mucus and hormonal indicators. These charts enabled us to compare both in determining and estimating the fertile window. We (Fehring, M. Schneider, and K. Raviele) published a study with 60 women and 365 menstrual cycles of data comparing both markers in estimating the fertile window.⁶ We used this data to compare the beginning, peak, end, and length of the fertile window. I have updated the results of that study with 160 women participants and 1,279 cycles of data. For this present paper, I will remark only on the length of the fertile phase of the menstrual cycle.

The length of the fertile phase of the menstrual cycle indicated by cervical mucus (i.e., cervical mucus rated 5–8 on the 1-to-8 scale) was on average 11.1 days; and with the CEFM, 6.1 days. Clearly using the cervical mucus method over estimates the actual fertile phase by 5–6 days, and that is a very conservative estimate. This evidence has been confirmed by Italian researchers who discovered that the fertile phase as estimated by cervical mucus is approximately seventeen days in length.⁷ Furthermore, when master teachers of the NFP retrospectively estimated the days of fertility on cervical mucus-only charts, the correlation between the ratings of the master teachers was only 60 percent. Yet, we expect women to prospectively estimate fertility with the same markers. Perhaps cervical-mucus monitoring is not as easy and maybe not as accurate as we had assumed.

Another problem revealed in our study was that the cervical-mucus peak was missing in 16 percent of the 1,265 cycles of data, and the LH peak was missing in about 8 percent of the cycles. Missing indicators for the peak of fertility will result in confusion and frustration for the user, since there is no indication for the end of the fertile phase.

Three fairly recent studies have compared self-determined biological markers of fertility with the gold standard of measuring the day of ovulation, the use of serial ultrasound visualization of the developing dominant follicle and eventual collapse.⁸ A study by researchers at the University of Münster, Germany, compared the ultrasound-determined day of ovulation with the peak or LH days of the electronic, hormonal fertility monitor and found that 91 percent of the time ovulation occurred during the first peak day, and 97 percent of the time ovulation occurred during the two days of peak and the following high day that are provided by the monitor.⁹ Another study with ultrasound was conducted by an Italian research group at the University of Naples (Italy). They found that the Clearblue LH test was 100 percent correlated with the ultrasound day of ovulation, the cervical mucus peak was 48 percent, and the temperature shift showed only a 30 percent correlation with the ultrasound-determined day of ovulation.¹⁰ Finally, a study from researchers in the Netherlands determined the length of the fertile window by use of sperm mucus interaction and ultrasound tracking of the follicle and found that the most frequent length was three days.¹¹ I recently repeated this study by using the estrogen-rise threshold (as determined by the CEFM) and then comparing the length of the fertile window with the beginning of mucus. I found similar patterns of the estrogen-threshold estimated length with those

in the Netherlands study, but the beginning of mucus clearly over-estimated the fertile phase.¹²

We recently compared the number of fertile days as determined by mucus observations with the fertile days indicated by use of the CEFM among women who were breastfeeding and not ovulating.¹³ The amount of fertile days (i.e., days of abstinence) with use of the fertility monitor was 17 percent of the total, whereas, the cervical-mucus observations indicated approximately 50 percent of the total days as fertile. Anecdotally, we hear that women often find it frustrating to track mucus for days on end and not have a clear picture of their fertility.

In summary, all of the current indicators of fertility utilized in methods of NFP are imperfect. All of them produce information in menstrual cycles that is hard to interpret. Most of these indicators overestimate the actual fertile phase. However, new technology that allows a woman to measure the reproductive hormones (rather than a bodily response to them) and that provides an objective reading is a breakthrough for women with serious reasons to avoid pregnancy who wish to use NFP methods.

Efficacy of NFP Methods

When reporting the efficacy of methods of family planning to avoid pregnancy, two numbers are provided to indicate the efficacy: the correct-use efficacy and the total-use efficacy. The correct-use (also referred to as perfect-use) unintended-pregnancy rate refers to those pregnancies that occur when the method is used consistently and according to instructions. The total pregnancy rate includes the combination of both unintended pregnancies when the methods are followed correctly and the unintended pregnancies that occur when users of the method do not always follow the instructions of the method correctly and consistently. Typical-use rates are also used and refer to the average rate in the use of the method outside of a controlled efficacy study. Typical-use and total-use pregnancy rates are sometimes used interchangeably in the literature.

Table 1 provides the correct (perfect) and typical (total) use unintendedpregnancy rates of various contraceptive methods in comparison to NFP methods. The rates are reported as the percentage of unintended pregnancies per 100 women over 12 months of use. Table 1 was developed from the information provided by James Trussell from Princeton University, an expert in contraceptive efficacy.¹⁴ These rates are the ones most often cited in medical and nursing textbooks and in articles on contraception. As you can see NFP methods have a very low perfect-use unintended-pregnancy rate of 1–3 percent, but fairly high (i.e., 20–25 percent) typical-use unintended-pregnancy rate, a rate that is higher than condom use which is also a behavioral method.

Table 1

	% Women Experiencing Unintended Pregnancy				
Method	Perfect use	Typical Use			
Chance	85.0	85.0			
Spermicides	18.0	29.0			
Withdrawal	4.0	27.0			
Ovulation Method	3.0	25.0**			
Condoms	2.0	15.0			
Pill	0.3	8.0			
IUD	0.6	0.8			

Unintended Pregnancy Rate During First Year of Perfect (Correct) and Typical Use of Family Planning Method*

* Adapted from: J. Trussell, "Contraceptive Failure in the United States," *Contraception* 70 (2004): 89–96.

** Typical-use rates are based on the analysis of the data from the 1995 National Survey for Family Growth by Trussell and the reanalysis of the World Health Organization fivecountry study of the ovulation method. See J. Trussell and L. Grtummer-Strawn, "Contraceptive Failure of the Ovulation Method of Periodic Abstinence," *Family Planning Perspectives* 22 (1990): 65–75.

It should be noted that, the correct-use and typical-use unintendedpregnancy rates of NFP methods can be deceiving. For example, the more days that a particular method indicates are fertile in a menstrual cycle, the more likely that that method will have a high perfect-use rate. I like to give the example of the mythical "Fehring method" of NFP that indicates that the only days of infertility are the first and last days of the menstrual cycle. This method will have a very low (next to nothing) unintended-pregnancy rate with perfect use, i.e., avoiding having intercourse on all but the first and last days of the menstrual cycle. However, it will be difficult for the general population to use because it has an average of twenty-six days of fertility. Because of the difficulty in using such a method, there will be high incorrect-use and total-pregnancy rates. Few couples would want to avoid intercourse an average of twenty-six days per menstrual cycle and have only two days available for intercourse. A similar situation occurs with the current methods of NFP. For example, with the cervical mucus-only methods of NFP, 50-60 percent (on average) of the menstrual cycle is considered fertile. It will be difficult to achieve an unintended pregnancy with perfect use of these methods. However, because these methods are somewhat difficult to use (i.e., the instructions and the interpretation of the cervical-mucus

signs are not always easy, and there are many days of "estimated" fertility), the typical-use unintended-pregnancy rate will be high. On the other hand, more accurate methods with shorter estimated fertile phases, might have higher perfect-use rates but lower typical-use unintended-pregnancy rates, especially if the methods are easy to understand and use.

In table 2, I have included the perfect-use and typical-use rates of the most recent NFP efficacy studies that have been published in peer-reviewed journals, in addition to a large classic (five-country study) of the ovulation method conducted by the World Health Organization (WHO).¹⁵ The WHO study analyzed the efficacy of the cervical mucus-only ovulation method,¹⁶ the Howard et al. study evaluated a standardized type of cervical mucus-only method,¹⁷ the first Arevalo et al. study evaluated the efficacy of a fixed-day calendar-based method,¹⁸ the second Arevalo et al. study determined the efficacy of a simplified cervical mucus-only study,¹⁹ the Frank-Herrmann et al. study analyzed the efficacy of a European temperature-plus-cervical-mucus-plus-calendar formula,²⁰ the first Fehring et al. study determined the efficacy of a combination of cervical mucus plus the CEFM,²¹ and the second Fehring et al. study determined the retrospective efficacy of a combination

Table 2

Classic and Recent NFP Efficacy Studies: Correct-Use and Typical-Use
Unintended-Pregnancy Rates per 100 Women Over 12 Months of Use

Study	Indicators	Length*	Correct	Typical
WHO ²⁸				
(Billings)	Mucus	(25–32)	3.0	22.0
Howard et al. ²⁹ (Creighton)	Mucus	(25–32)	0.1	17.0
Arevalo et al. ³⁰ (SDM)	Fixed Calendar	(26–32)	5.0	12.0
Arevalo et al. ³¹ (TwoDay)	Mucus	(13–42)	4.0	14.0
Frank-Herrmann et al. ³ (STM)	² Mucus/Temp	(25–35)	0.6	1.8
Fehring et al. ³³ Fehring et al. ³⁴ (Marquette)	Mucus/E3G/LH	(21–42)	2.0	13.0
	Mucus/Temp/LH	(21–42)	1.0	11.0

^{*} Range of length of menstrual cycles in study.

of either cervical-mucus observations, basal body temperature, and/or the use of the CEFM.²² I would like to point out that these studies included only women with regular menstrual-cycle lengths. The Arevalo et al. study and the two Fehring et al. studies having the most liberal length of 13–42 days.²³ The typical-use unintended-pregnancy rate of the WHO study of 22 percent is the highest.²⁴ The Frank-Herrmann et al. European double-check method has the lowest typical-use rate, similar to that found with oral hormonal contraceptives.²⁵

The unintended pregnancy rates jump considerably with use of NFP methods when other-than-regular cycles (i.e., including post-pill, post-partum, and peri-menopause) are included in the calculations. For example, in the Howard et. al. study, the typical unintended rate of a cervical mucus-only method jumps to 24 percent among breastfeeding women,²⁶ and a database of the same method from Marquette University indicates that the ovulationmethod rate is approximately 22 percent—similar to the WHO study rate.

We recently conducted a retrospective cohort study comparing the unintended-pregnancy rates of two methods, i.e., a cervical mucus-only method versus a cervical-mucus method with the CEFM as a double check for the beginning and end of the fertile phase.²⁷ The participants were essentially from the same clinical sites. The correct-use rates were similar between the two methods (around 1–3 percent), but the total unintended-pregnancy rates (13 percent for the CEFM method vs. 23 percent for the cervical mucus-only method) were statistically different (Fisher Exact Test, P < 0.05)—the actual number of unintended pregnancies (28 vs. 41) is almost double with the cervical mucus-only method. We believe the use of hormonal monitoring as an objective double check for estimating the fertile window will help lower the unintended pregnancy rate. However, the evidence is thin. We need randomized clinical trials to know with more confidence.

Efficient Methods of NFP

I will now describe some recent efforts to streamline NFP methods that are more user- and provider-friendly (and yet maintain efficacy). Before I do so, however, let me include a brief historical note. The first person to translate the scientific findings of the menstrual cycle and the probable days of fertility into a usable natural method of family planning was Leo Latz, a young physician (obstetrician and gynecologist) from Loyola University and a member of the Chicago Guild of the Catholic Medical Association (then known as the Federation of Catholic Physicians' Guilds). In 1932, he developed a simple calendar-based method of NFP that could be used in a twelve-minute office session by a physician, nurse, or social worker. His method became known as "rhythm" since the title of his widely published, small, blue book was "The Rhythm of the Fertile and Infertile Phase of the Woman." The first few issues of the then-new journal *The Linacre Quarterly* published articles about his method, the controversies surrounding the use of his methods by Catholics and Catholic physicians, and announcements of Dr. Latz presenting his method at guild meetings in Chicago and New York.

More recent efforts of simplifying NFP methods have been developed by scientists at the Georgetown University Institute for Reproductive Health. The Georgetown researchers developed a simple fixed-day method (or what they call the standard-days method [SDM]) whereby days 8–19 are always considered fertile.³⁵ The method is for women who have menstrual cycles between 26–32 days in length. They implemented the method with a simple system of colored beads (called Cyclebeads) that indicate the days of fertility with white beads and the infertile days with brown beads. A three-country efficacy study found a correct-use unintended-pregnancy rate of 5 percent and a typical-use rate of 12 percent.

Another simple NFP method developed at Georgetown is the TwoDay Method.³⁶ This is a simplified version of the cervical mucus-only method. It entails asking two questions: 1) did I notice any secretions today? and 2) did I notice any secretions yesterday? If the woman answers "No" to each question she can consider herself as infertile. They also published an efficacy study of this method among couples from three countries and found a typical-use rate of 14 percent.

European physicians and scientists took on the task of creating an efficient and accurate method of NFP for busy European women who wanted a secure, natural method of birth control.³⁷ They studied the various markers and rules of current methods and developed what they call the doublecheck method of NFP, i.e., a double-check sympto-thermal method. The double check for the beginning of the fertile phase is the presence of cervical mucus and/or a calendar-based formula; the end of the fertile phase is the peak in cervical mucus or the BBT temperature shift (whichever comes last). As mentioned, a recent prospective efficacy study among 900 couples provided efficacy rates for this method that rival the hormonal birth-control pill.

At Marquette University we developed what we call the Marquette Light method of NFP that can be taught initially in a twelve-minute office session. The method uses either cervical mucus or the CEFM and a calendar-based formula as a double check for the beginning and end of the fertile phase. Whether the woman-user observes cervical mucus or uses the CEFM, she rates her fertility as being low, high, or peak, and she utilizes the same fertility calendar-based formula for a double check. This simplified method is currently being evaluated for its efficacy. Besides simplifying the use and provision of NFP methods, there have been efforts to integrate information technology into the use and provision of NFP services, particularly the use of the internet. In the United States, there are a number of Web-based programs that provide information on how to use NFP methods. These include the Northwest Family Services which teaches a multiple fertility-indicator method (i.e., cervical mucus and basal body temperature), the Franciscan-system cervical-mucus method being developed by a physician and nurse practitioner team in California, and the Ovusoft system developed by Toni Weschler, the author of the book "Taking Charge of Your Fertility."³⁸ The Ovusoft system is the most widely used software system for tracking fertility. It is also used as an online charting system.

At Marquette University we recently received a grant from the Our Sunday Visitor Institute to develop an online system to teach couples to use NFP. Over the past five years we have discovered that couples are often reluctant (or too busy) to come to an onsite setting for in-person NFP services and often do not show up for appointments. Furthermore, we receive e-mail requests to learn NFP over the e-mail system on a weekly basis. An online service system for NFP is efficient in being able to reach people around the world without leaving their homes or places of work.

The Marquette online NFP services are in development. We currently have a Web portal site, http://nfp.marquette.edu, and have begun to pilot the online program with fifty couples. The Web site has free information on NFP, downloadable charting systems, access to protocols for special circumstances (e.g., using NFP while breastfeeding), and instructions for achieving and avoiding pregnancy. A unique aspect of the information section of the Web site is a one-page, simple Quick Start Instructions that can be read in five minutes and allows the user to begin charting and using NFP.

Couples who register on the Web site are able to access our electronic charting system, the discussion forums, and have consultation from professional nurse NFP teachers, an NFP-only physician, and a Catholic moral theologian. The charting system also notifies the user of possible health problems, including unusual bleeding, infertility, and cycle dynamics that are out of the norm. However, none of these systems has been studied for its efficacy and ease of use; furthermore, the efficacy of these systems will only be as good as the NFP method that they provide.

Conclusion

In conclusion, I recommend and implore physicians, nurses, and scientists (particularly Catholic physicians, nurses, and scientists) to continue to develop secure, accurate, and easy-to-use and -access methods of NFP. We desperately need to have good randomized clinical trials comparing methods of NFP so that we can, with confidence and honesty, tell couples which methods are the most effective. We also need research in more accurate means to estimate the fertile phase of the menstrual cycle, and in particular the beginning of the fertile phase. So too, we need to have better ways of helping women and couples to monitor fertility during special circumstances, such as during breastfeeding and the peri-menopause (these are especially fearful times for women and couples who have serious reasons not to have an unintended pregnancy). We need to include the new information technology (Internet, pod casting, YouTube, cell phones, etc.) in the provision of NFP services to make them easier to use, easier to access, and more attractive to young couples. Finally, we need to have NFP methods that are practical for physicians and other health professionals to provide in their everyday practices.

Ever since Pope Pius XII in 1951 implored professional nurses to provide a secure method of NFP to couples, the Catholic Church has been encouraging Catholic health professionals to study and provide effective methods of NFP. Pius XII asked Catholic scientists to "bend their backs" to help with developing secure natural methods. Pope Paul VI said it is the "proper professional duty" for Catholic health professionals to provide secure NFP methods, and that scientific research on this topic needs to be intensified. Pope John Paul II was supportive of NFP and pleaded with Catholic professional nurses, physicians, and scientists to continue their efforts in developing effective methods of NFP.

As we proceed into the future my challenge to you (as Catholic physicians) is to conduct good and honest efficacy studies and, in particular, randomized clinical trials of NFP methods. We need to have Catholic physicians and nurses properly trained in how to teach these methods (should that not be part of the mission of a Catholic medical or nursing school?) Finally, we need Catholic physicians and professional nurses (especially advancedpractice nurses) confidently to integrate NFP methods into their practice.

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