Natural Family Planning
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In this issue

Natural Family Planning

22% of Canadian Physicians Recommend NFP for Women Wishing to Avoid Pregnancy

About 3% of Canadian women use Natural Family Planning (NFP) methods to avoid pregnancy. NFP use is related to its benefits, among which are: no side effects, few health risks, affordable, and compatible with many women's value systems. In addition, certain NFP methods have pregnancy avoidance effectiveness rates comparable with many contemporary contraceptive methods. Based on these facts, and under the assumption that women should be provided with all family planning options, researchers from the Department of Family Medicine at British Columbia University (Canada), sought to determine the perception of NFP among Canadian physicians. The researchers were especially interested in the subject's perception of NFP use in their medical practice, personal lives, and their estimation of NFP efficacy (see Choi, et al. 2010).

The researchers faxed questionnaires on NFP to a random sample of 317 active family physicians and all gynecologists registered with the College of Physicians and Surgeons of British Columbia and all (N=239) family medicine and gynecologist residents at the University of British Colombia. They obtained a 44% return rate from both groups. Of these participants only 22% mentioned NFP as a viable option for family planning to their patients. When patients asked about options to achieve pregnancy, 37% mentioned NFP as an option. Only 7% of the respondents currently used NFP and 25% used NFP in the past.

When asked about effectiveness of NFP methods to avoid pregnancy, 6% were correct in identifying perfect use of the methods, and 33% were correct in estimating the typical use effectiveness of NFP methods. Older male physicians with a religious affiliation were more likely to use and prescribe NFP methods.

The researchers concluded that physicians need a better understanding of modern NFP methods in order to provide their patients with evidenced-based counseling for those who wish to use NFP methods.

Comments

This study indicates that the majority of the participating physicians would not promote the use of NFP for women seeking to avoid pregnancy. It also indicates that none of the residents in gynecology would recommend the use of NFP for most women. Like the U.S. study that follows below, most of the Canadian physicians under-estimated the efficacy (correct use and typical use) of NFP methods.

The Canadian study (and the following U.S. study) did not differentiate the type of NFP method when asking the respondents to estimate effectiveness rates. This was a serious limitation. It was also very strange because the researchers did review the different current methods of NFP. A better study might ask the physicians to differentiate the efficacy of the different methods of NFP. Such information would reveal the level of understanding that the physicians would have about the different methods of NFP. Such information could help NFP promoters better strategize in educating physicians.

Source

J. Choi, S. Chan, and E. Weibe. "Natural Family Planning: Physicians' knowledge, attitudes and practice." *Journal of Obstetrics and Gynaecology Canada* 32 (2010): 673-678.

Most U.S. Obstetrician-Gynecologists Consider NFP to be Poor Option for Women

2010 marks the fiftieth anniversary of the approval of the hormonal contraceptive pill in the United States. After fifty years there is still debate about the morality (and medical wisdom) of using and prescribing the hormonal pill and other types of contraceptives. However, there has been relatively little study on physicians' beliefs about the morality of using and prescribing contraception. To address this deficiency, researchers from the University of Chicago sought to determine what obstetrician-gynecologists think about contraception, and in particular, whether they object to any of six common methods of contraception, whether they would prescribe these methods if asked, and what they think about Natural Family Planning (R. E. Lawrence, et al., 2010). The researchers were also interested in investigating religious characteristics as they applied to NFP and contraception. The six common contraceptives of interest were oral hormonal pills, synthetic progesterone type implants or injections, intrauterine devices, diaphragms/cervical cap with spermicide, condoms, and tubal ligation.

To meet their objective, the researchers obtained a stratified random sampling list of addresses of 1,800 U.S. general obstetrician-gynecologists from the American Medical Association Physician Masterfiles data base. All 1,800 physicians were sent three mailings of a contraceptive attitude questionnaire, post card reminders, a $20 bill in the first mailing as an incentive for participating and $30 for completing the questionnaire. Through this mailing and incentive method they were able to obtain a 66% response rate, i.e., 1,154 of 1,760 physicians responded with 40 of the respondents having either invalid addresses or they were no longing practicing medicine. The contraceptive attitude questionnaire included "yes" or "no" responses to whether the physician had a moral or ethical objection to any of the six contraceptive methods, and whether they would prescribe them if requested to do so. The questionnaire also included an item that asked the respondents to rate the efficacy of Natural Family Planning (NFP) and whether NFP was:1) the best option for most women; 2) the best option for some women; or 3) a poor option for most women. Finally, they were asked questions about religiosity, i.e., their current religion, how important religion was to them, and their frequency of attending religious services.

The researchers found that only 4.9% of the respondents had a moral or ethical objection to one or more of the six contraceptive methods and 6.8% would not prescribe one or more of the methods. The most common method that they either objected to or would not prescribe was the intrauterine device (4.4% objected and 3.6% would not prescribe). Only 14 of the respondents (1.1%) would not have moral or ethical objections to all 6 methods of contraception. The physician responders who frequently participated in religious services were more likely to have moral or ethical objections to contraceptive methods and to prescribing them.

With regard to NFP, the respondents, on average, estimated the unplanned pregnancy rate of using NFP as a method to avoid pregnancy (per 100 women over twelve months of use) to be 25%. Catholic physicians gave an average estimated pregnancy rate for NFP 3.4 percentage

points lower than the other physicians. Most physicians (68%) viewed NFP to be a poor option for women seeking to avoid pregnancy. The researchers concluded that although controversy about contraception continues, there is very little disagreement among obstetrician-gynecologists in objecting to or in prescribing contraception.

Comments

The small percentage of physicians in this study who would prescribe NFP is consistent with other studies on use of NFP by health professionals (for example see the review in this issue of Canadian physicians and the use of NFP). It is interesting that the authors of this study quote a key section from the papal encyclical *Humanae vitae*, i.e., the "inseparable connection…which man on his own initiative may not break, between the unitive significance and the procreative significance, which are both inherent to the marriage act" (*HV*, no. 12). The authors mention that although the Catholic Church teaches that contraception is an intrinsic evil, most Catholic physicians in this study would not object ethically or morally to contraception nor would they object to providing contraception to their patients. They also point out that the greatest objection to the intrauterine device might be the belief that this method of contraception might result in an early abortion by preventing the implantation of a developing embryo; however, evidence for this mechanism, has been disputed (see article in this review on the effects of Levonorgestrel-releasing intrauterine system on cervical mucus and see, M. E. Ortiz, and H. B. Croxatto. "Copper-T intrauterine device and levonorgestrel intrauterine system: biological bases of their mechanism of action." *Contraception* 75 (2007): S16-30).

Source

R. E. Lawrence, K. A. Rasinski, J. D. Yoon, and F. A. Curlin. "Obstetrician-gynecologists' views on contraception and natural family planning: a national survey." *American Journal of Obstetrics and Gynecology* 203 (2010): *in press*.

Menstrual Cycle

28% Increased Risk for Coronary Artery Disease found among Women with Irregular Menstrual Cycles

It is known that long and irregular menstrual cycles are associated with an increased risk for type II diabetes (T2D) and coronary artery disease (CAD). However, there is no evidence from prospective studies that have demonstrated this association nor have there been studies that examined hormonal influences to explain these associations. Dutch researchers recently reported a study that examined the association of T2D and CAD with irregular menstrual cycles among a cohort of women who have been followed for over 10 years (see Gast, et al. 2010). They also investigated whether this association was mediated by hormonal factors among a sub-population of the study cohort of women participants.

The researchers were able to access women who contributed to The Netherlands' component of the "European Prospective Study into Cancer and Nutrition," which consists of

prospectively monitoring factors that contribute to chronic disease. After eliminating women who did not meet the criteria for the study (e.g., women on hormonal contraception), they had 23,571 women remaining for analysis. Of this cohort of women, a sub-population of 843 women was selected who also contributed blood samples as well as characteristics of their menstrual cycle. At the beginning of the study, participants were asked about their usual menstrual cycle length when they were between the ages of 30 and 40 years, irrespective of pregnancy and breastfeeding. Menstrual cycle patterns were classified as irregular, regularly sort (< 26 days), regularly normal 27 to 29 days, or regularly long (> 30 days). Irregular cycles were defined as a combination of long (> 30 days) and short (< 26 days) menstrual periods. The mean duration of follow-up of the cohort was 10.1 years.

The researchers found that 750 of the 23,751 participants experienced a CHD event, of which 45 resulted in death. In comparison with women who had regular cycle lengths, irregular cycling women had a significant (28%) increase in the incidence of CHD. There were 533 documented cases of T2D among the cohort of participants, but when women with irregular cycles were compared with regularly cycling women, the elevated risk (21%) was not significant. Among the 843 women who had a series of laboratory blood measurements, only higher glucose levels were associated with women reporting irregular menstrual cycle lengths. There were no associations with hypertension, lipid levels, or hormones.

Comments

The strengths of this study were the large number of participants and that it was prospective. The weakness was that menstrual cycle length was determined by recall. A stronger study would be one that included women who monitored their menstrual cycles prospectively and also monitored natural indicators of fertility, i.e., cervical mucus, basal body temperature changes, and/or urinary measures of luteinizing hormone. By doing so, the researchers would not only have menstrual cycle lengths, but other parameters of the menstrual cycles as well and good evidence as to whether the woman experienced anovulatory cycles. The classifications of regular cycle lengths in this study, (i.e., 27-29 days) is quite narrow. A more narrow definition of irregular menstrual cycles might result in stronger predictions of CHD.

Source

G-C. M. Gast, D. E. Grobbee, H. A. Smit, H. Bas Bueno-de-Mesquita, G. N. Samsioe, and Y. T. van der Schouw. "Menstrual cycle characteristics and risk of coronary heart disease and type 2 diabetes." *Fertility and Sterility* 94 (2010): 2379-2381.

Continuum of Menstrual Cycle Ovarian Activity from Menarche through Menopause Described by Research of Dr. James B. Brown

James B. Brown a professor emeritus of obstetrics and gynecology at the University of Melbourne, Australia recently published (posthumously) a compilation of his work on reproductive hormones, ovarian activity, and the menstrual cycle from the 1950s through the 1980s (see Brown, 2010). Dr. Brown is well noted for his pioneering work in developing chemical methods to measure estrogen and progesterone levels and applying these assay

techniques to clinical situations. Later on in his career, he developed what is called the ovarian monitor, which enabled a woman to self-measure (at home) metabolites of estrogen and progesterone in a 24 hour collected urine and, through this method, track the fertile phase of her menstrual cycle with great accuracy.

This review article provides a hormonal description of the entire reproductive and menstrual cycle history from the establishment of the menstrual cycle during menarche, the winding down of menstrual cycle activity during peri-menopause, the transition from anovulation to regular menstrual cycles during postpartum breastfeeding, and explanations of various menstrual bleeding patterns. Brown also provided detailed case study descriptions, with graphs of hormonal levels and mucus patterns, for what he calls the continuum , i.e., the merging of these phases of menstrual cycle and ovarian activity through the reproductive life of women. As described in the paper, this continuum (or, i.e., the progression of menstrual cycle activity) can be categorized into five steps: 1) no ovarian activity, 2) anovulatory follicular activity with raised or constant or fluctuating estrogen levels; 3) luteinized unruptured follicle; 4) ovulation followed by a deficient or short luteal phase; and 5) fully fertile ovulatory menstrual cycle, or for peri-menopause, the reverse of these steps. He emphasized that only step 5 was capable of sustaining a pregnancy and that all of the steps are considered normal processes. Another point that he made, important to mention, is that in all of his years of studying the hormonal patterns of the menstrual cycle, he never documented more than one ovulation during a menstrual cycle. He stated that when multiple ovulations occur, they do so over a very short time span, and when this happens they are hormonally synced.

Comments

Dr. Brown had a long association with Drs. John and Evelyn Billings, the developers of the Billings Ovulation Method. He, along with Dr. Erik Odeblad provided much of the physiological and hormonal understanding of this method of Natural Family Planning. His work continues through the Ovulation Method Research and Reference Centre of Australia.

Source

J. Brown. “Types of ovarian activity in women and their significance: the continuum (a reinterpretation of early findings).” *Human Reproduction Update,* Advanced Access (October, 5, 2010): 1-18.

Luteal out-of-phase Estrogen Patterns help to Explain Menstrual Cycle Variability During the Menopause Transition

The menopause transition usually begins around the age of 42 and is characterized by regularity but decreasing length (i.e., 1-2 days shorter than the length of menstrual cycles from women 35 and younger) and in later stages with greater variability and length. Researchers set out to explore the hormonal changes during the menopause transition and in particular to help explain any changes in the relationship between cycle length and hormonal levels (see Hale, et al, 2009). In order to accomplish this goal, researchers from the University of Sydney, Australia advertised for volunteer women of reproductive age who lived in the vicinity of the University. They were able to obtain 21 control women between the ages of 21-35 with regular length

menstrual cycles, and 56 women between the ages of 45-55 with variable cycle lengths who met the study criteria. All participants were instructed to measure their basal body temperature on a daily basis for at least one menstrual cycle and had their blood drawn on day one of the menstrual cycle and then three times per week and continued for 7-10 days into the next menstrual cycle. Blood work included estradiol (E) progesterone (P) luteinizing hormone (LH), follicle stimulating hormone (FSH), inhibin A (INHA), and inhibin B (INHB). They classified the participants as follows: 1) late reproductive age (LRA) with regular menstrual cycle length (N=16); 2) early menopausal transition (EMT) with cycle length varying 7 days or more (N=17); and 3) late menopausal transition (LMT) with at least one intermenstrual interval of 60 days or more (N=23). They also had 21 younger women between the ages of 21-35 years with regular menstrual cycles who served as controls.

The mean menstrual cycle length of the younger women was 29.9 days, the LRA 25.8 days, the EMT 29.4 days, and the LMT 40.3 days. They discovered that the luteal phase length was similar in all four categories but that the follicular phase length was significantly shorter in the LRA group compared to the younger controls, i.e., 12.9 days compared to 15.8 days. They also found that the highest incidence of anovulatory cycles (9) was among the LMT group. When the researchers inspected individual EMT and LMT menstrual cycles they found an atypical E pattern in 16 of the EMT cycles and 13 of the LMT cycles. The atypical pattern was characterized by mid-luteal phase E levels that did not increase but rather remained high through the menses and early follicular phase of the next menstrual cycle, i.e., the E levels typically drop off after the mid-luteal phase of the menstrual cycle. They also found that ovulation typically occurred early with the next menstrual cycle and that the menstrual cycle length was short, i.e., 14-20 days. The researchers coined these events as luteal out-of-phase E levels or LOOP. When they took out the short menstrual cycles (that had this LOOP phenomenon) from the data set there was no difference in the length of the menstrual cycles between any of the four groups of women. They also discovered that the LOOP event cycles had lower luteal phase P levels, higher early FSH levels, and lower cycle INHB levels. They concluded that the LOOP event mechanisms could help explain the menstrual cycle irregularities and high E levels during the menopause transition.

Comments

One of the limitations of this study was that ovulation in the LOOP cycles was not documented through ultrasound evidence. Ovulation was estimated through mean changes in the BBT levels and post temperature shift P levels. The LOOP phenomenon can help explain the variability in menstrual cycles found among women who practice Natural Family Planning and monitor their menstrual cycle lengths. NFP teachers need to emphasize among peri-menopausal women the probability of short menstrual cycles with early ovulation. Therefore, pre-fertile phase instructions may need to be modified among early and late menopausal transition women. Some women in these categories follow a more conservative approach and only have post fertile phase intercourse. Early estrogenic mucus patterns or high urinary E levels might also help identify these early ovulatory menstrual cycles.

Source

G. E. Hale, C. L. Hughes, H. G. Burger, D. M. Robertson, and I. S. Frase. "Atypical estradiol secretion and ovulation patterns caused by luteal out-of-phase (LOOP) events underlying

irregular ovulatory menstrual cycles in the menopausal transition." *Menopause* 16 (2009): 50-59.

Contraception

Evidence Show that Cervical Thickening and Lack of Sperm Penetration are Major Mechanisms in the Levonorgestrel-releasing Intrauterine System

Although thickening of cervical mucus has been considered one of the primary mechanisms of the Levonorgestrel-releasing intrauterine system (LNG-IUS) there have been no studies that have demonstrated that thick cervical mucus acts as a barrier to sperm penetration. Cervical mucus thickens in response to the progesterone rise after ovulation among women who do not use hormonal contraception and among women who use synthetic progestins, such as those used in LNF-IUS. Researchers set out to compare the quality and quantity of mid-cycle cervical mucus and sperm penetrability among women using LNG-IUS with women who are not using hormonal contraception (see Lewis, et al., 2010). The researchers hypothesized that mid-cycle cervical mucus of the LNG-IUS users will be of less quality and have significant impaired sperm penetrability.

To test the hypothesis, the researchers advertised online and in hard print venues for volunteer women of reproductive age in the Los Angeles area. Fifty-seven women volunteers were screened. Forty-eight women were enrolled. Eighteen were lost to discontinuation. Fourteen women were LNG-IUS users and 16-nonhormonal participants. All participants were provided urine luteinizing hormone (LH) test kits. Cervical mucus samples were taken via a speculum and specialized aspirator. The cervical mucus samples were graded by use of the World Health Organization (WHO) quality criteria. Sperm penetrations tests used a donated sample of fresh frozen semen from a sperm bank. Penetration was visualized with a microscope. A WHO cervical mucus grading score of 10-15 was indicative of conceptive type mucus with probable sperm penetration.

The researchers discovered that the median cervical mucus rating score of the LNG-IUS users was only 4, while the control was 11.5 (i.e., a significant difference, $p < .001$). They also discovered that the sperm penetration test revealed no penetration with cervical mucus samples taken from the LNG users compared with 85% of the controls after a two hour thaw of the semen sample, and 79% after a six hour thaw of the semen sample. They concluded that cervical mucus thickening and lack of sperm penetration are two of the major contraceptive actions of the LNG-IUS.

Comments

The researchers admitted that the urine test of LH was predictive of, but did not confirm, ovulation and that there could have been anovulatory menstrual cycles that were the cause of the non-penetrable mucus. This limitation and possible cause is not probable. It is somewhat reassuring that the probable mechanism of this intrauterine system is not abortifacient of a human embryo. These results coincide with the analysis of the mechanism of action for this IUS by other researchers (see, M. E. Ortiz, and H. B. Croxatto. "Copper-T intrauterine device and

levonorgestrel intrauterine system: biological bases of their mechanism of action." *Contraception* 75 (2007): S16-30). It is not reassuring that ovulation most likely takes place with this type of contraceptive system and that cervical mucus scores could have been better at an earlier time in the six day window of fertility. More frequent cervical mucus collection during this window would provide stronger evidence.

Source

R. A. Lewis, D. Taylor, M. F. Natavio, A. Melamed, J. Felix, and D. Mishell. "Effects of the levonorgestrel-releasing intrauterine system on cervical mucus quality and sperm penetrability." *Contraception* 82 (2010): 491-496.

Contraceptive and Abortion Education Program Initiated in Catholic-based Ob/Gyn Residency Program

The Residency Review Committee of the Graduate Council for Graduate Medical Education recently cited the obstetrics and gynecology residency (OB/GYN) program at Loyola University Medical Center to be deficient in its provision of family planning training. To remedy this problem and to adhere to the values of the Catholic-Jesuit sponsored institution, the Loyola residency directors developed a one day education program on family planning, sterilization, and abortion (see Guiahi, et al., 2010). The purpose of the study was to assess the impact of this program on OB/GYN resident knowledge of family planning.

The training program curriculum included four modules: 1) family planning scenarios; 2) didactic lectures; 3) family planning values clarification sessions; and 4) procedural workshops. The program included a values-clarification group discussion on abortion based on the National Abortion Federation exercises. The residents had opportunities to practice on model simulators and abortion equipment devices (e.g., manual aspiration devices). The chief residents of the Loyola program then developed a 24 item multiple choice test to evaluate the program. The program evaluation test was administered to 12 of the 16 residents before the program, immediately after the program was completed, and then ten months later. Four of the residents were chiefs who helped to develop the exam. The content of the test included questions on: 1) short-term reversible contraception; 2) long-acting reversible contraceptives; 3) sterilization; and 4) early pregnancy failure and induced abortion.

As expected, the scores on all sections of the 24-item exam increased significantly from the pre-test to post-testing at the end of program and then again 10 months post program administration. The authors concluded that the one day training program was successful and increased residents' knowledge in family planning. The Loyola OB/GYN residency program will now have a biannual program, with one half day dealing with contraception, and the second half-day dealing with sterilization and abortion.

Comments

The residency program also provided the OB/GYN residents with the opportunity of actual clinical experience in providing hands on sterilization and contraception within an off-site community clinic. Providing knowledge of family planning and abortion procedures is not

problematic ethically, all OB/GYN residents should have this knowledge to have better understanding of these procedures. However, providing clinical opportunities (even though off site) and experiences with simulators for sterilization is problematic. It is understandable that the school needs to meet the residency requirements. According to the article, about 12% of all OB/GYN residency programs are provided through Catholic Health Care systems. There was no mention of having information provided on Natural Family Planning methods in the one day seminar— other than breast-feeding, with regard to its annovulatory effects for pregnancy spacing.

Source

M. Guiahi, C. Cortland, M. J. Graham, S, Jeraty, M. Lukens, M. Trester, S. Summers, and K. Kenton. "Addressing OB/GYN family planning educational objectives at a faith-based institution using the TEACH program." *Contraception* (2010): *in press*.

Lower Sex Drive Found Among German Medical Students on Hormonal Contraception

Researchers from the Universities of Tuebingen, Heidelberg (Germany), and Basel (Switzerland), recently conducted a study to determine if oral hormonal contraceptives (OC) influenced female sexual functioning (see Wallwiener, et al., 2010).

It is known that oral estrogens increase sex hormone-binding globulins (SHBG) in the liver and that this process can be enhanced or reduced by progestins based on whether the progestins are either androgenic or anti-androgenic. Since testosterone has a high affinity for SHBG, this important hormone for sexual functioning is affected by SHBG levels. It is also known that OCs affect female sexual functioning. What is not known is how the various levels of synthetic estrogen and progestins in OCs affect sexual function.

To test the hypothesis that OC use (i.e., type and doses of the estrogens and progestins) might influence sexual drive, the researchers sent a well conceptualized and validated nineteen item sexual function questionnaire (called the Female Sexual Function Index) to female medical students at seven university based medical schools in Germany. The students were contacted by asking the deans of these schools to post a notice of the study on their student e-mail list and in online medical school bulletin boards. Through this online questionnaire process the researchers were able to obtain 1,086 completed questionnaires.

Of the women respondents, 752 were OC users, of which 404 were on anitandrogenic progestins and 263 were on androgenic progestins. The remaining users were either on non-hormonal contraception or not any contraception (N=141). The researchers found no statistical difference in the sexual index scores between the androgenic or antiandrogenic OC preparations, nor did they find any relationship between levels of synthetic estrogens and sexual function scores. The researchers did find statistically significant lower sexual function scores among OC users compared to non-users. The researchers speculated that the lower scores among the OC users could be explained by psychological or social differences in the two cohorts, or a more likely explanation, that the steroids found in OCs have a direct effect on sexual responses of women.

Comments

There was no indication in the study as to how many of the female medical students were married or in active sexual relationships. It would have been interesting to know how lower sexual function affects male and female relationships and in particular a marital relationship.

Source

M. Wallwiener, L. M. Wallwiener, H. Seger, A. O. Mueck, S. Zipfel, J. Bitzer, and C. W. Wallwiener. "Effects of sex hormones in oral contraceptives on the female sexual function score: a study in German female medical students." *Contraception* (2010): *in press*.

Condoms, Hormonal Pill, and Withdrawal Most Frequent Methods of Contraception used by North American Medical Students: 4% use Rhythm

Researchers recently sought to determine the contraceptive usage practices among North American Medical students (see Rowan, et al., 2010). They reasoned that those medical students who exhibited safer sex practices would more likely teach safe sex practices to their patients. They also sought to determine if there were characteristics that could predict failure to use effective contraception.

The researchers accessed North American medical students by posting an internet-based survey on an American Medical Student Association list-serve and posted a short story about the study in an online medical information service. The survey that was posted included questions on contraceptive usage, demographics, and gender specific sub-indexes on sexual function and activity. Two-thousand-two-hundred and sixty-nine completed surveys were obtained, 914 of which were from men and 1,347 from women (8 were listed as "other"). Only responses from non-virgin participants were included in the results.

The researchers found that among the student respondents, 44% (N=1,014) listed condoms as the most frequent type of contraceptive used (49.7% among males and 40.2% among females). Oral female hormonal contraception was the second most frequent at 38% (N=874) (33.7% among males and 41% among females). Withdrawal was the third most frequent method 10.8% (N=249) (10.4% among males and 11% among females) cited. Ninety-eight participants (4.3%) listed "Rhythm" as their method of contraception, i.e., 4.7% of males and 4% of female respondents. Results also indicated that male students, Black and Asian students (of both sexes) and those not in a stable sexual relationship were less likely to use contraception. Those students who felt comfortable discussing sexual matters with patients had a higher usage of contraception. The results of the study concluded that medical students would benefit from more knowledge about effective contraceptive practices.

Comments

According to this article, there are approximately 76,000 medical students of reproductive age in North America. This study was able to obtain about 3% of this population of students. As indicated by the researchers, a bias could exist among the respondents, i.e., those who had a more liberal perspective about contraception would be the more likely respondents.

Furthermore, they did not differentiate married students from single students; nor did they determine if the married students were currently trying to achieve pregnancy and had no need for contraception.

In addition, the study did not differentiate as to whether the methods indicated as "Rhythm" were actually calendar based or the more modern fertility symptom based methods (e.g., basal body temperature, cervical mucus, hormonal monitoring, etc.).

Source

T. S. Rowan, J. F. Smith, M. L. Eisenberg, B. N. Breyer, E. A. Drey, and A. W. Shindel. "Contraceptive usage patterns in North American medical students." *Contraception* (2010): *in press*.

Use of Hormonal Contraceptives not recommended for Teens with Menstrual Pain

Delay in the diagnosis and treatment of endometriosis could result in more invasive forms of the disease, extensive surgery, and infertility. Researchers and clinicians from the University of Paris were interested in determining if there were early indicators or predictors of deep invasive endometriosis (i.e., the most severe form of the disease) among women with the disease and in particular among adolescents (see Chapron, et al., 2010).

The researchers enrolled patients 42 years of age or younger who had either laparoscopy or laparotomy from 2004 to 2009 at their institution for benign gynecological conditions. One month before the surgical procedure the patients were administered a face-to-face interview on family history, length and intensity of pelvic pain, gastrointestinal and urinary tract symptoms, a history of oral contraceptive pills (OC) for treating dysmenorrhea, and absenteeism from school due to menstrual pain. At the time of time of surgery, the degree of the endometriosis was classified as to whether it was superficial, ovarian, or deeply infiltrating endometriosis (DIE). The patients with superficial or ovarian endometriosis served as controls. They enrolled 229 patients with histologically proven endometriosis into the study. They found 40 patients with superficial endometriosis, 91 with ovarian endometriosis, and 98 patients with DIE. They also found that the most significant early predictors of DIE were family history of endometriosis, absenteeism from school, and early and prolonged use of OCs. Those who were diagnosed with DIE had an average OC use of 8.4 years compared to the control of 5.1 years. The odds ratio for DIE among those with OC pill use before 18 years of age was 4.2 (95% CI: 1.8-10.0).

The researchers pointed out that recall of pill use is a possible, but not probable, limitation of the study since both the study group and control group had to recall use of the pill in adolescent years. More importantly they mentioned that the preferred treatment of primary dysmenorrhea is nonsteroidal anti-inflammatory drugs and that OCs do not provide protection against the development of DIE. They postulated that there is a need to reconsider the management of pelvic pain among adolescents and a need to be precise about the moments that the disease starts.

Comments

The use of OCs to treat severe pelvic pain (and not so severe pelvic pain) among adolescents is very common. I would suspect, that part of the reason that OCs are often used to treat this problem is because it is a standard treatment for this problem and that it is easy to prescribe. Furthermore, there is pressure from the adolescent and parents to have OCs as treatment for pelvic pain or other common adolescent problems, e.g., acne, so that they (the parents or the teen) do not have to worry about unintended pregnancy. I and others have suggested that putting chaste teens on OCs is not morally problematic but it could lead to temptation, i.e., sex without the risk of pregnancy. Furthermore, the parents do not need to be as vigilant in monitoring activities of their teen daughters that might lead to sexual risk. This is just one example of the use of OCs to masks symptoms rather than to treat the disease. There are others, such as unusual menstrual bleeding and polycystic ovarian disease.

Source

C. Chapron, M. C. Lafay-Pillet, E. Monceau, B. Borghese, C. Ngo, C. Souza, and D. de Ziegler. "Questioning patients about their adolescent history can identify markers associated with deep infiltrating endometriosis." *Fertility and Sterility* (2010): *in press.*

UNDER THE MICROSCOPE: Catholics, Contraception and Abortion—the National Survey of Family Growth

The United States (U.S.) National Center for Health Statistics conducts a large population based survey called the National Survey of Family Growth (NSFG), every 5-7 years, for the purpose of describing contraceptive use, pregnancy, and reproductive health practices among U.S. women of reproductive age.[1] The U.S. government, health care providers, policy makers, researchers, and the press use the data to plan programs and set policies related to contraceptive use and sexual and reproductive health. The NSFG data is made available free to researchers and scholars, who analyze it to determine trends in family size and makeup, contraceptive choices, and contraceptive effectiveness.

The NSFG is conducted using a nationally representative, randomly selected sample of American women (and since 2002 men) aged 15-44. Interviews are conducted in person and take approximately 80 minutes to complete. Sensitive questions are asked through a self-paced computer assisted program. The response rate in these surveys range from 75-80%. In 2010, data sets were released from Cycle 7 of the NSFG.[2] Interviews for Cycle 7 were conducted from January of 2006 through June 1st of 2010.

Up until 1982, the NSFG included a report on the use of contraceptive methods by Roman Catholic women. After 1982, this information was no longer included in the published government summary report since Catholic women were no different in their current and ever use of contraceptive methods than women in the general population. However, it is still important and interesting to see if there are differences in the family planning practices of Catholic women in comparison to U.S. women in general in the new Cycle 7 data set. Therefore, the purpose of this report is to provide an analysis of the family planning practices (i.e., common

contraceptives, abortion, and Natural Family Planning) among U.S. Catholic women in comparison to U.S. women of other or no religious faith.

Method

There were 7,356 women participants in the 2006-2008 Cycle 7 of the NSFG and 3,577 variables in the data set. The dependent or outcome variables analyzed from this data set were: 1) the current use of the contraceptive pill, vasectomy, female sterilization, male condom, intrauterine device, withdrawal, Rhythm, and NFP; 2) the ever use of the pill, vasectomy, female sterilization, male condom, withdrawal, Rhythm, and NFP; and 3) whether the respondent reported having an abortion. The independent variable was whether the respondent listed their current religion as Catholic or not.

Descriptive statistics were used to determine the demographic makeup of the sample, including age, marital status, and parity. Chi square and relative risk odds ratios (OR), i.e., likelihood to use a method of contraception (based on 95% confident intervals and a significant probability of 0.05 or less) were calculated with the sample dichotomized by whether participants listed themselves as Catholic or not. Statistical significance was set at the 0.01 probability level. Statistical analysis was performed by use of the Statistical Package for Social Sciences (SPSS version 17). [*See Glossary of Terms at the end of CMR.*]

The NSFG Cycle 7 data set is available through the National Center for Health Statistics and is downloadable through the Internet into SPSS files. The data set does not contain any identifying variables and is intended for public use. Some very sensitive variables like whether the respondent had an abortion or not are handled through a computer assisted interview and not in-person.

Results

There were 7,356 US women (1,943 Catholic women and 5,413 non-Catholic women) who answered the questions about abortion and contraceptive practices and whose data were included in this analysis. There was no statistical difference between the mean age of the Catholic women (28.93, SD = 8.75) and mean age of the non-Catholic U.S. Women (28.51, SD=8.41). The Catholic women had a slightly higher mean parity at 1.28 compared with a mean of 1.13 for non-Catholic women ($t=4.01$, $P < .001$). Approximately 37.5% of the Catholic women in the sample were currently married compared to 32.3% of the non-Catholic women. Twelve percent of the Catholic women were cohabitating with the opposite sex and 9.2% were either divorced or separated from their spouse as compared to 10.7% cohabitating non-Catholic women, of whom 10.3% were either divorced or separated. There were 947 Catholic women (48.7%) who reported ever having an abortion compared with 2950 non-Catholic respondents (54.5%) who reported having an abortion. Statistically, there were few reported abortions by the Catholic women compared to non-Catholic women ($t = 4.99$, $p < .001$).

Current Use of Contraception and NFP

The percentage current use of a contraceptive method by Catholic and non-Catholic women respondents in Cycle 7 of the NSFG is presented in Table 1. The data shows that there is little difference in the current use of contraceptive methods between the two cohorts of women.

Catholic women have a slightly more frequent use of NFP and Rhythm and slightly less use of male sterilization.

Table 1: Frequency (and percentage) of Current use of Contraceptive Methods or NFP among Catholic (N=1943) and Non-Catholic Women (N=5413) in the NSFG Cycle 7 Data Set.

Method	Catholic Frequency/(Percentage)		Not Catholic Frequency/(Percentage)	
Pill (OC)	333	17.1%	894	16.5%
Sterilization (Female)	277	14.3%	788	14.5%
Sterilization (Male)	75	3.8%	253	4.7%
IUD	72	3.7%	168	3.1%
Withdrawal	65	3.3%	164	3.0%
Depo-Provera	55	2.8%	162	2.9%
NFP/Rhythm	22	1.1%	33	0.6%

Table 2: Percentages and Odds Ratio (OR) of Ever Use of Family Planning Methods among U.S. Catholic Women in Comparison with Non-Catholic U.S. Women in Cycle 7 of the NSFG.

Method	%Catholic	%Not Catholic	OR	95% CI	Sig.
Male Condom	87.4%	94.2%	.422	.349-.510	< .001
Pill (OC)	65.6%	72.3%	.730	.653-.815	< .001
Withdrawal	56.8%	59.3%	.902	.805-1.01	.076
Calendar Rhythm	19.6%	17.9%	1.11	.965-1.28	.140
Surgically Sterile	14.8%	15.2%	1.03	.889-1.19	.699
Vasectomy	8.5%	11.9%	.683	.562-.830	< .001
NFP	5.1%	3.4%	1.54	1.17-2.02	< .002

Ever Use of Contraception and NFP

Table two provides the percentages of "ever use" of contraceptive methods by Catholic woman as compared to non-Catholic women in Cycle 7 of the NSFG. The table also provides Odds Ratios (OR) or i.e., the likelihood of Catholic women ever using a contraceptive method compared to non-Catholic women. As can be seen in the table, Catholic women were (significantly) less likely to use the male condom, the hormonal pill, and male sterilization and more likely to ever have used NFP. There was no significant difference in the frequency in the use of Calendar Rhythm, surgical sterilization, and withdrawal.

Discussion

The overall findings from Cycle 7 (2006-2008) of the NSFG indicate that, as in the past three decades of NSFG data sets, there is no significant difference in the pattern of "current

contraceptive use" among Catholic and non-Catholic participants other than slightly more use of NFP by Catholic women. The data set did reveal a small differences in the "ever use" of contraceptive methods. It is encouraging that Catholics use NFP more than non-Catholic women and have less use of the condom, pill, and male sterilization. It is troubling, however, that although there is less "ever use" in contraceptive methods among Catholics, the percentages in use of these methods are still very high—especially in comparison with the very low use of NFP (e.g., 65.6% of ever use of the pill versus 5.1% of ever use of NFP).

The degree of the respondents' catholicity in this data set is a question that has relevance to these results. In other words, "How important is the Catholic religion to the participants and do they practice their faith?" An earlier study co-written by this author, found that religiosity influenced the use of contraceptives (among the 2,250 Roman Catholic women subset) of the 2002 NSFG (Cycle 6) data set.[3] In that study we discovered that Catholic women were more likely to have used NFP, but less likely to have used condoms and the pill, if they attended church services frequently and believed that their faith was very important. At the same time, we also discovered that the participants used female sterilization more frequently. The results indicated that though these women seemed to be influenced by their religion, the majority of the women did not apply their church's teachings to their family planning practices and ultimately were not able to integrate or live with their fertility. Finally, an analysis of the 2002 NSFG Catholic women, like the current Cycle 7 data set, showed that there was a statistically less use of abortion (both total and in the past 12 months). A future goal of this author is to analyze the influence of religion (importance and frequency of church attendance) on the contraceptive practice of Catholic women in the Cycle 7 NSFG data set.

On the subject of abortion, although there is statistically less frequent use of abortion among the Catholic respondents in the Cycle 7 data set, there still is a troubling high use of abortion among Catholic and non-Catholic women alike. Supposedly, the reporting of abortion in the NSFG is under-reported. In fact, there is evidence that there is an under-reporting of abortion in other interview surveys as well.[4] With regard to this current data set (that used computer based interviews), it seems that the frequency of abortion is very high, even compared to the 33% reported by other sources.[5]

It is troubling to note that although Catholic Church teaching is clear and consistent with regard to the immorality of contraceptive use, sterilization and abortion, the data reveal that this teaching is not followed by the majority of Catholic men and women. One reason that Catholic women of reproductive age in the U.S. showed no differences in the current use of various contraceptive methods might be due to a lack of understanding of their religion's teaching on human sexuality, marriage, conjugal love and responsible parenthood. Another possible reason is that, although U.S. women know their Church's teachings on abortion and contraception, they view themselves as "autonomous" adults, and downplay or ignore the role of their religion's official teachings in forming their consciences on the issues of family planning and abortion.[6] Furthermore, there is evidence that Americans have a profound ignorance of their religion and, consequently, Catholic Americans either ignore or reject the teaching authority of the Church.[7]

The above already challenging situation is exacerbated by the fact that the immorality of contraception is not known, understood and/or ignored by healthcare professionals who are primary providers of family planning methods. Within this morally diminished perception of family planning, the attempt of those in society who wish to main-stream abortion in healthcare

places physicians and professional nurses in morally compromising situations. They are often faced with adhering to what most in their profession promote as "basic reproductive health care" (i.e., contraception, sterilization and abortion) and their consciences. Finally, for many Catholic healthcare professionals, use of contraception has become a "non-issue" in their counseling of Catholic married couples,[8] therefore keeping at least, the issue of family planning in a state of moral confusion.

Conclusion

Despite the fact that the NSFG data is probably the best and largest data set on contraceptive use among a representative sample of women in the U.S., there are limits to this study and to the data set. The NSFG data set focused on all women between the ages of 15-44, not only married women. Approximately 30% of the U.S. respondents were not using any method of family planning in the month of interview (i.e., the most frequent method was no method of contraception). Some of these women were not sexually active, some were trying to achieve a pregnancy, and some were currently pregnant. Another limit was that the use of the variable of abortion (in the past 12 months and over a life time) is not recommended as a true reflection of abortion frequency. One could speculate that women who are more religious might be more reluctant to report use of an abortion even with an anonymous survey.

Recommendations for future research include comparing the findings from this (Cycle 7) data set with the 2002 NSFG (Cycle 6) and the 1995 (Cycle 5) data set. The 1995 NSFG had a greater number of U.S. women (10,847) and Catholic women respondents (over 3,000). Comparing results would help to determine trends in contraceptive use, abortion practices, and religiosity. A unique and new feature of the 2002 NSFG is the inclusion of male respondents. Therefore, another analysis that could be made would be to compare the answers from the male respondents to the answers from the female respondents in the 2006-2008 NSFG, using the same variables. Another important area of study is analysis of the influence of religiosity on important cultural groups, particularly the Hispanic and African-American subgroups.

Among U.S. Catholic women there seems to be some influence of the Catholic faith on their choices regarding family planning, use of contraception and abortion. The data continues to indicate that the majority of Catholic women have difficulty in either living with or accepting their fertility. This is evident from the fact that their most frequent means for managing their fertility is to neutralize, harm or even destroy it. Another implication is that Catholic women may not have a good understanding of their faith and what it teaches regarding human sexuality, marriage, conjugal love and responsible parenthood. With regard to the complexities of a woman's motivation to procure abortion, work clearly needs to be done to remove the perception that the new human life is expendable, a threat to the mother or even morally neutral. Indeed, finding more effective ways to teach respect for human life is critical. Added to the above is the central role which healthcare professionals play in the area of family planning. Relatively few physicians and advanced practice nurses (as well as health facilities) offer and promote the use of Natural Family Planning as viable and healthy methods of family planning.[9] Extending NFP education to the healthcare professional continues to be an important strategy to promote moral methods of family planning among the general population.

The following conclusion is very similar to that found in our 2007 study of Cycle 6 of the NSFG.[10] We said that, perhaps, the most important finding from our analysis of this large data

set is that there is a mixed influence of religion on women's abortion and contraceptive practices. It is encouraging that there is less use of abortion and methods of contraception among women who are Catholic, but still very high use of sterilization and contraceptive methods. This would seem to indicate a need for better catechesis (especially beginning at younger ages).

Further research would be helpful in determining how (if at all) religious beliefs enter into the decision of women who are choosing a method of family planning or who are contemplating an abortion. Certainly more effective teaching and formation strategies should be offered in the Church which can help Catholics understand and embrace God's design for marriage and the family.

End Notes

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2. Mosher and Jones (2010).

3. R. Fehring and J. M. Ohlendorf, "The relationship between religiosity and contraceptive use among Roman Catholic women in the United States," *The Linacre Quarterly* 74 (2007): 135-144.

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10. Fehring and Ohlendorf (2007).

Glossary of Terms

Chi square A statistical test to determine if there are greater proportions of some characteristic or behavior in one group versus another – for example, a greater proportion of non-Catholic women using the birth control pill compared to Catholic women.

Odd Ratio Is a statistical test that is used to determine the likelihood of some characteristic or behavior existing in one group versus another. The likelihood ratio is reported in segments below or above 1.00. If less than 1.00, this means there is a less likely probability of this characteristic or behavior happening in one group versus another, if greater than 1.00, there is a greater likelihood of the behavior happening. For example if there is an odds ratio (OR) of 1.50 between use of the pill among non-Catholic women versus Catholic women, this would mean there is a 50% greater likelihood of the pill being used among non-Catholic women.

Confident Intervals A statistical test that provides a range of probability that a characteristic or behavior exists among a population versus another population. A 95% confident interval means that there is a probability that this characteristic or behavior will exist in 95% of the population between the range of results presented.

Probability or Statistical Significance Means that there is less than a certain level of probability that a characteristic or behavior exists in a population by chance. Usually, the lowest level of probability that is accepted as being significant is less than 5 chances in 100 (i.e., a significance of < .05). A more rigorous level of statistical significance is a probability of 1 chance in 100 that a characteristic or behavior exists by chance (i.e., a significance that is less < .01), and the most strict criteria, 1 chance in 1,000 (i.e., a significance < .001). A statistical test is not significance until it reaches a significance level of .05 or less. The significance level should be provided before conducting the statistical test.