The Growing Debate About the Abortifacient Effect of the Birth Control Pill and the Principle of the Double Effect

An earlier version of this paper was published in the journal *Ethics and Medicine* (January, 2000;16(1):23-30)
UPDATED by the author September 15, 2000

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Acknowledgments - The author gratefully acknowledges the following, who evaluated earlier versions of this paper: Buzwell W. McNutt, Cheyn Onarecker, MD, Joseph Stanford, MD, MSPH, and Robert Orr, MD.

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Introduction Christians are increasingly being exposed to the medical and theological debate concerning the potential abortifacient effect of the birth control pill (the Pill). Some, including this author,[1] have argued that the Pill, in both of its forms (the oral combined oral contraceptives [COCs], containing estrogen and progesterone hormones, and the oral progestin only pills [POPs], containing only progesterone hormone) has an abortifacient effect, at least some of the time.[1,2,3,4,5,6,7,8] By "abortifacient effect," these authors mean that the Pill causes the unnatural and unrecognized death of preborn children sometime between conception and "patient recognized pregnancy" – the time when the woman realizes that she is pregnant, either by signs or symptoms. A patient-recognized pregnancy can be clinically confirmed by physical exam, ultrasound or laboratory testing. By "preborn child," they mean the developing human life that secular physicians medically label as a morula, a zygote, a blastocyst, a pre-embryo(sic), a conceptus, or an embryo,[9] depending upon the stage of development.

Other medical experts argue that the possibility of the Pill having an abortifacient effect is either non-existent or infinitesimally small.[10,11,12,13] For the purposes of this paper, the former group will be called the "abortifacient theory proponents" or "proponents"" and the later group will be called the "abortifacient theory opponents" or "opponents." Although this author both recognizes and admits to a proponent bias, he hopes in this paper to represent fairly the arguments of both sides.

Among practicing physicians around the country with whom the author has communicated and among those obstetrician-gynecologists who have studied the subject and written opinions on it, the majority are "opponents." However, it also appears that more information has been published and distributed by the "proponents." In addition,

the only studies which have been accepted for publication in national and peer-reviewed medical journals on this topic represent the "proponent" position.[1,7,8]

Some opponents use the term "mini-abortion" to refer to the abortion of a preborn child prior to or just following implantation. Proponents have objected to this term, declaring that it appears to devalue the preborn. Opponents say that the term "mini-abortion" simply intends to indicate that the microscopic preborn child is much smaller than it is in later stages of development. For the purposes of this paper the term "abortifacient effect" or "abortion" will be applied to the death of human life from conception to delivery. The position of several prolife groups, ministries or publications concerning the Pill is elucidated in Table 1.

Premises For most Christians, the value of human life is measured by the value placed on that life by the God who created it. God's word, the Bible, says that He values human life in a way that is distinct from any other life that He created. Therefore, most Christians hold that the value ascribed to human life by God supersedes any assignment of value based on human choice, society, law or any human institution. Scripture teaches that human beings are made in the image of God, by God, for His purposes, and live at His pleasure. Therefore, most Christians would agree that human beings do not have the right before God to terminate the life of any other fellow human being, except as explicitly sanctioned in Scripture.

Scientists have been able to delineate the biological mechanisms by which God creates a new human being. The joining together of a male sperm and a female egg to produce human life is the process called "fertilization," and it can take as long as 24 hours.[9] Most Christians believe that a new human being is created is at the moment of conception.[14,15] Any interruption of the development of a human being after fertilization (or conception) is regarded by most Christians as the moral equivalent of an abortion, and it has been called a "post-fertilization effect"[1] or an "abortifacient effect."[2,3] Therefore, an intentionally caused abortion, whether recognized by the mother or not, at any point after fertilization (conception), would carry the same moral significance as the taking of a human life at any time in the life-span of that human being.[25]

Several verses in the Bible have been interpreted by theologians to indicate that conception is the time at which God creates a human being (in this case a preborn child): proof texts listed include the conception of Jesus,[16,17,18] Isaac,[19] Samson,[20] Job,[21] David,[22] David's son,[23] and John the Baptist.[24] Therefore, many of these scholars conclude that physicians must protect human life from conception onward.

The term "contraception" is the process by which conception is prevented (contra = against; ception = the root word for conception).[25] Among Christians there are a variety of theological views concerning the propriety of contraception.[25,26] There are those who would contend that it is unethical to use any contraceptive mechanism or method,[9,27] while others believe it is unethical to use unnatural or artificial forms of contraception.[28,29,30] Some hold that all contraception is immoral, but do not classify modern natural family planning (NFP) as contraception.[4] Still others would differentiate natural contraception (such as modern, medical NFP) and artificial contraception, based on the concepts of cooperating with versus suppressing natural fertility processes.[14,15]

"Birth control" a process by which birth is prevented, whether conception occurs or not. For example, a medical abortion is birth control but not contraception. For the purposes of this paper, birth control methods that are "natural contraceptives" will be defined to include abstinence, periodic abstinence, NFP (a variety of methods, including the Creighton and Billings methods). Birth control methods that are "artificial contraceptives" will be defined to include the diaphragm, condom (male or female) and spermicidal sponge, creams and gels. These definitions leave open the question of how to classify the hormonal birth control methods (whether oral, injected or implanted).

It appears that the majority of those who have published on this issue (at least since 1950) would permit contraception on ethical grounds.[31,32,33,34] This paper is not meant to discuss the ethics of contraception, as this has been done elsewhere;[26] however, it assumes that birth spacing using contraception can be ethical, following the principles outlined by Meilaender and Turner.[33] On the other hand, for those who hold that valuable human life begins at conception, a moral birth control method must be exclusively contraceptive; e.g., it must (1) work exclusively (or, some would say, nearly exclusively) by preventing conception from occurring and (2) cause no harm to the conceived but preborn child.

The Medical Evidence Both proponents and opponents seem to agree that the risk of an abortifacient effect with intrauterine contraceptive devices (IUDs), the progesterone-only pills (POP), Norplant® (subcutaneously implanted progesterone rods) and "emergency contraception"(sic) or "the morning after pills" are such that, in general, it would be unethical to use or prescribe these products for birth control.[1,2,10,11] In other words, these products appear to have an abortifacient or post-fertilization effect, at least some of the time. Of POPs, opponents have stated, for example, that "POPs are much less effective birth control…although they have potential advantages for select patients."[11] They go on to say, "POPs…are associated with higher ectopic (tubal) pregnancy rates, exposing the user to increased potential for morbidity and even mortality. This may constitute an unacceptable risk for the use of these products."[11] Proponents have said, "For POPs…postfertilization effects are likely to have an increased role."[1] However, proponents and opponents derive different conclusions when it comes to the COC's or injectable progesterone (i.e., DepoProvera®). Since COC's are used much more frequently than DepoProvera®, this paper will examine the COC. The following arguments for and against an abortifacient effect of the Pill were distilled from several excellent reviews on the subject.[1,2,3,10, 11]

The "Hostile" or "Unreceptive" Endometrium Theory Proponents cite a large number of medical studies which document that the uterine lining (endometrium), the "home in which newly conceived human life implants and develops,"[2] is dramatically changed by the Pill.[1-3] They cite scores of studies that seem to document that the endometrial structure, biochemistry and function are all dramatically changed by the Pill. They believe that most of these studies conclude that the pill-induced endometrial changes render the endometrium hostile[2,3] or unreceptive[1] to implantation, at least some of the time.[1,2] Proponents also point to secular research opinion that these endometrial "changes have functional significance and provide evidence that reduced endometrial receptivity does indeed contribute to the contraceptive efficacy of (the Pill)."[35] Proponents believe that no published studies have refuted these findings.

Although proponents admit, and opponents point out, that this is not direct proof of an abortifacient effect of the Pill, it is felt by the proponents to be indirect proof of a very high order.[1,2] They state[1-3] that the presumption that these pill-induced endometrial changes reduce the chance of implantation and increase the chance of an unrecognized, pill-induced abortion of the preborn is so well-accepted in the medical world that the Food and Drug Administration's (FDA's) approved product information for the Pill in the Physicians" Desk Reference[36] (PDR) says, "Although the primary mechanism of action is inhibition of ovulation, other alterations include changes in the cervical mucus, which increase the difficulty of sperm entry into the uterus and changes in the endometrium which reduce the likelihood of implantation." [37] To proponents, this is an FDA admission of the potential abortifacient effect of the Pill.[1,2,3]

Further, proponents cite Magnetic Resonance Imaging (MRI) studies which show that the endometrial lining of Pill users is significantly thinner than that of nonusers.[1,3] They also cite nine recent and fairly sophisticated ultrasound studies which have all concluded that endometrial thickness is related to the functional receptivity[1] of the endometrium in women who are infertile. Some of these studies, they say, show that when the endometrium becomes too thin, at least in infertile women, that implantation of the preborn child does not occur.[1,3] They point out that the minimal endometrial thickness required to maintain a pregnancy in infertile patients ranges from 5 to 13mm,whereas the average endometrial thickness in women on the Pill is 1.1 mm.[1] They believe that these data lend credence to the FDA approved statement that there are Pill-induced "changes in the endometrium which reduce the likelihood of implantation."[37]

Opponents reply that the assertion that any hostile endometrium causes unintended abortions of preborn children in women on the Pill has absolutely no direct supporting medical evidence.[10-12] Opponents claim that the hostile endometrium theory is unproven assertion.[10,11] Further, they state that the FDA approved statements about the Pill-induced changes to the endometrium are accurate only when the woman does not ovulate (ovulation is the process wherein the ovary releases an egg [ovum] into the abdominal cavity). They believe that if the woman taking the Pill has a break through ovulation, that a whole new hormone environment comes into play[10-12] and that the hormonal changes occurring after ovulation have seven days to act on the lining of the uterus (the endometrium) to prepare it for implantation.[10,11] They believe that these hormones will normalize the endometrium whether the woman is on the Pill or not[10,11] and that this is the reason that unexpected pregnancies on the Pill do as well as any other pregnancies (at least after the pregnancy is clinically recognized).[10,11]

Proponents counter that the opponent's theory that a breakthrough ovulation on the Pill will normalize the endometrium has no supporting medical studies.[1] Further, they point out that after a woman stops taking the Pill, it can take several cycles for her menstrual flow to increase to the volume of women who are not on the Pill,[1,37] suggesting to them that the endometrium is slow to recover from its Pill-induced thinning.[1] They also cite an older study that looked at women who ovulated on the Pill.[38] This study was done in a group of previously sterilized women who were asked to take the Pill and then miss it for two days in a row. An elevation in serum progesterone was interpreted as being consistent with a breakthrough ovulation. In every single woman with this progesterone surge, the endometrium did not appear to be receptive to implantation.

Proponents believe that this study directly refutes the theory that a breakthrough ovulation on the Pill will normalize the lining of the uterus and supports the potential that Pill causes unrecognized loss (death) or preborn children, at least some of the time.[1] Opponents argue that the level of progesterone used was too low and that none of these women may have been ovulatory – so they feel the study is useless – but, they have suggested that this study be repeated using more modern methods for confirming breakthrough ovulation (Joe DeCook, MD, personal communication). Proponents say that although all of the women with the progesterone surge may not have ovulated, it is highly unlikely that none of them had ovulated.

Proponents feel the hostile endometrium evidence is strong enough that the ethical responsibility rests upon the opponents to prove to women that there is no abortifacient effect and that it rests upon all Pill prescribers to inform women of this possible effect.[1]

Ectopic Pregnancy Risk on the Pill Another argument proposed by the proponents is this: If the Pill has no abortifacient (postfertilization) effect, then the reduction in the rate of intrauterine pregnancies (IUPs) in Pill-takers should be identical to the reduction in the rate of extrauterine (ectopic or tubal) pregnancies (EUPs) in Pill-takers.[1] They argue that if there is an increased extrauterine/intrauterine pregnancy (EUP/IUP) ratio, this would constitute strong evidence of an abortifacient effect.[1]

Proponents cite at least two medical studies that have shown an increased EUP/IUP ratio.[39,40] These data came from seven maternity hospitals in Paris, France[41] and three in Sweden[40] and involved a total of 484 women with ectopic pregnancies and 389 pregnant controls (women who become pregnant while using the Pill).[1] Proponents point out that secular researchers who have reviewed these studies have suggested that these data indicate that at least some of the Pill's birth control effect may be provided via a postfertilization (or abortifacient) effect.[40,41]

Opponents point out, and proponents admit,[2] that EUP studies that compare women with EUP to a non-pregnant control groups do not show an increased risk of EUP for Pill-users.[11,12] Opponents believe that comparing EUP patients with pregnant controls results in unreliable data and conclusions. Therefore, opponents totally discount the EUP data that compares EUP patients with pregnant controls. However, there is, as yet, no published, peer-reviewed researcher that substantiates the opponent's opinion. Further, proponents assert that only the data comparing EUP patients to pregnant controls is valid. They substantiate their claim by pointing to published secular research opinions which state that, "…when considering the situation where a woman became pregnant during contraceptive use, one should focus (exclusively) on pregnant controls."[41,42] Therefore, proponents say, the elevated IUP/EUP ratios in women on the Pill is strong evidence (if not proof) that the Pill is associated with an abortifacient effect, at least some of the time.[1,3]

Proponents believe this is scientific evidence of a fairly high order[1] and that that the ethical responsibility rests upon the opponents to prove to women that there is no abortifacient or ectopic pregnancy effect from the Pill. They also argue that there is an ethical responsibility to all Pill prescribers to inform women of these possible effects.[1] Conclusions about the medical evidence Most evangelical Christian proponents and some opponents agree that the use of IUDs, POPs, Norplant® and "The Morning After Pill," as birth control are unethical. Thus, the debate and controversy seems to swirl around COCs, which are the most common form of birth control (exclusive of sterilization) used by women.

Concerning the potential of an abortifacient effect of the Pill, there is one thing that most proponents and opponents can agree upon and that is that their arguments about the data are qualitative and not quantitative. One simply cannot estimate with certainty, from the current medical data, how frequently or infrequently the abortifacient effect occurs.

In addition, both sides also agree that there is no cause and effect proof that the observed endometrial changes of women on the Pill cause unrecognized abortions in women on the COCs. The proponents believe the evidence is strong – some would say extremely strong. The opponents believe the evidence is nonexistent or extremely weak. However, most would admit that there is no way from the current data to predict just how often it might occur. However, proponents do argue that even if the effect is rare, that there are so many millions of women on the Pill. Therefore, even a very rare effect could abort countless preborn children. Further, they say that the abortifacient effect can potentially occur to any woman who is taking the Pill; e.g., that when a woman takes the Pill that she is playing a "form of Russian roulette with her preborn child."[2] They believe that the longer a woman takes the pill, the greater the chance she has of the Pill causing an unrecognized abortion. Opponents counter that for any particular woman that they would predict that the risk of an unrecognized abortion is infinitesimally small.[10]

Should women be informed about this controversy? Many reproductive scientists have defined pregnancy as occurring at the point of or at some point after implantation.[42,43] However, this definition does not change the fact that many patients identify the start of human life with fertilization. For many of these patients, a form of birth control that may allow fertilization and then cause loss of the preborn child is unacceptable. Regardless of the personal beliefs of the physician or provider about the mechanism of action of the Pill, it is important that patients have information relevant to their own beliefs and value systems.

Some physicians have suggested that postfertilization loss attributed to the Pill would not need to be included in an informed consent until it is either definitely proven to exist or proven to be a common event. However, rare but important events are an essential part of other informed consent discussions in medicine – primarily when the rare possibility would be judged by the patient to be important. For example, anesthesia-related deaths are extremely rare for elective surgery (< 1:25,000 cases); nevertheless, it is considered appropriate and legally necessary to discuss this rare possibility with patients before such surgery because the possibility of death is so important to patients. Therefore, for women to whom the induced loss of a preborn child is important, failure to discuss this possibility, even if the possibility is judged to be remote, would be a failure of informed consent.

There is a strong potential for a negative psychological impact on women who believe human life begins at fertilization, who have not been given informed consent about the Pill, and who later learn of the potential for postfertilization effects of the Pill.[44,45] The responses to this could include disappointment, anger, guilt, sadness, anger, rage, depression or a sense of having been violated by the provider.[45]

Do Intentions Matter? Opponents seem to agree with proponents that if the Pill does have an abortifacient effect, it would be a bad effect, a bad consequence.[11] Proponents say this bad consequence of taking or prescribing the COC is probable, at least on occasion. Further, they point out that the longer a woman takes the Pill, that the greater her chance of having an unrecognized, caused abortion. Opponents say this bad consequence is very unlikely. Therefore, those not versed in the technical intricacies of these medical arguments and unable to decide which side is right, are left with the dilemma of deciding whether to take or prescribe the COC until or if the medical controversy is decided.

Opponents have argued that physicians who prescribe the Pill and women who take the Pill do so almost universally to prevent ovulation and that the Pill prevents ovulation the vast majority of the time it is taken (although they concede that there is breakthrough ovulation on the Pill). Opponents point out that those who prescribe the Pill and patients who take it intend that the BCP be contraceptive. Opponents argue that this intention, which is good and ethical, supersedes any potential rare and unintended bad consequence – such as a possible abortifacient effect. Proponents have argued that the effect is bad, no matter the intention.

Indeed, intention is viewed as important in medical ethics since it can help not only determine whether an action is right or wrong, but intention has been used to help define the nature of the act itself and the kind of person who is performing the act[46,47] Therefore, Christian ethicists point out that it is not always blameworthy to produce bad consequences.[46,47] They point out that morality is not just about consequences. There are times when good consequences can follow from a blameworthy intention. On occasion, bad consequences can be produced by the agent without blame, based upon good intentions. However, to know when it is morally permissible to produce bad consequences, Christian ethicists often resort to an ethical precept called the principle,[46,47,48] rule,[49,50] or doctrine[51] of the double effect.[52] (The term doctrine is considered technically inaccurate by some as no higher church authority has explicitly taught it.[52])

The Principle of the Double Effect The principle of double effect has been said to have been developed from Roman Catholic theologians interpreting Thomas Aquinas's (1224-1279) discussion of self-defense.[53] St. Thomas was writing to deal with a host of ethical quandaries including warfare, deception and cooperation with evil.[52] However, the most recent bioethical discussions of this principle have focused on cases involving the unforeseen death of medical patients or of the unborn.[52] According to the principle, as generally interpreted, actions or omissions are only morally permissible when their gravely bad effects are allowed for good reason (proportional reason) and are unintended.[52] While no exact formulation of the principle has become standard, in the theological literature four principle elements or conditions have emerged:[46-52]

1. The act must be ethical – it must be morally good (or, at the very worst, morally neutral). In other words, the act itself must not intrinsically be a bad act.
2. The person who is doing the action must intend for the action to be moral (or good). In other words, he or she in no way intends a bad effect or consequence.
3. The good effect does not follow a bad effect. In other words, a bad effect cannot be a means to a good effect.
4. If there is a bad effect or consequence, then there must be sufficiently serious moral reason(s) for allowing the bad effect to occur. In other words, the good effect that is intended has sufficiently valuable, moral and ethical value to justify allowing or tolerating the bad effect.

Further, some ethicists have recently interpreted the fourth condition as having the logical corollary that there must be no other way of producing the good effect.[46,49] To date, this author is aware of no ethicist or theologian who has argued against this interpretation.

Application of the Principle of Double Effect to the Pill Data Based upon the principle of double effect, then, is it ethical or not to take or prescribe the Pill during this scientific controversy? To be an ethical action, all of the above conditions will need to be met.[46,48-9] With the COCs, are they?

As discussed in the assumptions section of this paper, for the purposes of this paper it is assumed that birth spacing with good intention and with contraceptive agents (agents that work only by preventing conception and can have no abortifacient or post-fertilization effect) can be ethical. Therefore, by definition condition one is met.
In addition, for the purpose of this discussion, it is conceded and/or assumed that virtually all prescribing physicians and women taking the Pill are doing so with good intention. Therefore, condition two is also met. However, it is conceded that for those Christians who view any contraception, in general, or hormonal contraception, in particular, as sinful or immoral, that neither condition one nor two of the Principle of Double Effect can be met.

Since most proponents and opponents agree that an abortifacient effect of the Pill, should it occur, is likely to occur infrequently (if at all, say the opponents), then condition three is met – in the sense that the vast majority of the time the good effect of the pill does not depend upon a possible (or even probable) bad effect (e.g., an abortifacient effect). Therefore, for this discussion, it is declared that condition three is met; however, it is also conceded that this is a debatable point.

Condition four of the principle of double effect is hotly debated by the proponents and the opponents. Some opponents concede the possibility of an abortifacient effect of the Pill (albeit an extremely remote possibility, in their view) and argue that if there is a bad effect or consequence (an abortifacient effect), then there are sufficiently serious moral reasons for prescribing or taking the Pill, and allowing the uncommon bad effect to occur. In other words, some opponents believe that the good effect of the Pill (that is intended) has sufficiently valuable, moral and ethical value to justify allowing or tolerating a potential or infrequent bad (abortifacient) effect. It is not the purpose of this paper to repeat the intricacies of the debate over this point; however, the debate can be summarized this way:

1. Opponents argue that women who do not have access to the Pill are more likely to become pregnant and then more likely, in industrialized societies to choose abortion and in primitive societies to die from pregnancy.[10,11] Thus, they imply, condition four is met in that these hypothesized secondary effects of not having the Pill appear to be, to opponents, sufficiently serious moral reasons for prescribing or taking the Pill, and allowing the bad effect to occur (if it does occur).

Proponents argue that the opponents contention is flawed. They hypothesize that only a small minority of women in industrialized or primitive societies would choose to not take the Pill because it causes early abortions.[2] Further, they say these same people (presumably Christians and other theists) would in all likelihood be the very last ones to try to obtain a medical abortion if they did become pregnant.[2]

2. Opponents state that studies indicate that up to 80% of conceived embryos naturally fail to implant.[10,11] They point out that the Pill, by lowering the rate of conception, will lower the total absolute numbers of deaths of the preborn. Proponents point out that opponents seem to be saying that if the Pill kills some children, consolation can be had under condition four in knowing that the Pill prevents many other preborn children from ever being conceived and therefore from dying naturally.[2]

Proponents argue that if there are fewer abortions because of the Pill, it is not because the Pill brings any benefit to a preborn child, but only because it results in fewer preborn children being conceived. They imply that it is not that lives are being preserved, but simply that there are fewer lives to preserve and that humans are instructed in Scripture to take responsibility for their choices, not for God"s.[2]

Were our discussion to end at this point, the controversy would certainly might be consider unsettled, or debatable. It certainly could be considered to fall under the category of disputable matters[12] discussed in Romans 14:1-21. Objective, knowledgeable Christian observers would in all likelihood line up on both sides of the argument based upon a variety of subjective and objective criteria. However, the fourth principle of double effect has a corollary that must be considered. That corollary relates to alternatives. In other words, the principle is now being interpreted by some authors to make the contention that there must be no other way to produce the good effect.[46,49] Indeed, there may be.

Natural Family Planning – a viable option to the Pill Only over the last decade has modern, scientific natural family planning (NFP) become established in the medical literature. Nevertheless, many physicians and most women view natural family planning only as the old fashioned and mostly ineffective rhythm method. The old joke goes something like this: "What do you call a couple who uses the rhythm method for birth control?" The answer, "Parents!" Most people (physicians and patients) are simply not aware of modern NFP – much less its many advantages and it remarkable effectiveness.[54-60] Furthermore, it takes time on the part of the physician and the couple seeking to avoid conception to teach and/or learn NFP. It is much faster and much more convenient just to write a prescription than to introduce, discuss and then teach NFP. In addition, the cost of the Pill is increasingly covered by insurance policies, yet the cost of patient education is not a widely covered service.

Many are surprised to learn that one form of NFP, developed at Creighton University (The NaPro® method), has been medically studied over the last 20 years and has been reported in one meta-analysis to be even more effective than the Pill at preventing pregnancy.[54-55] One meta-analysis reported five studies that recorded 1,876 couples who used the NaPro® method for a total of 17,130.0 couple months of use.[54] The method and use effectiveness rates for avoiding pregnancy were 99.5 and 96.8 at the 12th ordinal month and 99.5 and 96.4 at the 18th ordinal month, respectively. The discontinuation rate was 11.3% at the 12th ordinal month and 12.1% at the 18th ordinal month. The most recent study of this scientific approach to NFP,[55] evaluated 701 couples at an urban hospital clinic in the Houston area. After 12 months of use, the following net pregnancy probabilities were found per 100 couples: pregnancies related to the method, 0.14 and pregnancies caused by user and/or teacher error, 2.72. The authors also reported that pregnancies caused by what they called "achieving-related behavior" (defined as genital contact during the time known to be fertile), 12.84. Pregnancy probabilities were similar whether the women had regular or irregular menstrual cycles, had recently discontinued the Pill or were breastfeeding. The authors concluded that pregnancy probabilities using this form of NFP compared favorably with those of other methods of family planning and that women did not need to have regular cycles to use the NFP successfully.

Obviously, in the populations studied, the method is highly effective as a means of avoiding pregnancy in both its method and use effectiveness. The method effectiveness has remained stable over the years of the studies, but the use effectiveness for avoiding pregnancy appears to have improved over the study period. Another form of NFP, the Billings Ovulation Method, is so simple to teach and use that it is taught around the world, even to people who cannot read or write.[56,57,58,59]

NFP is said by its advocates to promote love, romance, communication, prayer, spirituality and learning about natural, God-created reproductive mechanisms.[60] An advantage of NFP is that it is said to foster communication and understanding between the man and the woman, develop co-operation between them and a sharing of the responsibility in this important matter of their children.[60-61] In all these ways it is said to improve a couple's relationship and helping them to grow in love and fidelity to each other.[61]

These medical and sociological facts about NFP appear to nullify the corollary to condition four of the principle of double effect. Since there is a viable, safe and effective alternative to the Pill, this fact would appear to dissolve most arguments that the Pill, until scientifically proven to be non-abortifacient, should be or can morally be used by Christians. In fact, assuming that NFP is only as effective as the Pill (and not more effective), it would appear that most arguments to use the Pill, in view of the fact that it may have an abortifacient effect, would be reduced to arguments of convenience at the potential expense of preborn human life.

Future Research Without question, more medical research on this controversy is needed and would be instructive to physicians, ethicists, theologians and patients. Others have begun to publicly call for such research to be done.[1,2,10,13,22] In particular, studies are needed that evaluate women who get pregnant while taking the Pill. Medically, two separate types of research need to be done with these women: One type would evaluate the development of the preborn child from the point of conception to the point of implantation; the second would evaluate gestation from the point of implantation onward.

From the point of conception to implantation

Direct evidence of a postfertilization, preimplantation abortifacient effect would require methods to measure directly the rate of fertilization and the loss of the preborn child before implantation in women on the Pill. Transcervical tubal washings have been used in women on IUDs to quantify the rate of ova fertilization[62] and could theoretically be done in women on COCs. However, it is likely that most Christians would view such research as unethical. Other than the washings, there is no currently accepted and proven method to measure the loss of the preborn child prior to implantation. However, a number of techniques and methods to quantify preimplantation conception are being investigated. Promising research involves the measurement of maternal hormones that appear to be produced or altered after fertilization.[63,64,65] The most promising research involves the identification and measurement of a substance called the early pregnancy factor.[66,67,68] It is reasonable to predict that this research will assist in the answer of this question in the very near future.

As discussed earlier, women who have been sterilized, but who still have functioning ovaries and a uterus could be placed on the Pill and instructed to miss doses. They could then be evaluated for breakthrough ovulation and the endometrium evaluated after ovulation to see if it was receptive or unreceptive to implantation.

From the point of implantation

Direct evidence of an abortifacient effect on the preborn child after implantation and prior to signs or symptoms of pregnancy would require measurement with ultrasensitive assays for bHCG (a hormone that can be measured in the blood or urine of the mother).[1] There is also the possibility of being able to measure other pregnancy-related hormones.[69] Studies using these ultrasensitive assays have been done with normally fertile women not using birth control,[70,71,72,73] as well as with women using nonhormonal methods of birth control.[74]

Using these established methods to detect very early pregnancy, women on the Pill (the COC) could be studied and the loss of their preborn children (from implantation onward) could be demonstrated and compared to already published studies of the natural losses of normally fertile women using no birth control.[75,76] Studies such as these, in women on the Pill, would be expensive and would necessarily have to involve a large number of women. An additional obstacle is that it is unlikely that pharmaceutical companies would fund such research. Nevertheless, it would appear reasonable for proponents and opponents to band together to call for such research.

If this study showed that there is increased loss of the preborn in women on the Pill, as compared to women not using any birth control, then the case of the proponents is established. If this study showed that there is no measurable loss of the preborn in women on the Pill, then the case of the opponents is established. However, a third possibility exists: the proposed study could show that there is a significant loss of the preborn in women on the Pill,

but that the loss is less than that seen in noncontracepting women. If so, then another ethical debate would be forthcoming and appropriate. Such a discussion is beyond the scope of this paper.

Conclusion

There is currently a growing controversy about whether the Pill causes early, unrecognized abortions of preborn children. It does appear theoretically possible (even probable) that research could be done to begin to settle the controversy and this research is critically needed. However until such research is available, those who feel ethically comfortable with prescribing the Pill should at the very least inform their female patients of this possible effect and allow their patients to decide whether they should or should not use this form of birth control.

Furthermore, physicians or pharmacists who feel ethically constrained from prescribing or dispensing the Pill should be supported. Whether they should be encouraged or compelled to refer informed patients who still desire to use the Pill to a healthcare provider who can prescribe or dispense the Pill is legitimately debatable, however, that discussion is beyond the scope of this article.

Moreover, there appear to be viable, safe and effective forms of NFP. NFP is a natural method of contraception that can never cause an unnatural abortifacient effect. It appears that most physicians and patients are not aware of the viability of this option and that the vast majority of those who prescribe the Pill have never been educated about modern medical NFP. Efforts should be undertaken by national groups to educate Christian women and physicians about these options.

Finally, based upon the principle of double effect, it appears reasonable to conclude that the Pill should not be used or recommended to those who believe life begins at conception – unless and until the Pill is scientifically proven to not have an abortifacient effect. It appears to be a reasonable conclusion that such studies could be done and that proof could and should be forthcoming; however, to date, that proof clearly does not exist. Until such proof is available, one way or the other, the Pill should be considered a possible cause of death to preborn children.
Since, in the final analysis, the choice to prescribe or use the Pill may be legitimacy considered a potential life and death decision for the preborn, it seems reasonable to let God's Word be the final one: "This day I call heaven and earth as witnesses against you that I have set before you life and death, blessings and curses. Now choose life, so that you and your children may live."[77]

Table One – Representative Prolife Organizations and Their Position on the Birth Control Pill.
1. The "proponent" view appears to be supported by:
a. The American Academy of Natural Family Planning[4,78]
b. The American Life League[5]
c. Eternal Perspective Ministries[2]
d. Human Life International[6]
e. Life Issues Institute[79]
f. One More Soul[80]
g. Pharmacists for Life[7]
h. The Study of Abortion Deaths Commission[81]
i. The journal Life Advocate[82]
j. The Catholic Medical Association (CMA)
2. A "neutral" view seems to be supported by:
a. The Christian Medical and Dental Associations[83]
b. The WELS Lutherans for Life[84]
c. Focus on the Family[85] (In the past, FOTF had what appeared to be an opponent position;[13] however that position was updated by their Physician Resource Council in 1999)
3. The "opponent" view is supported by a group consisting of 23 well-respected academic and private-practice, prolife, ob-gyns[5] and has been expanded by a group of subgroup of 4 of the original 23 ob-gyns[10, 11]
4. National groups that are currently discussing or debating the issue, but have yet to publish or publicly release an opinion, include (but may not be limited to):
a. HeartBeat, International
b. The National Right to Life Committee
c. The American Association of Prolife Obstetrician-Gynecologists (AAPLOG)

d. The American Association of Prolife Family Physicians (AAPFP)
e. The Family Research Council (FRC)
f. The Center for Bioethics and Human Dignity
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