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Rhythm Method as Cause of Embryonic Death Based on Flawed Assumptions (Response to "The Rhythm Method and Embryonic Death" by L. Bovens)

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Dear Editor,

Luc Bovens's assumption that intercourse on the fringes of the fertile phase of the menstrual cycle by users of rhythm will result in increased embryo loss is not based on convincing evidence (J Med Ethics, 2006;32:355-356). In fact, some scientific evidence points to the opposite conclusion. Researchers at the US National Institutes of Health Science reported they found no evidence for this association based on single acts of intercourse during the fertile window.(1) In a subsequent study they did find a significant increase in pregnancy loss from acts of intercourse on the estimated day of ovulation, but the study had severe limitations due to imprecise timing of intercourse and in estimating what acts of

intercourse actually caused the pregnancy.(2) But neither of these studies involved couples using rhythm or what is commonly known as natural family planning (NFP).

Researchers from Johns Hopkins and Georgetown University conducted a prospective study that included 373 unplanned and 367 planned pregnancies which occurred from women who were taught natural family planning (NFP) at 5 centers worldwide. The researchers found no significant differences in adverse pregnancy outcomes including spontaneous abortion rates between the two groups of women.(3) Although these same researchers found some evidence of poor pregnancy outcomes from unintended pregnancy compared to NFP couples who intended pregnancy, the poor pregnancy outcomes were only from couples who had a history of early pregnancy loss.(4) The largest study to test the hypothesis that users of NFP with unintended pregnancies have different pregnancy outcomes than couples that practice spontaneous intercourse resulted in no difference in pregnancy outcomes.(5)

Bovens's assertion about ageing gametes with use of rhythm and resulting spontaneous embryo wastage is not new. In fact moral theologians postulated this possibility in the 1970s.(6) Back then, their assertions were based on poorly designed research studies and circumstantial evidence. One of the studies was a thesis that involved a retrospective assessment of parents of mentally handicapped children from one Dutch village who were asked, up to 10 years later, to recall when the conception intercourse occurred. These couples practiced a calendar-based system of NFP, not the more modern methods that rely on biological markers of fertility. The same researcher also provided circumstantial evidence of an increase of Downs Syndrome by young Catholic mothers using NFP.(7) Guerrero and Rojas tested the ageing gamete theory and seemed to show an increase in the spontaneous abortion rate and possibly malformations based on the recordings of the basal body temperature thermal shift and timing of artificial insemination.(8) However, we now know that the thermal shift is a very imprecise method of estimating the fertile phase, and conclusions based on this biological marker are fraught with error. Poor scientific studies result in poor outcomes and false conclusions.

Physiological mechanisms in the human being facilitate fresh gametes for the process of fertilization. During the fertile phase of the cycle, estrogen stimulated cervical mucus serves the purpose of filtering out defective sperm. Only the most robust succeed in reaching the ovum. Furthermore, the ovum is viable only about 12 – 24 hours. Approximately 50 -75% of spontaneous abortions are a result of chromosomal abnormalities of the embryo, and most of these occur by chance.(9) How much of this chromosomal damage is due to ageing gametes from intercourses on the fringes of the fertile phase has not been documented. Other factors contributing to early embryonic loss include uterine abnormalities, immunologic disorders, bleeding disorders, endocrine disorders, infections, and environmental factors such as smoking. The more troublesome ageing factor is oocytes from older women, especially when they have intercourse with older men. Women in modern developed countries tend to delay (largely by use of hormonal contraception) having children until later in life, often at an age when their fertility is in decline and their oocytes are diminished and genetically old.(9,10)

In fact, it could be postulated that couples using hormonal contraception will contribute to higher spontaneous abortion rates and poorer pregnancy outcomes than couples using other forms of family planning. Many couples who are on hormonal contraception will eventually discontinue the

contraceptive pill to achieve a pregnancy. (Please note that couples do not stop using NFP when they want to achieve a pregnancy – in fact, NFP helps couples to target the fertile phase). Couples who discontinue hormonal contraception often experience irregular menstrual cycles, delayed ovulation, longer follicular phases, and shortened luteal phases.(11) Longer follicular phases and shortened luteal phases have been cited as factors that could contribute to oocyte ageing and early spontaneous embryo loss.(12) Millions of women discontinue hormonal contraception each year to achieve a pregnancy. Should we ask them to avoid achieving a pregnancy until their cycles normalize?

The highest probabilities of pregnancy from an act of intercourse during the fertile window are the two days before the day of ovulation.(13) We do know that there are factors that decrease this probability such as poor quality cervical mucus, the age of the woman and the man (not the age of the gametes), and smoking.(14,15) If you accept absolute numbers of natural preimplantation losses of 50%, then it is likely that these will occur much more (in absolute terms) with intercourse during the days of highest fertility. That is, if 50% of all zygotes fail to implant, since there are many more zygotes formed at days of peak fertility, there will be many more failed implantations during the high fertile time. This is true even if the percentage of failed implantations on the extreme margins of the fertile period were to be slightly higher (say 1% or 5% more) - a possibility that we can't entirely exclude.

From an ethical standpoint, even if you hold to the assertion that fertilization on the margins of the fertile time results in embryos loss, that doesn't mean NFP use is causing embryo deaths in any morally relevant sense. Thisis the case for at least two reasons, first, intercourse at these times is not unique to NFP users. Where is the evidence that NFP users have intercourse on the edges of the fertile phase significantly more than the general population? Research has indicated couples have intercourse more frequentl on the weekend when there is more time and less stress.(16) Weekend intercourse will result in intercourse anytime during the fertile phase, including the fringes. Second, having intercourse at these times does not equal doing anything (either "action" or "omission") to the woman or the embryo to cause the embryo's death – as is the case when a woman uses an abortifacient drug or device. The parallel Bovens tries to draw between the two cases just doesn't work. The point is basically the same as one would make in distinguishing between [non- abortifacient methods of] contraception and NFP. They both avoid fertilization, but contraception does so by doing something to the act of intercourse – either an "action" or [in the case of withdrawal] an "omission" – that takes away as much as possible of the fertility it would otherwise have. NFP does nothing of the sort.

NFP helps couples to monitor, understand, and live with their fertility. Contraception works to block, suppress, or destroy fertility -- actions that are contra fertility and, at times contra life. Fertility for many couples is a precious and awesome gift. Human life is precious and at the most vulnerable during the passage from the fallopian tubes to the womb. The assumption that intercourse on the edges of the fertile phase leads to the utilization of aged gametes and increased embryonic destruction is plausible, but there is scant evidence of this among human beings. The assumption that practicing NFP results in the use of aged gametes and increased embryonic death has no good evidence and in fact some good evidence to the contrary. The use of NFP is not an action or omission against embryonic human life anymore than normal human living and loving. Taking Bovens's notion to the extreme would mean that couples should not have intercourse at all – since, it might result in a spontaneous

abortion. Perhaps the real absurdity is the thinking that what is natural is bad and what is destructive of fertility is good.

Separating sexuality from fertility is a dualistic system counter to the natural intent of the sexual act. It only works in a fantasy world with a false sense of sexual freedom by use of condoms, hormonal contraception, emergency contraception, abortion as a backup, IVF when a perfect child is wanted, and sterilization when fertility is no longer desired. This dualism creates a false representation of human being, human relations, human boding, and the transmission of human life.

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