

Chapter 1 : Fertility Awareness “ Birth Control Method

Fertility awareness methods don't work as well as other types of birth control because they can be difficult to use. Want a more effective way to prevent pregnancy? Want a more effective way to prevent pregnancy?

There are many types of contraceptives available today to allow individuals to choose the type of birth control that best fits their lifestyle and budget. Fertility awareness also called natural family planning or rhythm method is a way to predict fertile and infertile times in your cycle. FAM is based on body signs, which change during each menstrual cycle in response to the hormones that cause ovulation the release of an egg. An egg is usually released once in each menstrual cycle. The egg lives 12 to 24 hours. Sperm can live up to five to six days in the uterus, and be able to fertilize an egg during this time. This means that a woman is fertile for as long as six days before ovulation and two or three days after ovulation, a total of seven to eight days of fertility in her cycle each month. When does a woman normally ovulate release an egg? Ovulation normally occurs once in a menstrual cycle between periods. The egg is normally released 14 days before your period starts. If a woman has regular monthly periods the number of days between the start of each period is exactly the same then ovulation will occur at the same time during each cycle. How effective is using FAM in preventing pregnancy? If couples use FAM for one year, an average of 25 women will become pregnant during that time. If FAM is used perfectly, only 1 to 9 will become pregnant in the first year of use. How do fertility awareness methods work? Some methods depend on abstinence during fertile times, others rely on a backup method of birth control, such as condoms and spermicide or a diaphragm, during fertile times. Having intercourse during your fertile time, of course, adds a risk of pregnancy since there is a chance of failure for any method of birth control. Also, a spermicide placed into the vagina can make it difficult for the woman to observe mucus changes. What are the different methods? There are a variety of fertility awareness methods that use one or more fertility signs. Calendar Rhythm Method predicts when ovulation will happen based on when ovulation occurred in past cycles. Ovulation Mucus Method involves watching the changes in cervical mucus. Normal vaginal discharge changes at the time of ovulation. Basal Body Temperature Method BBT depends on taking daily temperature readings to determine when ovulation is occurring. There is a rise in temperature when ovulation occurs. Sympto-Thermal Method uses a combination of various methods that identify symptoms of ovulation. These include the mucus method, basal body temperature, cervix changes, and other symptoms such as breast tenderness, abdominal heaviness, slight lower abdominal pain, or slight bleeding spotting. This method may work better for women with irregular or less distinct mucus changes. Advantages in using FAM for pregnancy prevention Inexpensive, no health risks and convenient no devices or hormones to use Acceptable to couples who have religious concerns. Can develop greater communication, cooperation and responsibility for partners Can be useful for determining optimum fertility time to achieve a pregnancy Can help a woman track and improve PMS symptoms Disadvantages in using FAM High failure rate, difficulty in accurately predicting ovulation or fertile time. Requires commitment from both partners. Cannot be spontaneous with intercourse. Provides no protection against STIs. Only as effective as the contraceptive used during fertile times e. A woman must abstain or use another birth control method for several days longer than the actual fertile time All fertility awareness methods depend both on careful, daily observation and charting of body signs, and on the cooperation of both partners in respecting fertile times. The method works best to prevent pregnancy if a couple has a stable relationship, good communication, and strong motivation to use it correctly. It can be easily discontinued any time pregnancy is wanted. Where can I get more information on Fertility Awareness methods?

Chapter 2 : fertility-control method - English-French Dictionary - Glosbe

Fertility Control. Methods of contraception. Extent of contraceptive practice. Effectiveness. Sterilization. Abortion. Methods of the future. BIBLIOGRAPHY "Fertility control," as the term is used in this article, refers to patterns of human behavior that have as their primary objective the prevention of unwanted pregnancies and births.

In contrast, other fertility control programs have recognised the potential animal welfare costs of administration procedures and have chosen methods that allow for remote delivery of a single dose of an agent [57], effectively minimising stress other than that associated with potential darting injuries [58] or injection site reactions [59]. With the use of many modalities, for example, following remote drug delivery darting and surgical procedures, there is a requirement for visual marking of treated animals [60 , 61]. Marking in itself has been demonstrated to impose animal welfare impacts in many wildlife species [48]. Repeated Treatments There are variations in the durations of action for different fertility control approaches. Some programs addressed the requirement for booster doses for older ZP vaccines by maintaining wild animals in captivity between injections, a process that can be highly stressful for free-ranging species [62]. An additional consideration is the aversion behaviour of wild animals after previous exposure to a stressful method. For example, studies requiring animals to be re-darted [60] or re-trapped [64] have observed greater difficulty in re-administration of a treatment. Injection or Implantation Site Local Inflammatory Reactions Many remotely delivered immunocontraceptive modalities, being adjuvanted vaccines that rely on stimulating the immune system, have been shown to induce granulomatous inflammation at the site of injection [59 , 65]. Some studies have suggested that the welfare impact of such reactions is likely to be similar to the use of any adjuvanted vaccine. Likewise, many forms of chemical implants have demonstrated similar local inflammation effects associated with their administration [66]. The incidence of such adverse reactions, and their impact on welfare in free ranging species may be unknown, given the limited monitoring of many animals post-administration. Physiological responses may affect the animal directly, in terms of increased metabolic rate or redistribution of body reserves, or indirectly, in terms of loss of fitness, such as loss of appetite or decreased immunity [68]. All animals have the capacity to make behavioural changes in response to stimuli but marked physiological changes may restrict the capacity of animals to express the full range of natural behaviour [69]. Physiological changes have been demonstrated for several fertility control modalities, particularly those that derive their effect from endocrine suppression. Many studies on endocrine suppression methods have demonstrated weight gain in treated animals [25 , 27 , 70], but have considered the change to be positive or neutral, from a health perspective, without considering the effect of natural behaviour for a free-ranging species required to thermoregulate, forage, escape predators, compete with cohort animals or migrate. Immature male animals subjected to endocrine suppression generally do not grow as large as untreated males, as seen in white-tailed deer O. Endocrine suppression in immature male tammar wallabies M. Changes have also been demonstrated from endocrine suppression modalities to processes such as antler shedding in deer species [72]. This alteration in natural development means that these impacts are permanent [66 , 72]. Such altered physiology will likely reduce the capacity of such animals to express a full range of normal behaviour, and adapt to environmental changes. Altered Behaviour The importance of natural behaviour, and the ability of animals to experience positive welfare states, is a central tenet of modern animal welfare science [54]. Behavioural repertoires indicating satisfactory welfare should include the expression of normal patterns of maintenance and social behaviour, such as grooming, rest and play [52]. Changes in behaviour can be difficult to measure, but the importance of maintaining natural behaviour has been recognised for wildlife fertility control [73]. Of the few studies that have explicitly assessed behavioural changes in free-ranging wildlife e. For example, behavioural effects in free-ranging feral horses E. Endocrine suppression in immature captive male tammar wallabies M. Other behavioural changes are less predictable. For example, it has been demonstrated that male eastern grey kangaroos *Macropus giganteus* prefer to be associated with females that have not been subjected to endocrine suppression [76]. On the basis of such non-intuitive findings in an inherently complex field, we hypothesise that the real effect of altered social

structures and disrupted social cohesiveness is not yet fully understood. Extended Breeding Seasons Beyond any welfare impact suffered by individual animals subjected to fertility control treatment, there are also often non-intuitive welfare costs to other animals of the same species, through social interactions. Specifically, fertility control modalities that prevent pregnancy occurring without preventing oestrus behaviour physical non-endocrine and chemical non-endocrine methods often induce a prolonged breeding season. This phenomenon has been observed for white-tailed deer O. The prolongation of natural breeding seasons can represent animal welfare risks for treated and untreated animals, specifically males. For example, the study of Ji et al. The average body condition of these males was significantly poorer than that of males in control areas. Similar effects have been observed in male deer [81]. It has been argued that extension of reproductive cycling may have important social consequences for feral horses E. In addition, increases in the cumulative number of mating attempts social contacts with non-endocrine modalities may increase infectious disease transmission risks [45].

Deprivation of Parental Behaviour in Nurturing Species Despite the central intended effects of fertility control agents in preventing the birth of offspring, and hence the opportunity for animals to express parental behaviour, the loss of this positive welfare state has not commonly been cited as a welfare concern for treated wildlife. In comparison, the welfare risks of deprivation of this natural behaviour have been recognised in zoo animals. The European Association of Zoos and Aquaria [83] stated: Contention surrounding the importance of this deprivation has been at the heart of many discussions of ethical practices in zoos worldwide [4 , 84 , 85]. The impact of this animal welfare risk is not easily demonstrated with empirical evidence. However, it must be noted that there are also welfare costs associated with reproduction, involving energetic costs and mortality risks that animals must trade-off with reproductive success [87]. Maternal behaviour in particular is complex, involving birth, nursing, and care of young. This loss of an important natural behavioural repertoire to many nurturing mammalian species warrants much greater discussion and consideration in the wildlife management sector.

Deprivation of Courtship and Mating Behaviour Another positive welfare state that may be deprived of animals is the freedom to express natural reproductive behaviour, including courtship and mating. Endocrine suppression modalities often reduce or eliminate courtship and mating behaviour [81], through their mechanism of action targeting endocrine processes centrally, and depressing all reproductive hormonal activity [88]. For example, white tailed deer O. Courtship and mating behaviour are considered essential components of natural behaviour for many free-ranging mammal species and the deprivation of this natural behaviour must also be considered an important animal welfare impact, whether or not it is experienced as deprivation given the lack of reproductive hormonal stimulation for the behaviour to occur.

Fertility Control in Other Species Many fertility control modalities currently applied in wildlife management were initially developed to meet the economic and emotional needs of owners of domesticated animals, such as companion or production animals. Some endocrine suppression modalities e. Fertility control of wildlife was initially performed as an extension of the practices used by veterinarians for domestic animal control and ownership, primarily gonadectomy [42 , 61]. However, gonadectomy is not a universally supported practice for companion animals, and the considerable welfare costs associated with the profound endocrine suppression it induces has seen its use considered unethical or even illegal in some countries e. The justification of the need for routine gonadectomy of companion animals is not uniform between countries, and these inconsistent views are based on value differences [42]. Many studies of domestic animals subjected to endocrine suppression modalities have demonstrated often desired physiological and behavioural changes, when observation methods have been intensive and long-term [89]. It is worth considering if modalities that were originally considered humane in domestic animals should also be considered to be humane in wildlife.

Improving Assessment of Animal Welfare Risks Animal welfare is complex and guidelines for how it should be assessed have evolved over time [91 , 92]. Fertility control studies have primarily focused on efficacy reproductive output in the short term but many studies have explicitly or opportunistically assessed health side-effects [9]. Few studies have assessed broader animal welfare impacts beyond short-term health effects, such as the impact on animal wellbeing when reproductive and social behaviour patterns are disrupted in response to altered physiology, or deprivation of positive welfare states.

Welfare Is More than Just Health Although animal welfare is a complex entity, the Five

Domains model was proposed over 20 years ago as a conceptual framework to simplify welfare considerations for research animals [94], but it has since been extended to incorporate positive welfare states [92]. The majority of studies that have addressed animal welfare during fertility control programs have effectively restricted their assessments to domain 3 of the model; health, as typically only measures of injury rate, the presence of disease, and body condition have been examined [59]. However, it has been recognised for more than a decade that assessment of animal welfare must be based on a wide range of measures in addition to health indices [95]. Community debate about intensive livestock farming has demonstrated clearly the difference between concern for animal health and welfare. While intensively raised pigs and chickens demonstrate very high health outcomes body condition, absence of parasitism etc. For the majority of wildlife fertility control studies, the length of time that any side-effects have been monitored for has been restricted to short time frames i. However, there have also been longer term studies performed [78]. The potential for, and occurrence of, long-term behavioural changes not detected by short-term studies, has been demonstrated for marine mammal marking techniques [48], and terrestrial chemical capture techniques bear species; [98]. These studies have urged researchers to look beyond short-term health approaches for holistic assessment of welfare. Long-term welfare risks clearly exist for all fertility control modalities, but until evidence exists to the contrary it should be assumed that the magnitude of the impact of these effects on welfare could be significant. There is broad acceptance that the maximisation of health should be the focus of animal welfare for the keeping of companion animals [90], while the focus of stewardship for wildlife centres on the maintenance of natural behaviour. For this reason, practices such as supplementary feeding and veterinary treatment of wildlife populations have been consistently discouraged [99 , ,], For a discussion of the role of ethics in wildlife management decisions related to health and welfare, see the study of Rolston []. Many fertility control methods that do affect behaviour and physiology e. This distinction between the behavioural needs of companion and free-ranging animals has not been adequately recognised by authors studying species that may exist in either state e. We accept that the management of some free-ranging species blurs the line between domestic and wild animals e. For these contexts, preservation of natural behaviour may be argued to be ethically less important if animals are not required to escape predation, or extensively forage. This consideration is particularly important given that many studies attempting to assess welfare impacts of fertility control modalities have provided ad libitum access to resources water and feed for study animals [,]. In some contexts where animals are not considered clearly domestic or wild e. The same logic should not apply for all wild animals, as the duty of care provided by humans often ends for managed wildlife at the point of release from restraint or administration of treatment e. For this reason in feral horse E. In another context, it has been argued that the only fertility control options that should be considered for coyotes *Canis latrans* should be those that allow the animals to remain hormonally competent, such is the importance of the endocrine system for the maintenance of natural behaviour []. We argue that the preservation of hormonal competence is important to maximise the welfare of wild animals, due to the profound effects of endocrine suppression on important behaviour such as mating, aggression and dominance. Case Studies To illustrate the dissimilarities in approaches that have been taken to fertility control in different species and jurisdictions, we present two case studies. The first describes refinement of modalities used for feral horses E. While a range of modalities were used in the past e. Importantly, it was recognised decades ago that the short-term welfare risks associated with immobilisation and capture necessitated that fertility control modalities were administered remotely [56]. Immunocontraception vaccines may be administered via remote delivery, removing the need for capture, anaesthesia or surgery, but the requirement for booster administration with older ZP vaccines led some authors to maintain horses in captivity between treatments [62]. However, ZP vaccines also often lead to extended breeding seasons, and therefore there are accompanying increased energetic costs and injury risks from increased mating attempts []. The focus on ZP immunocontraception developed from a formal process initiated by the Bureau of Land Management BLM [] in the USA to identify the most humane and practical fertility manipulation options. Eastern Grey Kangaroos M. The fertility control modalities that have been applied to kangaroos and their accompanying welfare risks have recently been reviewed [

Chapter 3 : Fertility Awareness-Based Methods of Family Planning - ACOG

Fertility awareness-based methods—or *natural family planning*—are all about tracking your menstrual cycle to determine the days that you can get pregnant. The tricky part is actually knowing when those days are.

What is fertility awareness? The fertility awareness method FAM is a natural family planning strategy that women can use to help prevent pregnancy. It involves tracking your natural cycle of fertility and your menstrual cycle, developing a better awareness of your body, and using a variety of non-pharmaceutical methods to detect ovulation. The rhythm method is where your previous menstrual cycles are tracked on a calendar, and this information is used to predict future ovulation dates. FAM combines the rhythm method with even more attention to the body to better predict ovulation and prevent pregnancy. In the rhythm method and in FAM, you abstain from sex periodic abstinence during your most fertile days. Alternately, you can use backup contraception on your fertile days. The effectiveness of FAM varies depending on the combination of tracking you use. There are many ways to prevent pregnancy that are more effective than a natural method. They involve medication or medical intervention. FAM is one of the least reliable forms of pregnancy prevention. But it can be an appropriate choice of birth control for some diligent and self-aware adult women. How does the fertility awareness method work? Ovulation happens when your ovaries release an egg. It occurs approximately once per month, about 12 to 16 days after menstruation. The specific day on which you ovulate depends on your cycle length. This is largely controlled by fluctuations in your sex hormone levels. For some women, these fluctuations are quite consistent from one month to another. Other women have more irregular menstrual cycles. Once an egg is released from your ovaries, its life span is very short. However, male sperm can remain alive and viable in your body for up to five days after ejaculation. These biologic realities mean the actual period of viable fertility can last anywhere from five to eight days for most women. In general, women are most fertile during the following times: Theoretically, this will prevent viable sperm from being present in your fallopian tubes at the same time as a viable egg. In turn, this will prevent fertilization and conception. That being said, fertility awareness is among the least reliable methods of contraception. Multiple methods of collecting information are necessary. Use the calendar method, the temperature method, and the cervical mucus methods to increase the effectiveness of FAM. There are several ways to track your ovulation cycle and fertility. Using a combination of the following improves effectiveness in preventing pregnancy. These are some common methods incorporated into fertility awareness: You use past menstrual cycles to estimate the time of your ovulation. When used on its own, this is the least reliable method of birth control. It should be avoided if your menstrual cycles are shorter than 26 days or longer than 32 days. You track your basal body temperature BBT for several cycles by using a very sensitive basal thermometer to take your temperature before you get out of bed each morning. Due to hormonal surges, your BBT goes up right after ovulation. You track the color, thickness, and texture of your cervical mucus to monitor your fertility. Your cervical mucus becomes thinner, slippery, and stretchy when you ovulate. Tracking your cervical mucus will require some practice. The symptothermal method, in which you use all three of the methods above together, makes FAM most effective. You should track at least 6–12 menstrual cycles before you begin to rely on only FAM for contraception. Educate yourself about your body and its cycles. FAM requires a significant and consistent investment of time and effort. But it can also be a great and effective choice for women who are willing to invest the time and understanding. The effectiveness of FAM depends on: That can be hard to do. Among women who use FAM inconsistently or incorrectly, up to 24 out of 100 become pregnant each year, reports Planned Parenthood. That makes it one of the least reliable methods of non-abstinence-based birth control. FAM has several advantages.

Chapter 4 : Birth control - Wikipedia

Fertility awareness methods (FAM) help you identify the days in your menstrual cycle when you're most likely to be fertile. Many women use this information to improve their chance of conceiving, but you can also use it to avoid getting pregnant. When practicing abstinence to avoid pregnancy on.

So how can you choose which pregnancy prevention method is right for you? The most important step is to weigh your options with your doctor. The most popular forms of birth control in the United States, according to the National Center for Health Statistics, are oral contraception, tubal ligation having your tubes tied, and condoms. While no one method is foolproof, oral contraception can do a pretty good job of preventing pregnancy: For every women who are using oral contraception, nine will become pregnant. The cost of birth control depends on your insurer and your method. But what about weight gain? In the 21 studies that provided data on why women stopped taking birth control, 0 to 5 percent of women said they stopped because of weight gain. The hormone surge introduced by the pill overwhelms the amount of other, oil-producing hormones, such as testosterone, that are circulating. Before you meet with your doc to discuss what plan is best for you, take a look at our list of pros and cons for 11 birth control methods. Additional reporting by Carlene Bauer. If you pop the pill flawlessly, the failure rate can be as low as 1 percent. Combination birth control pills can also lead to less painful menstrual cramps, lighter periods, and fewer symptoms of premenstrual syndrome. The pill may also provide protection against pelvic inflammatory disease, endometrial cancer, and ovarian cancer. Progestin-only pills known as "minipills" are safer for women who have a history of blood clots or have uncontrolled high blood pressure. Both types of contraception help regulate your periods, as well. Birth control pills can cause spotting, breast tenderness, nausea, and low sex drive. Today there are both male and female condoms to choose from, though male condoms are by far the most popular. A spermicide foam, cream, jelly, or film can be used with barrier methods like condoms. But spermicide alone only prevents pregnancy for about 71 percent of women. Female condoms help give women even more control because they place it themselves. Male condoms are only about 82 percent effective for preventing pregnancy, and female condoms 79 percent effective. Because of the high failure rate, Newmann suggests using condoms with another form of birth control. Some women also complain that female condoms are awkward to place and can create funny sounds. The diaphragm is a flexible cup that you place in your vagina to block sperm from entering your uterus. The cervical cap is similar to the diaphragm. You place it in your vagina, where it keeps sperm from entering the cervix. It should also be replaced yearly. The sponge is soft foam coated with spermicide. The device looks like a donut, and covers the cervix when you insert it into your vagina. All of these items are hormone-free. You can insert your diaphragm or cervical cap anywhere from just before sex up to six hours before intercourse. Unlike those methods, the sponge is an over-the-counter item. To be most effective, diaphragms and cervical caps should be used with spermicide and left in place for at least six hours after having sex. With diaphragms, this may increase your risk for urinary tract infections, but urinating after sex can help you avoid them. With cervical caps, there are risks for bladder infections. While it is extremely rare, all three methods may cause toxic shock syndrome. And, says Newmann, the diaphragm is only 88 percent effective for preventing pregnancy, as is the sponge in women who have not yet had a baby. Cervical caps are at best 86 percent effective. Getty Images The Patch and the Ring Free You From Pills The patch and the ring are both hormonal methods of contraception containing estrogen and progestin, like the pill, but neither of these require a daily routine. The patch is a small piece of plastic that sticks on your stomach, buttock, arm, or torso and is replaced weekly. The ring is a small, flexible device that is placed inside the vagina and left for three weeks at a time, but is taken out for one week of the month in order for you to have a period. Plus, the ring can be used continuously to allow you to skip periods, Newmann says. The patch can cause skin reactions in some women. And like the pill, both the patch and the ring can cause side effects, such as spotting, headaches, bloating, and breast tenderness. The ring has additional possible side effects of vaginal discharge or irritation. It blocks ovulation, and also makes it more difficult for sperm to travel because of an increase in cervical mucus. When the hormone shot is administered properly by a healthcare worker, and is

received every three months on the dot, fewer than 1 in women will get pregnant. Also, prolonged use can lower your bone density, so you should get a bone density test if you use this contraception method for five years continuously. Bone loss is reversible once you stop using the hormone medication. The IUD is a very effective contraception option — pregnancy occurs in less than 1 in women who use one. Copper IUDs can be left in for 10 years, and an IUD containing hormones can be left in for three to five, depending on the brand. Both types though particularly copper can cause an increase in cramping. It is inserted by your doctor just under the skin of the upper arm and prevents pregnancy for three years. The method is also invisible. If you plan on having a baby, you can still become pregnant after having the implant removed. Most women will experience irregular bleeding throughout the first year, but eventually women stop getting periods on this method, Newmann says. If irregular bleeding is a problem, estrogen can be given to counteract it. Preventing pregnancy through fertility awareness can be done by tracking your cycle on a calendar, monitoring your cervical mucus, and taking your body temperature. You can forget about prescriptions, devices, and taking hormones with this natural birth control approach. And because sperm can stay alive for up to six days after sex, you have to use a barrier method for six days before you ovulate. The failure rate for using a combined method of checking your body temperature, monitoring cervical mucus, and watching the calendar is high, about 25 percent, Newmann says. Some people practice periodic abstinence, Newmann says. Totally refraining from sex is the only foolproof way to prevent pregnancy. Refraining from sex is certainly not feasible for everyone — nor is it easy. If abstinence is your only plan, you should always have a backup contraception on hand, such as condoms. Vasectomy is a simple procedure: A vasectomy is almost percent effective for contraception — the tubes grow back together only in about 1 in 1,000 men. Sterilization is also nearly percent effective. It may also lower your risk of having ovarian cancer later. The operation involves anesthesia, and as surgery, has some associated risks: Like a vasectomy, reversing sterilization is expensive and not guaranteed.

Chapter 5 : www.nxgvision.com - Fertility Control

The fertility awareness method (FAM) is a natural family planning strategy that women can use to help prevent pregnancy. It involves tracking your natural cycle of fertility and your menstrual.

JASA 22 June Human fertility remains high in many countries because cultural values influence parents to procreate many children. From Biblical cultures in antiquity down to the present, religious views are integrated with various cultural factors in encouraging human reproduction rates although the New Testament does not seem to be explicit in suggesting family size or encouraging human reproduction. Among a range of cultural factors influencing population are such values as virility, prestige, security and others held by parents in a cultural milieu. If one adopts the Malthusian, or pessimistic, view that human population will eventually outstrip food resources, birth control measures, especially contraceptives, will be effectively disseminated in non-Western cultures only by cognizance of crosscultural appreciation of values and acculturational processes.

Perspectives on Fertility With these words the Bible introduces the divine intention that human fertility is to be the means for populating the earth by man still free from sin with its pervasive and dire effects. At the inception of Christianity, Paul perhaps echoes a similar opinion towards human fertility in instructing Timothy thus: As the Roman Catholic Church became dominant, it adopted like ideas which have persisted through the centuries and, excepting recent opposition by liberal members in Europe and America, instilled the attitude among Catholics so effectively that a devout member in Malitbod, a small barrio in the Philippines, summarized a consensus of opinion regarding birth control by women practising contraception and abortion with these words: Surely, they cannot tell lies because God can see through their hearts; He knows what we humans are doing. A maxim among the Lughara people in Uganda, "The work of women is to bear children" Middleton, To be more precise, we should rather say that the attitude of this maxim is common to most maledominated societies. This belief is opposed. Sabamma, a mother in Gopalpur, a village in south India, offers what may be a representative opinion among women in countries marked with high birth rates. After eleven pregnancies and bearing eight living children, Sabamma sums up her motherhood by saying, "Thank God, those pregnancies finally stopped" Beals, Sex is of course a primary drive among most species in the animal kingdom. The urge to perform the sexual act is powerful quite apart from intention to propagate the species. Among many animals, this drive is controlled by instinctual mechanisms so that sexual activity is confined to annual rutting seasons although man in domesticating certain animals has altered their sexual habits. In contrast, man is normally characterized by an oestruality favoring sexual activity throughout the year, hence birth of offspring may occur throughout the year. Also in terms of human biology, a healthy female is fecund for about thirty years. This biological potential rarely operates freely, however, for man possesses culture with ideas restricting his biological nature. The central assumption in this essay, therefore, is that human fertility with attendant population problems should be considered from a cultural perspective if programs to ameliorate a critical world problem are to achieve success.

Cultural Influences The view emphasized here then is that to understand human fertility rates and threatening population increases, cultural influences must be identified and modified. Whether the pessimistic or the optimistic view is valid cannot be argued here, but it does seem reasonable to conclude that ultimately there must be limits to the "carrying capacity of the land"-to borrow a phrase used by ranchers in western range country. Simply defined, culture may be considered the total way of life or the design for living characterizing each human society. It includes in a complex integrated whole all learned and shared behaviors stemming from themes or values within an emotional matrix or ethos. Animal behavior seems to be dominated by instincts which in man are greatly modified by cultural influences. Although culture channels most human thoughts, feelings, and actions, we need not adopt extreme cultural determinism for each individual can exercise freedom in varying degrees of deviation from cultural patterns. For example, anthropologists agree that the incest taboo preventing sexual mating between certain men and women considered relatives is culturally proscribed. Hence relationships subject to the incest taboo vary considerably from society to society. In many of our states, the mating of first cousins is illegal because it constitutes incest, but among many societies marriage of first cousins is approved

and preferred especially if these cousins are "cross-cousins" i. Likewise shame and guilt feelings associated with sexual matters and activity invariably stem from cultural views with some societies holding strict taboos against open discussion and education while others are relatively free from these restrictions. One may ask to what extent current opposition to sex education in public schools in the United States springs from a puritanical ideology long characteristic in American culture. We may have seemed to stray from our subject, but these observations are relevant in this study because cultural values are inextricably woven in decisions to favor or oppose programs affecting sexual activity and human fertility. Several Questions Several questions emerge in this and other studies seeking a solution to the ominous population increase. Why do parents in various cultures continue to have large families when privation and even starvation confront them? What influences are at play causing fecund women to bear unwanted children? Why have some governments failed in their efforts to initiate successful programs for birth control? Our contention is that answers to these and similar questions can be offered only by understanding the cultures, including religious beliefs, of the countries where human fertility rates remain high. We will examine briefly, therefore, selected attitudes held by various cultural groups about the birth of children. With developed communication and dissemination of information.

Hebrew Culture In ancient Hebrew culture, the bearing of many children was viewed as evidence of divine approval and blessing. However other factors undoubtedly influenced the Hebrews, so often prone to disobeying God, in observing this command by incorporating it into their cultural values. This pro-fertility theme is unequivocally advocated by the Psalmist in these lines: Happy is the man who has his quiver full of them! Such thinking promoted a rapidly expanding population to foster an abundant society where a man was surrounded by many children to care for him in old age, to expand flock and field, and to increase the tribe with numbers and prosperity for strength and security in the nation. This attitude also met the concern to preserve the family name and lineage insuring inheritance continuity in the land—a theme that reinforced the abundant society goal, for to fail to have offspring to carry on the family name was a misfortune imperiling the social structure.

New Testament Times When one considers cultural factors affecting human fertility in New Testament times, there is some evidence that marriage and children were accorded high evaluation and were cited as models of acceptable faith in God. There is, however, no detailed or extended statement suggesting explicitly what family size should be. As a matter of fact, Fagley has observed correctly that parenthood in the New Testament is considered in dialectical fashion. In a thesis and antithesis pattern there is a yes and a no in both the Gospels and the Epistles. Seemingly negative and affirmative utterances regarding family conditions were made by Jesus to his disciples. Later, embedded in a Judaic ethos but alertly sensitive to pervasive Hellenistic influences, Paul spoke both for and against family ties when he sought to cope with emerging problems within the first struggling churches. In short, we cannot conclude that the New Testament presented an explicit view to influence human fertility rates among the first Christians.

Christianity It seems, therefore, that early Christianity contained opposing views with some leaders advocating such an extreme as celibacy while others favored marriage and the procreation of offspring. The patristic writings reveal an ambivalence stemming from the conflicting opinions. As the Christian movement developed through history, the Eastern Orthodox Church, the Roman Catholic Church, and later the Protestant churches, made interpretive pronouncements about parenthood and childbearing. These doctrines were usually fashioned to influence cultural attitudes among the people where the churches flourished. The Eastern Orthodox Church viewed marriage and sexual relations primarily as a means for procreation of children even to the point that coitus within the marital state was tinged with sin if procreation was not the purpose. Any form or method of contraception was condemned as evil. In Roman Catholicism, marriage became a sacrament intended to sanctify conjugal activity primarily for producing offspring. While in time permission was given to couples to practice the rhythm method for contraception, the Roman Church condemned "artificial" contraceptives in maintaining that coitus is ultimately justifiable only for begetting children. The current controversy and dissension within the Roman Church includes papal authority in banning contraceptives, although it is common knowledge that many Catholic couples, especially in urbanized Europe and the United States, disregard the official dictum. Protestantism originally shared Roman Catholic views in opposition to limiting births by contraception, but the tendency has been increasingly to view marriage as a function for

companionship and parenthood with the conclusion that the former does not require the latter to justify conjugal relations. Even among the conservative and evangelical segments of Protestantism, sexual intercourse in marriage without procreative intentions is widely accepted and the employment of contraceptives is common. Vincent, Among Hindu and Buddhist peoples there are few religious or legal restrictions preventing artificial means of birth control. The portentous population growths in countries like India and China are due to other cultural factors, for contraception is legal and sterilization is usually allowed on both social and eugenic grounds. In Japan abortion is permitted for economic reasons under medical sanction. In Islamic countries, "The cradle is proving more potent than the sword" Fagley, The pro-fertility patterns rest upon a cultural system where children are much desired for the labor services relating to employment on the land when the children are young, or numerous children enhance the parental prestige with much honor ascribed to large families, or children are the only means whereby the Islamic law of inheritance can be realized. Despite these cultural views favoring population increases, contraception is legal in some Muslim countries, as in Egypt and Pakistan, but somewhat surprisingly it is not in Turkey which has been receptive to many modern ideas. Whether contraception is allowed or forbidden in Muslim countries, policies determining the practice within the culture seems to be primarily for political reasons rather than religions. Paradoxical situations also exist in some Muslim countries; for instance Turkey considers contraceptives illegal but is quite lenient in penalizing abortionists, As a Judaic enclave within the Islamic World, Israel has legalized contraception but severely penalizes those guilty of induced abortion. Latin America As stated earlier, this paper sees religion and ideology of peoples as integral and pervasive parts of cultures. Evidence leads us to conclude also that religious beliefs commonly influence, or serve as sanctions for, most cultural traits, complexes, and other institutions. This must be born in mind as we direct our attention to what may seem to be nonreligious factors within a culture as these factors affect human fertility rates and related population problems. Rapid population growth in Latin America is surprising when it is known that most people in general seem to prefer small families. This general preference, however, is offset or defeated by cultural values which militate against married couples having small families. For example, soon after marriage the typical wife becomes pregnant because young husbands fear possible rumors of sterility or impotence, thus reflecting the great value placed upon masculine virility. To the Latin American, the most convincing way to demonstrate masculinity is to father children. Sexual experience and adventures do not prove manliness, for while most Latin American men engage in pre-marital and extra-marital sexual activities, these are usually with prostitutes who, if they become pregnant and bear children, cannot enable a man to claim virility since the paternity of an illegitimate child is uncertain. When questioned about sexual and family matters, one informant gave this typical response: "One likes to have them to prove he is not barren" Stycos, Hence when his wife, becomes pregnant soon after marriage and bears him a child, a young man confirms his adult status; and when the wife continues to bear children, the man demonstrates to his community his continuing virility. The pronounced double standard of sexual behavior among Latin American societies is a second factor favoring human fertility. This double standard fosters intense jealousy among men toward their wives who in turn are deeply suspicious of their husbands. These marked jealousies frequently are rationalizations for desertion and extramarital sexual life, but their significance for this analysis is that they affect family size in that both men and women believe that having many children reinforces the marital bond and reduces tendency toward unfaithfulness. In actual practice this belief is more effective in restricting the woman's something recognized by both men and women. One Puerto Rican wife put it this way: Male authority is a third reason contributing to the high birth rate among Latin Americans. Men usually object to their wives using contraceptives because they feel such use undermines their "rightful" male authority. In order to sustain his authoritarian position, the husband assumes that he has the right to determine the time, form, and frequency of coitus. He thus is the determining member in the family birth patterns. This dominating role, coupled with the desire to demonstrate his masculinity has its fulfillment in repeated pregnancies, each following quickly the previous childbirth. Many Latin American husbands believe that if their wives were allowed to control conception by contraceptive methods the wives would not hesitate to engage in extramarital sexuality. This conclusion rests upon the widespread notion that men are much more clever and wise in seducing women;

therefore to grant the wife prerogatives with respect to becoming pregnant raises the threat that some adroit male may captivate and conquer her. In general, sexual play is a technique men reserve for the seduction of other women" Jealousy also motivates men to forbid their wives to submit to physical examination by a male physician; this in turn prevents many wives from learning about effective contraceptive methods and birth control. Factors favoring human fertility: We need not be unduly surprised that such apprehension exists for it may be remembered that serious charges have been made against oral contraceptives by medical authorities in our so-called enlightend United States.

Chapter 6 : Fertility Awareness from www.nxgvision.com

The Botstiber Institute for Wildlife Fertility Control Advances Humane, Non-Lethal Methods of Wildlife Fertility Control EVENTS We organize conferences and seminars that promote research, collaboration and networking.

How does fertility awareness work? How do you use fertility awareness? The average menstrual cycle is between 28 to 32 days. By day seven your egg is preparing to be fertilized by sperm. Tracking your menstrual cycles may help you estimate your fertile times. Plan on tracking your menstrual cycle for 8 to 12 months. Day 1 will be the first day you start menstruation. If your shortest menstrual cycle was 26 days, subtract 18 from 26, which gives you the number 8. This means that the first day of your fertility window starts on the 8th day of your cycle. If you are trying to get pregnant, this fertility window would be the targeted time for sexual intercourse. Keep in mind that the calendar method and tracking of past cycles is only a guide. Menstruation and ovulation can change from month to month. However, by combining the calendar method with the other natural methods of tracking your ovulation described below, you can have a fairly accurate understanding of when you are ovulating.

Basal body temperature method: Take your temperature orally each morning before you get out of bed. Your body temperature will only rise between 0.1 and 0.2 degrees. Lack of sleep can also affect temperature reading, so it is important to get at least 3 consecutive hours of sleep before taking your basal body temperature. Your mucus is easily recognized at this point. It should be slippery, clear, stretchy, and look like egg whites. Ovulation generally occurs within days of your peak day of stretchy mucus.

How effective is fertility awareness? What are the side effects or health risks of fertility awareness? Is fertility awareness reversible? How much does fertility awareness cost? Fertility awareness is free to inexpensive. You can also find free charts online to print. Are there any other physical signs of ovulation? Secondary signs of ovulation may include:

- Changes in the cervix The cervix will become high, soft, and open. Always make sure to back them up by checking the primary symptoms cervical mucus and basal temperature.

What are the pros and cons of fertility awareness? The Pros of Fertility Awareness include: Effective when used correctly and consistently
No side effects.

Chapter 7 : What Are the Best and Worst Birth Control Options? | Everyday Health

Birth control, also known as fertility control and contraception, is a device or method that is used to prevent www.nxgvision.com thousands of years, various birth control methods have been used by many people world wide.

It is already clearly stated in the Talmud tractate Niddah, that a woman only becomes pregnant in specific periods in the month, which seemingly refers to ovulation. Augustine wrote about periodic abstinence to avoid pregnancy in the year the Manichaeans attempted to use this method to remain childfree, and Augustine condemned their use of periodic abstinence. In Theodoor Hendrik van de Velde, a Dutch gynecologist, showed that women only ovulate once per menstrual cycle. In 1881, John Smulders, Roman Catholic physician from the Netherlands, used this discovery to create a method for avoiding pregnancy. Smulders published his work with the Dutch Roman Catholic medical association, and this was the first formalized system for periodic abstinence: Over the next few decades, both systems became widely used among Catholic women. Billings and several other physicians, including his wife, Dr. Evelyn Billings, studied this sign for a number of years, and by the late 1950s had performed clinical trials and begun to set up teaching centers around the world. Billings initially taught both the temperature and mucus signs, they encountered problems in teaching the temperature sign to largely illiterate populations in developing countries. In the 1960s they modified the method to rely on only mucus. The first organization to teach a symptothermal method was founded in 1963. John and Sheila Kippley, lay Catholics, joined with Dr. Konald Prem in teaching an observational method that relied on all three signs: Their organization is now called Couple to Couple League International. Although the Catholic organizations are significantly larger than the secular fertility awareness movement, independent secular teachers have become increasingly common since the 1970s. Ongoing development[edit] Development of fertility awareness methods is ongoing. In the late 1970s, the Institute for Reproductive Health at Georgetown University introduced two new methods. Fertility signs[edit] Most menstrual cycles have several days at the beginning that are infertile pre-ovulatory infertility, a period of fertility, and then several days just before the next menstruation that are infertile post-ovulatory infertility. The first day of red bleeding is considered day one of the menstrual cycle. Different systems of fertility awareness calculate the fertile period in slightly different ways, using primary fertility signs, cycle history, or both. Primary fertility signs[edit] The three primary signs of fertility are basal body temperature BBT, cervical mucus, and cervical position. A woman practicing symptoms-based fertility awareness may choose to observe one sign, two signs, or all three. Many women experience secondary fertility signs that correlate with certain phases of the menstrual cycle, such as abdominal pain and heaviness, back pain, breast tenderness, and mittelschmerz ovulation pains. Basal body temperature[edit] This usually refers to a temperature reading collected when a person first wakes up in the morning or after their longest sleep period of the day. The true BBT can only be obtained by continuous temperature monitoring through internally worn temperature sensors. In women, ovulation will trigger a rise in BBT between 0. This temperature shift may be used to determine the onset of post-ovulatory infertility. Cervical mucus is produced by the cervix, which connects the uterus to the vaginal canal. Fertile cervical mucus promotes sperm life by decreasing the acidity of the vagina, and also it helps guide sperm through the cervix and into the uterus. By observing her cervical mucus and paying attention to the sensation as it passes the vulva, a woman can detect when her body is gearing up for ovulation, and also when ovulation has passed. When ovulation occurs, estrogen production drops slightly and progesterone starts to rise. The rise in progesterone causes a distinct change in the quantity and quality of mucus observed at the vulva. After ovulation has occurred, the cervix will revert to its infertile position. Cycle history[edit] Calendar-based systems determine both pre-ovulatory and post-ovulatory infertility based on cycle history. When used to avoid pregnancy, these systems have higher perfect-use failure rates than symptoms-based systems, but are still comparable with barrier methods, such as diaphragms and cervical caps. Mucus- and temperature-based methods used to determine post-ovulatory infertility, when used to avoid conception, result in very low perfect-use pregnancy rates. A temperature record alone provides no guide to fertility or infertility before ovulation occurs. Determination of pre-ovulatory infertility may be done by observing the absence of fertile

cervical mucus; however, this results in a higher failure rate than that seen in the period of post-ovulatory infertility. Keeping a BBT chart enables accurate identification of menstruation, when pre-ovulatory calendar rules may be reliably applied. In symptothermal systems, the calendar rule is cross-checked by mucus records: A positive OPK is usually followed by ovulation within 12–36 hours. Saliva microscopes, when correctly used, can detect ferning structures in the saliva that precede ovulation. Ferning is usually detected beginning three days before ovulation, and continuing until ovulation has occurred. During this window, ferning structures occur in cervical mucus as well as saliva. Computerized fertility monitors, such as Lady-Comp, are available under various brand names. These monitors may use BBT-only systems, they may analyze urine test strips, they may use symptothermal observations, they may monitor the electrical resistance of saliva and vaginal fluids, or a combination of any of these factors. This method is also applicable during postpartum, breastfeeding, and perimenopause, and requires less abstinence than other FAM methods. Benefits and drawbacks[edit] Fertility awareness has a number of unique characteristics: FA can be used to monitor reproductive health. Changes in the cycle can alert the user to emerging gynecological problems. FA can also be used to aid in diagnosing known gynecological problems such as infertility. Some symptoms-based forms of fertility awareness require observation or touching of cervical mucus, an activity with which some women are not comfortable. Some practitioners prefer to use the term "cervical fluid" to refer to cervical mucus, in an attempt to make the subject more acceptable to these women. Some drugs, such as decongestants, can change cervical mucus. In women taking these drugs, the mucus sign may not accurately indicate fertility. Because irregular sleep can interfere with the accuracy of basal body temperatures, shift workers and those with very young children, for example, might not be able to use those methods. Some may find the time and detail requirements too complicated. As birth control[edit] By restricting unprotected sexual intercourse to the infertile portion of the menstrual cycle, a woman and her partner can prevent pregnancy. During the fertile portion of the menstrual cycle, the couple may use barrier contraception or abstain from sexual intercourse. Users may employ a coach, use computer software, or buy a chart, calendar, or basal thermometer. The direct costs are low when compared to other methods. FA can be used with barrier contraception so that intercourse may continue through the fertile period. Unlike barrier use without FA, practicing FA can allow couples to use barrier contraception only when necessary. FA can be used to immediately switch from pregnancy avoidance to pregnancy planning if the couple decides it is time to plan for conception. Disadvantages[edit] Use of a barrier or other backup method is required on fertile days; otherwise the couple must abstain. Typical use effectiveness is lower than most other methods. Perfect use or method effectiveness rates only include people who follow all observational rules, correctly identify the fertile phase, and refrain from unprotected intercourse on days identified as fertile. Actual use or typical use effectiveness rates include all women relying on fertility awareness to avoid pregnancy, including those who fail to meet the "perfect use" criteria. Rates are generally presented for the first year of use. Reasons for lower typical-use effectiveness[edit] Several factors account for typical-use effectiveness being lower than perfect-use effectiveness: This is similar to failures of barrier methods, which are primarily caused by non-use of the method. To achieve pregnancy[edit] Intercourse timing[edit] A review showed no evidence of a benefit in effect of timing intercourse on live births or pregnancies, compared to regular intercourse. Less-sensitive methods will detect lower conception rates, because they miss the conceptions that resulted in early pregnancy loss. A Chinese study of couples practicing random intercourse to achieve pregnancy used very sensitive pregnancy tests to detect pregnancy. Regarding frequency, there are recommendations of sexual intercourse every 1 or 2 days, [55] or every 2 or 3 days. Records of basal body temperatures, especially, but also of cervical mucus and position, can be used to accurately determine if a woman is ovulating, and if the length of the post-ovulatory luteal phase of her menstrual cycle is sufficient to sustain a pregnancy. Fertile cervical mucus is important in creating an environment that allows sperm to pass through the cervix and into the fallopian tubes where they wait for ovulation. Fertility charts can help diagnose hostile cervical mucus, a common cause of infertility. If this condition is diagnosed, some sources suggest taking guaifenesin in the few days before ovulation to thin out the mucus. Knowing an estimated date of ovulation can prevent a woman from getting false negative results due to testing too early. Also, 18 consecutive days of elevated temperatures means a woman is almost

certainly pregnant.

Chapter 8 : Fertility awareness - Wikipedia

Spot On Period Tracker. Spot On is a period and birth control tracking mobile app available for Android and iOS phones that can help you stay on top of your birth control method and track your cycle.

Illustration provided by I. There are three formulations of the PZP vaccine: It is important to note that PZP vaccines are not a homogeneous set of compounds. The term liquid PZP used below refers to a PZP vaccine prepared according to the methods originally outlined for the horse by Liu et al. First, it is prepared differently: Second, the PZP is encapsulated in liposomes to extend the period of release Brown et al. In both procedures, the product passes through a series of filters of decreasing pore size to remove other ovarian debris, but it is possible that the SpayVac preparation contains more non-zona pellucida ovarian proteins than liquid PZP produced with the Liu et al. Ovarian proteins cannot reliably be separated from zona pellucida proteins by filtration, and the initial grinding and homogenization of whole ovaries in the Yurewicz et al. Less pure products containing more ovarian debris may be more immunogenic than zona pellucida proteins alone and enhance the immune response. Page Share Cite Suggested Citation: The National Academies Press. Ovaries were not examined for pathological effects in horses, deer, or other species treated with SpayVac, nor were any long-term studies done on its reversibility. It is possible that SpayVac prevents fertilization by means in addition to or other than sperm blockage. Reversibility also requires further investigation. However, Miller has shown that liposomes are dissolved by the lipid-based adjuvant AdjuVac, which would be expected to shorten its period of efficacy in that the liposomes were designed to prolong contraceptive effect L. Miller, NWRC, personal communication. It is also important to note that over the years liquid PZP has been administered to horses with several treatment protocols for the first inoculation, and the effects of the different protocols and of protocols for administering boosters are still not fully understood. For example, in the first study of liquid PZP in domestic mares, Liu et al. Much of the more recent work e. It is also unclear whether annual booster vaccinations with liquid PZP e. For example, the total amount of PZP released from a timed-release pellet during the boost period may differ from the amount of PZP in a liquid booster vaccination, and the duration of exposure may not be equivalent. Furthermore, the immune system may respond to these alternative antigen presentations in different ways. The immunologic dynamics induced in the target species with different treatment and boosting protocols are not yet definitively understood. Both the liquid and pellet formulations of PZP can be administered by hand to free-ranging equids that have been captured. Liquid PZP can be delivered by dart to animals in the field Kirkpatrick et al. Pelleted PZP must be given by hand because darts cannot provide adequate pressure to release pellets into the animal effectively; this was verified in a study of pelleted PZP that was effective for 1 year: SpayVac Brown et al. Although the ability to deliver liquid PZP via dart is a useful option, it is not clear how successful attempts would be to dart populations of horses at the desired level of treatment intensity, given the large number of animals needing treatment, variability in the temperament of the horses, and the terrain of HMAs. Two studies of free-ranging horses and one of white-tailed deer have found that over time, with repeated boosters, the difficulty of approaching animals on foot for darting increased Kirkpatrick and Turner, ; Rutberg and Naugle, ; Ransom et al. At the time the report was prepared, the most effective and most reliable method of delivery was hand injection after a gather. However, alternative methods, such as trapping near water holes or blinds, have been used in other areas and could be useful in some HMAs. The overall mean of published efficacy values in horses is In most of the studies, efficacy was assessed by determining how many treated females had foals in the following foaling season or had pregnancy diagnosed with hormone assays. Only one study of any PZP formulation has been conducted in burros. A two-shot protocol was more effective none of 13 females became pregnant than a one-shot protocol one of three became pregnant. Fertility rates over 4 years after vaccination were 5. The mean fertility rate of untreated females during the study was The formulation has come to be called PZP because it remains about percent effective after 22 months. However, the efficacy has varied as treatment has been extended to additional field sites. Foaling has been reduced by percent in the 2 years after a single injection of PZP at various field sites J. Turner, University of Toledo, personal communication,

November The variability is believed to be due to the time of year of injection, whether delivery was by dart or by hand, the location of the injection the hip is considered ideal, but that is not always possible when delivery is by dart , and possible differences in preparation in the field. In addition, there has been a change in vaccine production during the last few years: Only one published study Killian et al. In fall of each year, treated mares were examined for pregnancy via ultrasonography or rectal palpation, and the observations were later verified by whether a foal was born. In the 4 years of the study, contraception efficacy in the SpayVac-treated mares was percent in year 1 and 83 percent in years A free-ranging herd lives on the island. SpayVac was administered in three preparations: The estimated decline in fecundity fawns produced per female was greater than 90 percent. All other formulations were inferior in performance. The authors concluded that AdjuVac is critical and should be used in emulsion form rather than suspension. They also suggested that, because of production differences, the IVT-PZP probably contained more porcine ovarian tissue and was thus more effective. Contraception of treated does was percent over 3 years; however, the samples obtained in the 3 years were from different animals because some animals were culled for analysis. The authors suggested that, on the basis of the antibody titers present after 3 years, the SpayVac vaccination would probably continue to be effective for a longer period. Efficacy was lower percent than reported by Killian et al. Thus, the studies by Gray et al. In both the Killian et al. Immunocontraception depends on the immune response to the vaccine reaching and staying above threshold concentration Adams and Adams, ; Zeng et al. Reversibility of the contraceptive effect depends on the reduction of circulating antibody titers. Substantial variability in reversal time is likely and can be due to the vaccine formulation, the adjuvant used, the treatment protocol, genetic factors, and the nutritional status of the individual animal because these factors may affect the initial and continuing immune response to the vaccine Homsy et al. In the first study of liquid PZP in equids, Liu et al. Data from Assateague Island on reversibility continued to accumulate over the years, and Kirkpatrick and Turner stated that liquid PZP was percent reversible in three mares treated for 4 consecutive years and two mares treated for 5 consecutive years. The time between final treatment and pregnancy ranged from 1 to 8 years. In a study of 16 burros, Studies of longer-acting PZP formulations, such as PZP pellets and SpayVac, have assessed reversibility more in the context of measuring the duration of effect of the vaccine; declining infertility in years after vaccination reflects reversibility. In a study by Turner et al. In that study, however, not every mare was assessed for reversibility every year. Among all the sites, in mares that had foaled previously, the probability of not foaling was On average, time to parturition increased by days per consecutive year of treatment. At McCullough Peaks, 64 percent of PZP treated mares did not produce a foal during the post-treatment period 5 years. Return to parturition took 1. The results reinforce the notion that return to fertility after immunocontraception can be longer than expected. SpayVac has not been thoroughly assessed for reversibility in captive or free-ranging horses, although the study by Killian et al. The studies of SpayVac in deer described above did not systematically address reversibility, nor have they been of sufficient duration to detect decreases in vaccine efficacy animals were contracepted at the same level of efficacy in all years of the study. Barber and Fayrer-Hosken found that PZP antibodies did not bind to other somatic tissues in horses. Bartell found that the ovaries of SpayVac-treated domestic mares were lighter, had smaller oocytes, and had thinner zona pellucidae than control mares. It is not known whether the extent of edema observed in the SpayVac-treated mares was equivalent to that in normal estrous mares or more severe; the latter might be a possible indication of pathology. There are no documented reports of persistent uterine edema after the use of liquid PZP or PZP, but comparable data on the effects identified with the use of SpayVac do not exist. Mares that have been treated with liquid PZP for consecutive years have been reported to have decreased ovulation rates in successive years of treatment Kirkpatrick et al. Powell and Monfort did not find a statistically significant relationship between the likelihood of ovulatory failure and current contraception status currently versus previously treated with PZP. It is possible that the likelihood of physiological side effects depends on the delivery of PZP as repeated vaccinations for example, annually in the case of liquid PZP as opposed to one long-term vaccination in the case of PZP and SpayVac. There are many other possible causes of subfertility in horses McCue and Ferris, , but in none of the analyses described above were the same mares assessed for cyclicity before and after PZP treatment, so other possible factors

contributing to subfertility were not assessed. It is estimated that about 20 percent of domestic horse mares are subfertile I. Liu, University of California, Davis, personal communication, August Ovarian senescence has also been documented in some domestic mares over 20 years old, as evidenced by a longer follicular phase, a prolonged interovulatory interval, and later first ovulation of a breeding season McCue and McKinnon, all of which are reported in mares currently or previously treated with PZP Powell and Monfort, Thus, assessing reproductive competence after many years of PZP treatment is confounded by the concomitant effects of aging. There has been much discussion over the years of the effects of different adjuvants used in combination with PZP in relation to reactions at the injection site, which have included stiffness, swelling, nodules, and abscesses. One concern with FCA is its ability to produce false positive results in tuberculosis tests; this in part led to the development of FMA, which did not produce such results Lyda et al. Chapel and August also suggested that FCA could be hazardous to people exposed to it when administering injections. The abscess appeared after the FIA booster dose, and it drained and healed without incident. Neither adjuvant had an effect on the delivery of healthy foals. The authors cited unpublished data suggesting that the incidence of injection-site abscesses was less than 1 percent when injections were given in the hip, but it was higher when injections were given in the neck. In a large study of free-ranging horses, Roelle and Ransom found no statistically significant differences in occurrence of dart-site reactions due to adjuvant FCA or FMA and suggested that reactions are probably more likely to be due to dart trauma or in some cases a combination of dart trauma and adjuvant. Hand injection led to fewer injection-site reactions than darting. Overall, abscesses in response to darting were rare, in accordance with other studies Kirkpatrick et al. Nodules at the injection site were the most common reaction 25 percent of cases , and these Page Share Cite Suggested Citation: Swelling was the second-most common reaction 11 percent and 33 percent at two study sites , and this disappeared within 30 days. Stiffness was the third-most common 1. Similar results have been found in deer when AdjuVac has been used Locke et al.

These methods of birth control can affect both your health and your finances. Other things to consider when choosing a birth control method is the possibility of HIV/AIDS and Sexually Transmitted Infections (STI).

Ten to 15 percent of those numbers are believed to be deaths caused by unsafe abortions. The Catholic Church is steadfastly opposed to the use of artificial birth control and is quite outspoken about this issue. And, though African patronage is considered vital to a growing Catholic church, the African experience with AIDS has been quite destructive. AIDS has killed more than 25 million people since the s. The Call for Birth Control in Africa and Asia A fifty-two page report created by the Guttmacher Institute in New York urged for new methods of birth control to reach million women in three regions of Africa and Asia where there are 49 million unintended pregnancies every year resulting in 21 million abortions. These reasons included health fears, opposition to contraception and opposition from partners. The Nigerian Debate over Population Growth In Nigeria, where the Nigerian president is actively considering a mandate on birth control within the nation he governs, the issue is being played out on the national level. Nigerian President Goodluck Jonathan stated that too many uneducated people are having too many children and urged citizens to only have as many children as they can afford. Otherwise you all starve and your children end up living under the bridge. Nigeria is the most populous country in Africa and the United Nations has estimated that the population could grow by as many as million by the year However, he recognizes the sensitive nature of the issue in regards to religious practice. Large increases in population have already damaged the environment and condemned many people in Africa, Asia and Latin America to poverty. Many Nigerian citizens also have strong opinions about the desire to mandate birth control. In the face of these concerns, native Nigerian Chinwuba Iyizoba is appreciative of the proposed population growth in Nigeria. We Nigerians are rejoicing. Iyizoba describes population growth within his nation as the prerogative of himself and other citizens of his nation. There are various anti-contraceptive activists who, like Iyizoba, understand the elective use of birth control an important right, and the imposition of contraceptive methods by outside parties is an invasive and imperialistic act. Similarly, mass birth control programs, which, as President Jonathan of Nigeria suggested, urge impoverished and uneducated peoples to stop having or to have fewer children are exercising a form of class bias that seeks to reduce specific ethnic or socioeconomic groups. Conclusion A compilation of factors has recently brought the debate over the distribution and use of artificial methods of birth control into the spotlight. The push for birth control on the part of national governments, like that in Nigeria, has also been a source of pressure on the populations of those living in developing nations. Though President Jonathan and Melinda Gates seem to have the benefit of the people in mind, anti-birth control activists view large-scale efforts to mandate birth control as efforts to excise groups of people or lower classes in developing nations. The culmination of these factors has led to a very divided public, with some, like Chinwuba Iyizoba, adamantly opposed to mass birth control programs and others, like Melinda Gates, who have pledged time and money to the cause of expanding the distribution of birth control worldwide. Though powerful and important people and organizations are taking charge and issuing statements as to whether artificial contraception should be utilized, the true issue is in regards to who has the right to choose: And, if it is the individual who has the right to make the decision to use birth control, should they, then, be allowed access to contraceptive methods? For now, these issues remain unresolved and the two sides of the debate remain polarized while the Vatican staunchly opposes the use of artificial contraception and the Gates foundation continues with their plans to fund birth control in developing nations.