
Current Medical Research



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Natural Family Planning
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SUPPLEMENT

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Laws Denying Sperm Donors Parental Rights can Backfire if Donor Expects to be Father. American Health Consultants. *Reproductive Technology Update* June 1991, 3:69-70.

Ordinarily, state laws cut off parental rights for sperm donors. This is the usual situation when sperm donors are anonymous but when the parties know each other it is not so simple. An Oregon lawsuit was brought by K.McI. in 1989 against a woman who, as a partner in a lesbian couple, had invited him to father a child for her by artificial insemination. When pregnancy became evident he bought items for the baby at the mother's request, discussed possible names, and whether or not to have amniocentesis. Several months before the child was born, the mother changed her mind and decided to deny paternal rights to the plaintiff. Initially the trial court decided against the father because an Oregon statute denies paternal rights to sperm donors; however the state appellate court overturned the ruling because there was no due process. After State and Federal Supreme Courts refused to hear the case, it went back to trial court but the parties settled the case before court proceedings began. The father now has some visitation rights and is recognized as the child's legal father. Since many states have laws similar to Oregon's, which are written only for sperm donors who wish to remain anonymous, men who wish to claim paternal rights under those circumstances would need to make written agreements.

Cervical Mucus Exam Can Often Clarify Confusing Clinical Picture. *Ob. Gyn. News* October 15-31, 1991, 26:20:1.

Visual examination of the cervical mucus can assist gynecologists to assess whether a delayed period is associated with the estrogenic or progesterational

phase of the cycle. Dr. Richard C. Bump presented case histories during a symposium sponsored by the Medical College of Virginia in Richmond. He described the physical properties of cervical mucus in estrogenic and progesterational phases and applied this knowledge to a sexually active college freshman who had presented with pain in the right lower abdomen, a painful mass in the right pelvis and a period one week overdue. Because her mucus was clear and stretchy she was suspected of having a follicle cyst rather than an ectopic pregnancy. The cyst disappeared by itself and her period resumed. Similar estrogenic mucus was found in a 57-year-old post-menopausal woman who was therefore suspected of having endometrial hyperplasia. Another woman with estrogen type mucus and no menses for five years was found to have an estrogen producing germ cell tumor of the ovary, while a woman who was always on oral contraceptives had break through bleeding and cramping and yellow mucus with clumps of white blood cells. Bacterial culture proved to be positive for Chlamydia and antibiotic treatment was continued. Thus inspection of the cervical mucus can aid in diagnosis.

Handling of Tubal Infertility After Introduction of In Vitro Fertilization: Changes and Consequences. N. Holst et al. *Fertility and Sterility* January 1991, 55:1:140-143.

With the advent of in vitro fertilization (IVF) the number of tubal operations was reduced by 50% in the hospital of the University of Tromsø, Norway. The live birth rate was somewhat higher with IVF than with tubal surgery among women under the age of 33 years, but after age 33 the differences became negligible. Because IVF could be performed on an out-patient basis

there was an economic saving of \$5,000 and a freeing up of hospital beds and operating rooms. IVF offers a psychological benefit as the outcome could be determined within a few weeks while women might have to wait for months or years to achieve pregnancy after tubal surgery. There were 9.2% ectopic pregnancies after tubal surgery, 1.3% after IVF. The hospital is narrowing its indications for tubal surgery to lysis of tubal adhesions but realizes that such limitation will place an increased burden on the IVF Program. This might increase the waiting time for patients.

Edwards' Syndrome After the Replacement of Cryopreserved-Thawed Embryos. B. Rizk et al. *Fertility and Sterility* January 1991, 55:1:208-13.

Edwards' syndrome is trisomy 18, (Trisomy is an extra chromosome added to the normal pair). This is thought to result from freezing and thawing of frozen embryos. A case of a 28-year-old woman is reported who had an unsuccessful attempt at immediate embryo transfer and had a second procedure when thawed, previously frozen embryos transferred two months later. Her pregnancy was punctuated by intermittent bleeding. At 13 weeks ultrasound showed a single, viable, intrauterine pregnancy but five weeks later an unusual shape of the head and brain, as well as problems in cardiac development were detected. Chromosomal abnormality was confirmed by sampling fetal blood. One day later the membranes ruptured spontaneously. The woman delivered a 20 weeks still-born fetus who had an under-developed left ventricle and mitral valve and a defect in the septum. Edwards' syndrome may have resulted from freezing and thawing; however, it could have resulted from chromosomal defect of the woman. Since the woman had also do-

nated several ova to the Ovum Donor Program, the authors caution against receiving and using ova from women with longstanding infertility, which had been the case here.

Evidence of a Transition to Lower Fertility in Kenya. A.R. Cross, W. Obungu, and P. Kizito. *International Family Planning Perspectives* March 1991, 17:1:4-7.

The 1989 Kenya Demographic and Health Survey found that the population growth rate had begun to decline. The 1989 total fertility rate (TFR) was 6.7 live births per woman down from 8.1 in the 70's. Contraceptive prevalence has increased sharply from 14% to 27% between 1984 and 1989. Periodic abstinence remained the most widely used method - 7.5%, pill - 5.2% and female sterilization - 4.7%. Place of residence had little effect on the use of contraception. There were some religious differences in the use of family planning: Protestants 29%; Catholics 26%; Moslems 17%. Protestants were more likely than Catholics to use "modern methods" [*Regrettably the article made no distinction between users of the Billings Method and calendar rhythm. Since the Kenya Catholic Bishops Conference Medical Department has provided instruction in the Billings Method in all dioceses and in all Catholic health care facilities, it is not surprising to see this rate of utilization. Kenyans are approximately 1/3 Christian; 1/3 Moslem and 1/3 traditional religion. Catholics comprise 25% of the total population. Ed.*]

Rhythm Accounts for Half of all Contraceptive Use in Bolivia, DHS Reveals. *República de Bolivia Digest, International Family Planning Perspectives* March 1991, 17:1:36-37.

The National Demographic and Health Survey of Bolivia, 1989, found that Bolivian women prefer periodic abstinence to all other methods of family planning. Of the 46% of married women who used any method of family planning, the best known and most widely used was periodic abstinence. [*The report classes rhythm, presumably calendar, withdrawal, and "others" under traditional methods - Ed.*]

The Brain as "Sexual Organ." A. Gibbens, Commentary. *Science* 30 August 1991, 253:957-59.

Structural differences between male and female brains of rodents have been studied since 1960 but now differences in human brains are coming under scrutiny. The male human brain weighs 15% more than the female, twice greater than the differences in total body size of males and females. The hypothalamus provides strong data for size differences between males and females. The male's is considerably larger, particularly the Sexually Dimorphic Nucleus (SDN). Size differences between male brains begin to appear between the ages of two and three years of age when the brains of males begin to grow rapidly until age six. Researchers believe this is due to the level of testosterone. The SDN in both rat and human males is larger, in humans it is 2.5 times larger than in females. There are several sex differences in the corpus callosum, a bundle of nerve fibers which connects the right and left brain hemispheres but because there are differences within the corpus callosum, researchers don't always agree on what the differences are. Witelson found that the isthmus of the corpus callosum is larger in women than in men. The corpus callosum in males decreases progressively in size with age while a woman's does not. The differences in anatomy quite possibly reflect differences in corporate structure which may underlie the differences which have been documented in cognition and patterns of lateralization (ability to use one side or the other) - or lack of it which may be reflected in women's greater use of both hemispheres for some language skills. Gorski's Group found that the massa intermedia tends to be absent altogether in men more often than in women. The function of this structure is as yet unknown but some have correlated the presence of the massa intermedia with different patterns of I.Q. scores in men and women. Since brain weight is clearly different between men and women other differences should be looked for. In animal studies with the three species of voles the hippocampus of those males which travel considerable distances and had multiple female partners were 11% larger on average than those of the fe-

males. But the monogamous males' hippocampi were no bigger than the females. The hippocampus is critical for memory and spacial processing. While voles are not humans, Gibbens quotes Steven Gaulin, an anthropologist from Pittsburgh, "If you look at the present day organisms as bearing the stigmata of their polygynous past such as higher male metabolism rates, larger male body size and higher male aggressivity, then it is not at all impossible for us to bear other marks of it in the brain."

A Difference in Hypothalamic Structure Between Heterosexual and Homosexual Men. S. LeVay. *Science* 253:1034-1036.

The interstitial nuclei of the anterior hypothalamus (INAH3) were thought to be twice as large in heterosexual men as in homosexual men and in heterosexual women. The findings were derived on autopsies of 15 individuals. The author cautions that the findings are preliminary but since INAH3 is related to sexual behavior he postulates that there may be a biological basis in homosexual behavior. This requires confirmation.

Risky Business: Adolescents and Human Immunodeficiency Virus. K. Hein. *Pediatrics* 5 November 1991, 88:5:1052.

K. Hein comments on approaches to adolescents at risk for HIV. She believes that the early risk reduction messages to be 1) abstinent, 2) limit the number of sexual partners, 3) "Know" your partner(s) or be monogamous, were unrealistic in view of adolescents' sexual behavior patterns. She advises risk reduction strategies which should include promoting a more balanced message about sexual activities to include discussion of risk free "outercourse" (petting, masturbation, or massage) as well as presenting the risks of intercourse; developing a barrier or viricidal method that is female controlled since men need to be convinced to use condoms; expanding educational efforts in schools, youth serving agencies, health facilities and making condoms widely available. She also suggests that we emphasize to teens the reality of their age peers who are living with HIV before they become symptomatic rather than limiting the message to dying with AIDS. Someone

who looks healthy can feed denial. She also advocates discussions of homosexual activities, removing barriers which exclude teens from services: payment, confidentiality, availability of skilled health care professionals, rather than concluding that teens are hard to reach and, finally, to help teens channel their energy and idealism to become part of the compassionate response to the epidemic by becoming volunteers, peer educators, etc. [This is also the agenda of SIECUS. Unless and until one can publicize the favorable results of programs which truly undergird maintaining or returning to chastity, the policies advocated by Hein will monopolize AIDS prevention programs. Because they only aim at risk reductions they will not be successful, but ensure employment to a host of specialists. Ed.]

Contraception and Sexuality in an Area-Specific Group of Swedish Women 15-34 Years of Age. M. Brannstrom et al. *Contraception* October 1991, 44:445-452.

During a health survey in a Swedish suburban-railway area, questions about sexual history were included. The average age of first intercourse was about 16 years. The average number of sexual partners were ages 20-24 - 4; ages 25-30 - 5.6; ages 31-40 - 6.4 respectively. Seventy-five percent (75%) of all women had used contraception at first intercourse. By and large they used the same method during the previous 20 years. Combined birth control pills were used by 42%, condoms by 23%, IUDs 19%, other hormonal methods 10%. It is concluded that sexual life in Sweden starts earlier than it did 30 years ago, the numbers of partners are higher, and that most women in the group which was studied were efficient contraceptors. The average number of sexual partners in the last 12 months is highest in the youngest age group - 1.4. The obstetric histories were interesting:

Obstetric Histories, by Age Group					
Age group	% given birth	aver. no. children	% had legal abort.	% had spont. abort.	% had extraut. preg.
15-19	0		1.2	0	0
20-24	37.8	0.5	5.7	7.5	1.9
25-29	76.1	1.4	14.9	7.9	1.8
30-34	92.9	1.9	17.3	9.4	3.1

Women who had gone through legal abortion did not differ significantly as regards socioeconomic background, contraceptive use, or parity from those who did not report any legal abortion. The authors found 7% of sexually active young women who used no contraception and yet desired no babies. This was similar to the findings of Giesecke who found 10% in the same category. This high contraceptive prevalence rate reflects the intense educational effort of the last few decades.

The Basic Infertility Investigation. S.B. Jaffe and R. Jewelewicz. *Fertility and Sterility* October 1991, 56:599-613.

The authors correctly caution against avoiding exploitation of the infertile couple with expensive unnecessary tests, procedures, and treatment but proceed to describe the basic workup in standard terms. The current review of the field is excellent, including the causes and prevalence of infertility. Male factor is reportedly significant to 50% of couples, while 20-25% of couples have both male and female reproductive abnormalities. Ovulation assessment and the luteal phase directs most of its attention to the BBT, even though its inadequacies are acknowledged. Endometrial biopsy and tests for LH surge are described. The last paragraph deals with alterations in the amount of physical characteristics and chemical constituents of the cervical mucus which is followed by a minimal description of changes. [The authors evidently do not put much stock in this. The only reference is Moghissi's article. There is a conspicuous absence of the Natural Family Planning literature. The remainder of the article presents an excellent overview of the field. - Ed.]

Daily Insemination with Cryopreserved Donor Semen is More Effective than Alternate-Day Insemination. H.V. Hogerzeil, et al. *International Journal of Fertility* September/October 1991, 36:281-286.

Pregnancy rates with the use of frozen donor semen were compared when insemination took place daily or on alternate days using basal body temperature as the marker for ovulation. Insemination was begun two days prior to the day of ovulation estimated by BBT rise and continued until the rise. Usually

inseminations were performed for three to five days of the cycle, excluding Sundays. There were no restrictions on the subject's intercourse during the fertile period. Subjects were required to have a biphasic temperature chart and a positive cervical mucus sperm penetration test with donor sperm. In case of an uneventful history, study of the uterus and tubes was performed only after three unsuccessful cycles, and laparoscopy after six cycles. Since frozen sperm is presumed to remain potent for only 24 hours, the authors conclude that the 68.9% pregnancy rate achieved with daily inseminations compared to 53.6% with alternate day inseminations showed the superiority of daily inseminations. [Frozen sperm are now used in Donor Programs to permit retesting of the donor for AIDS three months after the donation. While NFP users would not use this technique in any case, it is curious that the prospective cervical mucus sign was not utilized for timing inseminations. The fact that daily intercourse leads to the highest conception rates if the husband's sperm count is normal is hardly new. Ed.]

Calcium Supplementation to Prevent Hypertensive Disorders of Pregnancy. Belizán et al. *New England Journal of Medicine* November 14, 1991, 325:1399-1405.

A prospective study of women 20 weeks pregnant were randomly assigned to receive two grams per day of calcium carbonate or placebo and their pregnancy course followed particularly for the incidence of hypertensive disorders. It is known that calcium supplementation reduces blood pressure in pregnant and non-pregnant women. The prospective study showed that one-third fewer cases of pre-eclampsia or hypertension were found in those women who had low levels of calcium to begin with while the comparison group of treated and placebo groups who had high entry levels of calcium show a smaller reduction. While calcium supplementation during pregnancy could lead to complications of gastrointestinal and neurological systems, none were encountered.

Pregnancy, Preeclampsia, and the Endothelial Cell. Editorial. T.F. Ferris, MD. *New England Journal of Medicine*

November 14, 1991, 325:1439-1440.

Commenting on Belizán's study, Ferris reviews our knowledge about the role of the endothelial cell, the cell lining the capillaries which synthesize prostacyclin, which in turn starts the complicated mechanism which may lead to preeclampsia or hypertension of pregnancy. While this is reduced by calcium supplementation, the giving of calcium carries a potential risk because renal calcium excretion is normally increased during pregnancy. This may be increased by adding dietary calcium and may lead to the danger of kidney stones, which normally occur in 1:1500 pregnancies. A multi-center NIH trial of calcium supplementation during pregnancy is about to begin. Another study on the prophylactic use of aspirin is in progress. Until the outcomes of both studies are known, neither low dose aspirin nor calcium supplementation may be presumed to be safe approaches to prevent preeclampsia.

Complications of Cervical Cryotherapy in Adolescents. P.A. Hillard, F.M. Biro, L. Wildey. *Journal of Reproductive Medicine, Inc.* October 1991, 36:711-716.

Sixty-seven teen-aged women, ages 13-19, were treated with cryotherapy (freezing) for human papillomavirus infection (55%) or cervical intraepithelial neoplasia (45%). Freezing treatment was elected because it was thought to be more effective, better tolerated and less expensive, particularly in adolescents, than laser treatment or removal of tissue

by conization. Even though pretreatment bacterial cultures had been obtained and the women were counseled to refrain from sex and to use condoms, 9% developed clinical pelvic inflammatory disease within one month of treatment. Two developed cervical stenosis (stricture) with resultant retention of menstrual flow which required dilatation and antibiotic treatment. The authors believe that poor compliance with appointments, skewed time intervals between culture and treatment, and failure to heed advice regarding sexual abstinence and the use of condoms are the reasons for the complications. Since the type of cryoprobe - conical or flat - could not always be determined from the case histories, the effect of freezing on the cervix in regard to subsequent stenosis and, in the case of cervical intraepithelial neoplasia (CIN) on follow-up with colposcopy is a matter of concern. [Clearly, early sexual activity and multiple partners carries many risks for teenagers. Laser treatment has been found to be less than effective in the treatment of papillomavirus lesions but perhaps more effective for a CIN. Obviously, avoiding the problem is the most effective approach -Ed.]

Conference Vulvovaginitis-Causes and Therapies. *Research Reports from the NICHD*. May 1991.

Millions of women suffer from infections of the vulva and vagina. Changing of the normal vaginal flora (bacterial population) can result from douching, radiation treatment, surgery, various neoplasms, oral contraceptives, uncon-

trolled diabetes, AIDS, and other infections, spermicides, foreign bodies such as an IUD string, diaphragm or tampons. In women of reproductive age, the most common cause is bacterial vaginosis, due to Gardnerella vaginalis and other organisms which inhibit Lactobacilli, the normal bacillus of the vagina. Contraception by oral contraceptives and IUD can change vaginal flora. Viral causes are herpes simplex (HSV) and human papillomavirus (HPV). Between 15-40% of women infected with HPV have no clinical symptoms. There are 13 HPV sub-types in the genital area, types 16 and 18 usually progress to malignancy (CIN or VIN). Vulva cancer is now occurring in much younger women. Fungal infections of the vagina due to various strains of yeasts are changing. Candida albicans readily responds to treatment but other strains are more difficult. Yeast infections may or may not be sexually transmitted. Eating yogurt is counterproductive because yogurt contains lactose, which is a good food for yeast. Trichomonas vaginalis is a sexually transmitted disease usually amenable to antibiotic treatment. Allergic reactions to deodorant sprays, tampons, sanitary pads, colored or perfumed toilet paper, bubble bath, laundry detergent, tight clothing, synthetic clothing, swimsuits and hot tubs have also occurred commonly. The ulcerations of sexually transmitted infections can leave the patient more vulnerable to AIDS.

Questions?

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