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Natural Family Planning

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Evaluation of Natural Family Planning Programmes in Liberia and Zambia. Gray, R.H.; Kambic, R.T.; Lanctot, C.A.; Martin, M.C.; Wesley, R.; and Cremins, R. *Journal of Biosocial Sciences* 25 (1993) :249-258.

This is the final installment of progress reports of two NFP programs in Liberia and Zambia. The studies evaluated both use and cost effectiveness. One thousand fifty-five (1,055) clients mainly in rural Liberia were served in separate NFP services while the Zambian program offered NFP within integrated Maternal Child Health Services to 2,709 clients, predominantly in urban areas. One year Life Table continuation rates were 78.9% in Liberia and 71.2% in Zambia while total unplanned pregnancies were 4.3/ 100 women years in Liberia, and 8.9/ 100 women years in Zambia. The higher loss to follow-up rates in Zambia demand caution in interpreting the results. Autonomy was reached by 58% of couples in Liberia and 35.3% in Zambia, but the cost of couple-year protection (CYP) when translated to constant 1983 US dollars (when the program began) was $25.7 in Zambia and $47.1 in Liberia. Unsurprisingly, CPY costs were higher during learning than autonomy but declined over time. They were comparable to the costs in other African NFP programmes which had also been supported by USAID and compared favorably with the cost of contraceptive programs, particularly when the long-range cost of "protection" of an autonomous couple was considered. *[USAID estimates that program costs are doubled by operations research, thus the cost of services alone would be halved. During oral reporting of the work, field directors noted difficulties with client recruitment and paper work. Ed.]*

The Reproductive Revolution. *Population Reports*, Series M, No. 11, (December 1992), Population Information Services, John Hopkins University, Baltimore, MD.

The Demographic and Health Survey (DHS) and Family Planning Surveys (FPS) summarizes nationally representative samples of more than 300,000 women of reproductive age in 44 developing countries from 1985 to 1992. Compared with earlier surveys, the total fertility rate (TFR) has declined about one-third since the 1960's from an average of 6 to 4 children per woman. In some countries, fertility has declined by over 50% as in Thailand or 40% in Colombia. In China, 71% of women use "modern" methods while nearly one-third of married women use these in the rest of the developing world. Voluntary female sterilization is the most frequently used method. South Korea's fertility rate of 1.7 is below replacement. Primary infertility was lower than thought: in the Western hemisphere only 2-3% of women who had been married for 5 years had not had a live birth. Primary infertility was higher in other studies: Sub-Saharan Africa (10%), the Caribbean (7%), Europe, Asia, & the Pacific (5%). On the other hand, secondary infertility was much higher due primarily to sexually transmitted diseases.

Family planning use was the most important determinant of fertility. Female sterilization, oral contraceptives, and IUDs account for most of the methods in use. In most countries, contraceptive prevalence is lowest among young women and highest among women in their 30s. Nearly everyone knows about contraception. The more education the woman has, the more likely she is to be using contraceptives. Urban women are slightly more knowledgeable than rural women. Nearly all women who knew about a contraceptive method also knew where to obtain it, but actual availability was not as high. Location of the supplier, distance to be travelled, availablity of transport, and availability of supplies determined contraceptive use. Private-for-profit suppliers are an important source of contraceptives, especially in Latin America, but also in Egypt.

Editorial

Of late "reproductive health" means the ability to use one's reproductive organs without procreating or contracting STD. Far from "liberating" women, it "liberates" men in the short run, by excluding them from full partnership in the sexual act. "Reproductive rights" is a code name for the commercial exploitation of women and men. It invites men and women to use one another, while ensuring the market for contraceptives, most likely at public expense if the proposed health care changes come about. With today's loss of boundaries our young people will have to rediscover that the fullness of sex can only be realized in a permanent, committed relationship called marriage, and that spouses can choose when to conceive their children by understanding and heeding their patterns of fertility and infertility. Major industrial resistance to this, the real Sexual Revolution, is anticipated.

In evaluating contraceptive use, knowledge of contraceptive failures must be obtained. There are few reliable or comparable data in developing countries; however estimates for unplanned pregnancies while using oral contraceptives, IUDs and traditional methods in 15 countries were made for one year contraceptive efficacy rates. They are: oral contraceptives 5.9%, IUDs 3.4%, rhythm 19.9%, withdrawal 12.5%. The main reason for failure is improper use. Estimates of unmet need and potential demand for most areas in the world indicated 0.1-40% unmet need for both spacing and limiting. Other direct fertility determinants were the rising age at marriage, breastfeeding, amenorrhea, and postpartum abstinence, and the frequency of sexual relations. Very few countries have significant percentages of women who fully breastfeed for more than three months. In some countries, postpartum sexual abstinence is practiced until the return of menses, especially in Africa. In Latin America, two to three months is more usual.

Premarital sexual experience among females aged 15-19 years ranged from 12% in Ecuador to 55% in Jamaica. Mean age at first intercourse was 17 for females and 15 years for males: 42-78% of males reported intercourse between the ages of 15 to 19. Figures for illegal induced abortion are difficult to obtain, although this is an important factor in constraining fertility in some countries.

Child mortality from birth to age 5 is very high, annually 13-15 million children, 98% of them in developing countries. Most deaths are preventable: dehydration from diarrhea, childhood infections, especially measles and malaria. Nutrition education and immunization programs are in progress, but are usually coupled to family planning provision.

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The Relationship of Cervical Immaturity to Human Papillomavirus (Abstract). Shew, M.L. et al. *Journal of Adolescent Health* 14 (January 1993):39.

A sample of sexually active teenagers were studied for interval between menarche and first intercourse to evaluate their degree of cervical maturity in relation to development of infection with human papillomavirus (HPV). Two hundred eight (208) females, aged 13-21 were recruited. None had a history of genital warts or an abnormal pap smear. A questionnaire elicited demographic, menstrual, sexual, and contraceptive data. This questionnaire was repeated. Agreement between the first and second test was >80% for dating of menarche and first intercourse. When the interval from menarche to first intercourse was <18 months, 38% of women were HPV positive, while only 21% of the group with a longer menarchial-sexarchial interval were positive. Diagnosis was made by in-situ hybridization or changes consistent with HPV on pap smear. Increased biologic vulnerability to HPV during the early post-menarchial period suggests a greater risk of contracting HPV when intercourse is begun within 18 months of menarche. HPV status bore no relationship to age at menarche or age at first sex, number of sexual partners, or frequency of intercourse. *[The abstract does not relate contraceptive history. Other studies have found a one-third increase in HPV prevalence when oral contraceptives were also used. Ed.]*

The Increasing Prevalence of Human Immuno-deficiency Virus Infection in Urban Adolescents: A Five Year Study (Abstract). D'Angelo, L.J., et al. *Journal of Adolescent Health* 14 (January 1993):46.

Anonymous tests were conducted on blood samples from patients 13-21 years of age at five separate times between 1987 and 1992 in an Inner City pediatric hospital. The incidence of seropositivity rose from 4/1000 in 1987 to 10.19/1000 in 1992. Far higher rates were found in the 15-17 and 18-21 year old age groups. The authors recommend special initiatives to prevent the spread of AIDS. *[Their current practice is advocacy of either abstinence or condoms to all adolescent patients who are or intend to become sexually active. It does not appear to be a very rewarding effort. Ed.]*

Indications for Hysterectomy. Carlson, K.J., et al. *New England Journal of Medicine* 328 (March 25, 1993):856-860.

Annually 590,000 hysterectomies are performed in the United States. By age 61, one-third of U.S. women have undergone hysterectomy. Indications are benign disease such as uterine fibroids, dysfunctional bleeding, genital prolapse, endometriosis, and adenomiosis (endometriosis of the uterine muscle), chronic pelvic pain, pelvic inflammatory disease, and endometrial hyperplasia. Malignant disease of the cervix, uterus, ovary, and tubes, as well as obstetric indications, for instance massive bleeding after childbirth, account for the rest. More recently, laser treatment for selected uterine fibroids and for endometrial hyperplasia, as well as electro-cautery, have been introduced and certain hormonal treatments which block gonadotropic hormones in the pituitary and produce a premature menopause have been used temporarily for dysfunctional uterine bleeding and to shrink fibroids. These cannot be used indefinitely. In the past, the prevention of uterine and cervical cancer has been proposed as an indication for hysterectomy. At time of indicated hysterectomy, elective removal of the ovaries has been performed, especially if the woman is 45 years of age or older. When the uterus is removed through the vagina for indicated reasons, postoperative morbidity and mortality has been lower than with the abdominal route. At times, patients' preference, i.e., living with uncertainty or having an operation which only has a 3% morbidity when competently performed, has entered into the decision. Mortality rates after hysterectomy range from 6-11/10,000 for indications not involving pregnancy or cancer, 29-38/10,000 when associated with pregnancy, and 70-200/

10,000 when performed for treatment of malignancy.

Perioperative complications range from 24% for vaginal hysterectomy to 43% of abdominal hysterectomy. The majority of these are fever and infections. Others are serious hemorrhage requiring transfusion, unintended surgical procedures (damage to bowel, blood vessels, ureters or bladder), and life-threatening cardiopulmonary events. Long-term adverse affects have been reported, including urinary symptoms, early ovarian failure, a poorly understood pelvic pain syndrome, constipation, fatigue, changes in sexual interest and function, depression, and other pyschiatric morbidity. The lifetime probability of uterine, cervical, and ovarian cancer for a 50-year old woman is shown in the following Table. This should be considered and discussed before prophylactic surgery is considered.

Lifetime Probability of Uterine, Cervical, and Ovarian Cancer for a 50-Year-old Woman *

Site	Probability of Cancer	Probability of Death from Cancer
Uterus	2.4	0.2
Cervix	0.6	0.3
Ovary	1.2	0.8

** Calculated from the cancer statistics of the Surveillance, Epidemiology, and End Results (SEER) Program, 1978-1981.*

To Tell or Not to Tell: Attitudes of Reproductive Endocrinologists Concerning Disclosure to Offspring of Conception Via Assisted Insemination by Donor. Leiblum, S.R. & Hamkins, S.E. *Journal of Psychosomatic Obstetrics and Gynecology* 13 (December 1992):267-275.

Almost half of the 364 members of the Society of Reproductive Endocrinology responded to a questionnaire assessing their attitudes about disclosing donor insemination to children who had been conceived by this route. Of the respondents, more than half thought the children need not be told, while one-fifth thought they should be told, and the rest were neutral. All were thinking of the well-being of the child. Those who recommended disclosure thought their genetic history might be important or the medical history might be important. Others thought: secrets are inherently destructive; the child has a right to know; the circumstances will eventually become known anyway; or that donor insemination is not substantially different from adoption, in which case children are routinely told of their origins. Some physicians mentioned that single women or lesbians who conceived by donor insemination were advised to tell their children about it. Other research indicates that this is usually done. *"The openness of single women has contributed to greater discussion of A.I.D. (artificial insemination donor) in the mainstream media, which may prove to have an impact on married couples' attitude as well."* One-third of the respondents had used a known donor for insemination at least once in their practice; half had used a family member of the husband as a sperm donor, including 22 who had used the husband's brother and 4 who had used the husband's father. One pregnancy was terminated subsequently because of the wife's discomfort.

Steroid Hormones and Uterine Bleeding. Alexander, N. & d'Arcangues, C. Eds. (American Association for the Advancement of Science, September 1992.)

This monograph reports a Meeting at the National Institutes of Health, May 4-6, 1992, to try to understand the mechanisms of bleeding with oral and injectable contraceptive preparations and implants because over half the women who discontinue contraceptive steroids do so because of bleeding. It is clear that uterine bleeding from the above medications is not similar to menstruation, but may be capillary rather than endothethial, and shows different clotting factors. With Norplant use, factor VIII-A does not drop as it does with normal menstruation, nor is there a uniform response to replacement of estrogen and/or progesterone. In addition, individual women react differently to the medications.

The Meeting barely outlined the areas of research and arrived at no solutions. Many new techniques were reported, including the use of transvaginal color Doppler which was able to elucidate the normal menstrual cycle and may have applications in the diagnosis of infertility and for cancer screening.

Preliminary Experience with Norplant in an Inner City Population. Cullins, V.E., et al. *Contraception* 47 (February 1993):193-203.

The Francis Scott Key Medical Center serves a largely low-income minority population in East Baltimore. Within 6 months, 246 Norplant systems had been implanted after intensive counseling. Although 48% of women experienced menstrual cycle changes, and 70% experienced at least one side effect, only 6 implants were removed at patients' requests, and 3 were reinserted since the removal was for local (site) irritation. One-fourth of the patients complained of headaches while 13% or fewer complained of acne, dizziness, increased appetite, weight gain, and bloating. Fewer patients complained of depression or nevousness. Only 30% of women had no side effects. More than half the population were black, between the ages of 19 and 25; 90% had no more than high school education; half of those had not completed high school; 69% were single; 16% married, 10% separated; 47% were paid for by medical assistance, 49% by HMO; 52% had experienced pregnancy while using contraception and 64% had had a previous induced abortion. *[While counseling about recording of side effects was very detailed, there is no mention about counseling for STD prevention. Ed.]*

Bone Density is Compromised in Amenorrheic Women Despite Return of Menses: A 2-Year Study. Jonnavithula, S. et al. *Obstetrics & Gynecology* 81 (May 1993):669-674.

Amenorrhea during adolescence and young adulthood may permanently affect bone density. The usual rapid increase in bone density at puberty is delayed when sexual development is delayed. No change occurred after age 20, suggesting that peak bone mass must be achieved before the age of 20 or a permanent deficiency may occur. In this prospective and longitudinal study

of the effects of estrogen deprivation and bone mass, it was found that increase in bone mass was greatest in amenorrheic dancers when accompanied by irregular menses. However, the increase was always below that of normal controls. Young amenorrheic exercising women appeared to increase their bone mass before the return of normal menses; however, they did not catch up with normal subjects. This may have been due to long-term adolescent hypoestrogenism. *[When young women exercise, it is salutary to invite them not only to monitor their menses, but their mucus patterns. When anovulation is encountered, reducing exercise may be very important for the prevention of future fractures. Ed.]*

Clinical Review 40: Amenorrhea in Endurance Runners. Warren, M.P. *Journal of Clinical Endocrinology and Metabolism* 75 (December 1992):1393-1397.

Warren reviews the literature on the relationship of marathon running, menstrual dysfunction, and osteoporosis, and finds that definitions of menstrual dysfunction are very varied and that the association of athletic amenorrhea and eating disorders is unclear. For instance, cross-sectional study of endurance runners showed significant differences in basal metabolic rate between amenorrheic women who were also high on the scale of restrictive eating disorders and runners with normal menses (eumenorrhea). The diagnosis of eating disorders will often be missed unless it is searched for specifically with standardized scales or a diagnostic interview as there is a strong pattern of denial among women who suffer from this disorder.

In exercising women, amenorrhea may be due to: 1. Delayed menarche or primary amenorrhea; 2. Secondary amenorrhea; and 3. More subtle abnormalities including prolonged follicular phases and abnormal luteal function associated with altered LH pulsitility. Delayed menarche is now thought to be related to a genetic component rather than to pre-menarchial training. However, endurance running encourages low weight with high caloric expenditure, which can delay menarche by itself. While menstrual dysfunction is common, it may be seen as prolonged follicular phases, anovulatory cycles, or most commonly inadequate luteal phases. Even recreational athletes show shorter luteal phases and lower progesterone levels. Hypoestrogenism is chronic in many of these women who consequently develop stress fractures, osteoporosis, and infertility, as well as some reversal of the beneficial change in plasma lipoprotein levels. Studies in ballet dancers have suggested delayed menarche is related to scoliosis and stress fractures. Scoliosis is also more common in young swimmers. The exact mechanism by which physical stress is translated into bone mass as a result of exercise is unknown. It is known that exercise strengthens certain bones; nevertheless, fractures are still more common when people are pushed beyond their normal endurance. More research on the role of nutrition is suggested.

The Effects of Exogenous Testosterone on Sexuality and Mood of Normal Men. Anderson R.A., et al. *Journal of Clinical Endocrinology and Metabolism* 75 (December 1992):1503-1507.

Supraphysiological levels of testosterone have been used for male contraception. The effects of 200 mg testosterone enanthanate weekly given by intramuscular injection for 8 weeks was evaluated, compared with the control group who received placebo for the first 4 weeks and then testosterone. Testosterone administration increased plasma testosterone by 80%. Various aspects of sexuality were assessed using sexuality experience scales (SES) questionnaires at the end of each 4-week period, while sexual activity and mood states were recorded by daily diaries and self-rating scales. Testosterone administration raised the scores of the psychosexual stimulation scale but did not impact measures of sexual interaction with the partner, frequency of sexual intercourse, masturbation, or penile erection during waking, nor any of the moods reported. Administration of additional testosterone to normal males did not result in changes in overt behavior. In contrast, hypogonadal males showed increase in sexual arousability when given additional testosterone but no change in sexual activity within stable heterosexual relationships was reported. Self-reported aggressive feelings were not increased.

Vitamin E Consumption and the Risk of Coronary Disease in Women. Stampfer, M.J., et al. *New England Journal of Medicine* 328 (May 20, 1993):1444-1449.

Because Vitamin E is an antioxidant, its possible protective action against coronary disease was investigated statistically in a prospective study of 87,245 female nurses aged 35-59 years who were free of cardiovascular disease and cancer and completed dietary questionnaires which included nutrients with Vitamin E. Follow-up of up to eight years found that cases of major coronary disease (552) were significantly lower (0.66 relative risk) than without this nutrient. However, the effect was not evident for less than two years of intake. Adjustments for age, smoking, status, and other risk factors had already been performed.

Current Medical Research, a supplement of the **NFP Diocesan Activity Report**, is published quarterly. Hanna Klaus, M.D. is the editor. The purpose of the supplement is to serve the Roman Catholic diocesan NFP programs of the United States through providing them with up-to-date information on research within the field of fertility, family planning, and related issues. The Diocesan NFP teacher should be equipped to understand the various methods of contraception and be able to explain their incompatibility with the practice of the natural methods of family planning.

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Drugs Which Affect the Cervical Mucus

by Hanna Klaus, M.D.

Current Medical Research — *Natural Family Planning*

DRUG	USUALLY PRESCRIBED FOR	SITE OF EFFECT	TYPE OF EFFECT
Acetylcystene (mucomist)	Asthma, Cystic fibrosis	Local	If sufficiently absorbed, could increase or thin mucus.
Alpha Antitrypsin	Cystic fibrosis	Local	Could increase or thin mucus.
Ampicillin	Infections	Local	Could increase or thin mucus.
Antidepressants/Antipsychotics: e.g., Thorazine, Mellaril, Triavil, Parnate, Valium, Prozac, Mao, (Monoamino Oxidase) Inhibitors	Depression	Local and systemic	A variety of menstrual disturbances ranging from menorrhagia to menopause have at times been reported with Prozac. *(PDR 1991)*
Antiestrogens *(see Tamoxifen or Clomiphene)*			
Antigonadotropins *(see Danazol, Buserelin, Leuprolide)*			
Antihistamines	Cough, Colds	Local	Can decrease amount of mucus, can cause thickening or dryness
Antitumor drugs: e.g., Busulfan, Cyclophosphamide, Cytotoxic agents, Mercaptopurine, Chlorambucil, Actinomycin	Used to treat tumors. *(Actinomycin is also used for systemic fungus infection.)*	Systemic	Suppresses ovulation, induces menopausal (high) levels of FSH, LH.
Atropine	Antispasmodic	Local	Can decrease amount of mucus, can cause thickening or dryness.
Belladonna	Antispasmodic	Local	Can decrease amount of mucus, can cause thickening or dryness.
Buserelin	Antigonadotropin used to treat endometriosis, etc.	Hypothalmus	A variety of menstrual disturbances ranging from menorrhagia to menopause could occur.
Cimetidine *(Tagamet)*	Used to treat peptic ulcers.	Local and systemic at level of hypothalmus or above.	A variety of menstrual disturbances ranging from menorrhagia to menopause. Inhibits histamine, also pituitary gonadatropins.
Clomiphene	Ovulation Induction Antiestrogen drug.	Systemic	Reduces or suppresses mucus. A variety of menstrual disturbances ranging from menorrhagia to menopause could occur.
Cough mixtures with Antihistamines, i.e. Phenylephrine	Cough	Local	Can decrease amount of mucus, can cause thickening or dryness.
Danazol	Antigonadotropin, used to treat endometriosis, etc.	Systemic	A variety of menstrual disturbances ranging form menorrhagia to menopause could occur.
Dicyclomine	Antispasmodic	Local	Can decrease amount of mucus, can cause thickening or dryness.
Estrogens		Local and systemic	Produces mucus with fertile signs; may also produce strong cholinergic action, i.e., may cause dryness whether local or systemic.
Expectorants *(see Potassium Iodide, Guafenesin)*			
Guafenesin	Expectorant found in cough syrups	Local	Could increase or thin mucus.
Leuprolide	Antigonadotropin, used in treatment of endometriosis, etc.	Systemic	A variety of menstrual disturbances ranging from menorrhagia to menopause could occur.
Oral Contraceptives	Contraception	Local and systemic	Produce sticky, yellow, or white opaque mucus. *(Progestine effect)*
Potassium Iodide	Expectorant found in cough syrups.	Local	Could increase or thin mucus.
Progesterones		Local and pituitary	Produce sticky, yellow, or white, opaque mucus.
Propantheline	Antispasmodic	Local	Can decrease amount of mucus, can cause thickening or dryness.
Tamoxifen	Used to treat breast cancer.	Systemic	Antiestrogen, reduces or suppresses mucus. A variety of menstrual disturbances ranging from menorrhagia to menopause could occur.
Urecholine *(Bethanechol)*	Cholinergic agent - urinary retention	Local and systemic	Theoretically could thin secretions.

Miscellaneous Notes

- **Vitamin B6** may suppress Prolactin, a caution to nursing mothers. Some think that B complex increases mucus.
- **Any increase in exercise**, any rapid change in weight may suppress ovulation.
- **Perfumed toilet paper, fabric softener,** and **tampons** are said to increase or distort recognition of mucus.
- **Smoking** - *active and passive* - has been associated with high nicotine and cotinine levels in cervical mucus, which in turn are associated with dysplasia. No observable physical change has been reported

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