Current Medical Research

Hanna Klaus, M.D.

Natural Family Planning

Diocesan Activity Report

SUPPLEMENT

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NFP RESEARCH

Cavero, C. (May/June 1995) **Using an Ovarian Monitor as an adjunct to natural family planning.** *Journal of Nurse-Midwifery*, 40 (3), 269-276.

Twenty-one (21) couples were studied to assess acceptability and ease of use of Dr. Brown's Ovulation Monitor. The monitor tests for the beginning of estrogen rise and pregnanediol cut- off. The couples recruited agreed to follow the test protocol for eight months. Twelve (12) of the 21 continued until the end of the study; 4 elected pregnancy. Those who discontinued either moved or found they did not have time. Most were middle or upper-middle income couples; at least some had college education, and were either Caucasian or Hispanic.

In a focus group, couples responded to the question: "What are the three best and three worst things about the monitor?" Best things were: increased confidence (10/12); less abstinence required when the monitor is also used (6/12); and not requiring artificial contraceptives (6/12). Negative responses: time consuming (8/12); difficulty in remembering to chart a time when urine collection began (5/12); 7/12 had some difficulty either mechanically with the monitor or with the reliability of the assay tube. At the final meeting, couples reaffirmed that the monitor had decreased their reliance on non-NFP methods, reduced the length of abstinence within each cycle, and increased their confidence and self-care in NFP.

Ryder, B. & Campbell, H. (July 22, 1995) **Natural family planning in the 1990s.** *Lancet*, 346, 233-34.

Ryder and Campbell present a brief history of NFP trials in response to a letter in the Lancet which declared that "Natural Family Planning ... has been shown in many reputable trials to be ineffective in countries where education is rudimentary and feminine hygiene is poor." In reply, the authors cite the NFP effectiveness studies so far reported in the 1990s. The range of total unplanned pregnancies is 1.1-10.6. Included in this list are three studies with more than 5 pregnancies/100 women/years. All were studies of the Modified Mucus Method. Ryder and Campbell stress the need for offering all options to women, especially in developing countries, to allow them true freedom of choice. *[The paper could have benefitted by citing continuation rates which are at least one-third higher than for artificial methods in the developing countries cited. Ed.]*

Gray, R.H.; Simpson, J.L., & Kambic, R.T. (1995) **Timing of conception and the risk of spontaneous abortion among pregnancies occurring during the use of natural family planning.** *Amer J Obstet Gynecol*, 172, 1567-72.

Because animal studies have found adverse pregnancy outcomes when conceptions were begun with sperm which had aged in the genital tract and because at least one human study appeared to find more spontaneous abortions when conception resulted from coitus 2-3 days after the estimated day of ovulation as determined by thermal shift, an international study of pregnancies of NFP users was begun. Experienced centers were asked to submit all pregnancy charts between 1987 and 1993. Users were asked to record all signs and acts of intercourse. In this way, observers attempted to identify those conceptions which were "optimally timed on the estimated day of ovulation." There was excellent interobserver agreement on identifying the peak day in relation to estimated day of ovulation; less agreement on the determination of the thermal shift. The number of days from the most probable conception intercourse to probable day of ovulation served to estimate the time the gametes remained in the genital tract before fertilization. Optimal survival time for sperm is estimated as less than 48 hours and 12-24 hours for ovum. Studies of conception probabilities and endocrine parameters suggest the likelihood of conception is highest for acts of intercourse on the day prior to, or the day of ovulation. Rates of spontaneous abortions for optimally timed conceptions (on the day of ovulation) and non-optimally timed conceptions were similar: 9.1 vs. 10.9%. However, a subset of 171 women who had a previous spontaneous abortion and had non-optimally timed

coitus with the index case had an increased risk (2.35) for another abortion, with coitus either at the beginning or end of the fertile phase.

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de Leizaola-Cordonnier, A. (June 1995) **Natural family planning effectiveness in Belgium.** *Advances in Contraception*, 11 (2), 165-172.

A beginning Sympto-Thermal method program reports 71 registrants for 1,240 cycles, average 17.5 cycles per woman. No method related pregnancy has been encountered. One program reported one "unintended due to unprotected sexual intercourse during the fertile phase." Overall pearl index was 0.96. Forty-one (41) of the 71 couples used NFP exclusively, while 22 used barriers to "reduce or abolish abstinence." Most of these barriers were condoms. The authors advocate the double-check method because the reliability of the single index (mucus, Billings Method) was considered to be too low for acceptance in Europe. The authors conclude that the double check ST method is acceptable by European standards when strictly taught and used by motivated couples.*[See comment next article. Ed.]*

Gnoth, C. et al. (June 1995) **Sexual behavior of natural family planning users in Germany and its changes over time.** *Advances in Contraception*, 112),173-185.

A 10-year prospective follow-up study of Sympto-Thermal users in Germany comprised 1,211 users for 21,591 cycles. Among these a subgroup of 300 beginning NFP users with 5,900 cycles used for pregnancy avoidance formed the special study group which was carried on for 30 cycles. Sixty-six percent (66%) of the group were under 30 years of age; 61% were married; 58% were working or still in training; 55% have no children; 26% have passed university examinations; 80% were Roman Catholic; 54% used oral contraceptives prior to entry; 73% were spacers; 80% had regular cycles. Among these, three groups could be defined: NFP-only users, Fertility Awareness/Mix 1, and Fertility Awareness/Mix 2 users. Thirty-four percent (34%) were NFP-only users; 21% were Fertility Awareness/Mix 1 users; (they used additional methods occasionally, but in less than 20% of their cycles) 55% were in Fertility Awareness/Mix 2 subgroup and used a barrier during fertile phase in more than 20% of their cycles. Altogether 7.1% of contributed cycles were used with barriers in FA/Mix 1 group and 63% of cycles in FA/Mix 2 group. Women with irregular cycles had a slightly higher percentage (19%) of "unprotected" intercourse in the fertile phase than those with regular cycles (12.9%), the range of percent of cycles with "unprotected" intercourse in the fertile phase, 12.9-19.8, showed few differences between groups. Housewives were more likely to have "unprotected" intercourse in the post-ovulatory infertile phase than women who were working or in studies; spacers were more likely than limiters, and inconsistent users were more likely than consistent users.

On the other hand "protected" intercourse during the fertile phase was far more common in the FA/Mix 2 groups (62.5%). In this group, women with irregular cycles were more likely to resort to these methods than those with regular cycles - 33.9 vs. 25.7%; limiters - 25.7% vs. spacers 31.9%; unmarried - 40.7% vs married 42.5%; and less educated - 30.8% vs. university educated 26.5%. Clearly those for whom unplanned pregnancy was seriously undesired, relied on abstinence during the fertile phase. The use of coitus interruptus and genital contact during fertile phase was reported by 8.5% of NFP-only group; 13% in FA/Mix 1 group; 16.7% in FA/Mix 2 group. Sub-group breakdowns parallel the use for barriers. Frequency of intercourse excluding genital contact or coitus interruptus was 3.16 per cycle for NFP-only; 3.49 per cycle FA/Mix 1; 4.29 per cycle for FA/Mix 2. Little psychological investigation was reported in this study. The discussion refers to an Austrian study which groups NFP users into two groups. One group is composed of those who adapt themselves to the method and rules and the other group is composed of those who adapt the method to themselves. Both groups report an "exceedingly low unplanned pregnancy rate." *[2.5% Pearl Rate, cited in a previous study. NFP defines two steps to couple autonomy: 1) Method autonomy - the couple understands their signs. 2) Couple autonomy - they have worked through the learning stage and accept abstinence during fertile phase when avoiding pregnancy. When large segments of a population fail to reach couple autonomy as reported here, the teaching methodology of the program is open to question. Ed.]*

PREGNANCY & BREASTFEEDING

Scholl, T.O. et al. (September 1995) **Gestational weight gain, pregnancy outcome, and postpartum weight retention.** *Obstetrics & Gynecology*, 86(3), 423-427.

Excessive maternal weight gain during pregnancy does not enhance fetal growth or the length of pregnancy, but does contribute to postpartum overweight. The rate of weight gain between 20-36 weeks of pregnancy is considered excessive if it is greater than 0.68 kg/week (1.5 lbs/week). A low rate of weight gain is considered less than .34 kg (3/4 lb/week). Two hundred seventy-four (274) young low-income minority women, 12-29 years old with normal pregravid body mass indices (19.8-26.0) were studied and followed up to six months postpartum. Unlike white middle-class counterparts who usually approach their pregravid weight within six months post delivery, predominantly minority urban women tend to retain the weight gained

during pregnancy leading to significant problems connected with obesity in later life, including non-insulin dependent diabetes mellitus and cardiovascular disease. *[Clearly, nutritional counseling which can be utilized by expectant mothers of low income must be provided. Ed.]*

Mercado, A.B. et al. (July 1995) **Extensive personal experience: prenatal treatment and diagnosis of congenital adrenal hyperplasia owing to steroid 21-hydroxylase deficiency.** *Journal of Clinical Endocrinology and Metabolism*, 80(7), 2014-2020.

Congenital adrenal hyperplasia is due to a deficiency of 21-hydroxylase, an enzyme in the adrenal cortex. It leads to virilization (masculinization) of female fetuses which can require genital surgery or lead to sexual misassignment and gender confusion. When there is a family history of a previous child born with congenital adrenal hyperplasia (CAH), prenatal diagnosis is undertaken. Initially this was performed with amniocentesis, but later the human leukocyte antigen (HLA) was found to be linked with CAH; hence, bloodtesting of parents was begun. Most recently, chorionic villus sampling and polymerase chain reaction (PCR) have been performed since effective treatment with dexamethasone must begin before the fetus is 10 weeks old. Under those circumstances, children and their mothers have both been normal at delivery.

Frigoletto, F.D. et al. (September 21, 1995) **A clinical trial of active management of labor.** *New England Journal of Medicine*, 333(12), 745-750.

The National Maternity Hospital in Dublin, Ireland pioneered "active management of labor" which shortened labor and maintained a low rate of Caesarian section. It includes strict criteria for the diagnosis of labor, early rupture of the membranes, prompt intervention with high dose oxytocin in the event of inefficient uterine contractions, and a commitment never to leave a woman unattended during labor. A randomized US trial of low-risk women found a Caesarian section rate of 10.9 for the active management group vs. 11.5 for the usual care group. Other maternal and infant indices were similar. However, labor duration was shortened in the active management group, but not statistically significant. Both patient groups had epidural anesthesia. *[This in itself can contribute to the prolongation of labor and a higher rate of operative delivery and Caesarian Section. Ed.]*

Kazi, A. et al. (October 1995) **Effectiveness of the lactational amenorrhea method in Pakistan.** *Fertility & Sterility*, 64(4), 717-723.

A one-year trial of LAM (lactational amenorrhea method) is reported from Karachi and Multan, Pakistan. Women were recruited in the third trimester of their pregnancies, informed of all the locally available contraceptives — condoms, spermicides, IUDs, and OCs — and offered LAM. Three hundred ninety-one (391) women could be followed for 12 months of complete breastfeeding, 378 remained in follow-up. Regular visits were made to the homes of both rural and urban participants. Twenty-six percent (26.4%) returned to menses during the first six months postpartum and 41% of the infants were given regular supplements by this time, leaving 48% of women still protected by LAM at the end of six months. By the end of the eighth month, nearly all infants were receiving regular supplements, although only 7.4% had been weaned by the end of one year. Most women were sexually active by the end of the second postpartum month. At the end of 12 months, there were 29 pregnancies including 2 miscarriages. Two pregnancies occurred during amenorrhea. One was a method failure, after the 5th month postpartum; the other at nine months postpartum, 3.5 months after regular supplementation began. The 27 pregnancies which occurred after the return of menses were distributed as follows: 15% in months 5 or 6; 85% after month 6. Among those, two occurred while the mother was taking OCs after the child was weaned totally; 8 occurred to nursing mothers who were using either barrier methods (7) or an IUD (1). The life table pregnancy rate was 0.58% when counting exposure months. *[The authors were evidently not aware of the NFP programs in both cities. Ed.]*

CONTRACEPTIVE TECHNOLOGY AND USE

Rosenberg, M.J. et al. (September 1995) **Compliance and oral contraceptives: a review.** *Contraception*, 52(3), 137-141.

Thirty percent (18 million) US women of reproductive age currently use oral contraceptives, but compliance continues to be a problem which presents more frequently as spotting and bleeding, and less frequently as unintended pregnancy. Compliance by adolescents has been particularly bad where predictors of poor compliance include multiple sex partners, low evaluation of personal health, degree of concern about pregnancy, and previous abortion. Good compliance has been associated with patients who are satisfied with their clinician, absence of side effects, establishing a regular daily routine to take the pills, and reading information in the packaging. *[The values question which underlies poor compliance is not averted to. Ed.]*

Frank, M.L. et al. (September 1995) **Characteristics and experiences of American women electing for early removal of contraceptive implants.** *Contraception*, 52(3), 159-165.

Early removal of contraceptive implants (Norplant-R) in 430 American women was analyzed for reasons for the removal. Median duration of implant use was 13 months, ranging from 14 days to 40 months. More than 95% had changes in menstrual bleeding; an equal number had non-bleeding related side effects, which included weight gain, headaches, depression, acne/skin problems, nausea, breast tenderness, nervousness, dizziness, hair loss, bruising on the arm, vaginal discharge, facial hair growth, mood swings, leg cramps, hot and cold flashes, exhaustion, chest pain, joint pain, swelling of feet, fainting, weight loss, abdominal pain, changes in hair texture, rashes, yeast infections, breast discharge, and vision problems. Nearly 50% experienced significant pain during some stage of the removal procedure. When asked their feelings about the decision to use Norplant, most women were neutral, selecting 2.7 on a scale of 0-5; 21 stated they regretted the decision; 25% indicated they felt entirely positive about it. Those who had one or more method side effects were dissatisfied with the method. Nearly three-fourths stated that they would not use the method again; 17% that they might in the future; 9% were unsure. Only 16 removals took place after June 20, 1994 when litigation concerning Norplant implants was certified as a class action suit. The reaction of women who had removals after this time did not differ from those whose removals were earlier.

Barbosa, I. et al. (August 1995) **The effects of nomegestrol acetate subdermal implant (Uniplant) on carbohydrate metabolism, serum lipoproteins and on hepatic function in women.** *Contraception*, 52(2), 111-114.

Nomegestrol acetate implant (Uniplant)^{R} is a new long-acting 19-norprogesterone derivative. It was tested on 18 healthy volunteers, inserted as a single implant in silastic tubing which was intended to last one year. Twelve months after original insertion into the gluteal region, the capsule was removed, and another one inserted. Assessments at 1, 3, 6, 12, 18, and 24 months found less than 1 kg weight gain at 12 and 24 months, no essential difference in systolic and diastolic blood pressures, no significant changes in cholesterol, insulin, HbA1C, LDL-C, HDL-C, glucose tolerance or liver enzymes over the two-year period. *[Another single implant now under development is nesterone^{R}. It is similar in structure to nomegestrol, but has no biological activity when taken by mouth. It is designed especially for nursing mothers, since any steroid which goes into the milk would have no biological effect on the infant. Ed.]*

Corfman, P. (August 1995) **Labeling guidance text for progestin-only oral contraceptives.** *Contraception*, 52(2),71-76.

New professional and patient labeling for progestin-only oral contraceptives states that "the mode of action is to suppress ovulation in approximately half of users, thicken the cervical mucus to inhibit sperm penetration, lower the mid-cycle LH and FSH peaks, and slow the movement of the ovum through the fallopian tubes, as well as altering the endometrium." Nonetheless, it states that progestin oral contraceptives are indicated "for the prevention of pregnancy." While perfect use unplanned pregnancies in the first year are 0.5%, "typical failure rate is estimated to be closer to 5% due to late or omitted pills." Curiously the effectiveness table does not list the "typical use pregnancy rates" for progestin-only pills while maintaining the fiction that 20% of periodic abstinence users will experience a pregnancy within the first year of use. Rates of ectopic pregnancy are 5/1000 women/years "higher than ... other contraceptive methods, but similar to the incidence for women not using any contraception. Up to 10% of pregnancies reported in clinical studies of progestin-only oral contraceptive users are extra-uterine." Other effects are delayed follicular atresia, which is the development of a follicle beyond its normal size. This generally disappears spontaneously and may be associated with mild abdominal pain. Very rarely the follicles (cysts) are large enough to twist or rupture requiring surgical intervention. Irregular menstrual patterns are common and require medical assessment. With prolonged amenorrhea, the possibility of pregnancy should be evaluated. "While several studies have demonstrated no elevated risk of breast cancer among users of progestin-only oral contraceptives, women with breast cancer should not use oral contraceptives because the role of female hormones in breast cancer has not been fully determined.

Data are scant on the association of progestin-only oral contraceptives with endometrial or ovarian cancer, but do not indicate adverse effects." There are some general precautions associated with its use. Patients should be advised that this method of contraception does not protect against HIV or other STDs; they need annual physical examination and follow-up; there may be slight deterioration in glucose tolerance with increases in plasma insulin but diabetic patients who use progestin-only oral contraceptives generally do not require changes in insulin. Lipid metabolism is occasionally affected, as is hepatic lipase. "The effectiveness of the drug is reduced when hepatic enzyme-inducing drugs, such as the anti-convulsants

Phenytoin, Carbamazepine and barbituates, and the anti-TB drug Rifampin are used. Progestin also reduces sex hormone binding globulin and thyroxin concentrations. No adverse effects for use during pregnancy have been demonstrated, but it is prudent to rule out suspected pregnancy before initiating the drug." No adverse effects in health, growth, and development of the nursing infant have been found when the mothers are on the drug, but levels of steroid in the infant's plasma are 1-6% of levels in maternal plasma. Limited data show rapid return to normal ovulation and return to fertility following discontinuation.

Xiong, X. et al. (July 1995) **IUD use and the risk of ectopic pregnancy: a meta-analysis of case-control studies.** *Contraception*, 52(1), 23-34.

A meta-analysis of 16 case control studies of ectopic pregnancy and IUD use pooled their results after careful evaluation of selection criteria, including use of a funnel plot to assess potential publication biases. When cases were compared with pregnant controls, the risk of ectopic pregnancy was considerably increased: OR (odds ratio)= 10.63. When ectopic pregnancy cases were compared with non-pregnant controls, there was no increased risk (OR=1.06). Past IUD use increased the risk (OR=1.40) presumably due to tubal infection, while current IUD risk did not increase the risk compared to non-pregnant women. However, when pregnancy results with an IUD in place, it is more likely to be ectopic. The authors attempted to select risks for types of IUDs pointing out that the earlier inert plastic forms and the steel forms which are used in China may carry a higher risk than the more recent copper and progestin formulations. *[See next abstract below. Ed.]*

Parazzini, F. et al. (August 1995) **Past contraceptive method use and risk of ectopic pregnancy.** *Contraception*, 52(2), 93-98.

The incidence of ectopic pregnancy after contraceptive method use was compared in obstetric and non-obstetric cases by case control studies. With IUD use, the relative risk of ectopic pregnancy was 3.5 when compared with obstetric and 2.4 with non-obstetric subjects. The risk increased with duration of IUD use. RR was 2.3 and 2.0 respectively for obstetric and non-obstetric users when the IUD had been used for less than two years and 4.3 and 2.6 when IUDs had been used four years or more. The lapsed time between IUD use and current ectopic pregnancy was not significant. There was no statistically significant increase in risk with oral contraceptives or barriers with either group.

Barbosa, I. et al. (June 1995) **Ovarian function after seven years' use of a levonorgestrel IUD.** *Advances in Contraception*, 11(2), 85-95.

The levonorgestrel (LNg) IUD was studied after more than seven years of use in 15 women with regular menstrual periods and 7 amenorrheic women. The study parameters were compared with 8 women who used TCu 380 Ag (copper) IUD for more than seven years. Progesterone levels in the regularly menstruating LNg-IUD users were ovulatory in 93% of cases (15 nmol/L) but ultrasound determined that only 58% of these "ovulatory" cycles exhibited normal follicular growth and rupture. Forty-two percent (42%) of the 26 ovulatory cycles had follicular cysts and luteinization of regressing follicles (LUF luteinized unruptured follicle syndrome).

Cervical mucus was collected from the endocervix and evaluated according to WHO criteria. A score of 10 or higher indicates good mucus which allows sperm penetration; whereas, mucus with a score of 10 or less represented unfavorable cervical mucus.

With the LNg-IUD, a mean cervical mucus score was 10.5 $\pm$ 0.9, while the mean cervical mucus score for copper IUD users was 12.0 $\pm$ 8. There was no statistical difference between these scores. Amenorrheic women all had scanty viscous mucus. Levonorgestrel levels in the LNg-IUD users was 0.41 nmol/L, SHBG (sex hormone binding globulin) capacity was 59.4 nmol/L for the copper IUD users, 0.46 nmol/L for the levonorgestrel users. This was statistically significant.

While progesterone levels in the levonorgestrel IUD users were slightly lower than in the copper IUD users, the differences were statistically insignificant. Good cervical mucus was found in 69% of the ovulatory cycles studied, suggesting that the effect on cervical mucus cannot be the main mechanism of action. The decrease in SHBG level was significant, which confirms previous studies. Levonorgestrel, even in low concentrations, causes disturbances in follicular growth and rupture, as shown by ultrasound. Some studies have shown that progestins can be luteolytic in women. The IUD effects the endometrium by suppressing growth. This may account for amenorrhea despite detectable progesterone levels. Other investigators — Luukkainen and Nilsson had reported no effect on cervical mucus or endometrial growth, nor alterations of follicular development. However, the present study has reached different conclusions. In summary, the effect of the levonorgestrel IUD may be through inhibition of ovulation changes in the endometrium which prevent implantation, alteration of physical and chemical properties of cervical

mucus which affect sperm transport, and subtle disturbances in hypothalamo-pituitary-ovarian function, all of which result in alterations of follicular development and rupture.

Petta, C.A. et al. (June 1995) **Follow-up of women seeking sterilization reversal: a Brazilian experience.** (1995) *Advances in Contraception*, 11(2), 157-163.

A retrospective study of 394 women who requested sterilization reversal was conducted at the State University of Campinas, Brazil. The women were followed for one year after reversal surgery. After initial consultation, 55% of the women did not proceed. Of the 177 who underwent laparoscopy, 48.6% were unsuitable for attempted reversal because the uterine tubes were in poor condition. 17.5% of the initial group ultimately underwent surgery and 3.3% became pregnant. The rate of regret after sterilization is 3-25% while only 1-2% actively pursue reversal. The authors surmise that many women are poorly informed about the difficulty of reversal. This is partly due to the fact that many tubal ligations are performed by non-specialists who are more concerned about preventing repeat pregnancy than about leaving the tubes in such condition that reversal is possible. It is also due in part to the perceived lack of adequate preoperative counseling, *[including honest offering of **all** options. Ed.]*

FERTILITY/ INFERTILITY

Olson, J.H. et al. (Fall 1995) **Semen analysis in 632 men over a 25-year period: no change in quality.** (Presentations from Ninth Annual Meeting, American Neurological Association, Las Vegas, Nevada, April 23-28, 1995.) *Fertility News*, 29(3),3.

A meta-analysis of sperm counts in 61 publications between 1938 and 1991 was reported by Carlsen et al, who found that mean sperm counts had decreased almost 50% between 1940 and 1990. To address changes in semen quality in the U.S. over the past 25 years, the authors reviewed data from a single sperm bank involving 632 men who had undergone semen analysis and sperm banking prior to vasectomy between 1970 and 1994. The same technique of semen analysis was used on all samples obtained and found that there was no decline in semen parameters between raising questions about the above multi-geographic analysis.

Tanbo, T. et al. (August 1995) **Obstetric outcome in singleton pregnancies after assisted reproduction.** *Obstetrics & Gynecology*, 86(2), 188-192.

When 355 singleton pregnancy outcomes of assisted reproduction (ART) were compared with 643 matched controls, the frequency of hypertension in pregnancy in the ART group was nearly double the control group (10.7 vs. 6.1%), Placenta previa more than 5 times higher - 2.8 vs. 0.5%. Abruptio placentae and premature rupture of the membranes did not differ. Most ART patients were delivered by elective Caesarian section. The duration of pregnancy was shorter with increased incidence of pre-term births. As a result, more babies required increased neonatal care. While malformations were essentially the same in both groups, perinatal deaths were slightly higher in the study group - 11.3% vs. 9.3%. The authors conclude that special obstetrical care must be extended to women whose pregnancies begin through ART since they are likely to have only one pregnancy.

Salamanca, A. & Beltrán, E. (July 1995) **Subendometrial contractility in menstrual phase visualized by transvaginal sonography in patients with endometriosis.** *Fertility and Sterility*, 64(1), 193-195.

The direction of myometrial contraction waves was examined by transvaginal sonography on days 1 and 2 of menses and recorded on a videotape. Women with endometriosis showed a predominant retrograde pattern, from the cervix to the fundus, whereas controls showed the normal pattern of fundus to cervix. This finding lends support to Samson's original theory that endometriosis is caused by retrograde menstrual flow.

Spitzer, M. et al. (October 1995) **The fertility of women after cervical laser surgery.** *Obstetrics & Gynecology*, 86(4) Part 1, 504-508.

A retrospective study of 1609 women who had had laser surgery for cervical lesions elicited 512 responses. These were matched with 433 controls. The mean study interval was 3.8 years. The study group had significantly more total pregnancies (277 vs. 177); total births (163 vs. 112). Term pregnancies (145 vs. 100) and terminations of pregnancies (75 vs. 28). The number of spontaneous abortions and premature deliveries and ectopic pregnancies did not differ. There was no difference in the pregnancy rate between laser vaporizations and laser excisions. *[Cold knife conizations of the cervix and hot cautery have frequently been implicated in decreased fertility. Evidently laser treatment does not carry the same burden. Ed.]*

MENOPAUSE

Thys-Jacobs, S. & Alvir, M.J. (July 1995) **Calcium-regulating hormones across the menstrual cycle: evidence of a secondary hyperparathyroidism in women**

with PMS. *Journal of Clinical Endocrinology and Metabolism*, 80(7), 2227-2232.

The calcium metabolism of 12 healthy premenopausal women was studied across one menstrual cycle. Seven women had documented premenstrual syndrome (PMS). Five were asymptomatic. Fasting blood samples were drawn six times through the ovulatory cycle. Both asymptomatic and PMS women showed a reduction in total and ionized calcium at mid-cycle concurrent with the increase of estradiol. However, only the PMS group showed a 30% elevation of parathyroid hormone (PTH), compared with the level in the early follicular phase. The asymptomatic group did not show this variation. Because PTH elevation reflects a lack of calcium and Vitamin D, patients were treated with calcium and cholecalciferol daily for three months with amelioration of their symptoms.

Naessen, T. et al. (July 1995) **Differential effects on bone density of progestogen-only methods for contraception in premenopausal Women.** *Contraception*, 52(1), 35-39.

A randomized clinical trial of 22 women, mean age 32.6 years, assigned them either to continuous depome droxyprogesterone acetate (DMPA) or continuous levonorgestrel treatment with sub-dermal implant. The study was continued for six months and found that forearm bone density increased 2.94% in levonorgestrel users, while values among the DMPA users remain stable. DMPA users showed signs of increased bone turnover and levonorgestrel users showed increased bone formation with increased levels of alkaline phosphatase and osteocalcin. The authors recognize that previous studies have shown contrasting results - demineralization - which may be due to hypoestrogenism, resulting from anovulation. Since the study only continued for six months, it cannot really speak to the effect of hormones given to women in fertile age on peak bone mass in adulthood, nor to the rate of pre-menopausal bone loss. Both are significant for future fracture risk. The type of progestogen used is particularly significant in the decade preceding the menopause, and when it is not combined with estrogen. *[The study was conducted in Uppsala, Sweden. Swedish women are among high risk groups for post-menopausal osteoporosis. Ed.]*

Akkad, A.A. et al. (September 1995) **Abnormal uterine bleeding on hormone replacement: the importance of intra-uterine structural abnormalities**. *Obstetrics & Gynecology*, 86(3), 330-334.

Diagnostic outpatient hysteroscopy was performed on 106 post-menopausal women who were receiving hormonal replacement therapy (HRT) and on 92 women who had menstrual problems in pre-menopause. Thirty-three (33) women were examined because of post-menopausal bleeding. When compared with 183 post and peri-menopausal controls without bleeding problems, a three-fold increase in the risk of abnormal menstrual bleeding was found among premenopausal women with submucous myomas and a two-fold increase in risk of abnormal withdrawal bleeding pre- and peri-menopausally. The risk was not related to the number of myomas or the presence of endometrial polyps. Post-menopausal bleeding without hormonal stimulation was not significantly associated with submucous myomas or polyps. Normally, myomas involute after menopause, but in the presence of HRT, more bleeding problems can be expected.

ADOLESCENT SEXUALITY AND FERTITLIY

NCHS. **Healthy People 2000: National Health Promotion and Disease Prevention Objectives** (1995). Data on teen pregnancy, abortion, and contraception are shown in the table below.

	Contra-ception	Target by 2000
Sexually Active Females 15-19 years	83%	90%
Oral contraception + condoms at last intercrs.	2%	90%
HS Males - last intercrs.	84%	90%
Males 17-19 years condoms + OCs at last intercourse	15%	90%

Adolescent pregnancies/1000	
Females 10-14 years	3.2
Females 15-17 years	74.3
Live births	
Females 10-14 years	64.0
Females 15-17 years	38.7
Abortions	
Females 10-14	1.5
Females 15-17	26.5

Pregnancies	**Black**	**Hispanic**
15-19	169	183.2
15-17	177	-

Adolescents who ever had intercourse	Age 15 %	Age 17 %	%
Females	45	66	15%
Males	47	70	15%

Abstinence by ever sexually active		
Females, age 15-17	25%	40%
Males, age 15-17	33%	40%

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