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THE SCIENCE OF GETTING PREGNANT (1) - *Timed Intercourse* -

This article is intended to enlighten the public on the subject of infertility, infant and maternal health. It is therefore regarded as part of our institution's Corporate Social Responsibility on reproductive health and assisted conception. Characters used here are non-existent and the stories highlighted are hypothetical and only aimed at simplifying the medical discourse.

CASE STUDY

Mr. John and Mrs. Jane Doe are an epitome of virility and sexual health. Married in their late twenties, they are the perfect young couple, in love, and having sexual intercourse about two to three times weekly on a staggered schedule. But their marriage now seems to be gradually losing its spark at two years as Jane who has not been on any contraceptive plan hasn't yet missed a menstrual period!

REVIEW

Infertility in lay-man terms is the inability to achieve pregnancy after a year of regular unprotected sexual intercourse between a couple (man and woman). The relative chance of getting pregnant via a natural unassisted means is about 20 -25% at any given point in time with sexually healthy couples. Most couples would usually have achieved pregnancy at about the eighth month of regular unprotected sexual intercourse; if not, there may be a fertility issue that needs to be assessed right away. The menstrual cycle of a woman averages 28 days of hormonal events. The cycle could be effectively categorised into the proliferative and secretory phases of approximately 12 (\pm 2) days each, after the last menstrual period. In between these phases is the Ovulation Period - when either ovary releases an oocyte - the human EGG! Research conducted by some scientists (Wilcox et al, 2004) at Johns Hopkins Bloomberg School of Public Health compared the sexual habits in

relation to fertility in 155 women. Parameters studied were their hormone levels, menstrual cycles and when they had sex with their spouses. The researchers estimated that a woman is fertile for a total duration of six days in each cycle - five days before ovulation, plus the day of ovulation itself. However precisely predicting the ovulation period varies in most women - where from the study it was determined that 10% of the women were fertile at day 6; one-half were fertile between days 11 and 14; 10% were fertile at day 22; and 5% were fertile when expecting their next period. The good side is - most women probably have a fertility window that can actually be determined.

It is known that the human egg may only remain viable for about 24 hours after release from the ovary, while the human spermatozoa may survive up to 3 - 5 days at room temperature in its receptive medium. Whilst it is understood that ovulation mostly occurs mid-way during the menstrual cycle

(11 - 14 days), an average sexual intercourse session of about two to three times weekly - like the hypothetical "Doe couple's" may be enough to keep a viable count of spermatozoa alive to fertilise an oocyte (egg) within 24 hours of release from its follicle to achieve conception where there is unexplained infertility. This is the basis for advising timed intercourse.

How can a woman tell when she is about to ovulate? Four possible signs may help her track the ovulation period:

1. Mid-cycle pain (associated with lower abdominal or pelvic pain)
2. Rise in basal body temperature of about 0.50C to 1.50C
3. Inter-menstrual cervical-vaginal bleeding (brief spotting of blood)
4. Cervical-vaginal mucorrhea (sticky mucous secretions on vagina)

These signs may be present in some women, while in others an ovulation

period may actually go unnoticed. Some other ways of monitoring ovulation period for a timed intercourse are:

- A. By use of Ovulation Predictor Kits - which are specially designed strips that measure elevated Luteinizing hormone levels prior to the release of an egg from the follicle.
- B. Ultrasound scan of the pelvis that tracks the growth of the follicle in the ovary. The follicular tracking usually starts at about the 12th day of the menstrual cycle, in a 28 day cycle. At about 18 mm in diameter, the Graafian follicle is about to rupture for an egg release. A timed intercourse around this period may result in conception.

In the absence of other known factors causing infertility, a concerted effort at a rightly timed intercourse is often the first step in a couple's attempt at achieving conception in the first year of trying.

SUCCESS STORY

Our hypothetical case study couple (John and Jane Doe) had all favourable health factors to have achieved pregnancy within their first year in marriage; however, a plausible flaw in their fertility review was a staggered intercourse schedule that may have been oblivious of the fertility window.

Now better informed, John now needed to pay more attention to Jane's 'physiological language'. They now both keep a journal to mark and track Jane's entire cycle - including changes in her body temperature (with the use of a simple thermometer) and hormonal variations (with an ovulation predictor kit) - such that they could easily figure out the fertility window - where an appropriate more purposeful timed intercourse may be scheduled. Follicular tracking was also planned by her Fertility specialist; and in just three months of starting timed intercourse, Jane Doe has missed her period and is overjoyed.

To be continued