

# TICKING BIOLOGICAL CLOCK AND FERTILITY



Dr K. D. NAYAR

**R**uchi Sharma, a 37-year-old lady, a top executive in an MNC, married for seven years is desperately trying to conceive for the last two years but with no results. All her test reports are apparently normal and she is absolutely clueless about what has happened to her fertility. In the "initial five years of my marriage, I did not even have the time to think about pregnancy, let alone the idea of bringing up a baby. Work, meetings, project deadlines were the only things in my life. When I started thinking about starting my family, it just did not happen. Now, I am gradually sinking into depression." Cases like Ruchi's are not uncommon. Professional and personal opportunities are there for women over the past 30 years encouraging them to postpone motherhood. Majority of 33% high achieving women who are childless at the age of 41-55 did not choose to be childless and would still like to have children. They simply forgot that their biological clock ticks in unison with the time.

According to **Dr K.D.Nayar**, chief consultant, Akanksha IVF Centre, New Delhi, who performs more than 500 IVF/ICSI cycles annually, every day

## When to see infertility expert

- If female is <35 years & unable to conceive after 1 yr of unprotected intercourse.
- If female is >35 years & unable to conceive after 6 months of unprotected intercourse

sees eight-10 females above the age of 35 who are desperate to conceive and their number is sharply rising. Women are known to be born with a limited quantity of eggs. Statistically speaking, the chances of pregnancy for women over 30 start to decline by about 3.5% per year. This rate continues to increase after the age of 40. After 45, however, experts say it is virtually impossible for a woman to conceive using her own eggs exclusively.

As the age increases, the quality & the quantity of eggs decline, thereby affecting fertilisation, embryo quality and pregnancy rates. Ovarian functions can decline without women even realising it. Biology of female eggs has not kept pace with career life spans of today.

For women, menopause is an obvious sign of ageing. But, it is by no means the only change. A transition period lasts for many as 5-7 years

before menopause and this occurs because of a distinct and dramatic decline in oestrogen production. And as the women age, the quality and quantity of their eggs both decline, leading to not only decreased chances of pregnancy but also increased risk of genetic problems in the baby.

This triad of declining fertility, declining hormone levels and increasing risk for genetic problems is what most people mean when they say "**biological clock**". According to Dr Nayar, "it is difficult to identify this transition period by symptoms alone and only by coming to a specialist and by special tests and ultrasound can one identify this and intervene early."

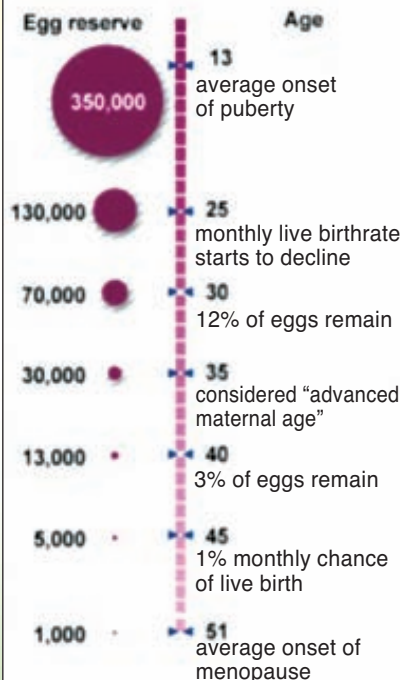
## FEMALE BIOLOGICAL CLOCK

### WOMEN IN THEIR 20s

Fertility rate/month is 20-25%  
Spontaneous miscarriage rate 5-10%  
Incidence of genetic abnormality i.e. down's syndrome is 1 in 1200.

### When fertility starts to decline

Women's age-related decline in fertility is the result of both a decrease in the number of eggs and egg quality. Monthly birthrates remain relatively stable through age 35 despite a 90% drop in overall egg counts, fertility research suggests. After that, birthrates decline faster probably as a result of declining egg quality.



Source [www.fertilityclock.com](http://www.fertilityclock.com)

These younger women are physically active and should do moderate exercise in the first and third trimester, should avoid smoking, alcohol, caffeine, etc.

### WOMEN IN THEIR EARLY 30s

Fertility rate per month is 15%  
Miscarriage rate is 20%  
Should start prenatal vitamins

### WOMEN > 35 YEARS

Fertility rate per month is 10%  
Miscarriage rate is 25%  
Risk of Down's syndrome 1 in 350  
Genetic testing is recommended

### WOMEN > 40 YEARS

Sharp decline in achieving pregnancy  
Fertility rate per month is 5%.  
Even with IVF success rate is 10%  
90% of eggs are genetically abnormal on biopsy  
Miscarriage rate is 33%  
Incidence of genetic abnormalities is 1 in 38.

### WOMEN > 45 YEARS

Pregnancy is a difficult proposition as virtually all the remaining eggs are genetically abnormal.  
<1% chance of getting pregnant using their own eggs.  
Miscarriage rate > 45%  
Incidence of genetic abnormality – 1/12.  
Egg donation is the key.  
Oocyte donation success rate is 80%.

## AGEING IN MEN

In the last 30 years, there is a 50% increase in men who became fathers above the age of 35. The genetic quality of sperm does decline, leading to an increased risk of genetic problems in offspring above and beyond any contribution by the female. Although it's an idea that has not yet filtered down to the general public, we now know that men have biological clocks too. And those clocks involve the same physiological triad experienced by women. Male fertility and male sex hormone do decline with age. The decline in sex hormones is not as steep or as sudden as with menopause. 1% per year decline in testosterone level after age of 30 years is termed as "**andropause**". The symptoms include decreased libido, erectile dysfunction, loss of muscle mass, weight gain, declining cognitive function associated with type II diabetes. Older men are at a higher risk of harbouring a child with schizophrenia and also risk of having children with Down's syndrome. Now, the features of ageing have expanded the notion of "**biological clock**" to include both sexes.