Fertility & Fecundity
Fertility vs Fecundity

* Fecundity is a measure of the physical ability to have children
* Fertility is the actual number of children a woman actually has
INFERTILITY IS:
- UNEQUAL TO CONCEIVE IN 1 YR OF TRYING
- UNEQUAL TO CONCEIVE IN 6MO OF TRYING

3 IN 10 WOMEN have irregular cycles, making conception more difficult.

WORLD: 50-80 MILLION PEOPLE AFFECTED BY INFERTILITY
US: 7.3 MILLION AFFECTED BY INFERTILITY

INFERTILITY CAUSES
- Men: 50%
- Women: 50%
- PCOS: 30%
- Endometriosis: 30%

TIME TO CONCEIVE
- 12 MONTHS: 85%
- 6 MONTHS: 70%
- 3 MONTHS: 40%
- 1 MONTH: 20%

FERTILITY BY AGE
- 20-24: 86%
- 25-29: 78%
- 30-34: 63%
- 35-39: 52%
- 40-44: 36%
- 45-49: 5%
- 50+: 0%

CELEBRITIES WHO STRUGGLED WITH INFERTILITY
- Mariah Carey
- Halle Berry
- Celine Dion
- Khloe Kardashian

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MISCARRIAGE

15-25% OF ALL PREGNANCIES END IN MISCARRIAGE.

ONLY 5% OF WOMEN WILL HAVE 2 OR MORE MISCARRIAGES.

CHANCES OF MISCARRIAGE

WOMAN AGE 35-39
25% 25%
WOMAN AGE 40-44
51% 51%
WOMAN AGE 45+
93% 93%

UP TO 80% OF THE TIME.

A MISCARRIAGE IN THE FIRST TRIMESTER IS A CHROMOSOMAL PROBLEM WITH THE EMBRYO, THUS A WOMAN'S BODY IS WORKING CORRECTLY WHEN THEY MISCARRY.

AFTER AGE 40, THE CHANCE OF HAVING A BABY AFTER A POSITIVE PREGNANCY TEST IS 50%.

A 35 YEAR OLD WOMAN WITH A HISTORY OF 5 MISCARRIAGES, STILL HAS A 62% CHANCE OF HAVING A BABY WITH HER NEXT PREGNANCY.
Infertility/Infecundity

* Couples who have tried for 12 months to get pregnant and do not are infecund (AKA- infertile)

* 1995 this rate was 7% of American couples

* 1965 this rate was 11% of American couples
Fecundity and Age

* Female fecundity generally increases to their mid-20’s and drops at menopause.

* Male fecundity goes from 0 to non-zero at puberty and generally peaks in mid 20’s also.

* Male fecundity generally drops from mid 20’s as they age but does not have a definite end point like menopause.

* Male fecundity tends to last longer than female fecundity.
Is there a maximum fertility?

1) Assume female fecundity from age 15-49

2) Assume 9 months of pregnancy

3) Assume 18 months of breast feeding

Result: 1 child every 2.2 years

Fertility Rate is 16 children per woman
Why do we not produce this many children?

- Pregnancy is dangerous.
- Not all women are fecund
  - If women don't eat enough fat they may experience amenorhea (absence of suppression of menstruation)
Natural Fertility

- Natural Fertility: The level of reproduction that exists in the absence of fertility control
- Natural fertility is much lower than maximum fertility
Social Components of Fertility

* Hunter-Gatherers: Space children in time, fertility much lower than natural fertility

* Agricultural Societies: High fertility perhaps from demand for people to harvest crops

* Industrial Society: Very low fertility perhaps from the expenses associated with raising kids
Canadian Fertility Rate

* Canada is considered a low-fertility society by comparison

* In 1971 Canadian fertility was 2.1 children per woman

* In 2011 Canadian fertility rate is 1.61 children per woman
Case Study: The Hutterites

- Live in Agrarian communities in NE plains of U.S. and Western provinces of Canada
- 400 came from Russia in late 1800’s
- Doubled Population 6 times in 100 years
- In 1936 the TFR for Hutterite women was 11
Case Study: The Hutterites

* Early age of marriage
* A good diet
* Good medical care
* Frequent sex with no contraception
Other ‘High Fertility’ Societies

- Shipibo Indians from Eastern Amazon of Peru
- Avg Age at Marriage 14
- Avg Age at 1st Child 15.6
- Total Fertility Rate ~ 11