Tuesday, 22 December 2020 12:06 PM

A record of inheritance of certain genetic traits for two or more generations presented in the form of a diagram or family tree is called
✓" Pedigree"

The individual from which a pedigree is initiated → Male => Propositus ✓
→ female => Proposita ✓

"Proband or propositus" ✓

It is applicable in humans, domesticated animals like pets.

* Problem we face in the study of Human inheritance

1. Generation time is long ✓
2. The research workers can observe 3-4 generation in one's life time.
3. Number of offspring / couple is small
4. Homozygous traits are few.
5. Controlled cross is not possible **
6. Human chromosome number is large

"In human Genetics, Pedigree study provides a strong tool, which is utilized to trace the inheritance of specific trait, abnormality or disease"

In the pedigree analysis the inheritance of a particular trait is represented in the family tree over generations.

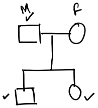
In human genetics, pedigree study provides a strong tool, which is utilised to trace the inheritance of a specific trait, abnormality or disease.

✓□ → Male ✓○ → female ✓◇ unspecified sex

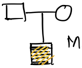
✓▨ ✓● ✓◆ → Affected individuals.
or
"Trait which is taken under consideration"

✓□—○✓ → Mating

**□═○ → Mating between relatives
(Consanguineous mating)

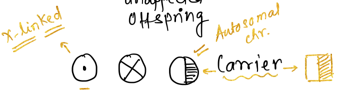


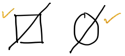
Parent above & children below
(In order of birth
Left to right)



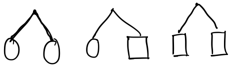
Parent with Male child affected with disease

five unaffected offspring

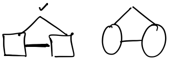




Deceased ✓
(Death) ✓



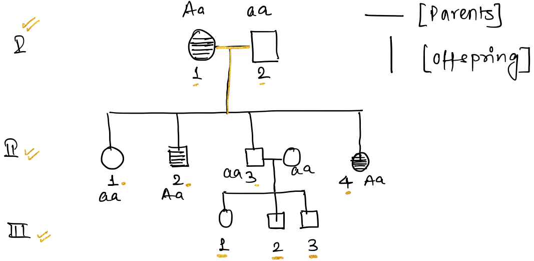
** Dizygotic twins



Roman numeral = Generations I II

Arabic Numerals = Individual with in a generation ✓

** Monozygotic = Identical twins



"Autosomal dominant trait"

(1) Holoandric trait => only visible in males "Y-linked trait"

(2) Maternal inheritance or cytoplasmic inheritance

(3) X-linked recessive = cris-cross inheritance → more common in males.

(4) X-linked dominant → more common in females
→ may skip a generation

(5) Autosomal recessive / dominant. * → It present in the pedigree seldom skips a generation

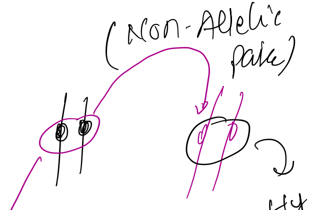
1. sex-linked trait !⇒ traits are determined by gene tont on sex-chromosomes.

2. sex-limited trait !→ Trait Expressed in particular sex. Although their genes are found in other sex also.

✓ (milk secretion in mammalian female)

✓ 3. Sex-Influenced trait → (Not because of particular gene) because of Product of sex hormones.

✓ Human → male ✓ low pitched voice
✓ Beard



Loci

D/R
↓
Loci are same
allele