

Poster presentation

## The importance of the genealogic tree or pedigree build and study in genetic counseling - case report

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### Background

Determination of the genetic basis of a character from the kinds of crosses we have considered requires the production of large numbers of offspring from the matting of selected parents. The analysis of segregation by this method is not possible in humans, whose matings cannot be controlled and is not usually economically feasible for some traits in large domestic animals. However, the mode of inheritance of a trait can sometimes be determined by examining the segregation of alleles in several generations of related individuals. This is especially done with a family tree that shows the phenotype of each individual. Such a diagram is called pedigree or genealogic tree. An important application of probability in genetics is its use in pedigree analysis, a stage in genetic counseling.

### Materials and methods

To realise a pedigree of an individual or a family, it's a necessity to gather data about the family or individual. We studied a very interesting case in which are involved four individuals with Down syndrome.

### Results

We presented a genealogical tree of J.family. One of the member of this family asked genetic counseling. We observed that she had a secondary cousin (a girl) with Down syndrome, and two cousins (men) who have children with Down syndrome, and a cousin (female) who has a child with this syndrome. We demonstrated after

genetic counseling with all the phases involved, that in this family the Down syndrome has occurred because of the propensity to 21 chromosomes non-disjunction. The studied case it isn't in danger to have a child with Down syndrome because the genetic propensity is from the ant (wife of father's cousin).

### Conclusions

To realise a pedigree of an individual or a family, it's a necessity to gather data about the family or individual. The data about family are systematized in pedigree or genealogic tree of the family. Analysing the pedigree of a family, we can say that some traits are inherited or not. Also, we can anticipate some normal or abnormal traits of individuals of the next generation. The studied case it isn't in danger to have a child with Down syndrome because the genetic propensity to 21 chromosomes non-disjunction is from the ant (wife of father's cousin).