Inferential Biostatistics (Analysis):

It is used to test specific hypothesis about
population by using certain test significance.
Difference could be :
1) influencing factor
2) chance factor
We expect always that, there is difference and by using these test of significance

Hypothesis: a statement about one or more population . Hypothesis is usually
concerned with the parameter of population about which the statistics is made .
The purpose of testing hypothesis is to aid the clinician, researcher, administer in
reaching a decision concerning population, basis on examination of sample from
that population.

1) **Data is nature of data:**
a. continuous b. discrete
2) **Assumption:** a. Random sample (RS). b. Independent or dependent R.S.
c.Equal variance (various equality) . d. Normality of pop. Distribution .
3) **Hypothesis formulation:** a. Null hypothesis (Ho) b. Alternative hypothesis
(HA)

Null Hypothesis: Hypothesis of no significance difference or no influence or
effect of influencing factor .
the opposite of the conclusion that the researcher is seeking to reach, become the
statement of the null hypothesis

If Ho not rejected (accepted) the data not provide sufficient evidence to cause rejection
If Ho rejected the data are not compatible with Ho . But supporting of Alternative hypothesis (HA).
The decision, to reject or accept the Ho depends on the magnitude (value)
of the test statistics

Test statistics: a decision maker for rejecting or not rejecting the Null Hypothesis
the value of test statistics fall in the rejection region are those
that are less likely to occur if Ho is true. While the values making up the accept region are more likely to occur if Ho is
true
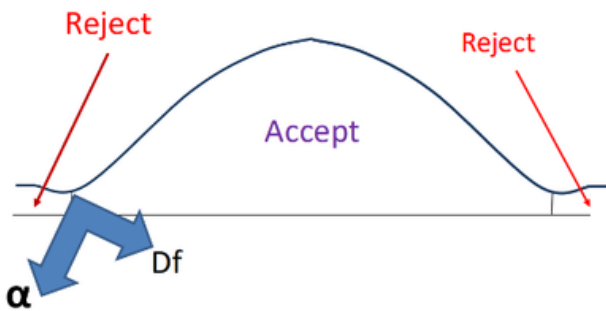
when Test statistics that fall in the rejection region is said to be significant.

Level of significance it is the probability level , According to N.D at which we either accept or reject Ho .

According to N.D.C 95% of the difference between groups are caused by the influencing factor . the remaining 5% (2.5% on each side) are caused by chance factor

probability of effect of chance factor it is also called (P value)

$P > 0.05 \rightarrow$ accept Ho $\rightarrow$ no significance difference

$P < 0.05 \rightarrow$ reject Ho $\rightarrow$ significant difference.

Statistical decision consist of rejecting or not rejecting (accepting) Ho .

If Ho is rejected clinical decision is compatible to the HA .

If Ho is not reject , the clinical decision may take other from such a decision to collect more data . P value